

# Report No A1008-11

**FERRYBRIDGE MULTI-FUEL POWER STATION -  
PHASE 2**

**FACTUAL REPORT ON GROUND INVESTIGATION**

Carried out for:  
Scottish and Southern Energy PLC

Engineer:  
Ove Arup

May 2011



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Soil Mechanics part of Environmental Scientifics Group

**FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2**  
**FACTUAL REPORT ON GROUND INVESTIGATION**

**Report No: A1008-11**

**Date: May 2011**

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Stanglands Lane  
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| Issue No | Date     | Details             |
|----------|----------|---------------------|
| 2        | May 2011 | Report as submitted |
|          |          |                     |
|          |          |                     |

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## **1 INTRODUCTION**

In January 2011 Soil Mechanics (SM) were commissioned by Ove Arup (Arup), on behalf of Scottish and Southern Energy PLC (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, windowless sampling and laboratory testing. The investigation was carried out in accordance with the contract specification, Eurocode 7 and relevant related standards identified below (see also References). The fieldwork was carried out between 07 February and 01 March 2011.

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

A previous investigation had been carried out by SM (Report No A0054-10 dated February 2011). A copy of their report was available to SM at the outset of the current investigation.

## **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 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 a housing estate and to the west is the A1(M).

### **2.2 Published Geology**

The published geological maps covering the site, BGS Sheet 78 (1998), shows 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 5930+A2 (2010), BS EN 1997-2 (2007) and BS EN ISO 22475-1 (2006).

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                                  | 1        | 4.30              |         |
| Cable Percussion Boring extended by Rotary Core Drilling | 12       | 25.70             |         |
| Window Sampling                                          | 28       | 7.45              |         |

The exploratory hole records are presented in Enclosure A and should be read in conjunction with the Key which is included in that enclosure. The records provide descriptions of the materials encountered in accordance with BS EN ISO 14688-1 (2002) and 14689-1 (2003), for soils and rocks respectively, as amplified by BS 5930+A2 (2010). The records also give details of the samples taken together with observations made during boring, drilling and windowless sampling. Photographs of the 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 from site directly to the ESG Scientifics laboratory.

### 3.3 Instrumentation and Monitoring

The instruments installed in the exploratory holes are shown on the logs and detailed in Enclosure B. Groundwater and gas monitoring carried out by SM is still ongoing. The results to recorded to date are presented in Enclosure B.

### 3.4 In Situ Testing

In situ testing standard penetration testing was carried out in accordance with BS EN ISO 22476-3 (2005) unless otherwise stated. The results are presented on the exploratory hole logs in Enclosure A.

## 4 LABORATORY TESTING

### 4.1 Geotechnical Testing

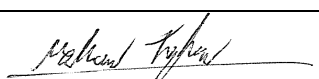
The testing was scheduled by Arup and was carried out in accordance with BS 1377 (1990) and ISRM (2007) unless otherwise stated. The testing is summarised below and the results are presented in Enclosure C.

#### 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 kg rammer                                                                                                                                 |
| Organic Matter Content                                            |                                                                                                                                               |
| pH, Acid and Water Soluble Sulphate Content of Soils and Chloride | Test methods are BS 1377 or others recognised in BRE Special Digest 1 (2005); they are indicated on the results report sheets in Enclosure C. |
| Uniaxial Compressive Strength of Rock                             |                                                                                                                                               |
| Point Load Index Testing                                          |                                                                                                                                               |

## 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.

|                              |                                                                                     |
|------------------------------|-------------------------------------------------------------------------------------|
| <b>Prepared By</b>           | <b>M Taylor Mgeol FGS</b>                                                           |
| <b>Reviewed By</b>           | <b>M Wareing BSc FGS</b>                                                            |
| <b>Approved for Issue By</b> |  |

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## 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+A2 : 2010 : Code of practice for site investigations (Amendment 2). British Standards Institution.
- BS EN 1997-2 : 2007 : Eurocode 7 - Geotechnical design - Part 2 Ground investigation and testing. British Standards Institution.
- 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 14689-1 : 2003 : Geotechnical investigation and testing - Identification and classification of rock - Part 1 Identification and description. British Standards Institution.
- BS EN ISO 22475-1 : 2006 : Geotechnical investigation and testing – Sampling methods and groundwater measurements - Part 1 Technical principles for execution. British Standards Institution.
- BS EN ISO 22476-3 : 2005 : Geotechnical investigation and testing - Field testing - Part 3 Standard penetration test. British Standards Institution.
- ISRM : 2007 : The Complete ISRM Suggested Methods for Rock Characterisation, Testing and Monitoring (1974-2006). Commission on Testing Methods, International Society for Rock Mechanics (Editors Ulusay R & Hudson JA).

**ENCLOSURE A**  
**EXPLORATORY HOLE RECORDS**

Key to Exploratory Hole Records  
Borehole Logs  
Window Sampler Hole Logs

Key  
BH601 to 613  
WS601 to 603 and  
605 to 629

# Key to Exploratory Hole Records



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## SAMPLES

### Undisturbed

|      |                                                                                          |                                                                       |
|------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| U    | Driven tube sample                                                                       | } nominally 100 mm diameter and full recovery unless otherwise stated |
| UT   | Driven thin wall tube sample                                                             |                                                                       |
| 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   |

|    |                                                                                |
|----|--------------------------------------------------------------------------------|
|    | Environmental chemistry samples (in more than one container where appropriate) |
| ES | Soil sample                                                                    |
| EW | 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+A2 (2010)

|     |                                                                                                                                           |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------|
| 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:  
See report text for full references of standards

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
Project No. A1008-11  
Carried out for Scottish and Southern Energy PLC

Key

Sheet 1 of 2

# Key to Exploratory Hole Records



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## 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  
PIE  
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

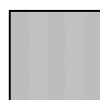


The type of instrument installed is indicated by a code in the Legend column:  
Electronic settlement cell/gauge  
Magnetic extensometer settlement point  
Electronic embedment pressure cell  
Electronic push in pressure cell

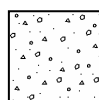
## INSTALLATION LEGENDS

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.

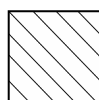
Arisings



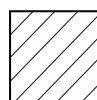
Concrete



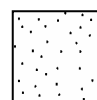
Grout



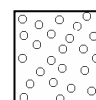
Bentonite



Sand



Gravel



Macadam



## NOTES

- 1 Soils and rocks are described in accordance with BS EN ISO 14688-1 (2002) and 14689-1 (2003) respectively as amplified by BS 5930+A2 (2010).
- 2 For fine soils consistency determined in the field by the logger is reported for those strata where undisturbed samples are available. The consistency is qualified and given (in brackets) when, in the opinion of the logger, the sample is disturbed but the assessed consistency is reasonably representative of the in situ conditions; in these circumstances it will normally underestimate consistency in situ. No consistency is given where the samples available are too disturbed to allow a reasonable assessment.
- 3 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.
- 4 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.
- 5 The assessment of SCR, RQD and Fracture Spacing excludes artificial fractures
- 6 Strata legends are in accordance with BS 5930+A2 (2010).
- 7 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+A2:2010, 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.
- 8 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.

Updated March 2011

Notes:  
See report text for full references of standards

**Project** FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
**Project No.** A1008-11  
**Carried out for** Scottish and Southern Energy PLC

**Key**

Sheet 2 of 2

# Borehole Log



Soil Mechanics

|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   |                                                                                                  |                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Drilled</b> CS/DS<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    | <b>Start</b> 14/02/2011<br><b>End</b> 17/02/2011 | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Massenza MI2 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using air mist flush. |                                                                                                                                   | <b>Depth from</b> 0.00m<br><b>to</b> 2.80m<br><b>Diameter</b> 150mm<br><b>Casing Depth</b> 2.80m | <b>Ground Level</b> +12.69 mOD<br><b>Coordinates</b> E 447513.60<br><b>National Grid</b> N 425069.65<br><b>Chainage</b>                               |
| <b>Samples and Tests</b>                                                                                                                                         |                                                  |                                                                                                                                                                              |                                                                                                                                   | <b>Strata</b>                                                                                    |                                                                                                                                                       |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                             | <b>Records</b>                                                                                                                                                               | <b>Date Casing</b>                                                                                                                | <b>Time Water</b>                                                                                | <b>Description</b>                                                                                                                                    |
| 0.20-0.50<br>0.30                                                                                                                                                | B 2<br>ES 1                                      | 0.00-1.20 m Hand excavated inspection pit.                                                                                                                                   |                                                                                                                                   |                                                                                                  | Dark grey green slightly sandy slightly silty angular fine to coarse GRAVEL of limestone and macadam.<br>(MADE GROUND)                                |
| 0.50<br>0.60-1.00                                                                                                                                                | ES 3<br>B 4                                      |                                                                                                                                                                              |                                                                                                                                   |                                                                                                  | Firm locally stiff dark brown locally mottled green slightly gravelly CLAY. Gravel is angular fine of limestone.                                      |
| 1.00<br>1.20-1.65<br>1.20-1.65                                                                                                                                   | ES 5<br>SPT S<br>D 6                             |                                                                                                                                                                              |                                                                                                                                   |                                                                                                  | Very weak to weak light yellow cream LIMESTONE.<br>(CADEBY LIMESTONE)                                                                                 |
| 1.65-2.40                                                                                                                                                        | B 7                                              |                                                                                                                                                                              |                                                                                                                                   |                                                                                                  |                                                                                                                                                       |
| 2.40-2.67<br>2.40-2.66                                                                                                                                           | SPT S<br>D 8                                     | 50 (25,-/12,38 for 40mm)                                                                                                                                                     | 2.40<br>14/02/2011<br>2.40                                                                                                        |                                                                                                  |                                                                                                                                                       |
| 2.80-4.00<br>3.60                                                                                                                                                | 58<br>8<br>8                                     | EWM 9                                                                                                                                                                        | 17/02/2011<br>2.80                                                                                                                | 0800<br>dry                                                                                      | Very weak locally extremely weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely spaced, planar, rough.<br>(CADEBY LIMESTONE) |
| 4.00-5.00                                                                                                                                                        | 60<br>0<br>0                                     |                                                                                                                                                                              |                                                                                                                                   |                                                                                                  | 2.80-3.30 m AZCL                                                                                                                                      |
| 5.00-6.50                                                                                                                                                        | 47<br>17<br>0                                    |                                                                                                                                                                              |                                                                                                                                   |                                                                                                  | 3.30-3.60 m NI                                                                                                                                        |
| 6.50-7.50                                                                                                                                                        | 50<br>13<br>0                                    |                                                                                                                                                                              |                                                                                                                                   |                                                                                                  | 3.70-4.00 m NI                                                                                                                                        |
| 7.50-8.50                                                                                                                                                        | 85<br>22<br>0                                    |                                                                                                                                                                              |                                                                                                                                   |                                                                                                  | 4.00-4.40 m AZCL                                                                                                                                      |
| 8.50-9.50                                                                                                                                                        | 55<br>30<br>0                                    |                                                                                                                                                                              |                                                                                                                                   |                                                                                                  | 4.40-5.00 m NI, locally grading to clayey gravel                                                                                                      |
| 9.50-10.00                                                                                                                                                       | 100<br>62<br>0                                   |                                                                                                                                                                              |                                                                                                                                   |                                                                                                  | 5.00-5.80 m AZCL                                                                                                                                      |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   |                                                                                                  | 5.80-6.10 m NI                                                                                                                                        |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   |                                                                                                  | 6.16-6.30 m NI                                                                                                                                        |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   |                                                                                                  | 6.30-6.42 m 1 No. subvertical undulating rough fracture                                                                                               |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   | 6.50-7.00 m AZCL                                                                                 |                                                                                                                                                       |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   | 7.00-7.10 m NI                                                                                   |                                                                                                                                                       |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   | 7.18-7.30 m NI                                                                                   |                                                                                                                                                       |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   | 7.30-7.40 m 1 No. subvertical planar rough fracture                                              |                                                                                                                                                       |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   | 7.40-7.50 m NI                                                                                   |                                                                                                                                                       |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   | 7.50-7.65 m AZCL                                                                                 |                                                                                                                                                       |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   | 7.65-8.20 m NI                                                                                   |                                                                                                                                                       |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   | 8.34-8.40 m 1 No. 45deg. planar rough fracture                                                   |                                                                                                                                                       |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   | 8.34-8.50 m 1 No. subvertical planar rough fracture                                              |                                                                                                                                                       |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   | 8.50-8.95 m AZCL                                                                                 |                                                                                                                                                       |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   | 9.50 m NI                                                                                        |                                                                                                                                                       |
|                                                                                                                                                                  |                                                  |                                                                                                                                                                              |                                                                                                                                   | 9.90-10.00 m 1 No.                                                                               |                                                                                                                                                       |
| <b>Depth</b>                                                                                                                                                     | <b>TCR ROD</b>                                   | <b>If</b>                                                                                                                                                                    | <b>Records/Samples</b>                                                                                                            | <b>Date Casing</b>                                                                               | <b>Time Water</b>                                                                                                                                     |
| Stratum continues to 13.50 m                                                                                                                                     |                                                  |                                                                                                                                                                              |                                                                                                                                   |                                                                                                  |                                                                                                                                                       |
| <b>Groundwater Entries</b><br>No. 1<br>Struck (m) 10.00<br>Post strike behaviour Fast inflow.                                                                    |                                                  |                                                                                                                                                                              | Depth sealed (m) -                                                                                                                | <b>Depth Related Remarks *</b><br>From 1.20 to 2.40 Water added to assist boring.                |                                                                                                                                                       |
| Chiselling Depths (m) 1.65-2.40<br>Time 60 mins<br>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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                                                  |                                                                                                                                                       |
| Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:35:08                                                                                              |                                                  |                                                                                                                                                                              | Borehole BH601<br>Sheet 1 of 2                                                                                                    |                                                                                                  |                                                                                                                                                       |



$\Phi$ 

|                                                                                                                                                                  |               |                                          |                     |                                                                                                                                                                          |                    |                                                                                |                                                                                                                                                                                                                                                                                                                              |                       |  |                            |  |                                |                              |                                                                                                      |                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--|----------------------------|--|--------------------------------|------------------------------|------------------------------------------------------------------------------------------------------|--------------------------|
| Drilled CS/DS<br>Logged BS<br>Checked MT                                                                                                                         |               | Start<br>14/02/2011<br>End<br>17/02/2011 |                     | Equipment, Methods and Remarks<br>Dando 150 and Massenza MI2 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using<br>air mist flush. |                    | Depth from<br>0.00m<br>2.80m                                                   |                                                                                                                                                                                                                                                                                                                              | to<br>2.80m<br>13.50m |  | Diameter<br>150mm<br>121mm |  | Casing Depth<br>2.80m<br>2.80m |                              | Ground Level<br>+12.69 mOD<br>Coordinates<br>E 447513.60<br>National Grid<br>N 425069.65<br>Chainage |                          |
| Samples and Tests                                                                                                                                                |               |                                          |                     |                                                                                                                                                                          |                    | Strata                                                                         |                                                                                                                                                                                                                                                                                                                              |                       |  |                            |  |                                |                              |                                                                                                      |                          |
| Depth                                                                                                                                                            |               | TCR<br>SCR<br>RQD                        | If                  | Records/Samples                                                                                                                                                          | Date<br>Casing     | Time<br>Water                                                                  | Description<br>(Continued from Sheet 1)                                                                                                                                                                                                                                                                                      |                       |  |                            |  |                                | Depth, Level/<br>(Thickness) | Legend                                                                                               | Backfill/<br>Instruments |
| 10.00-11.00                                                                                                                                                      |               | 50<br>0<br>0                             |                     | SPT C 50 (12,25/50 for 40mm)                                                                                                                                             |                    |                                                                                | Very weak locally extremely weak light yellow subvertical<br>cream LIMESTONE. Fractures are subhorizontal, undulating rough<br>very closely spaced, planar, rough. fracture<br>(CADEBY LIMESTONE)<br><br>10.50-11.00 m<br>AZCL recovered as<br>silty gravelly sand<br><br>11.00-12.00 m<br>AZCL<br><br>12.50-12.90 m<br>AZCL |                       |  |                            |  |                                | 13.50                        | -0.81                                                                                                |                          |
| 11.00-11.19                                                                                                                                                      |               | 0<br>0<br>0                              |                     |                                                                                                                                                                          |                    |                                                                                |                                                                                                                                                                                                                                                                                                                              |                       |  |                            |  |                                |                              |                                                                                                      |                          |
| 11.00-11.50                                                                                                                                                      |               | 0<br>0<br>0                              |                     |                                                                                                                                                                          |                    |                                                                                |                                                                                                                                                                                                                                                                                                                              |                       |  |                            |  |                                |                              |                                                                                                      |                          |
| 11.50-12.50                                                                                                                                                      |               | 50<br>19<br>0                            |                     |                                                                                                                                                                          |                    |                                                                                |                                                                                                                                                                                                                                                                                                                              |                       |  |                            |  |                                |                              |                                                                                                      |                          |
| 12.50-13.50                                                                                                                                                      |               | 40<br>23<br>0                            |                     |                                                                                                                                                                          | 17/02/2011<br>2.80 | 8.00                                                                           |                                                                                                                                                                                                                                                                                                                              |                       |  |                            |  |                                |                              |                                                                                                      |                          |
|                                                                                                                                                                  |               |                                          |                     |                                                                                                                                                                          |                    | EXPLORARY HOLE ENDS AT 13.50 m                                                 |                                                                                                                                                                                                                                                                                                                              |                       |  |                            |  |                                |                              |                                                                                                      |                          |
| Depth                                                                                                                                                            |               | TCR<br>SCR<br>RQD                        | If                  | Records/Samples                                                                                                                                                          | Date<br>Casing     | Time<br>Water                                                                  |                                                                                                                                                                                                                                                                                                                              |                       |  |                            |  |                                |                              |                                                                                                      |                          |
| Groundwater Entries                                                                                                                                              |               |                                          |                     | Depth Related Remarks *                                                                                                                                                  |                    |                                                                                | Chiselling                                                                                                                                                                                                                                                                                                                   |                       |  |                            |  |                                |                              |                                                                                                      |                          |
| No.                                                                                                                                                              | Struck<br>(m) | Post strike behaviour                    | Depth sealed<br>(m) | From                                                                                                                                                                     | to (m)             | Depths (m)                                                                     | Time                                                                                                                                                                                                                                                                                                                         | Tools used            |  |                            |  |                                |                              |                                                                                                      |                          |
| 1                                                                                                                                                                | 10.00         | Fast inflow.                             | -                   |                                                                                                                                                                          |                    |                                                                                |                                                                                                                                                                                                                                                                                                                              |                       |  |                            |  |                                |                              |                                                                                                      |                          |
| 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<br>FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2                       |                                                                                                                                                                                                                                                                                                                              |                       |  |                            |  | Borehole<br>BH601              |                              |                                                                                                      |                          |
| (c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:35:13<br>Scale 1:50                                                                                              |               |                                          |                     |                                                                                                                                                                          |                    | Project No.<br>A1008-11<br>Carried out for<br>Scottish and Southern Energy PLC |                                                                                                                                                                                                                                                                                                                              |                       |  |                            |  | Sheet 2 of 2                   |                              |                                                                                                      |                          |

# Borehole Log



Soil Mechanics

|                                                                                                                                                                  |                             |                                                  |                                                              |                                                                                                                                                                             |                                                                                                                                                  |                                                                                            |               |                                                                                                                         |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------|--|
| <b>Drilled</b> CS/MB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    |                             | <b>Start</b> 18/02/2011<br><b>End</b> 21/02/2011 |                                                              | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Mobile rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water/polymer flush. |                                                                                                                                                  | <b>Depth from</b> 0.00m <b>to</b> 4.10m<br><b>Diameter</b> 150mm <b>Casing Depth</b> 4.10m |               | <b>Ground Level</b> +14.62 mOD<br><b>Coordinates</b> E 447428.36<br><b>National Grid</b> N 425056.98<br><b>Chainage</b> |  |
| <b>Samples and Tests</b>                                                                                                                                         |                             |                                                  |                                                              |                                                                                                                                                                             |                                                                                                                                                  | <b>Strata</b>                                                                              |               |                                                                                                                         |  |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>        | <b>Records</b>                                   | <b>Date Casing</b>                                           | <b>Time Water</b>                                                                                                                                                           | <b>Description</b>                                                                                                                               | <b>Depth, Level (Thickness)</b>                                                            | <b>Legend</b> | <b>Backfill/ Instruments</b>                                                                                            |  |
| 0.30<br>0.30-0.60<br>0.50                                                                                                                                        | ES 1<br>B 2<br>ES 3         | 0.00-1.20 m Hand excavated inspection pit.       |                                                              |                                                                                                                                                                             | MACADAM.<br>(Foreman's description)<br>(MADE GROUND)                                                                                             | 0.10 +14.52<br>0.24 +14.38                                                                 |               |                                                                                                                         |  |
| 1.00<br>1.20-1.65<br>1.20-1.65                                                                                                                                   | ES 4<br>SPT S<br>D 5        | N=12 (2,2/2,3,3,4)                               |                                                              | dry                                                                                                                                                                         | HARDCORE.<br>(Foreman's description)<br>(MADE GROUND)                                                                                            | (0.61)                                                                                     |               |                                                                                                                         |  |
| 1.65-2.00                                                                                                                                                        | B 6                         |                                                  |                                                              |                                                                                                                                                                             | Dark red mottled black slightly silty slightly sandy angular fine to coarse GRAVEL of red shale and coal. Slight methane odour.<br>(MADE GROUND) | 0.85 +13.77                                                                                |               |                                                                                                                         |  |
| 2.10-2.55                                                                                                                                                        | U 7                         | 49 blows                                         |                                                              | dry                                                                                                                                                                         | Soft dark brown, locally mottled grey, sandy CLAY with rare subrounded fine to medium gravel of limestone.                                       | (1.70)                                                                                     |               |                                                                                                                         |  |
| 2.55-2.75<br>2.75-3.20<br>2.75-3.80<br>2.75-3.20                                                                                                                 | D 8<br>SPT S<br>B 10<br>D 9 | * N=53 (9,10/12,12,14,15)                        | 2.20                                                         | dry                                                                                                                                                                         | Stiff thinly laminated dark pink mottled cream slightly sandy slightly gravelly CLAY. Gravel is angular fine to medium of limestone.             | 2.55 +12.07<br>2.75 +11.87                                                                 |               |                                                                                                                         |  |
| 3.80-4.10<br>3.80-4.10                                                                                                                                           | SPT S<br>D 11               | 65 (11,14/15,50 for 70mm)                        | 3.50<br>18/02/2011<br>3.50                                   |                                                                                                                                                                             | Weak light yellow cream LIMESTONE. Recovered as gravelly sand.<br>(CADEBY LIMESTONE)                                                             | (1.35)                                                                                     |               |                                                                                                                         |  |
| 4.10-4.50                                                                                                                                                        | 0<br>0<br>0                 |                                                  | 21/02/2011<br>4.10                                           | 0800<br>2.40                                                                                                                                                                | Very weak light yellow cream LIMESTONE.<br>(CADEBY LIMESTONE)                                                                                    | 4.10 +10.52                                                                                |               |                                                                                                                         |  |
| 4.50-5.50                                                                                                                                                        | 80<br>40<br>0               |                                                  |                                                              |                                                                                                                                                                             | 4.10-4.70 m AZCL<br>4.50-5.10 m NI recovered as clayey gravel                                                                                    |                                                                                            |               |                                                                                                                         |  |
| 5.50-6.70                                                                                                                                                        | 83<br>33<br>0               |                                                  |                                                              |                                                                                                                                                                             | 5.34-5.50 m weak light grey white limestone<br>5.50-5.70 m AZCL<br>5.70-6.10 m NI recovered as fine gravel<br>6.10-6.20 m NI                     | (4.10)                                                                                     |               |                                                                                                                         |  |
| 6.70-8.20                                                                                                                                                        | 73<br>39<br>0               |                                                  |                                                              |                                                                                                                                                                             | 6.34-6.45 m 1 No. subvertical stepped rough fracture<br>6.50-6.60 m NI<br>6.70-7.10 m AZCL<br>7.10-7.40 m NI recovered as fine clayey gravel     |                                                                                            |               |                                                                                                                         |  |
| 8.00-8.12                                                                                                                                                        |                             | CS 12                                            |                                                              |                                                                                                                                                                             | 8.10-8.20 m 1 No. subvertical planar rough fracture<br>8.20-9.20 m AZCL                                                                          | 8.20 +6.42                                                                                 |               |                                                                                                                         |  |
| 8.20-9.70                                                                                                                                                        | 33<br>7<br>0                |                                                  |                                                              |                                                                                                                                                                             | Weak light grey white LIMESTONE.<br>(CADEBY LIMESTONE)                                                                                           | (1.90)                                                                                     |               |                                                                                                                         |  |
| 9.70-10.10                                                                                                                                                       | 100<br>50<br>0              |                                                  |                                                              |                                                                                                                                                                             | 9.20-9.40 m NI<br>9.46-9.70 m NI                                                                                                                 |                                                                                            |               |                                                                                                                         |  |
| <b>Depth</b>                                                                                                                                                     | <b>TCR ROD</b>              | <b>If</b>                                        | <b>Records/Samples</b>                                       | <b>Date Casing</b>                                                                                                                                                          | <b>Time Water</b>                                                                                                                                | Stratum continues to 10.10 m                                                               |               |                                                                                                                         |  |
| <b>Groundwater Entries</b>                                                                                                                                       |                             |                                                  | <b>Depth sealed (m)</b>                                      |                                                                                                                                                                             |                                                                                                                                                  | <b>Depth Related Remarks *</b>                                                             |               |                                                                                                                         |  |
| <b>No.</b>                                                                                                                                                       | <b>Struck (m)</b>           | <b>Post strike behaviour</b>                     |                                                              |                                                                                                                                                                             |                                                                                                                                                  | <b>From</b>                                                                                | <b>to (m)</b> | <b>Chiselling Depths (m)</b>                                                                                            |  |
| None observed (see Key Sheet)                                                                                                                                    |                             |                                                  |                                                              |                                                                                                                                                                             |                                                                                                                                                  | 2.75                                                                                       | 3.80          | Time 60 mins<br>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. |                             |                                                  | <b>Project</b> FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 |                                                                                                                                                                             |                                                                                                                                                  | <b>Borehole</b>                                                                            |               |                                                                                                                         |  |
| <b>Project No.</b> A1008-11                                                                                                                                      |                             |                                                  | <b>Carried out for</b> Scottish and Southern Energy PLC      |                                                                                                                                                                             |                                                                                                                                                  | <b>BH602</b>                                                                               |               |                                                                                                                         |  |
| Scale 1:50                                                                                                                                                       |                             |                                                  |                                                              |                                                                                                                                                                             |                                                                                                                                                  | Sheet 1 of 2                                                                               |               |                                                                                                                         |  |

# Borehole Log



Soil Mechanics

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| <b>Drilled</b> CS/MB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    |                            | <b>Start</b> 18/02/2011<br><b>End</b> 21/02/2011 |                        | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Mobile rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water/polymer flush. |                       | <b>Depth from</b> 0.00m <b>to</b> 4.10m<br><b>Diameter</b> 150mm <b>Casing Depth</b> 4.10m                                                                                                                                                             |  | <b>Ground Level</b> +14.62 mOD<br><b>Coordinates</b> E 447428.36<br><b>National Grid</b> N 425056.98<br><b>Chainage</b> |               |                                  |
| <b>Samples and Tests</b>                                                                                                                                         |                            |                                                  |                        |                                                                                                                                                                             |                       | <b>Strata</b>                                                                                                                                                                                                                                          |  |                                                                                                                         |               |                                  |
| <b>Depth</b>                                                                                                                                                     | <b>TCR<br/>SCR<br/>ROD</b> | <b>If</b>                                        | <b>Records/Samples</b> | <b>Date<br/>Casing</b>                                                                                                                                                      | <b>Time<br/>Water</b> | <b>Description<br/>(Continued from Sheet 1)</b>                                                                                                                                                                                                        |  | <b>Depth, Level/<br/>Thickness</b>                                                                                      | <b>Legend</b> | <b>Backfill/<br/>Instruments</b> |
| 10.10-11.00                                                                                                                                                      | 44<br>22<br>0              |                                                  |                        |                                                                                                                                                                             |                       | Weak light grey white LIMESTONE. (CADEBY LIMESTONE) 10.10-10.60 m AZCL<br>Very weak locally extremely weak light yellow cream LIMESTONE. Fractures are generally subhorizontal, closely spaced, undulating, rough. (CADEBY LIMESTONE) 10.60-10.83 m NI |  | 10.10 +4.52                                                                                                             |               |                                  |
| 11.00-11.90                                                                                                                                                      | 89<br>40<br>0              |                                                  |                        |                                                                                                                                                                             |                       | 11.00-11.10 m AZCL<br>11.10-11.40 m NI recovered as fine gravel<br>11.76-11.83 m NI<br>11.90-12.00 m AZCL                                                                                                                                              |  | (4.40)                                                                                                                  |               |                                  |
| 11.90-13.00                                                                                                                                                      | 91<br>82<br>51             |                                                  |                        |                                                                                                                                                                             |                       | 12.18-12.21 m NI<br>12.50 m 1No. 15mm oval vugh<br>12.59-14.40 m NI recovered as gravelly clay<br>12.95-13.00 m medium strong light grey white limestone                                                                                               |  |                                                                                                                         |               |                                  |
| 13.00-14.50                                                                                                                                                      | 60<br>53<br>47             |                                                  |                        | 21/02/2011<br>4.10                                                                                                                                                          | 6.40                  | 13.00-13.60 m AZCL<br>13.86-13.90 m medium strong light grey white limestone<br>14.40-14.50 m medium strong light grey white limestone                                                                                                                 |  | 14.50 +0.12                                                                                                             |               |                                  |
|                                                                                                                                                                  |                            |                                                  |                        |                                                                                                                                                                             |                       | EXPLORATORY HOLE ENDS AT 14.50 m                                                                                                                                                                                                                       |  |                                                                                                                         |               |                                  |
| <b>Depth</b>                                                                                                                                                     | <b>TCR<br/>SCR<br/>ROD</b> | <b>If</b>                                        | <b>Records/Samples</b> | <b>Date<br/>Casing</b>                                                                                                                                                      | <b>Time<br/>Water</b> |                                                                                                                                                                                                                                                        |  |                                                                                                                         |               |                                  |
| <b>Groundwater Entries</b>                                                                                                                                       |                            |                                                  |                        |                                                                                                                                                                             |                       | <b>Depth Related Remarks *</b>                                                                                                                                                                                                                         |  | <b>Chiselling</b>                                                                                                       |               |                                  |
| <b>No. Struck</b><br><b>Post strike behaviour</b><br>None observed (see Key Sheet)                                                                               |                            |                                                  |                        | <b>Depth sealed (m)</b>                                                                                                                                                     |                       | <b>From</b> <b>to (m)</b>                                                                                                                                                                                                                              |  | <b>Depths (m)</b> <b>Time</b> <b>Tools used</b>                                                                         |               |                                  |
| 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. |                            |                                                  |                        |                                                                                                                                                                             |                       | <b>Project</b> FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br><b>Project No.</b> A1008-11<br><b>Carried out for</b> Scottish and Southern Energy PLC                                                                                                 |  | <b>Borehole</b> BH602<br>Sheet 2 of 2                                                                                   |               |                                  |

Scale 1:50

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# Borehole Log



Soil Mechanics

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| <b>Drilled</b> CS/GB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                                  | <b>Start</b> 08/02/2011<br><b>End</b> 18/02/2011 | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Baretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water/polymer flush. |                                                                                                                                   | <b>Depth from</b> 0.00m<br><b>to</b> 2.69m<br><b>Diameter</b> 150mm<br><b>Casing Depth</b> 2.00m<br><b>8.50m</b> | <b>Ground Level</b> +14.13 mOD<br><b>Coordinates</b> E 447166.58<br><b>National Grid</b> N 424929.26<br><b>Chainage</b>                                                                                                                                                                                   |
| <b>Samples and Tests</b>                                                                                                                                                       |                                                  |                                                                                                                                                                                  |                                                                                                                                   | <b>Strata</b>                                                                                                    |                                                                                                                                                                                                                                                                                                           |
| <b>Depth</b>                                                                                                                                                                   | <b>Type &amp; No</b>                             | <b>Records</b>                                                                                                                                                                   | <b>Date Casing</b>                                                                                                                | <b>Time Water</b>                                                                                                | <b>Description</b>                                                                                                                                                                                                                                                                                        |
| 0.20-0.35<br>0.30                                                                                                                                                              | B 2<br>ES 1                                      | 0.00-1.20 m Hand excavated inspection pit.                                                                                                                                       |                                                                                                                                   |                                                                                                                  | TOPSOIL.<br>(Foreman's description)                                                                                                                                                                                                                                                                       |
| 0.50<br>0.60-1.00                                                                                                                                                              | ES 3<br>B 4                                      |                                                                                                                                                                                  |                                                                                                                                   |                                                                                                                  | Dark grey brown slightly sandy slightly clayey angular fine to medium GRAVEL of red shale and sandstone with occasional rootlets.<br>(MADE GROUND)                                                                                                                                                        |
| 1.00<br>1.20-1.65<br>1.20-1.65                                                                                                                                                 | ES 5<br>SPT S<br>D 6                             | N=24 (3,4/4,5,7,8)                                                                                                                                                               |                                                                                                                                   | dry                                                                                                              | Dark red brown gravelly clayey fine to coarse SAND. Gravel is angular fine to medium of red shale and limestone.<br>(MADE GROUND)                                                                                                                                                                         |
| 1.60-2.30                                                                                                                                                                      | B 7                                              | *                                                                                                                                                                                |                                                                                                                                   |                                                                                                                  | Very weak to weak yellowish cream LIMESTONE. Recovered as sandy silt.<br>(CADEBY LIMESTONE)                                                                                                                                                                                                               |
| 2.30-2.70<br>2.30-2.69                                                                                                                                                         | SPT S<br>D 8                                     | 95 (9,12/13,14,18,50 for 20mm)                                                                                                                                                   | 2.00<br>08/02/2011<br>2.00                                                                                                        |                                                                                                                  |                                                                                                                                                                                                                                                                                                           |
| 2.69-4.00                                                                                                                                                                      | 100<br>91<br>34                                  |                                                                                                                                                                                  |                                                                                                                                   |                                                                                                                  | Weak to very weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, undulating, rough.<br>(CADEBY LIMESTONE)                                                                                                                                                     |
| 3.77-3.89                                                                                                                                                                      |                                                  | CS 9                                                                                                                                                                             |                                                                                                                                   |                                                                                                                  | 3.63-3.80 m NI                                                                                                                                                                                                                                                                                            |
| 4.00-5.50                                                                                                                                                                      | 93<br>80<br>22                                   |                                                                                                                                                                                  |                                                                                                                                   |                                                                                                                  | 4.00-4.10 m AZCL<br>4.22-4.36 m NI                                                                                                                                                                                                                                                                        |
| 5.50-7.00                                                                                                                                                                      | 83<br>65<br>0                                    |                                                                                                                                                                                  |                                                                                                                                   |                                                                                                                  | 4.93-5.03 m 1 No. 45 deg. undulating rough fracture<br>5.20-5.35 m 1 No. 45 deg. undulating rough fracture<br>5.50-5.75 m AZCL<br>5.80-5.92 m 1 No. 80 deg. undulating rough fracture<br>5.93-6.00 m 1 No. 60mm diameter calcite infilled vugh<br>6.00-6.35 m 5 No. 10mm diameter vughs<br>6.50-6.58 m NI |
| 7.37-7.49                                                                                                                                                                      |                                                  | CS 10                                                                                                                                                                            |                                                                                                                                   |                                                                                                                  | 7.17-7.28 m NI                                                                                                                                                                                                                                                                                            |
| 7.00-8.50<br>7.80-7.92                                                                                                                                                         | 100<br>85<br>33                                  | CS 11                                                                                                                                                                            |                                                                                                                                   |                                                                                                                  |                                                                                                                                                                                                                                                                                                           |
| 8.50-10.00                                                                                                                                                                     | 87<br>87<br>80                                   |                                                                                                                                                                                  |                                                                                                                                   |                                                                                                                  | 8.50-8.70 m AZCL                                                                                                                                                                                                                                                                                          |
| Depth                                                                                                                                                                          | TCR<br>ROD                                       | If                                                                                                                                                                               | Records/Samples                                                                                                                   | Date Casing                                                                                                      | Time Water                                                                                                                                                                                                                                                                                                |
| Stratum continues to 21.80 m                                                                                                                                                   |                                                  |                                                                                                                                                                                  |                                                                                                                                   |                                                                                                                  |                                                                                                                                                                                                                                                                                                           |
| <b>Groundwater Entries</b><br>No. Struck (m) Post strike behaviour<br>None observed (see Key Sheet)                                                                            |                                                  |                                                                                                                                                                                  | Depth sealed (m)                                                                                                                  | <b>Depth Related Remarks *</b><br>From to (m)<br>1.60 2.30 Water added to assist boring.                         |                                                                                                                                                                                                                                                                                                           |
| Chiselling Depths (m) 1.60 -2.30<br>Time 60 mins<br>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.<br>Scale 1:50 |                                                  |                                                                                                                                                                                  | Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                                                                  | Borehole BH603<br>Sheet 1 of 3                                                                                                                                                                                                                                                                            |

# Borehole Log



Soil Mechanics

| <b>Drilled</b> CS/GB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    |                   | <b>Start</b> 08/02/2011<br><b>End</b> 18/02/2011 |                 | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Baretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water/polymer flush. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                       | <b>Depth from</b> 0.00m<br><b>to</b> 2.69m<br><b>Diameter</b> 150mm<br><b>Casing Depth</b> 2.00m<br>8.50m |                                                 | <b>Ground Level</b> +14.13 mOD<br><b>Coordinates</b> E 447166.58<br><b>National Grid</b> N 424929.26<br><b>Chainage</b> |                          |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------|--|
| Samples and Tests                                                                                                                                                |                   |                                                  |                 |                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Strata                                                                                                                                                                                                |                                                                                                           |                                                 |                                                                                                                         |                          |  |
| Depth                                                                                                                                                            | TCR<br>SCR<br>ROD | If                                               | Records/Samples | Date<br>Casing                                                                                                                                                                   | Time<br>Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Description<br>(Continued from Sheet 1)                                                                                                                                                               |                                                                                                           | Depth, Level<br>(Thickness)                     | Legend                                                                                                                  | Backfill/<br>Instruments |  |
| 10.00-10.18                                                                                                                                                      |                   |                                                  | CS 12           |                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Weak to very weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, undulating, rough. (CADEBY LIMESTONE)                                                    |                                                                                                           |                                                 |                                                                                                                         |                          |  |
| 10.00-11.50                                                                                                                                                      | 100<br>97<br>35   |                                                  |                 |                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 11.00-11.20 m multiple 10-20mm diameter oval and circular vughs<br>11.45-11.50 m NI<br>11.62-11.66 m NI<br>11.80-11.86 m NI<br>11.92 m 3 No. 15mm diameter calcite infilled vughs<br>12.09-12.12 m NI |                                                                                                           | (19.11)                                         |                                                                                                                         |                          |  |
| 11.92-12.02                                                                                                                                                      |                   | CS 13                                            |                 |                                                                                                                                                                                  | 12.39 m 2 No. 20mm diameter calcite infilled vughs<br>12.57-12.61 m NI<br>12.72-12.93 m multiple 10-20mm diameter vughs<br>12.77-12.83 m NI<br>13.00-13.30 m AZCL<br>13.30-13.40 m NI<br>13.56 m 1 No. 20mm diameter calcite infilled vugh<br>13.68-13.84 m NI                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                       |                                                                                                           |                                                 |                                                                                                                         |                          |  |
| 11.50-13.00                                                                                                                                                      | 100<br>77<br>30   |                                                  |                 |                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                       |                                                                                                           |                                                 |                                                                                                                         |                          |  |
| 13.00-14.50                                                                                                                                                      | 80<br>62<br>10    |                                                  |                 |                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                       |                                                                                                           |                                                 |                                                                                                                         |                          |  |
| 15.02-15.24                                                                                                                                                      |                   | CS 14                                            |                 |                                                                                                                                                                                  | 14.57-14.64 m NI<br>15.45-15.55 m multiple 10mm diameter vughs<br>15.45-15.57 m NI<br>15.60-15.72 m 1 No. subvertical undulating rough fracture<br>16.00-16.10 m AZCL<br>16.28-16.36 m NI<br>16.42-16.54 m 2 No. 20mm diameter vughs<br>16.83-16.87 m NI<br>16.87 m 1 No. 20mm oval vugh<br>17.50-17.85 m AZCL<br>17.97-18.02 m NI<br>18.06-18.21 m multiple 10mm diameter vughs<br>18.23-18.30 m NI<br>18.38-18.43 m 1 No. 50mm oval calcite infilled vugh<br>18.46-18.57 m NI<br>18.70-21.80 m fractures are subhorizontal closely to medium spaced undulating rough<br>19.00-19.15 m AZCL<br>19.15-19.30 m NI<br>19.49 m 1 No. 5mm |                                                                                                                                                                                                       |                                                                                                           |                                                 |                                                                                                                         |                          |  |
| 14.50-16.00                                                                                                                                                      | 100<br>89<br>48   |                                                  |                 |                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                       |                                                                                                           |                                                 |                                                                                                                         |                          |  |
| 16.00-17.50                                                                                                                                                      | 93<br>78<br>46    |                                                  |                 |                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                       |                                                                                                           |                                                 |                                                                                                                         |                          |  |
| 17.50-19.00                                                                                                                                                      | 77<br>53<br>47    |                                                  |                 |                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                       |                                                                                                           |                                                 |                                                                                                                         |                          |  |
| 19.00-20.50                                                                                                                                                      | 90<br>87<br>80    |                                                  |                 |                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                       |                                                                                                           |                                                 |                                                                                                                         |                          |  |
| 19.94-20.05                                                                                                                                                      |                   | CS 15                                            |                 |                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                       |                                                                                                           |                                                 |                                                                                                                         |                          |  |
| Depth                                                                                                                                                            | TCR<br>ROD        | If                                               | Records/Samples | Date<br>Casing                                                                                                                                                                   | Time<br>Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Stratum continues to 21.80 m                                                                                                                                                                          |                                                                                                           |                                                 |                                                                                                                         |                          |  |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour Depth sealed (m)<br>None observed (see Key Sheet)                                                 |                   |                                                  |                 |                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Depth Related Remarks *</b><br>From to (m)                                                                                                                                                         |                                                                                                           | <b>Chiselling</b><br>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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC                                                                     |                                                                                                           | Borehole BH603<br>Sheet 2 of 3                  |                                                                                                                         |                          |  |

Scale 1:50

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# Borehole Log



## Soil Mechanics

[illegible]

# Borehole Log



Soil Mechanics

|                                                                                                                                                                  |                                                  |                                                                                                                                                                          |                                                                                                                                          |                                                                                                                         |                                                                                                                                                                                                                                       |                                                                                   |        |                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|-----------------------|
| <b>Drilled</b> CS/GB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    | <b>Start</b> 08/02/2011<br><b>End</b> 16/02/2011 | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. | <b>Depth from</b> 0.00m<br><b>to</b> 6.00m<br><b>Diameter</b> 150mm<br><b>Casing Depth</b> 6.00m                                         | <b>Ground Level</b> +14.54 mOD<br><b>Coordinates</b> E 447110.46<br><b>National Grid</b> N 424863.18<br><b>Chainage</b> |                                                                                                                                                                                                                                       |                                                                                   |        |                       |
| <b>Samples and Tests</b>                                                                                                                                         |                                                  |                                                                                                                                                                          | <b>Strata</b>                                                                                                                            |                                                                                                                         |                                                                                                                                                                                                                                       |                                                                                   |        |                       |
| Depth                                                                                                                                                            | Type & No                                        | Records                                                                                                                                                                  | Date Casing                                                                                                                              | Time Water                                                                                                              | Description                                                                                                                                                                                                                           | Depth, Level (Thickness)                                                          | Legend | Backfill/ Instruments |
| 0.30<br>0.30-0.50<br>0.50<br>0.60-1.00                                                                                                                           | ES 1<br>B 2<br>ES 3<br>B 4                       | 0.00-1.20 m Hand excavated inspection pit.                                                                                                                               |                                                                                                                                          |                                                                                                                         | TOPSOIL.<br>(Foreman's description)                                                                                                                                                                                                   | 0.20 +14.34                                                                       |        |                       |
| 1.00<br>1.20-1.65<br>1.20-1.65                                                                                                                                   | ES 5<br>SPT S<br>D 6                             | N=40 (8,8/9,10,10,11)<br>*                                                                                                                                               |                                                                                                                                          | dry                                                                                                                     | Dark grey black slightly clayey gravelly fine to coarse SAND. Gravel is angular fine to coarse of limestone.<br>(MADE GROUND)                                                                                                         | (1.20)                                                                            |        |                       |
| 2.20<br>2.20-2.65                                                                                                                                                | ES 7<br>U 8                                      | 34 blows                                                                                                                                                                 | 2.20                                                                                                                                     | dry                                                                                                                     | Limestone BOULDER.<br>(Foreman's description)<br>(MADE GROUND)                                                                                                                                                                        | 1.40 +13.14<br>(0.80)                                                             |        |                       |
| 2.65-2.85<br>2.85-3.30<br>2.85-3.30<br>3.00-3.50                                                                                                                 | D 9<br>SPT S<br>D 10<br>B 11                     | N=27 (4,5/5,6,8,8)                                                                                                                                                       | 2.85                                                                                                                                     | dry                                                                                                                     | Dark grey brown slightly silty fine to coarse SAND.<br>(MADE GROUND)                                                                                                                                                                  | 2.20 +12.34<br>2.40 +12.14<br>2.60 +11.94                                         |        |                       |
| 3.85-4.30                                                                                                                                                        | U 12                                             | 35 blows                                                                                                                                                                 | 3.85                                                                                                                                     | dry                                                                                                                     | Firm locally stiff thinly laminated dark red brown slightly sandy CLAY with frequent rootlets.<br><br>Firm thinly laminated light grey brown slightly sandy CLAY with dustings of silt along laminae.<br>(Weathered CADEBY LIMESTONE) | (1.25)                                                                            |        |                       |
| 4.50-4.95<br>4.50-4.95                                                                                                                                           | SPT S<br>D 13                                    | * N=34 (7,7/8,8,9,9)                                                                                                                                                     | 3.85                                                                                                                                     |                                                                                                                         | Very weak to weak yellowish cream LIMESTONE. Recovered as sandy gravel.<br>(CADEBY LIMESTONE)                                                                                                                                         | 3.85 +10.69                                                                       |        |                       |
| 6.00-6.41<br>6.00-6.45                                                                                                                                           | SPT S<br>D 14                                    | 50 (8,12/9,11,15,15 for 30mm)                                                                                                                                            | 08/02/2011<br>6.00<br>15/02/2011<br>6.00                                                                                                 | 0800<br>0.70                                                                                                            | Weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, planar, rough.<br>(CADEBY LIMESTONE)                                                                                                  | 6.00 +8.54                                                                        |        |                       |
| 6.00-7.50                                                                                                                                                        | 40<br>6<br>0<br><br>NI<br>30<br>60               |                                                                                                                                                                          |                                                                                                                                          |                                                                                                                         | 6.00-6.90 m AZCL<br><br>6.90-7.17 m NI locally grading to dark red limestone<br>7.25-7.50 m NI<br>7.50-7.80 m AZCL<br><br>7.95-8.17 m NI<br><br>8.50-8.70 m AZCL<br>8.70-8.80 m NI<br><br>9.53-9.64 m NI<br>9.80-9.90 m NI            |                                                                                   |        |                       |
| 7.50-8.50                                                                                                                                                        | 70<br>50<br>0                                    |                                                                                                                                                                          |                                                                                                                                          |                                                                                                                         |                                                                                                                                                                                                                                       |                                                                                   |        |                       |
| 9.01-9.14<br>8.50-10.00                                                                                                                                          | 87<br>61<br>23                                   | CS 15                                                                                                                                                                    |                                                                                                                                          |                                                                                                                         |                                                                                                                                                                                                                                       |                                                                                   |        |                       |
| Depth                                                                                                                                                            | TCR ROD                                          | If                                                                                                                                                                       | Records/Samples                                                                                                                          | Date Casing                                                                                                             | Time Water                                                                                                                                                                                                                            | Stratum continues to 20.00 m                                                      |        |                       |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m) (m)<br>None observed (see Key Sheet)                                                       |                                                  |                                                                                                                                                                          | Depth sealed (m)<br>Depth Related Remarks *<br>From to (m)<br>1.40 2.20 No samples recovered.<br>4.50 6.00 Water added to assist boring. |                                                                                                                         |                                                                                                                                                                                                                                       | Chiselling Depths (m) Time Tools used<br>1.40 -2.20 60 mins<br>4.50 -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. |                                                  |                                                                                                                                                                          | Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC        |                                                                                                                         |                                                                                                                                                                                                                                       | Borehole BH604<br>Sheet 1 of 3                                                    |        |                       |



# Borehole Log



Soil Mechanics

| <b>Drilled</b> CS/GB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    |                   | <b>Start</b> 08/02/2011<br><b>End</b> 16/02/2011 |                 | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. |               |                                                                                                                                   | <b>Depth from</b> 0.00m <b>to</b> 6.00m<br><b>Diameter</b> 150mm <b>Casing Depth</b> 6.00m<br>6.00m 25.50m 121mm 9.00m |                                          | <b>Ground Level</b> +14.54 mOD<br><b>Coordinates</b> E 447110.46<br><b>National Grid</b> N 424863.18<br><b>Chainage</b> |                          |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------|--|
| Samples and Tests                                                                                                                                                |                   |                                                  |                 |                                                                                                                                                                          |               | Strata                                                                                                                            |                                                                                                                        |                                          |                                                                                                                         |                          |  |
| Depth                                                                                                                                                            | TCR<br>SCR<br>ROD | If                                               | Records/Samples | Date<br>Casing                                                                                                                                                           | Time<br>Water | Description<br>(Continued from Sheet 1)                                                                                           |                                                                                                                        | Depth, Level/<br>(Thickness)             | Legend                                                                                                                  | Backfill/<br>Instruments |  |
| 10.43-10.53                                                                                                                                                      |                   |                                                  | CS 16           |                                                                                                                                                                          |               | Weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, planar, rough. (CADEBY LIMESTONE) |                                                                                                                        | 10.15-10.20 m NI                         |                                                                                                                         |                          |  |
| 10.00-11.50                                                                                                                                                      | 700<br>41<br>0    |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 10.38-10.46 m NI limestone recovered as sand                                                                           |                                          |                                                                                                                         |                          |  |
|                                                                                                                                                                  |                   | 40<br>70<br>140                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 10.95-11.05 m NI recovered as silty sand                                                                               |                                          |                                                                                                                         |                          |  |
|                                                                                                                                                                  |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 11.05-11.50 m AZCL                                                                                                     |                                          |                                                                                                                         |                          |  |
|                                                                                                                                                                  |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 11.50-11.70 m AZCL                                                                                                     |                                          |                                                                                                                         |                          |  |
|                                                                                                                                                                  |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 11.70-11.81 m NI                                                                                                       |                                          |                                                                                                                         |                          |  |
| 12.11-12.22                                                                                                                                                      | 87<br>63<br>7     |                                                  | CS 17           |                                                                                                                                                                          |               |                                                                                                                                   | 11.95-12.02 m NI                                                                                                       |                                          |                                                                                                                         |                          |  |
| 11.50-13.00                                                                                                                                                      |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 12.02 m 3 No. 20-30mm diameter vughs                                                                                   |                                          |                                                                                                                         |                          |  |
|                                                                                                                                                                  |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 12.40-12.50 m multiple 10-20mm diameter vughs                                                                          |                                          |                                                                                                                         |                          |  |
|                                                                                                                                                                  |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 13.10-13.20 m NI                                                                                                       |                                          |                                                                                                                         |                          |  |
| 13.00-14.00                                                                                                                                                      | 100<br>52<br>46   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 13.34-13.56 m NI                                                                                                       |                                          |                                                                                                                         |                          |  |
|                                                                                                                                                                  |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 14.10-14.30 m NI                                                                                                       |                                          |                                                                                                                         |                          |  |
| 14.00-15.50                                                                                                                                                      | 100<br>82<br>64   |                                                  | CS 18           |                                                                                                                                                                          |               |                                                                                                                                   | 15.50-15.70 m AZCL                                                                                                     |                                          |                                                                                                                         |                          |  |
| 14.85-15.01                                                                                                                                                      |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 15.90 m 1 No. 20mm diameter vugh                                                                                       |                                          |                                                                                                                         |                          |  |
|                                                                                                                                                                  |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 16.14 m 1 No. 20mm diameter vugh                                                                                       |                                          |                                                                                                                         |                          |  |
| 15.50-17.00                                                                                                                                                      | 87<br>65<br>34    |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 16.19-16.30 m NI                                                                                                       |                                          |                                                                                                                         |                          |  |
|                                                                                                                                                                  |                   | 60<br>100<br>170                                 |                 |                                                                                                                                                                          |               |                                                                                                                                   | 17.00-17.50 m AZCL                                                                                                     |                                          |                                                                                                                         |                          |  |
|                                                                                                                                                                  |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 17.50-17.63 m NI                                                                                                       |                                          |                                                                                                                         |                          |  |
| 17.00-18.50                                                                                                                                                      | 67<br>44<br>15    |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 18.12-18.21 m NI                                                                                                       |                                          |                                                                                                                         |                          |  |
| 18.16-18.27                                                                                                                                                      |                   |                                                  | CS 19           |                                                                                                                                                                          |               |                                                                                                                                   | 18.45 m 1 No. 30mm diameter vugh                                                                                       |                                          |                                                                                                                         |                          |  |
|                                                                                                                                                                  |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 18.50-18.60 m NI                                                                                                       |                                          |                                                                                                                         |                          |  |
|                                                                                                                                                                  |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 18.70-18.88 m NI                                                                                                       |                                          |                                                                                                                         |                          |  |
|                                                                                                                                                                  |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 18.88-18.96 m 1 No. subvertical undulating rough fracture                                                              |                                          |                                                                                                                         |                          |  |
| 18.50-20.00                                                                                                                                                      | 100<br>69<br>23   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                   | 18.90 m fractures are closely to medium spaced                                                                         |                                          |                                                                                                                         |                          |  |
| 19.53-19.80                                                                                                                                                      |                   |                                                  | CS 20           |                                                                                                                                                                          |               |                                                                                                                                   | 19.16-19.25 m 1 No. 80mm diameter vugh                                                                                 |                                          |                                                                                                                         |                          |  |
| 19.83-20.00                                                                                                                                                      |                   |                                                  | CS 21           |                                                                                                                                                                          |               |                                                                                                                                   | 19.34-19.52 m                                                                                                          |                                          |                                                                                                                         |                          |  |
| Depth                                                                                                                                                            | TCR<br>SCR<br>ROD | If                                               | Records/Samples | Date<br>Casing                                                                                                                                                           | Time<br>Water |                                                                                                                                   |                                                                                                                        |                                          |                                                                                                                         |                          |  |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour Depth sealed (m)<br>None observed (see Key Sheet)                                                 |                   |                                                  |                 |                                                                                                                                                                          |               | Depth Related Remarks *<br>From to (m)                                                                                            |                                                                                                                        | Chiselling<br>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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                                                                        | Borehole BH604<br>Sheet 2 of 3           |                                                                                                                         |                          |  |





# Borehole Log



Soil Mechanics

| <b>Drilled</b> CS/GB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    |                   | <b>Start</b> 08/02/2011<br><b>End</b> 16/02/2011 |                  | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. |               | <b>Depth from</b> 0.00m <b>to</b> 6.00m<br><b>Diameter</b> 150mm <b>Casing Depth</b> 6.00m<br>6.00m 25.50m 121mm 9.00m                                                            |                             | <b>Ground Level</b> +14.54 mOD<br><b>Coordinates</b> E 447110.46<br><b>National Grid</b> N 424863.18<br><b>Chainage</b> |                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Samples and Tests                                                                                                                                                |                   |                                                  |                  |                                                                                                                                                                          |               | Strata                                                                                                                                                                            |                             |                                                                                                                         |                          |
| Depth                                                                                                                                                            | TCR<br>SCR<br>ROD | If                                               | Records/Samples  | Date<br>Casing                                                                                                                                                           | Time<br>Water | Description<br>(Continued from Sheet 2)                                                                                                                                           | Depth, Level<br>(Thickness) | Legend                                                                                                                  | Backfill/<br>Instruments |
| 20.00-21.50<br>20.90-21.07                                                                                                                                       | 90<br>57<br>41    |                                                  | CS 22            | 15/02/2011<br>9.00                                                                                                                                                       |               | Weak locally medium strong light grey cream LIMESTONE. Fractures are subhorizontal, closely to medium spaced, planar, rough. (CADEBY LIMESTONE)                                   | 20.00 -5.46                 |                                                                                                                         |                          |
| 21.50-22.50                                                                                                                                                      | 100<br>90<br>90   | 100<br>15<br>400                                 | CS 23            |                                                                                                                                                                          |               | multiple 10-20mm diameter vughs<br>20.00-20.15 m AZCL<br>20.15-20.44 m NI<br><br>21.30-21.40 m NI<br>21.50-21.55 m NI<br>21.64-21.70 m NI<br><br>22.25 m 1 No. 20mm diameter vugh | (5.50)                      |                                                                                                                         |                          |
| 22.50-22.65                                                                                                                                                      |                   |                                                  | CS 24            |                                                                                                                                                                          |               |                                                                                                                                                                                   |                             |                                                                                                                         |                          |
| 22.83-23.17                                                                                                                                                      |                   |                                                  |                  |                                                                                                                                                                          |               |                                                                                                                                                                                   |                             |                                                                                                                         |                          |
| 22.50-24.00                                                                                                                                                      | 87<br>68<br>45    |                                                  |                  |                                                                                                                                                                          |               | 23.18-23.24 m NI<br>23.30-23.50 m 3 No. 45 deg. undulating rough fractures<br>23.57-23.80 m NI<br>23.80-24.00 m AZCL<br>24.00-24.15 m NI                                          |                             |                                                                                                                         |                          |
| 24.00-25.50                                                                                                                                                      | 100<br>85<br>71   |                                                  |                  |                                                                                                                                                                          |               | 24.50-24.58 m NI<br><br>25.40-25.50 m 1 No. 80 deg. undulating rough fracture (possibly drilling induced)                                                                         | 25.50 -10.96                |                                                                                                                         |                          |
| EXPLORATORY HOLE ENDS AT 25.50 m                                                                                                                                 |                   |                                                  |                  |                                                                                                                                                                          |               |                                                                                                                                                                                   |                             |                                                                                                                         |                          |
| Groundwater Entries                                                                                                                                              |                   |                                                  |                  |                                                                                                                                                                          |               | Depth Related Remarks *                                                                                                                                                           |                             | Chiselling                                                                                                              |                          |
| No. Struck Post strike behaviour                                                                                                                                 |                   |                                                  | Depth sealed (m) |                                                                                                                                                                          | From to (m)   |                                                                                                                                                                                   | Depths (m) Time Tools used  |                                                                                                                         |                          |
| None observed (see Key Sheet)                                                                                                                                    |                   |                                                  |                  |                                                                                                                                                                          |               |                                                                                                                                                                                   |                             |                                                                                                                         |                          |
| 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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC                                                 |                             | Borehole BH604<br>Sheet 3 of 3                                                                                          |                          |

Scale 1:50

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|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  |                                                                                                                                                            |  |                                     |  |                     |  |                              |  |                   |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------|--|---------------------|--|------------------------------|--|-------------------|--|
| <b>Drilled</b> CS/GB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                           |  | <b>Start</b> 10/02/2011<br><b>End</b> 22/02/2011 |  | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. |  | <b>Depth from</b> 0.00m<br><b>to</b> 1.20m<br><b>Diameter</b> 150mm<br><b>Casing Depth</b> 1.20m<br>3.00m |  | <b>Ground Level</b> +14.66 mOD<br><b>Coordinates</b> E 447108.39<br><b>National Grid</b> N 424932.79<br><b>Chainage</b>                                    |  |                                     |  |                     |  |                              |  |                   |  |
| <b>Samples and Tests</b>                                                                                                                                                |  |                                                  |  |                                                                                                                                                                          |  | <b>Strata</b>                                                                                             |  |                                                                                                                                                            |  |                                     |  |                     |  |                              |  |                   |  |
| <b>Depth</b>                                                                                                                                                            |  | <b>Type &amp; No</b>                             |  | <b>Records</b>                                                                                                                                                           |  | <b>Date Casing</b> <b>Time Water</b>                                                                      |  | <b>Description</b>                                                                                                                                         |  | <b>Depth, Level/ (Thickness)</b>    |  | <b>Legend</b>       |  | <b>Backfill/ Instruments</b> |  |                   |  |
| 0.30                                                                                                                                                                    |  | ES 1                                             |  | 0.00-1.20 m Hand excavated inspection pit.                                                                                                                               |  |                                                                                                           |  | TOPSOIL.<br>(Foreman's description)                                                                                                                        |  | (0.28)                              |  |                     |  |                              |  |                   |  |
| 0.50-1.00                                                                                                                                                               |  | B 2                                              |  |                                                                                                                                                                          |  |                                                                                                           |  | Weak to very weak cream light yellow LIMESTONE.<br>(CADEBY LIMESTONE)                                                                                      |  | (0.92)                              |  |                     |  |                              |  |                   |  |
| 0.50                                                                                                                                                                    |  | ES 3                                             |  |                                                                                                                                                                          |  |                                                                                                           |  |                                                                                                                                                            |  |                                     |  |                     |  |                              |  |                   |  |
| 1.00-1.14                                                                                                                                                               |  | SPT S                                            |  | 50 (25 for 70mm/50 for 70mm)                                                                                                                                             |  | 10/02/2011 dry                                                                                            |  | 1.14-1.40 m AZCL                                                                                                                                           |  | 1.20 +13.46                         |  |                     |  |                              |  |                   |  |
| 1.00                                                                                                                                                                    |  | ES 4                                             |  |                                                                                                                                                                          |  | 1.20 dry                                                                                                  |  | Weak locally very weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, undulating, rough.<br>(CADEBY LIMESTONE) |  |                                     |  |                     |  |                              |  |                   |  |
| 1.00-1.14                                                                                                                                                               |  | D 5                                              |  |                                                                                                                                                                          |  | 21/02/2011 0800 dry                                                                                       |  | 1.40-1.51 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
| 1.20-2.70                                                                                                                                                               |  | 87 68 25                                         |  | CS 6                                                                                                                                                                     |  |                                                                                                           |  | 2.07-2.10 m 1 No. subvertical undulating rough fracture                                                                                                    |  |                                     |  |                     |  |                              |  |                   |  |
| 2.15-2.29                                                                                                                                                               |  | NI 90 140                                        |  |                                                                                                                                                                          |  |                                                                                                           |  | 2.32-2.38 m 1 No. subvertical undulating rough fracture                                                                                                    |  |                                     |  |                     |  |                              |  |                   |  |
| 2.70-4.20                                                                                                                                                               |  | 68 24 0                                          |  |                                                                                                                                                                          |  |                                                                                                           |  | 2.45 m 1 No. 10mm diameter vugh                                                                                                                            |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 2.52-2.66 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 2.53-2.60 m 1 No. subvertical planar rough fracture                                                                                                        |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 2.70-3.18 m AZCL                                                                                                                                           |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 3.18-3.60 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 3.75-3.84 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 3.94-4.05 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 3.94-4.15 m multiple 10-30mm diameter vughs with non penetrative orange staining on surfaces.                                                              |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 4.15-4.20 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 4.20-4.56 m multiple 20-30mm diameter vughs                                                                                                                |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 4.40-4.45 m 1 No. 15mm diameter brown calcite veins                                                                                                        |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 5.10-5.22 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 5.70-5.88 m AZCL                                                                                                                                           |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 5.97-6.10 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 6.30-6.40 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 6.38-6.41 m 1 No. subvertical planar rough fracture                                                                                                        |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 7.20-7.45 m AZCL                                                                                                                                           |  | (12.50)                             |  |                     |  | SP                           |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 7.87-7.92 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 7.91-8.02 m multiple 10-15mm diameter vughs                                                                                                                |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 8.02-8.08 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 8.12-8.20 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 8.30-8.50 m 1 No. subvertical planar smooth fracture                                                                                                       |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 8.70-9.25 m AZCL                                                                                                                                           |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 9.25-9.50 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 9.57-9.62 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 9.69-9.74 m NI                                                                                                                                             |  |                                     |  |                     |  |                              |  |                   |  |
|                                                                                                                                                                         |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  | 9.70-9.81 m multiple 10mm diameter                                                                                                                         |  |                                     |  |                     |  |                              |  |                   |  |
| <b>Depth</b>                                                                                                                                                            |  | <b>TCR 800</b>                                   |  | <b>If</b>                                                                                                                                                                |  | <b>Records/Samples</b>                                                                                    |  | <b>Date Casing</b> <b>Time Water</b>                                                                                                                       |  | <b>Stratum continues to 13.70 m</b> |  |                     |  |                              |  |                   |  |
| <b>Groundwater Entries</b>                                                                                                                                              |  |                                                  |  |                                                                                                                                                                          |  | <b>Depth Related Remarks *</b>                                                                            |  |                                                                                                                                                            |  |                                     |  | <b>Chiselling</b>   |  |                              |  |                   |  |
| <b>No.</b>                                                                                                                                                              |  | <b>Struck (m)</b>                                |  | <b>Post strike behaviour</b>                                                                                                                                             |  | <b>Depth sealed (m)</b>                                                                                   |  | <b>From</b>                                                                                                                                                |  | <b>to (m)</b>                       |  | <b>Depths (m)</b>   |  | <b>Time</b>                  |  | <b>Tools used</b> |  |
| None observed (see Key Sheet)                                                                                                                                           |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  |                                                                                                                                                            |  |                                     |  |                     |  |                              |  |                   |  |
| <b>Notes:</b> For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. |  |                                                  |  |                                                                                                                                                                          |  | <b>Project</b> FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2                                              |  |                                                                                                                                                            |  |                                     |  | <b>Borehole</b>     |  |                              |  |                   |  |
| <b>Scale</b> 1:50                                                                                                                                                       |  |                                                  |  |                                                                                                                                                                          |  | <b>Project No.</b> A1008-11                                                                               |  |                                                                                                                                                            |  |                                     |  | <b>BH605</b>        |  |                              |  |                   |  |
| (c) ESGL www.esgl.co.uk 408.24 05/04/2011 16:36:56                                                                                                                      |  |                                                  |  |                                                                                                                                                                          |  | <b>Carried out for</b> Scottish and Southern Energy PLC                                                   |  |                                                                                                                                                            |  |                                     |  | <b>Sheet 1 of 3</b> |  |                              |  |                   |  |
|                                                                                      |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                           |  |                                                                                                                                                            |  |                                     |  |                     |  |                              |  |                   |  |

# Borehole Log



Soil Mechanics

| <b>Drilled</b> CS/GB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    |                   | <b>Start</b> 10/02/2011<br><b>End</b> 22/02/2011 |                                        | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. |               |                                                                                                                                                               | <b>Depth from</b> 0.00m <b>to</b> 1.20m<br>1.20m 25.70m                    |                                               | <b>Diameter</b> 150mm<br>121mm |                                                 | <b>Casing Depth</b> 1.20m<br>3.00m |  | <b>Ground Level</b> +14.66 mOD<br><b>Coordinates</b> E 447108.39<br><b>National Grid</b> N 424932.79<br><b>Chainage</b> |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-----------------------------------------------|--------------------------------|-------------------------------------------------|------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------|--|
| Samples and Tests                                                                                                                                                |                   |                                                  |                                        |                                                                                                                                                                          |               |                                                                                                                                                               | Strata                                                                     |                                               |                                |                                                 |                                    |  |                                                                                                                         |  |
| Depth                                                                                                                                                            | TCR<br>SCR<br>ROD | If                                               | Records/Samples                        | Date<br>Casing                                                                                                                                                           | Time<br>Water | Description<br>(Continued from Sheet 1)                                                                                                                       | Depth, Level<br>(Thickness)                                                | Legend                                        | Backfill/<br>Instruments       |                                                 |                                    |  |                                                                                                                         |  |
| 10.20-11.20                                                                                                                                                      | 100<br>84<br>29   |                                                  |                                        |                                                                                                                                                                          |               | Weak locally very weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, undulating, rough. (CADEBY LIMESTONE)       | 10.70-10.97 m NI                                                           |                                               |                                |                                                 |                                    |  |                                                                                                                         |  |
| 11.20-12.20                                                                                                                                                      | 90<br>68<br>50    |                                                  |                                        |                                                                                                                                                                          |               | 11.20-11.30 m AZCL<br>11.20-13.70 m fractures are subhorizontal closely to medium spaced planar rough                                                         |                                                                            |                                               |                                |                                                 |                                    |  |                                                                                                                         |  |
| 12.50-12.61                                                                                                                                                      |                   | 70<br>130<br>300                                 | CS 8                                   |                                                                                                                                                                          |               | 11.66-11.73 m NI<br>12.00-12.05 m 1 No. 50mm diameter calcite infilled vugh<br>12.05-12.20 m 3 No. 15mm diameter calcite infilled vughs<br>12.20-12.33 m AZCL |                                                                            |                                               |                                |                                                 |                                    |  |                                                                                                                         |  |
| 12.20-13.70                                                                                                                                                      | 91<br>83<br>42    |                                                  |                                        |                                                                                                                                                                          |               | 12.90-13.00 m NI<br>13.12-13.16 m 1 No. 40mm diameter vugh<br>13.20-13.25 m NI                                                                                |                                                                            |                                               |                                |                                                 |                                    |  |                                                                                                                         |  |
| 13.39-13.59                                                                                                                                                      |                   |                                                  | Flush: 1.20-25.70 CS 9<br>Water, 100 % |                                                                                                                                                                          |               |                                                                                                                                                               |                                                                            |                                               |                                |                                                 |                                    |  |                                                                                                                         |  |
| 13.70-15.20                                                                                                                                                      |                   | 70<br>65<br>37                                   | CS 10                                  |                                                                                                                                                                          |               | Weak to medium strong light grey cream LIMESTONE. Fractures are subhorizontal, closely to medium spaced, planar, rough. (CADEBY LIMESTONE)                    | 13.70-14.15 m AZCL                                                         | 13.70 +0.96                                   |                                |                                                 |                                    |  |                                                                                                                         |  |
| 14.59-14.88                                                                                                                                                      |                   |                                                  |                                        |                                                                                                                                                                          |               | 14.23-14.32 m NI                                                                                                                                              |                                                                            |                                               |                                |                                                 |                                    |  |                                                                                                                         |  |
| 15.20-16.70                                                                                                                                                      | 100<br>83<br>62   | 80<br>160<br>400                                 |                                        |                                                                                                                                                                          |               | 15.20-15.43 m NI                                                                                                                                              |                                                                            | (5.70)                                        |                                |                                                 |                                    |  |                                                                                                                         |  |
| 16.70-18.20                                                                                                                                                      | 100<br>93<br>70   |                                                  |                                        |                                                                                                                                                                          |               | 16.97-17.03 m 1 No. 40mm diameter circular vugh with calcite infilling<br>17.25-17.36 m NI                                                                    |                                                                            |                                               |                                |                                                 |                                    |  |                                                                                                                         |  |
| 18.20-18.50                                                                                                                                                      |                   |                                                  | CS 11                                  | 21/02/2011<br>3.00                                                                                                                                                       | dry           |                                                                                                                                                               | 18.20-18.30 m AZCL                                                         |                                               |                                |                                                 |                                    |  |                                                                                                                         |  |
| 18.20-19.70                                                                                                                                                      | 93<br>69<br>47    |                                                  |                                        | 22/02/2011<br>3.00                                                                                                                                                       | 0800<br>6.80  |                                                                                                                                                               | 18.80-18.90 m NI                                                           |                                               |                                |                                                 |                                    |  |                                                                                                                         |  |
|                                                                                                                                                                  |                   |                                                  |                                        |                                                                                                                                                                          |               | 19.34-19.40 m NI                                                                                                                                              |                                                                            |                                               |                                |                                                 |                                    |  |                                                                                                                         |  |
|                                                                                                                                                                  |                   |                                                  |                                        |                                                                                                                                                                          |               | Weak to medium strong light grey cream LIMESTONE. Fractures are subhorizontal, closely to medium spaced, planar, rough.                                       | 19.52-19.60 m 1 No. subvertical undulating rough fracture<br>19.70-19.80 m | 19.40 -4.74                                   |                                |                                                 |                                    |  |                                                                                                                         |  |
| Depth                                                                                                                                                            | TCR<br>SCR<br>ROD | If                                               | Records/Samples                        | Date<br>Casing                                                                                                                                                           | Time<br>Water | Stratum continues to 23.00 m                                                                                                                                  |                                                                            |                                               |                                |                                                 |                                    |  |                                                                                                                         |  |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                           |                   |                                                  |                                        |                                                                                                                                                                          |               | <b>Depth sealed</b><br>(m)                                                                                                                                    |                                                                            | <b>Depth Related Remarks *</b><br>From to (m) |                                | <b>Chiselling</b><br>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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC                             |                                                                            |                                               |                                | Borehole BH605<br>Sheet 2 of 3                  |                                    |  |                                                                                                                         |  |

# Borehole Log



## Soil Mechanics

|                                                                                                                                                                  |  |                                          |    |                                                                                                                                                                   |                    |                                           |                                                                                                                                                                                      |                                                                                               |  |  |  |                      |  |                             |                                   |                                                                                             |                          |            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--|--|--|----------------------|--|-----------------------------|-----------------------------------|---------------------------------------------------------------------------------------------|--------------------------|------------|
| Drilled CS/GB<br>Logged BS<br>Checked MT                                                                                                                         |  | Start<br>10/02/2011<br>End<br>22/02/2011 |    | Equipment, Methods and Remarks<br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. |                    |                                           |                                                                                                                                                                                      | Depth from 0.00m to 1.20m<br>1.20m 25.70m                                                     |  |  |  | Diameter 150mm 121mm |  | Casing Depth 1.20m 3.00m    |                                   | Ground Level +14.66 mOD<br>Coordinates E 447108.39<br>National Grid N 424932.79<br>Chainage |                          |            |
| Samples and Tests                                                                                                                                                |  |                                          |    |                                                                                                                                                                   |                    |                                           | Strata                                                                                                                                                                               |                                                                                               |  |  |  |                      |  |                             |                                   |                                                                                             |                          |            |
| Depth                                                                                                                                                            |  | TCR<br>SCR<br>ROD                        | If | Records/Samples                                                                                                                                                   | Date<br>Casing     | Time<br>Water                             | Description<br>(Continued from Sheet 2)                                                                                                                                              |                                                                                               |  |  |  |                      |  | Depth, Level<br>(Thickness) |                                   | Legend                                                                                      | Backfill/<br>Instruments |            |
| 19.70-21.20                                                                                                                                                      |  | 93<br>93<br>91                           |    | CS 12                                                                                                                                                             |                    |                                           | (CADEBY LIMESTONE)                                                                                                                                                                   |                                                                                               |  |  |  |                      |  | (3.60)                      |                                   |                                                                                             |                          |            |
| 20.87-20.98                                                                                                                                                      |  |                                          |    |                                                                                                                                                                   |                    |                                           | AZCL 20.10 m 1 No. 15mm diameter calcite filled vugh<br>20.55-20.80 m multiple 15-30mm diameter irregular ** vugh                                                                    |                                                                                               |  |  |  |                      |  |                             |                                   |                                                                                             |                          |            |
| 21.20-22.70                                                                                                                                                      |  | 100<br>100<br>100                        |    |                                                                                                                                                                   |                    |                                           |                                                                                                                                                                                      |                                                                                               |  |  |  |                      |  |                             |                                   |                                                                                             |                          |            |
|                                                                                                                                                                  |  | 100<br>240<br>570                        |    |                                                                                                                                                                   |                    |                                           |                                                                                                                                                                                      |                                                                                               |  |  |  |                      |  |                             |                                   |                                                                                             |                          |            |
| 22.70-24.20                                                                                                                                                      |  | 93<br>68<br>68                           |    |                                                                                                                                                                   |                    |                                           | Weak to medium strong light yellow cream LIMESTONE. Fractures are subhorizontal, closely to medium spaced, planar, rough. (CADEBY LIMESTONE)                                         |                                                                                               |  |  |  |                      |  | 23.00                       | -8.34                             |                                                                                             |                          |            |
| 24.20-25.70                                                                                                                                                      |  | 63<br>63<br>63                           |    |                                                                                                                                                                   |                    |                                           | 23.00-24.05 m 1 No. subvertical undulating rough fracture<br>23.35-23.40 m NI<br>23.40-23.60 m 1 No. subvertical undulating rough fracture<br>24.04-24.08 m NI<br>24.20-24.75 m AZCL |                                                                                               |  |  |  |                      |  | (2.70)                      |                                   |                                                                                             |                          |            |
|                                                                                                                                                                  |  |                                          |    |                                                                                                                                                                   | 22/02/2011<br>3.00 |                                           | 25.50-25.70 m 1 No. subvertical undulating rough fracture stained orange                                                                                                             |                                                                                               |  |  |  |                      |  | 25.70                       | -11.04                            |                                                                                             |                          |            |
|                                                                                                                                                                  |  |                                          |    |                                                                                                                                                                   |                    |                                           | EXPLORATORY HOLE ENDS AT 25.70 m                                                                                                                                                     |                                                                                               |  |  |  |                      |  |                             |                                   |                                                                                             |                          |            |
|                                                                                                                                                                  |  |                                          |    |                                                                                                                                                                   |                    |                                           |                                                                                                                                                                                      |                                                                                               |  |  |  |                      |  |                             |                                   |                                                                                             |                          |            |
|                                                                                                                                                                  |  |                                          |    |                                                                                                                                                                   |                    |                                           |                                                                                                                                                                                      |                                                                                               |  |  |  |                      |  |                             |                                   |                                                                                             |                          |            |
| Depth                                                                                                                                                            |  | TCR<br>SCR<br>ROD                        | If | Records/Samples                                                                                                                                                   | Date<br>Casing     | Time<br>Water                             |                                                                                                                                                                                      |                                                                                               |  |  |  |                      |  |                             |                                   |                                                                                             |                          |            |
| Groundwater Entries<br>No. Struck Post strike behaviour<br>None observed (see Key Sheet)                                                                         |  |                                          |    |                                                                                                                                                                   |                    | Depth sealed (m)                          |                                                                                                                                                                                      | Depth Related Remarks *<br>From to (m)                                                        |  |  |  |                      |  |                             | Chiselling<br>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<br>Project No.<br>Carried out for |                                                                                                                                                                                      | FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br>A1008-11<br>Scottish and Southern Energy PLC |  |  |  |                      |  |                             | Borehole<br>BH605<br>Sheet 3 of 3 |                                                                                             |                          |            |
| Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:37:08                                                                                              |  |                                          |    |                                                                                                                                                                   |                    | AGS                                       |                                                                                                                                                                                      |                                                                                               |  |  |  |                      |  |                             |                                   |                                                                                             |                          |            |

# Borehole Log



Soil Mechanics

|                                                                                                                                                                  |                                 |                                                    |                    |                                                                                                                                                                              |                                                                                                                                                                                                                                                                                  |  |                                                                                               |                                              |                                                                                                                         |                              |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------|--|
| <b>Drilled</b> CS/DS<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    |                                 | <b>Start</b> 15/02/2011<br><b>End</b> 17/02/2011   |                    | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Massenza MI2 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using air mist flush. |                                                                                                                                                                                                                                                                                  |  | <b>Depth from</b> 0.00m <b>to</b> 4.00m<br><b>Diameter</b> 150mm<br><b>Casing Depth</b> 4.00m |                                              | <b>Ground Level</b> +13.26 mOD<br><b>Coordinates</b> E 447539.06<br><b>National Grid</b> N 425305.63<br><b>Chainage</b> |                              |  |
| <b>Samples and Tests</b>                                                                                                                                         |                                 |                                                    |                    |                                                                                                                                                                              |                                                                                                                                                                                                                                                                                  |  | <b>Strata</b>                                                                                 |                                              |                                                                                                                         |                              |  |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>            | <b>Records</b>                                     | <b>Date Casing</b> | <b>Time Water</b>                                                                                                                                                            | <b>Description</b>                                                                                                                                                                                                                                                               |  |                                                                                               | <b>Depth, Level (Thickness)</b>              | <b>Legend</b>                                                                                                           | <b>Backfill/ Instruments</b> |  |
| 0.30<br>0.40-0.80<br>0.50                                                                                                                                        | ES 1<br>B 2<br>ES 3             | 0.00-1.20 m Hand excavated inspection pit.         |                    |                                                                                                                                                                              | <b>HARDCORE.</b><br>(Foreman's description)<br>(MADE GROUND)                                                                                                                                                                                                                     |  |                                                                                               | (0.28)<br>0.28 +12.98                        |                                                                                                                         |                              |  |
| 1.00<br>1.20-1.65<br>1.20-1.65<br>1.50-2.10                                                                                                                      | ES 4<br>SPT S D 5<br>B 6        | N=9 (1,2/2,2,2,3)                                  |                    | dry                                                                                                                                                                          | Soft dark grey mottled orange brown slightly sandy slightly gravelly CLAY. Gravel is angular fine to medium of limestone and red shale.<br>(MADE GROUND)                                                                                                                         |  |                                                                                               | (0.67)<br>0.95 +12.31<br>1.10 +12.16         |                                                                                                                         |                              |  |
| 2.10-2.55<br>2.55-2.75<br>2.75-3.13<br>2.75-3.20<br>3.10-4.30                                                                                                    | U 7<br>D 8<br>SPT S D 9<br>B 10 | 27 blows<br><br>N=24 (6 for 83mm/4,5,7,8)<br><br>* |                    | 2.75                                                                                                                                                                         | Soft dark grey black mottled brown slightly gravelly sandy CLAY. Gravel is subangular fine to coarse of sandstone.<br>(MADE GROUND)                                                                                                                                              |  |                                                                                               | (0.40)<br>1.50 +11.76                        |                                                                                                                         |                              |  |
|                                                                                                                                                                  |                                 |                                                    |                    |                                                                                                                                                                              | Soft locally thinly laminated dark grey brown locally mottled red, sandy slightly gravelly CLAY. Gravel is subrounded to rounded fine to medium of mudstone and sandstone.                                                                                                       |  |                                                                                               | (1.40)<br>2.90 +10.36                        |                                                                                                                         |                              |  |
|                                                                                                                                                                  |                                 |                                                    |                    |                                                                                                                                                                              | Soft dark brown mottled orange sandy CLAY with rare subrounded fine gravel of limestone. Locally grading to clayey sandy.                                                                                                                                                        |  |                                                                                               | (1.10)<br>4.00 +9.26                         |                                                                                                                         |                              |  |
|                                                                                                                                                                  |                                 |                                                    |                    |                                                                                                                                                                              | Weak light yellow cream LIMESTONE. Recovered as gravelly sand.<br>(CADEBY LIMESTONE)                                                                                                                                                                                             |  |                                                                                               | (1.20)<br>5.20 +8.06                         |                                                                                                                         |                              |  |
| 4.00-4.50<br>4.30-4.75<br>4.30-4.75                                                                                                                              | 0<br>0<br>0                     | SPT S N=45 (7,9/10,10,10,15)<br>D 11               | 15/02/2011<br>4.00 | 0800<br>3.20                                                                                                                                                                 | Extremely weak light grey cream LIMESTONE.<br>(CADEBY LIMESTONE)                                                                                                                                                                                                                 |  |                                                                                               |                                              |                                                                                                                         |                              |  |
| 4.50-5.00                                                                                                                                                        | 60<br>0<br>0                    | NI                                                 |                    |                                                                                                                                                                              | 4.50-5.20 m NI recovered as soft gravelly clay                                                                                                                                                                                                                                   |  |                                                                                               |                                              |                                                                                                                         |                              |  |
| 5.00-5.50                                                                                                                                                        | 100<br>10<br>0                  |                                                    |                    |                                                                                                                                                                              | Very weak locally extremely weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, planar, rough.<br>(CADEBY LIMESTONE)                                                                                                                 |  |                                                                                               |                                              |                                                                                                                         |                              |  |
| 6.20-6.30<br>5.50-7.00                                                                                                                                           | 80<br>39<br>7                   | CS 12                                              |                    |                                                                                                                                                                              | 5.50-5.80 m NI<br>5.80-6.00 m NI<br>6.18-6.23 m NI<br>6.37-6.50 m 1 No. 80 deg. undulating rough fracture<br>6.66-7.00 m NI<br>7.00-7.50 m AZCL<br>7.50-7.60 m NI<br>7.70-8.04 m NI<br>8.10-8.30 m 1 No. 80 deg. undulating rough fracture<br>8.30-8.35 m NI<br>8.50-8.80 m AZCL |  |                                                                                               |                                              |                                                                                                                         |                              |  |
| 7.00-8.50                                                                                                                                                        | 67<br>30<br>0                   |                                                    |                    |                                                                                                                                                                              | 9.00-9.10 m NI<br>9.15-9.22 m 1 No. 90 deg. undulating smooth fracture<br>9.37-9.48 m NI<br>9.66-9.77 m NI<br>9.90-10.00 m NI                                                                                                                                                    |  |                                                                                               |                                              |                                                                                                                         |                              |  |
| 8.50-10.00                                                                                                                                                       | 80<br>47<br>9                   |                                                    |                    |                                                                                                                                                                              | Stratum continues to 20.50 m                                                                                                                                                                                                                                                     |  |                                                                                               |                                              |                                                                                                                         |                              |  |
| <b>Groundwater Entries</b>                                                                                                                                       |                                 | <b>Depth sealed (m)</b>                            |                    |                                                                                                                                                                              | <b>Depth Related Remarks *</b>                                                                                                                                                                                                                                                   |  |                                                                                               | <b>Chiselling Depths (m) Time Tools used</b> |                                                                                                                         |                              |  |
| No. Struck (m) Post strike behaviour<br>None observed (see Key Sheet)                                                                                            |                                 |                                                    |                    |                                                                                                                                                                              | From to (m)<br>3.20 4.30 Water added.                                                                                                                                                                                                                                            |  |                                                                                               | 3.20 -4.30 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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC                                            |                                                                                                                                                                                                                                                                                  |  |                                                                                               | Borehole BH606<br>Sheet 1 of 3               |                                                                                                                         |                              |  |

# Borehole Log



Soil Mechanics

|                                                                                                                                                                  |                            |                                                  |                                      |                                                                                                                                                                              |                       |                                                                                                                                                                                          |                                                                                            |  |                                                                                                                                                          |               |                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------|
| <b>Drilled</b> CS/DS<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    |                            | <b>Start</b> 15/02/2011<br><b>End</b> 17/02/2011 |                                      | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Massenza MI2 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using air mist flush. |                       |                                                                                                                                                                                          | <b>Depth from</b> 0.00m <b>to</b> 4.00m<br><b>Diameter</b> 150mm <b>Casing Depth</b> 4.00m |  | <b>Ground Level</b> +13.26 mOD<br><b>Coordinates</b> E 447539.06<br><b>National Grid</b> N 425305.63<br><b>Chainage</b>                                  |               |                                  |
| <b>Samples and Tests</b>                                                                                                                                         |                            |                                                  |                                      |                                                                                                                                                                              |                       | <b>Strata</b>                                                                                                                                                                            |                                                                                            |  |                                                                                                                                                          |               |                                  |
| <b>Depth</b>                                                                                                                                                     | <b>TCR<br/>SCR<br/>ROD</b> | <b>If</b>                                        | <b>Records/Samples</b>               | <b>Date<br/>Casing</b>                                                                                                                                                       | <b>Time<br/>Water</b> | <b>Description<br/>(Continued from Sheet 1)</b>                                                                                                                                          |                                                                                            |  | <b>Depth, Level/<br/>(Thickness)</b>                                                                                                                     | <b>Legend</b> | <b>Backfill/<br/>Instruments</b> |
| 10.00-11.50                                                                                                                                                      | 87<br>60<br>31             |                                                  |                                      |                                                                                                                                                                              |                       | Very weak locally extremely weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, planar, rough.<br>(CADEBY LIMESTONE)                         |                                                                                            |  | 10.00-10.20 m AZCL<br>10.20-10.50 m NI<br>10.50-10.77 m 1 No. 70 deg. undulating rough fracture<br>10.89-11.35 m 1 No. 70 deg. undulating rough fracture | (15.30)       |                                  |
| 11.50-13.00                                                                                                                                                      | 77<br>25<br>0              | NI<br>NI<br>40                                   | Flush: 4.00-20.50<br>Air mist, 100 % |                                                                                                                                                                              |                       | 11.70-11.75 m NI<br>11.75-12.20 m locally recovered as clayey gravel<br>12.40-12.66 m locally recovered as clayey gravel<br>12.66-13.00 m AZCL<br>13.00-13.10 m AZCL<br>13.27-13.32 m NI |                                                                                            |  |                                                                                                                                                          |               |                                  |
| 13.35-13.45                                                                                                                                                      |                            |                                                  | CS 13                                |                                                                                                                                                                              |                       | 13.58-13.63 m NI<br>13.74-13.83 m 1 No. 90-60 deg. planar rough fracture<br>14.05-14.12 m NI                                                                                             |                                                                                            |  |                                                                                                                                                          |               |                                  |
| 13.00-14.50                                                                                                                                                      | 93<br>83<br>13             |                                                  |                                      |                                                                                                                                                                              |                       | 14.30 m 1 No. 10mm diameter calcite infilled vugh<br>14.50-14.60 m AZCL<br>14.60-14.73 m NI<br>14.95 m 1 No. 20mm diameter vugh<br>15.32-15.37 m NI                                      |                                                                                            |  |                                                                                                                                                          |               |                                  |
| 14.50-16.00                                                                                                                                                      | 93<br>79<br>7              |                                                  |                                      | 16/02/2011<br>4.00                                                                                                                                                           | 7.00                  | 16.00-16.25 m AZCL<br>16.51-16.70 m NI                                                                                                                                                   |                                                                                            |  |                                                                                                                                                          |               |                                  |
| 16.00-17.50                                                                                                                                                      | 83<br>72<br>21             | 40<br>70<br>200                                  |                                      | 17/02/2011<br>4.00                                                                                                                                                           | 0800<br>7.00          | 17.02-17.30 m 1 No. subvertical undulating rough fracture<br>17.40-17.50 m NI                                                                                                            |                                                                                            |  |                                                                                                                                                          |               |                                  |
| 17.33-17.44                                                                                                                                                      |                            |                                                  | CS 14                                |                                                                                                                                                                              |                       | 17.93-18.00 m NI<br>18.12-18.16 m NI                                                                                                                                                     |                                                                                            |  |                                                                                                                                                          |               |                                  |
| 17.50-19.00                                                                                                                                                      | 100<br>97<br>48            |                                                  |                                      |                                                                                                                                                                              |                       | 18.63 m 1 No. 10mm oval shaped vugh with calcite infilling<br>19.00-19.05 m AZCL<br>19.05-19.37 m NI                                                                                     |                                                                                            |  |                                                                                                                                                          |               |                                  |
| 19.00-20.50                                                                                                                                                      | 97<br>63<br>28             |                                                  |                                      |                                                                                                                                                                              |                       |                                                                                                                                                                                          |                                                                                            |  |                                                                                                                                                          |               |                                  |
| Depth                                                                                                                                                            | TCR<br>ROD                 | If                                               | Records/Samples                      | Date<br>Casing                                                                                                                                                               | Time<br>Water         | Stratum continues to 20.50 m                                                                                                                                                             |                                                                                            |  |                                                                                                                                                          |               |                                  |
| <b>Groundwater Entries</b><br>No. Struck (m) Post strike behaviour<br>None observed (see Key Sheet)                                                              |                            |                                                  |                                      |                                                                                                                                                                              |                       | Depth sealed (m)                                                                                                                                                                         |                                                                                            |  | Depth Related Remarks *<br>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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC                                                        |                                                                                            |  | Borehole BH606<br>Sheet 2 of 3                                                                                                                           |               |                                  |

Scale 1:50

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# Borehole Log



Soil Mechanics

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| <b>Drilled</b> CS/DS<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                                                                                           |                   | <b>Start</b> 15/02/2011<br><b>End</b> 17/02/2011 |                 | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Massenza MI2 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using air mist flush. |               |                                                                                                                                                                                                      |  | <b>Depth from</b> 0.00m <b>to</b> 4.00m<br><b>Diameter</b> 150mm<br><b>Casing Depth</b> 4.00m |  | <b>Ground Level</b> +13.26 mOD<br><b>Coordinates</b> E 447539.06<br><b>National Grid</b> N 425305.63<br><b>Chainage</b> |        |                          |
| <b>Samples and Tests</b>                                                                                                                                                                                                                |                   |                                                  |                 |                                                                                                                                                                              |               | <b>Strata</b>                                                                                                                                                                                        |  |                                                                                               |  |                                                                                                                         |        |                          |
| Depth                                                                                                                                                                                                                                   | TCR<br>SCR<br>ROD | If                                               | Records/Samples | Date<br>Casing                                                                                                                                                               | Time<br>Water | Description<br>(Continued from Sheet 2)                                                                                                                                                              |  |                                                                                               |  | Depth, Level<br>(Thickness)                                                                                             | Legend | Backfill/<br>Instruments |
|                                                                                                                                                                                                                                         |                   |                                                  |                 | 17/02/2011<br>4.00                                                                                                                                                           | 10.00         | Very weak locally extremely weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, planar, rough.<br>(CADEBY LIMESTONE)<br>EXPLORATORY HOLE ENDS AT 20.50 m |  |                                                                                               |  | 20.50 -7.24                                                                                                             |        |                          |
| Depth                                                                                                                                                                                                                                   | TCR<br>SCR<br>ROD | If                                               | Records/Samples | Date<br>Casing                                                                                                                                                               | Time<br>Water |                                                                                                                                                                                                      |  |                                                                                               |  |                                                                                                                         |        |                          |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                                                                                                  |                   |                                                  |                 |                                                                                                                                                                              |               | Depth sealed (m)                                                                                                                                                                                     |  |                                                                                               |  | Depth Related Remarks *<br>From to (m)                                                                                  |        |                          |
| Chiselling<br>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.<br>Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:37:40 |                   |                                                  |                 |                                                                                                                                                                              |               | Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC                                                                    |  |                                                                                               |  | Borehole<br><b>BH606</b><br>Sheet 3 of 3                                                                                |        |                          |

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|                                                                                                                                                                  |  |                                 |                            |                                            |                                                                                                                                                                             |                            |  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                     |  |                              |                                   |                                       |  |                                                                                |  |  |                                                                                                                                                                                                                    |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------|----------------------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--|-------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--|------------------------------|-----------------------------------|---------------------------------------|--|--------------------------------------------------------------------------------|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------|--|------------------------------|--|--|--|--|--|-------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|
| <b>Drilled</b>                                                                                                                                                   |  | CS/MB                           | <b>Start</b><br>14/02/2011 |                                            | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Mobile rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water/polymer flush. |                            |  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Depth from</b><br>0.00m<br>2.40m |  | <b>to</b><br>2.40m<br>15.80m | <b>Diameter</b><br>150mm<br>121mm | <b>Casing Depth</b><br>2.40m<br>2.40m |  | <b>Ground Level Coordinates</b><br><b>National Grid</b><br><br><b>Chainage</b> |  |  | +14.30 mOD<br>E 447299.44<br>N 425136.13                                                                                                                                                                           |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
| <b>Logged</b>                                                                                                                                                    |  | BS                              | <b>End</b><br>22/02/2011   |                                            |                                                                                                                                                                             |                            |  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                     |  |                              |                                   |                                       |  |                                                                                |  |  |                                                                                                                                                                                                                    |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
| <b>Checked</b>                                                                                                                                                   |  | MT                              |                            |                                            |                                                                                                                                                                             |                            |  |                   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                     |  |                              |                                   |                                       |  |                                                                                |  |  |                                                                                                                                                                                                                    |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
| <b>Samples and Tests</b>                                                                                                                                         |  |                                 |                            |                                            |                                                                                                                                                                             |                            |  |                   |  | <b>Strata</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                     |  |                              |                                   |                                       |  |                                                                                |  |  |                                                                                                                                                                                                                    |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
| <b>Depth</b>                                                                                                                                                     |  | <b>Type &amp; No</b>            |                            | <b>Records</b>                             |                                                                                                                                                                             | <b>Date Casing</b>         |  | <b>Time Water</b> |  | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     |  |                              |                                   |                                       |  |                                                                                |  |  | <b>Depth, Level (Thickness)</b>                                                                                                                                                                                    |  | <b>Legend</b> |  | <b>Backfill/ Instruments</b> |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
| 0.30<br>0.40-0.60<br>0.50<br>0.60-1.00                                                                                                                           |  | ES 1<br>B 2<br>ES 3<br>B 4      |                            | 0.00-1.20 m Hand excavated inspection pit. |                                                                                                                                                                             | 1.20                       |  | dry               |  | TOPSOIL.<br><br>Dark red brown slightly sandy slightly silty angular fine to coarse GRAVEL of red shale with low cobble content. Cobbles are subangular 70-100mm in diameter of red shale. (MADE GROUND)<br><br>Firm to stiff dark brown mottled red slightly sandy slightly gravelly CLAY. Gravel is subangular fine to medium of limestone, sandstone and coal.<br><br>Stiff light red pink mottled cream slightly sandy slightly gravelly CLAY. Gravel is angular fine to medium of limestone.                                                                                                                       |                                     |  |                              |                                   |                                       |  |                                                                                |  |  | 0.10 +14.20<br>0.30 +14.00<br>(0.30)<br>0.60 +13.70<br><br>(0.60)<br>1.20 +13.10<br><br>(1.20)<br><br>2.40 +11.90<br><br>(1.30)<br><br>3.70 +10.60<br><br>(2.30)<br><br>6.00 +8.30<br><br>(3.70)<br><br>9.70 +4.60 |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
| 1.00<br>1.20-1.65<br>1.20-1.65<br>1.20-2.30                                                                                                                      |  | ES 5<br><br>SPT S<br>D 6<br>B 7 |                            | * N=41 (5,6/7,9,10,15)                     |                                                                                                                                                                             | 14/02/2011<br>2.30<br>2.40 |  | 0800<br>2.68      |  | Very weak light yellow cream LIMESTONE. Recovered as gravelly sand. (CADEBY LIMESTONE)<br><br>Very weak to weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, undulating, rough. (CADEBY LIMESTONE)<br><br>Weak locally moderately strong light grey white LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, undulating, rough. (CADEBY LIMESTONE)<br><br>Very weak to weak light yellow cream LIMESTONE. Fractures are generally subhorizontal, closely spaced, undulating, rough. (CADEBY LIMESTONE)<br><br>Flush: 2.40-15.80 Water/polymer, 100 % |                                     |  |                              |                                   |                                       |  |                                                                                |  |  | 2.40 +11.90<br><br>(1.30)<br><br>3.70 +10.60<br><br>(2.30)<br><br>6.00 +8.30<br><br>(3.70)<br><br>9.70 +4.60                                                                                                       |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
| 2.30-2.46<br>2.30-2.46<br>2.40-2.90                                                                                                                              |  | SPT S<br>D 6<br>90<br>52<br>0   |                            | 50 (25/50 for 60mm)                        |                                                                                                                                                                             | 22/02/2011<br>2.40         |  |                   |  | Very weak to weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, undulating, rough. (CADEBY LIMESTONE)<br><br>Weak locally moderately strong light grey white LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, undulating, rough. (CADEBY LIMESTONE)<br><br>Very weak to weak light yellow cream LIMESTONE. Fractures are generally subhorizontal, closely spaced, undulating, rough. (CADEBY LIMESTONE)<br><br>Flush: 2.40-15.80 Water/polymer, 100 %                                                                                               |                                     |  |                              |                                   |                                       |  |                                                                                |  |  | 2.40 +11.90<br><br>(1.30)<br><br>3.70 +10.60<br><br>(2.30)<br><br>6.00 +8.30<br><br>(3.70)<br><br>9.70 +4.60                                                                                                       |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
| 2.90-3.80                                                                                                                                                        |  | 25<br>40<br>80                  |                            | CS 9                                       |                                                                                                                                                                             |                            |  |                   |  | Very weak to weak light yellow cream LIMESTONE. Fractures are generally subhorizontal, closely spaced, undulating, rough. (CADEBY LIMESTONE)<br><br>Flush: 2.40-15.80 Water/polymer, 100 %                                                                                                                                                                                                                                                                                                                                                                                                                              |                                     |  |                              |                                   |                                       |  |                                                                                |  |  | 2.40 +11.90<br><br>(1.30)<br><br>3.70 +10.60<br><br>(2.30)<br><br>6.00 +8.30<br><br>(3.70)<br><br>9.70 +4.60                                                                                                       |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
| 5.61-5.77<br>5.30-6.30                                                                                                                                           |  | 95<br>60<br>15                  |                            | CS 9                                       |                                                                                                                                                                             |                            |  |                   |  | Very weak to weak light yellow cream LIMESTONE. Fractures are generally subhorizontal, closely spaced, undulating, rough. (CADEBY LIMESTONE)<br><br>Flush: 2.40-15.80 Water/polymer, 100 %                                                                                                                                                                                                                                                                                                                                                                                                                              |                                     |  |                              |                                   |                                       |  |                                                                                |  |  | 2.40 +11.90<br><br>(1.30)<br><br>3.70 +10.60<br><br>(2.30)<br><br>6.00 +8.30<br><br>(3.70)<br><br>9.70 +4.60                                                                                                       |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
| 6.30-7.80                                                                                                                                                        |  | 93<br>69<br>16                  |                            | CS 9                                       |                                                                                                                                                                             |                            |  |                   |  | Very weak to weak light yellow cream LIMESTONE. Fractures are generally subhorizontal, closely spaced, undulating, rough. (CADEBY LIMESTONE)<br><br>Flush: 2.40-15.80 Water/polymer, 100 %                                                                                                                                                                                                                                                                                                                                                                                                                              |                                     |  |                              |                                   |                                       |  |                                                                                |  |  | 2.40 +11.90<br><br>(1.30)<br><br>3.70 +10.60<br><br>(2.30)<br><br>6.00 +8.30<br><br>(3.70)<br><br>9.70 +4.60                                                                                                       |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
| 7.80-9.30                                                                                                                                                        |  | 40<br>17<br>0                   |                            | NI<br>NI<br>150                            |                                                                                                                                                                             |                            |  |                   |  | Very weak to weak light yellow cream LIMESTONE. Fractures are generally subhorizontal, closely spaced, undulating, rough. (CADEBY LIMESTONE)<br><br>Flush: 2.40-15.80 Water/polymer, 100 %                                                                                                                                                                                                                                                                                                                                                                                                                              |                                     |  |                              |                                   |                                       |  |                                                                                |  |  | 2.40 +11.90<br><br>(1.30)<br><br>3.70 +10.60<br><br>(2.30)<br><br>6.00 +8.30<br><br>(3.70)<br><br>9.70 +4.60                                                                                                       |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
| 9.30-9.80                                                                                                                                                        |  | 100<br>30<br>0                  |                            | NI<br>NI<br>150                            |                                                                                                                                                                             |                            |  |                   |  | Very weak to weak light yellow cream LIMESTONE. Fractures are generally subhorizontal, closely spaced, undulating, rough. (CADEBY LIMESTONE)<br><br>Flush: 2.40-15.80 Water/polymer, 100 %                                                                                                                                                                                                                                                                                                                                                                                                                              |                                     |  |                              |                                   |                                       |  |                                                                                |  |  | 2.40 +11.90<br><br>(1.30)<br><br>3.70 +10.60<br><br>(2.30)<br><br>6.00 +8.30<br><br>(3.70)<br><br>9.70 +4.60                                                                                                       |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
| Depth                                                                                                                                                            |  | If                              |                            | Records/Samples                            |                                                                                                                                                                             | Date Casing                |  | Time Water        |  | Stratum continues to 11.30 m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                     |  |                              |                                   |                                       |  |                                                                                |  |  |                                                                                                                                                                                                                    |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br><br>None observed (see Key Sheet)                                                       |  |                                 |                            |                                            |                                                                                                                                                                             |                            |  |                   |  | <b>Depth sealed (m)</b><br><br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                     |  |                              |                                   |                                       |  |                                                                                |  |  | <b>Depth Related Remarks *</b><br>From to (m)<br>1.20 2.30 Water added.                                                                                                                                            |  |               |  |                              |  |  |  |  |  | <b>Chiselling Depths (m)</b><br>1.20 -2.30<br><b>Time</b><br>60 mins<br><b>Tools used</b> |  |  |  |  |  |  |  |  |  |
| 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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                     |  |                              |                                   |                                       |  |                                                                                |  |  | Borehole BH607<br>Sheet 1 of 2                                                                                                                                                                                     |  |               |  |                              |  |  |  |  |  |                                                                                           |  |  |  |  |  |  |  |  |  |



$\Phi$ 

|                                                                                                                                                                                                                                                                                                                                        |  |                                          |                  |                                                                                                                                                                      |                    |                                               |                                                                                                                                                                                                                                                                                                                                      |                       |  |                            |  |                                                                                                   |                              |                                                                                                      |                          |  |  |                                           |  |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--|----------------------------|--|---------------------------------------------------------------------------------------------------|------------------------------|------------------------------------------------------------------------------------------------------|--------------------------|--|--|-------------------------------------------|--|--|--|--|--|
| Drilled CS/MB<br>Logged BS<br>Checked MT                                                                                                                                                                                                                                                                                               |  | Start<br>14/02/2011<br>End<br>22/02/2011 |                  | Equipment, Methods and Remarks<br>Dando 150 and Mobile rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water/polymer flush. |                    | Depth from<br>0.00m<br>2.40m                  |                                                                                                                                                                                                                                                                                                                                      | to<br>2.40m<br>15.80m |  | Diameter<br>150mm<br>121mm |  | Casing Depth<br>2.40m<br>2.40m                                                                    |                              | Ground Level<br>+14.30 mOD<br>Coordinates<br>E 447299.44<br>National Grid<br>N 425136.13<br>Chainage |                          |  |  |                                           |  |  |  |  |  |
| Samples and Tests                                                                                                                                                                                                                                                                                                                      |  |                                          |                  |                                                                                                                                                                      |                    | Strata                                        |                                                                                                                                                                                                                                                                                                                                      |                       |  |                            |  |                                                                                                   |                              |                                                                                                      |                          |  |  |                                           |  |  |  |  |  |
| Depth                                                                                                                                                                                                                                                                                                                                  |  | TCR<br>SCR<br>RQD                        | If               | Records/Samples                                                                                                                                                      | Date<br>Casing     | Time<br>Water                                 | Description<br>(Continued from Sheet 1)                                                                                                                                                                                                                                                                                              |                       |  |                            |  |                                                                                                   | Depth, Level/<br>(Thickness) | Legend                                                                                               | Backfill/<br>Instruments |  |  |                                           |  |  |  |  |  |
| 9.80-10.80                                                                                                                                                                                                                                                                                                                             |  | 50<br>21<br>10                           |                  |                                                                                                                                                                      |                    |                                               | Weak locally moderately strong light grey white LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, undulating, rough. (CADEBY LIMESTONE)                                                                                                                                                                        |                       |  |                            |  |                                                                                                   | (1.60)                       |                                                                                                      |                          |  |  |                                           |  |  |  |  |  |
| 10.80-11.30                                                                                                                                                                                                                                                                                                                            |  | 100<br>40<br>0                           |                  |                                                                                                                                                                      |                    |                                               | 10.20-10.30 m NI<br>10.30-10.80 m AZCL<br><br>10.80-11.13 m NI<br>recovered as silty sand<br>11.13-11.20 m NI<br>recovered as                                                                                                                                                                                                        |                       |  |                            |  |                                                                                                   | 11.30                        | +3.00                                                                                                |                          |  |  |                                           |  |  |  |  |  |
| 11.70-11.86<br>11.30-12.30                                                                                                                                                                                                                                                                                                             |  | 100<br>86<br>38                          |                  | CS 10                                                                                                                                                                |                    |                                               | Very weak to weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, undulating, rough. (CADEBY LIMESTONE)                                                                                                                                                                                   |                       |  |                            |  |                                                                                                   |                              |                                                                                                      |                          |  |  |                                           |  |  |  |  |  |
| 12.30-13.00                                                                                                                                                                                                                                                                                                                            |  | 79<br>34<br>0                            |                  |                                                                                                                                                                      |                    |                                               | 11.25-11.30 m 2 No.<br>25mm diameter vughs<br>11.37-11.48 m NI<br>recovered as silty sand<br>11.97-12.00 m NI<br>12.07-12.10 m NI<br>12.30-12.45 m AZCL<br>12.50-12.85 m 1 No.<br>subvertical stepped rough fracture<br>12.53-12.67 m NI<br>12.86-12.93 m NI<br>13.00-13.10 m AZCL<br>13.10-13.20 m NI<br>recovered as clayey gravel |                       |  |                            |  |                                                                                                   |                              |                                                                                                      |                          |  |  |                                           |  |  |  |  |  |
| 13.36-13.50<br>13.00-14.30                                                                                                                                                                                                                                                                                                             |  | 92<br>81<br>50                           | 50<br>110<br>160 | CS 11                                                                                                                                                                |                    |                                               | 14.30-14.40 m AZCL<br>14.60-14.63 m NI<br>14.71-14.75 m NI<br><br>15.38-15.42 m NI                                                                                                                                                                                                                                                   |                       |  |                            |  |                                                                                                   | (4.50)                       |                                                                                                      |                          |  |  |                                           |  |  |  |  |  |
| 14.30-15.80                                                                                                                                                                                                                                                                                                                            |  | 93<br>76<br>42                           |                  |                                                                                                                                                                      | 22/02/2011<br>2.40 | 4.60                                          | EXPLORATORY HOLE ENDS AT 15.80 m                                                                                                                                                                                                                                                                                                     |                       |  |                            |  |                                                                                                   | 15.80                        | -1.50                                                                                                |                          |  |  |                                           |  |  |  |  |  |
| Depth                                                                                                                                                                                                                                                                                                                                  |  | TCR<br>SCR<br>RQD                        | If               | Records/Samples                                                                                                                                                      | Date<br>Casing     | Time<br>Water                                 |                                                                                                                                                                                                                                                                                                                                      |                       |  |                            |  |                                                                                                   |                              |                                                                                                      |                          |  |  |                                           |  |  |  |  |  |
| Groundwater Entries<br>No. Struck Post strike behaviour<br>(m)<br><br>None observed (see Key Sheet)                                                                                                                                                                                                                                    |  |                                          |                  |                                                                                                                                                                      |                    | Depth sealed (m)<br><br>                      |                                                                                                                                                                                                                                                                                                                                      |                       |  |                            |  | Depth Related Remarks *<br>From to (m)<br><br>                                                    |                              |                                                                                                      |                          |  |  | Chiselling<br>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.<br><br>Scale 1:50<br><br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:38:10<br> |  |                                          |                  |                                                                                                                                                                      |                    | Project<br><br>Project No.<br>Carried out for |                                                                                                                                                                                                                                                                                                                                      |                       |  |                            |  | FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br><br>A1008-11<br>Scottish and Southern Energy PLC |                              |                                                                                                      |                          |  |  | Borehole<br><br>BH607<br><br>Sheet 2 of 2 |  |  |  |  |  |

# Borehole Log



Soil Mechanics

| Drilled<br>Logged<br>Checked                                                                                                                                     |                     | CS/MB<br>BS<br>MT                          |                    | Start<br>14/02/2011<br>End<br>24/02/2011 |                                                                                                                                                                                                              | Equipment, Methods and Remarks<br>Dando 150 and Mobile rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using polymer flush. |  | Depth from<br>0.00m<br>2.07m |  | to<br>2.07m<br>15.60m |  | Diameter<br>150mm<br>121mm |  | Casing Depth<br>2.07m |                                                     | Ground Level<br>Coordinates<br>National Grid<br>Chainage |                          | +15.04 mOD<br>E 447370.75<br>N 425217.95 |  |                 |  |            |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------|--------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------|--|-----------------------|--|----------------------------|--|-----------------------|-----------------------------------------------------|----------------------------------------------------------|--------------------------|------------------------------------------|--|-----------------|--|------------|--|
| <b>Samples and Tests</b>                                                                                                                                         |                     |                                            |                    |                                          |                                                                                                                                                                                                              |                                                                                                                                                                |  |                              |  | <b>Strata</b>         |  |                            |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
| Depth                                                                                                                                                            | Type & No           | Records                                    | Date<br>Casing     | Time<br>Water                            | Description                                                                                                                                                                                                  |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       | Depth, Level<br>(Thickness)                         | Legend                                                   | Backfill/<br>Instruments |                                          |  |                 |  |            |  |
| 0.30<br>0.30-0.50<br>0.50                                                                                                                                        | ES 1<br>B 2<br>ES 3 | 0.00-1.20 m Hand excavated inspection pit. |                    |                                          | TOPSOIL.                                                                                                                                                                                                     |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       | 0.10 +14.94                                         |                                                          |                          |                                          |  |                 |  |            |  |
| 0.75-1.00                                                                                                                                                        | B 4                 |                                            |                    |                                          | Firm locally soft dark grey slightly sandy gravelly CLAY. Gravel is angular fine to coarse of limestone.                                                                                                     |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       | 0.25 +14.79                                         |                                                          |                          |                                          |  |                 |  |            |  |
| 1.00                                                                                                                                                             | ES 5                |                                            |                    |                                          | 0.60-0.80 m clayey (MADE GROUND)                                                                                                                                                                             |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       | (0.55)                                              |                                                          |                          |                                          |  |                 |  |            |  |
| 1.20-1.50<br>1.20-1.57<br>1.30-1.85                                                                                                                              | SPT S<br>D 6<br>B 7 | 65 (9,11/15,50)                            | 1.20               | dry                                      | Dark orange brown slightly clayey gravelly fine to coarse SAND with very low cobble content. Gravel is subangular to subrounded fine to coarse of sandstone and limestone. Cobbles are subrounded sandstone. |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       | 0.80 +14.24<br>(0.30)<br>1.10 +13.94<br>1.20 +13.84 |                                                          |                          |                                          |  |                 |  |            |  |
| 1.85-2.07<br>1.85-2.07                                                                                                                                           | SPT S<br>D 8        | 50 (25,-/50 for 70mm)                      | 1.50<br>14/02/2011 |                                          | Firm to stiff dark red brown mottled black slightly sandy gravelly CLAY. Gravel is subangular fine of mudstone and limestone.                                                                                |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       | (0.87)                                              |                                                          |                          |                                          |  |                 |  |            |  |
| 2.07-2.30                                                                                                                                                        |                     | TCR 57, SCR 0, RQD 0                       | 23/02/2011<br>2.07 | 0800<br>dry                              | 2.07-2.17 m AZCL                                                                                                                                                                                             |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       | 2.07 +12.97                                         |                                                          |                          |                                          |  |                 |  |            |  |
| 2.30-2.70                                                                                                                                                        | 25<br>0<br>0        |                                            |                    |                                          | Dark red grey gravelly fine to coarse SAND. Gravel is angular to subangular fine to coarse of limestone and sandstone.                                                                                       |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       | (0.63)                                              |                                                          |                          |                                          |  |                 |  |            |  |
| 2.70-3.20                                                                                                                                                        | 100<br>100<br>100   |                                            |                    |                                          | Weak light yellow cream LIMESTONE. Recovered as gravelly sand. (CADEBY LIMESTONE)                                                                                                                            |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       | 2.70 +12.34                                         |                                                          |                          |                                          |  |                 |  |            |  |
| 3.40-3.64<br>3.20-3.70                                                                                                                                           | 100<br>100<br>100   | NA                                         |                    |                                          | Very weak light yellow cream LIMESTONE. (CADEBY LIMESTONE)                                                                                                                                                   |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
| 3.70-5.20                                                                                                                                                        | 80<br>0<br>0        | Flush: 2.07-6.55 Polymer, 0 %              |                    |                                          | Extremely weak light yellow cream locally mottled grey LIMESTONE. (CADEBY LIMESTONE)                                                                                                                         |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       | (1.90)                                              |                                                          |                          |                                          |  |                 |  |            |  |
| 5.20-6.55<br>6.07                                                                                                                                                | 81<br>61<br>0       | EWM 12                                     | 23/02/2011<br>2.07 | 1.10                                     | Weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, planar, rough. (CADEBY LIMESTONE)                                                                            |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       | 4.60 +10.44                                         |                                                          |                          |                                          |  |                 |  |            |  |
| 6.55-7.70                                                                                                                                                        | 24<br>17<br>13      |                                            | 24/02/2011<br>2.07 | 0800<br>3.40                             | 4.60-5.00 m locally NI                                                                                                                                                                                       |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
| 7.70-8.10                                                                                                                                                        | 0<br>0<br>0         |                                            |                    |                                          | 5.20-5.45 m AZCL                                                                                                                                                                                             |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
| 8.10-8.70                                                                                                                                                        | 67<br>28<br>0       |                                            |                    |                                          | 5.45-5.72 m NI                                                                                                                                                                                               |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
| 8.70-9.60                                                                                                                                                        | 89<br>69<br>0       |                                            |                    |                                          | 6.02-6.10 m NI<br>6.10-6.55 m extremely weak, recovered as clayey gravel                                                                                                                                     |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
|                                                                                                                                                                  | 50<br>50<br>70      |                                            |                    |                                          | 8.10-8.30 m AZCL                                                                                                                                                                                             |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
|                                                                                                                                                                  |                     |                                            |                    |                                          | 8.28-8.33 m NI<br>8.30-8.46 m NI<br>8.37-8.43 m NI                                                                                                                                                           |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
|                                                                                                                                                                  |                     |                                            |                    |                                          | 8.70-8.80 m AZCL                                                                                                                                                                                             |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
|                                                                                                                                                                  |                     |                                            |                    |                                          | 9.60-9.80 m AZCL                                                                                                                                                                                             |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
| Depth                                                                                                                                                            | TCR<br>ROD          | If                                         | Records/Samples    | Date<br>Casing                           | Time<br>Water                                                                                                                                                                                                | Stratum continues to 15.60 m                                                                                                                                   |  |                              |  |                       |  |                            |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
| <b>Groundwater Entries</b>                                                                                                                                       |                     |                                            |                    |                                          |                                                                                                                                                                                                              | <b>Depth Related Remarks *</b>                                                                                                                                 |  |                              |  |                       |  | <b>Chiselling</b>          |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
| No.                                                                                                                                                              |                     | Struck<br>(m)                              |                    | Post strike behaviour                    |                                                                                                                                                                                                              | Depth sealed<br>(m)                                                                                                                                            |  | From                         |  | to (m)                |  | 1.30                       |  | 1.85                  |                                                     | Water added.                                             |                          | 1.30 -1.85                               |  | Time<br>60 mins |  | Tools used |  |
| None observed (see Key Sheet)                                                                                                                                    |                     |                                            |                    |                                          |                                                                                                                                                                                                              |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
| 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<br>FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2                                                                                                       |  |                              |  |                       |  | Borehole<br>BH608          |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
| Scale 1:50                                                                                                                                                       |                     |                                            |                    |                                          |                                                                                                                                                                                                              | Project No.<br>A1008-11                                                                                                                                        |  |                              |  |                       |  | Sheet 1 of 2               |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |
| Carried out for<br>Scottish and Southern Energy PLC                                                                                                              |                     |                                            |                    |                                          |                                                                                                                                                                                                              |                                                                                                                                                                |  |                              |  |                       |  |                            |  |                       |                                                     |                                                          |                          |                                          |  |                 |  |            |  |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------|--------------------------|
| Drilled CS/MB<br>Logged BS<br>Checked MT                                                                                                                                                                                                        |  | Start<br>14/02/2011<br>End<br>24/02/2011 |                  | Equipment, Methods and Remarks<br>Dando 150 and Mobile rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using polymer flush. |                    | Depth from 0.00m<br>to 2.07m<br>Diameter 150mm<br>Casing Depth 2.07m |                                                                                                                                      | Ground Level +15.04 mOD<br>Coordinates E 447370.75<br>National Grid N 425217.95<br>Chainage       |                              |                                           |                          |
| Samples and Tests                                                                                                                                                                                                                               |  |                                          |                  |                                                                                                                                                                |                    | Strata                                                               |                                                                                                                                      |                                                                                                   |                              |                                           |                          |
| Depth                                                                                                                                                                                                                                           |  | TCR<br>SCR<br>RQD                        | If               | Records/Samples                                                                                                                                                | Date<br>Casing     | Time<br>Water                                                        | Description<br>(Continued from Sheet 1)                                                                                              |                                                                                                   | Depth, Level/<br>(Thickness) | Legend                                    | Backfill/<br>Instruments |
| 9.60-11.10                                                                                                                                                                                                                                      |  | 87<br>76<br>26                           |                  | Flush: 6.55-15.60<br>Polymer, 50 %<br><br>CS 10                                                                                                                |                    |                                                                      | Weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, planar, rough.<br>(CADEBY LIMESTONE) |                                                                                                   | (11.00)                      |                                           | SP                       |
|                                                                                                                                                                                                                                                 |  |                                          |                  |                                                                                                                                                                |                    |                                                                      | 10.20-10.26 m NI                                                                                                                     |                                                                                                   |                              |                                           |                          |
|                                                                                                                                                                                                                                                 |  |                                          |                  |                                                                                                                                                                |                    |                                                                      | 10.43-10.48 m NI                                                                                                                     |                                                                                                   |                              |                                           |                          |
| 11.28-11.41                                                                                                                                                                                                                                     |  |                                          |                  |                                                                                                                                                                |                    |                                                                      | 11.10-11.35 m<br>AZCL                                                                                                                |                                                                                                   |                              |                                           |                          |
| 11.10-12.60                                                                                                                                                                                                                                     |  | 83<br>83<br>35                           |                  |                                                                                                                                                                |                    |                                                                      |                                                                                                                                      |                                                                                                   |                              |                                           |                          |
| 12.60-14.10                                                                                                                                                                                                                                     |  | 100<br>87<br>73                          | 40<br>120<br>380 | CS 11                                                                                                                                                          | 24/02/2011<br>2.07 | 1.20                                                                 | 12.55 m multiple<br>15-30mm diameter<br>vughs<br>12.60-12.70 m NI<br>recovered as silty<br>sand                                      |                                                                                                   |                              |                                           |                          |
|                                                                                                                                                                                                                                                 |  |                                          |                  |                                                                                                                                                                |                    |                                                                      | 14.05-14.10 m NI<br>14.10-14.25 m<br>AZCL                                                                                            |                                                                                                   |                              |                                           |                          |
| 14.10-15.60                                                                                                                                                                                                                                     |  | 90<br>87<br>64                           |                  |                                                                                                                                                                |                    |                                                                      | 14.76-14.84 m NI.<br>Multiple 10-15mm<br>diameter vughs                                                                              |                                                                                                   |                              |                                           |                          |
| 15.31-15.49                                                                                                                                                                                                                                     |  |                                          |                  |                                                                                                                                                                |                    |                                                                      |                                                                                                                                      |                                                                                                   |                              |                                           |                          |
|                                                                                                                                                                                                                                                 |  |                                          |                  |                                                                                                                                                                |                    | EXPLORATORY HOLE ENDS AT 15.60 m                                     |                                                                                                                                      | 15.60                                                                                             | -0.56                        |                                           |                          |
| Depth                                                                                                                                                                                                                                           |  | TCR<br>SCR<br>RQD                        | If               | Records/Samples                                                                                                                                                | Date<br>Casing     | Time<br>Water                                                        |                                                                                                                                      |                                                                                                   |                              |                                           |                          |
| Groundwater Entries<br>No. Struck Post strike behaviour<br>(m)<br><br>None observed (see Key Sheet)                                                                                                                                             |  |                                          |                  |                                                                                                                                                                |                    | Depth sealed (m)                                                     |                                                                                                                                      | Depth Related Remarks *<br>From to (m)                                                            |                              | Chiselling<br>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.<br><br>Scale 1:50<br><br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:38:33 |  |                                          |                  |                                                                                                                                                                |                    | Project<br><br>Project No.<br>Carried out for                        |                                                                                                                                      | FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br><br>A1008-11<br>Scottish and Southern Energy PLC |                              | Borehole<br><br>BH608<br><br>Sheet 2 of 2 |                          |

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|                                                                                                                                                                                                                                                        |  |                                                  |  |                                                                                                                                                                          |  |                                                                                                                                                            |  |                                                                                                                                                                                                                                                                          |  |                                                                                                                         |  |                                           |  |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------|--|--|--|--|--|
| <b>Drilled</b> CS<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                                                                                                             |  | <b>Start</b> 09/02/2011<br><b>End</b> 11/02/2011 |  | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. |  | <b>Depth from</b> 0.00m to 1.20m<br><b>to</b> 1.20m 20.00m                                                                                                 |  | <b>Diameter</b> 150mm 121mm<br><b>Casing Depth</b> 1.20m 18.10m                                                                                                                                                                                                          |  | <b>Ground Level</b> +16.46 mOD<br><b>Coordinates</b> E 447163.18<br><b>National Grid</b> N 425085.46<br><b>Chainage</b> |  |                                           |  |  |  |  |  |
| <b>Samples and Tests</b>                                                                                                                                                                                                                               |  |                                                  |  |                                                                                                                                                                          |  | <b>Strata</b>                                                                                                                                              |  |                                                                                                                                                                                                                                                                          |  |                                                                                                                         |  |                                           |  |  |  |  |  |
| <b>Depth</b>                                                                                                                                                                                                                                           |  | <b>Type &amp; No</b>                             |  | <b>Records</b>                                                                                                                                                           |  | <b>Date Casing</b> <b>Time Water</b>                                                                                                                       |  | <b>Description</b>                                                                                                                                                                                                                                                       |  | <b>Depth, Level/ (Thickness)</b> <b>Legend</b> <b>Backfill/ Instruments</b>                                             |  |                                           |  |  |  |  |  |
| 0.30<br>0.30-0.50<br>0.50<br>0.50-0.80                                                                                                                                                                                                                 |  | ES 1<br>B 2<br>ES 3<br>B 4                       |  | 0.00-1.20 m Hand excavated inspection pit.                                                                                                                               |  |                                                                                                                                                            |  | TOPSOIL.<br>(Foreman's description)                                                                                                                                                                                                                                      |  | 0.05 +16.41<br>0.20 +16.26<br>0.30 +16.16                                                                               |  |                                           |  |  |  |  |  |
| 1.00<br>1.20-1.39                                                                                                                                                                                                                                      |  | ES 5<br>D 6                                      |  | 09/02/2011 1.20 dry                                                                                                                                                      |  |                                                                                                                                                            |  | Dark grey brown slightly sandy slightly gravelly organic CLAY. Gravel is angular fine to medium of limestone, sandstone and red shale. Rare fragments of plastic sheet present 100x150mm in size.<br>(MADE GROUND)                                                       |  | 0.50 +15.96<br>(0.45)<br>0.95 +15.51                                                                                    |  |                                           |  |  |  |  |  |
| 1.20-2.20                                                                                                                                                                                                                                              |  | 50 15 15<br>NI NI 150                            |  | Flush: 1.20-2.20 Water, 100 %                                                                                                                                            |  | 10/02/2011 1.20 0800 dry                                                                                                                                   |  | Firm locally stiff light grey brown slightly sandy gravelly CLAY with very low cobble content. Gravel is angular fine to medium of limestone and sandstone. Cobbles are 90x100mm in diameter of limestone.<br>(MADE GROUND)                                              |  | 1.20 +15.26<br>(1.00)                                                                                                   |  |                                           |  |  |  |  |  |
| 2.20-3.20                                                                                                                                                                                                                                              |  | 100 56 0                                         |  |                                                                                                                                                                          |  |                                                                                                                                                            |  | Dark red brown angular fine to coarse GRAVEL of red shale.<br>(MADE GROUND)                                                                                                                                                                                              |  | 2.20 +14.26                                                                                                             |  |                                           |  |  |  |  |  |
| 3.50-3.61                                                                                                                                                                                                                                              |  |                                                  |  | CS 7                                                                                                                                                                     |  |                                                                                                                                                            |  | Firm locally stiff orange brown slightly sandy slightly gravelly CLAY. Gravel is angular fine to medium of red shale and coal.<br>(MADE GROUND)                                                                                                                          |  |                                                                                                                         |  |                                           |  |  |  |  |  |
| 3.20-4.70                                                                                                                                                                                                                                              |  | 100 73 20                                        |  |                                                                                                                                                                          |  |                                                                                                                                                            |  | Very weak to weak yellowish cream LIMESTONE. Recovered as silty gravel.<br>(CADEBY LIMESTONE)                                                                                                                                                                            |  |                                                                                                                         |  |                                           |  |  |  |  |  |
| 4.70-6.20                                                                                                                                                                                                                                              |  | 95 67 37                                         |  |                                                                                                                                                                          |  |                                                                                                                                                            |  | Weak light grey LIMESTONE.<br>(CADEBY LIMESTONE)                                                                                                                                                                                                                         |  |                                                                                                                         |  |                                           |  |  |  |  |  |
| 6.20-7.70<br>7.08                                                                                                                                                                                                                                      |  | 100 98 61                                        |  | EWM 10                                                                                                                                                                   |  |                                                                                                                                                            |  | Weak to very weak light yellow cream LIMESTONE. Fractures are closely spaced, subhorizontal, planar, rough.<br>(CADEBY LIMESTONE)                                                                                                                                        |  |                                                                                                                         |  |                                           |  |  |  |  |  |
| 7.70-9.20                                                                                                                                                                                                                                              |  | 60 49 17                                         |  |                                                                                                                                                                          |  |                                                                                                                                                            |  | 4.62-4.70 m NI<br>4.70-4.78 m AZCL<br>5.00-5.06 m NI<br>5.23-5.40 m NI<br>5.66-5.71 m NI<br>5.95-6.05 m NI<br>6.51-6.55 m NI<br>6.64 m 1 No. 30mm diameter oval shaped vugh<br>7.70-8.30 m AZCL<br>8.30-8.40 m NI<br>9.00-9.10 m NI<br>9.20-9.30 m NI<br>9.95-10.02 m NI |  |                                                                                                                         |  |                                           |  |  |  |  |  |
| 9.20-10.70                                                                                                                                                                                                                                             |  | 100 83 42                                        |  |                                                                                                                                                                          |  | 10/02/2011 7.70 1.80<br>11/02/2011 0800 7.70                                                                                                               |  |                                                                                                                                                                                                                                                                          |  |                                                                                                                         |  |                                           |  |  |  |  |  |
| <b>Depth</b>                                                                                                                                                                                                                                           |  | <b>ICR</b>                                       |  | <b>If</b>                                                                                                                                                                |  | <b>Records/Samples</b>                                                                                                                                     |  | <b>Date Casing</b> <b>Time Water</b>                                                                                                                                                                                                                                     |  | <b>Stratum continues to 20.00 m</b>                                                                                     |  |                                           |  |  |  |  |  |
| <b>Groundwater Entries</b><br><b>No.</b> <b>Struck (m)</b> <b>Post strike behaviour</b><br><br>None observed (see Key Sheet)                                                                                                                           |  |                                                  |  |                                                                                                                                                                          |  | <b>Depth Related Remarks *</b><br><b>From</b> <b>to (m)</b><br><br><b>Chiselling</b><br><b>Depths (m)</b> <b>Time</b> <b>Tools used</b>                    |  |                                                                                                                                                                                                                                                                          |  |                                                                                                                         |  |                                           |  |  |  |  |  |
| <b>Notes:</b> For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.<br><br>Scale 1:50<br><br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:38:48 |  |                                                  |  |                                                                                                                                                                          |  | <b>Project</b> FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br><br><b>Project No.</b> A1008-11<br><b>Carried out for</b> Scottish and Southern Energy PLC |  |                                                                                                                                                                                                                                                                          |  |                                                                                                                         |  | <b>Borehole</b> BH609<br><br>Sheet 1 of 2 |  |  |  |  |  |

# Borehole Log



Soil Mechanics

|                                                                                                                                                                  |                                                  |                                                                                                                                                                          |                                                                                                                                   |                                                                                                                         |                                                                                                                                                                                                                                                                                        |                                    |                                       |                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------------------|----------------------------------------|
| <b>Drilled</b> CS<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                       | <b>Start</b> 09/02/2011<br><b>End</b> 11/02/2011 | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. | <b>Depth from</b> 0.00m<br><b>to</b> 1.20m<br><b>Diameter</b> 150mm<br><b>Casing Depth</b> 1.20m<br>18.10m                        | <b>Ground Level</b> +16.46 mOD<br><b>Coordinates</b> E 447163.18<br><b>National Grid</b> N 425085.46<br><b>Chainage</b> |                                                                                                                                                                                                                                                                                        |                                    |                                       |                                        |
| <b>Samples and Tests</b>                                                                                                                                         |                                                  |                                                                                                                                                                          | <b>Strata</b>                                                                                                                     |                                                                                                                         |                                                                                                                                                                                                                                                                                        |                                    |                                       |                                        |
| <b>Depth</b><br>TCR<br>SCR<br>RQD                                                                                                                                | <b>If</b>                                        | <b>Records/Samples</b>                                                                                                                                                   | <b>Date</b><br>Casing                                                                                                             | <b>Time</b><br>Water                                                                                                    | <b>Description</b><br>(Continued from Sheet 1)                                                                                                                                                                                                                                         | <b>Depth, Level</b><br>(Thickness) | <b>Legend</b>                         | <b>Backfill/</b><br><b>Instruments</b> |
| 10.70-12.20                                                                                                                                                      | 100<br>88<br>22                                  | Flush: 2.20-20.00<br>Water, 0 %                                                                                                                                          |                                                                                                                                   |                                                                                                                         | Weak to very weak light yellow cream LIMESTONE. Fractures are closely spaced, subhorizontal, planar, rough. (CADEBY LIMESTONE)                                                                                                                                                         | (17.80)                            |                                       |                                        |
| 12.20-13.70                                                                                                                                                      | 100<br>100<br>71                                 |                                                                                                                                                                          |                                                                                                                                   |                                                                                                                         | 10.70-10.85 m NI<br>11.20-11.40 m grey limestone<br>11.96-12.10 m 1 No. subvertical planar rough fracture<br>12.05-12.15 m NI<br>12.37-12.47 m 1 No. 70 deg. non penetrative undulating rough fracture<br>13.10-13.29 m numerous 1-2mm diameter veins of calcite<br>13.70-13.85 m AZCL |                                    |                                       |                                        |
| 13.80-13.93                                                                                                                                                      |                                                  |                                                                                                                                                                          |                                                                                                                                   |                                                                                                                         |                                                                                                                                                                                                                                                                                        |                                    |                                       |                                        |
| 13.70-15.20                                                                                                                                                      | 90<br>87<br>32                                   |                                                                                                                                                                          |                                                                                                                                   |                                                                                                                         |                                                                                                                                                                                                                                                                                        |                                    |                                       |                                        |
| 15.20-16.70                                                                                                                                                      | 93<br>90<br>60                                   |                                                                                                                                                                          |                                                                                                                                   |                                                                                                                         |                                                                                                                                                                                                                                                                                        |                                    |                                       |                                        |
| 16.13-16.31                                                                                                                                                      |                                                  |                                                                                                                                                                          |                                                                                                                                   |                                                                                                                         |                                                                                                                                                                                                                                                                                        |                                    |                                       |                                        |
| 16.70-18.20                                                                                                                                                      | 90<br>83<br>24                                   |                                                                                                                                                                          |                                                                                                                                   |                                                                                                                         |                                                                                                                                                                                                                                                                                        |                                    |                                       |                                        |
| 18.20-19.70                                                                                                                                                      | 70<br>60<br>13                                   |                                                                                                                                                                          |                                                                                                                                   |                                                                                                                         |                                                                                                                                                                                                                                                                                        |                                    |                                       |                                        |
| 19.70-20.00                                                                                                                                                      |                                                  |                                                                                                                                                                          |                                                                                                                                   |                                                                                                                         |                                                                                                                                                                                                                                                                                        |                                    |                                       |                                        |
| TCR 100, SCR 100, RQD 100                                                                                                                                        |                                                  |                                                                                                                                                                          | 11/02/2011<br>18.10                                                                                                               | EXPLORATORY HOLE ENDS AT 20.00 m                                                                                        |                                                                                                                                                                                                                                                                                        |                                    |                                       |                                        |
| <b>Groundwater Entries</b><br>No. Struck (m) Post strike behaviour<br>None observed (see Key Sheet)                                                              |                                                  |                                                                                                                                                                          | Depth sealed (m)                                                                                                                  | Depth Related Remarks *<br>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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                                                                         |                                                                                                                                                                                                                                                                                        | Borehole BH609<br>Sheet 2 of 2     |                                       |                                        |

Scale 1:50

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# Borehole Log

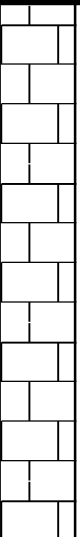
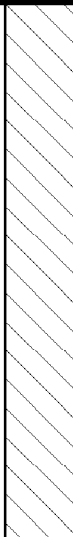
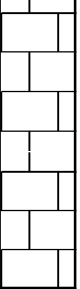
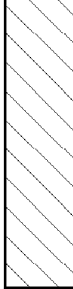


Soil Mechanics

|                                                                                                                                                                  |                                |                                                  |                            |                                                                                                                                                                          |                                                                                                                                                                                                                                                     |                                                                                                                                                        |                                      |                                                                                                                         |                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------|
| <b>Drilled</b> CS/GB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    |                                | <b>Start</b> 14/02/2011<br><b>End</b> 23/02/2011 |                            | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. |                                                                                                                                                                                                                                                     | <b>Depth from</b> 0.00m <b>to</b> 1.48m<br><b>Diameter</b> 150mm <b>Casing Depth</b> 1.48m                                                             |                                      | <b>Ground Level</b> +18.09 mOD<br><b>Coordinates</b> E 447084.39<br><b>National Grid</b> N 425050.00<br><b>Chainage</b> |                              |
| <b>Samples and Tests</b>                                                                                                                                         |                                |                                                  |                            |                                                                                                                                                                          |                                                                                                                                                                                                                                                     | <b>Strata</b>                                                                                                                                          |                                      |                                                                                                                         |                              |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>           | <b>Records</b>                                   | <b>Date Casing</b>         | <b>Time Water</b>                                                                                                                                                        | <b>Description</b>                                                                                                                                                                                                                                  |                                                                                                                                                        | <b>Depth, Level (Thickness)</b>      | <b>Legend</b>                                                                                                           | <b>Backfill/ Instruments</b> |
| 0.20-0.40<br>0.30<br>0.50<br>0.55-1.00                                                                                                                           | B 2<br>ES 1<br><br>ES 3<br>B 4 | 0.00-1.40 m Hand excavated inspection pit.       |                            |                                                                                                                                                                          | <b>TOPSOIL.</b><br><br>Dark grey brown slightly silty gravelly fine to coarse SAND with low cobble content. Gravel is angular fine to coarse of limestone and red shale. Cobbles are 70-100mm in diameter of limestone and red shale. (MADE GROUND) |                                                                                                                                                        | 0.15 +17.94<br>(0.35)<br>0.50 +17.59 |                                                                                                                         |                              |
| 1.20-1.38                                                                                                                                                        | SPT S                          | 50 (25/50 for 70mm)                              | 0.00<br>14/02/2011<br>1.48 | dry                                                                                                                                                                      | Weak to very weak light yellow cream LIMESTONE. Recovered as sandy gravel. (CADEBY LIMESTONE)                                                                                                                                                       |                                                                                                                                                        | 1.48 +16.61                          |                                                                                                                         |                              |
| 1.48-3.00                                                                                                                                                        | 66<br>18<br>0                  | NI<br>NI<br>70                                   | 22/02/2011<br>1.48         | 0800<br>dry                                                                                                                                                              | Very weak to weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, planar, rough. (CADEBY LIMESTONE)                                                                                                      |                                                                                                                                                        |                                      |                                                                                                                         |                              |
| 3.00-4.50                                                                                                                                                        | 83<br>65<br>0                  |                                                  |                            |                                                                                                                                                                          | 1.48-2.00 m AZCL<br><br>2.00-2.37 m NI<br><br>2.54-2.75 m NI<br><br>2.82-2.93 m NI<br>2.87-2.90 m 1 No. subvertical planar rough fracture<br>3.00-3.25 m AZCL                                                                                       |                                                                                                                                                        |                                      |                                                                                                                         |                              |
| 4.05-4.16                                                                                                                                                        |                                | CS 5                                             |                            |                                                                                                                                                                          | 4.13-4.19 m NI<br><br>4.50-4.73 m AZCL<br><br>4.73-4.80 m NI                                                                                                                                                                                        |                                                                                                                                                        |                                      |                                                                                                                         |                              |
| 4.50-6.00<br>5.27-5.42                                                                                                                                           | 85<br>75<br>24                 |                                                  |                            |                                                                                                                                                                          | 5.56-5.60 m NI<br>5.60-5.68 m 1 No. subvertical undulating rough fracture<br>5.68-5.72 m NI<br>6.00-6.15 m AZCL                                                                                                                                     |                                                                                                                                                        |                                      |                                                                                                                         |                              |
| 6.00-7.50                                                                                                                                                        | 90<br>69<br>8                  | CS 6                                             |                            |                                                                                                                                                                          | Very weak locally extremely weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, undulating, rough. (CADEBY LIMESTONE)                                                                                   |                                                                                                                                                        | 6.40 +11.69                          |                                                                                                                         |                              |
| 7.50-9.00                                                                                                                                                        | 83<br>16<br>7                  | NI<br>50<br>90                                   |                            |                                                                                                                                                                          | 6.74-6.78 m NI<br><br>7.00-7.06 m NI<br><br>7.30 m 1 No. 15mm diameter vugh<br>7.50-7.75 m AZCL<br><br>7.75-7.83 m NI<br><br>8.00 m 1 No. 15mm diameter vugh<br>8.10 m 1 No. 60mm long undulating vugh orange staining<br>8.30-8.52 m NI            |                                                                                                                                                        |                                      |                                                                                                                         |                              |
| 8.78-8.91                                                                                                                                                        |                                | CS 7                                             | 22/02/2011<br>3.00         | dry                                                                                                                                                                      | 9.00-9.40 m AZCL                                                                                                                                                                                                                                    |                                                                                                                                                        |                                      |                                                                                                                         |                              |
| 9.00-10.00                                                                                                                                                       | 60<br>20<br>0                  |                                                  | 23/02/2011<br>3.00         | 0800<br>dry                                                                                                                                                              | 9.40-9.72 m NI                                                                                                                                                                                                                                      |                                                                                                                                                        |                                      |                                                                                                                         |                              |
| <b>Depth</b> <b>TCR</b> <b>ROD</b> <b>If</b> <b>Records/Samples</b> <b>Date Casing</b> <b>Time Water</b>                                                         |                                |                                                  |                            |                                                                                                                                                                          |                                                                                                                                                                                                                                                     | Stratum continues to 13.54 m                                                                                                                           |                                      |                                                                                                                         |                              |
| <b>Groundwater Entries</b><br><b>No.</b> <b>Struck (m)</b> <b>Post strike behaviour</b><br>None observed (see Key Sheet)                                         |                                |                                                  |                            |                                                                                                                                                                          |                                                                                                                                                                                                                                                     | <b>Depth sealed (m)</b>                                                                                                                                |                                      | <b>Depth Related Remarks *</b><br>From to (m)                                                                           |                              |
| Chiselling<br>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 <b>FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2</b><br>Project No. <b>A1008-11</b><br>Carried out for <b>Scottish and Southern Energy PLC</b> |                                      | Borehole <b>BH610</b><br>Sheet 1 of 2                                                                                   |                              |



$\Phi$ 

|                                                                                                                                                                                                                                                |  |                                          |                  |                                                                                                                                                                   |                    |                                                                               |                                                                                                                                                                      |                                                                                             |                                                                                               |                                                                                     |                                                                                      |                                                                                      |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--|
| Drilled CS/GB<br>Logged BS<br>Checked MT                                                                                                                                                                                                       |  | Start<br>14/02/2011<br>End<br>23/02/2011 |                  | Equipment, Methods and Remarks<br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. |                    | Depth from 0.00m<br>to 1.48m<br>Diameter 150mm<br>Casing Depth 1.48m<br>3.00m |                                                                                                                                                                      | Ground Level +18.09 mOD<br>Coordinates E 447084.39<br>National Grid N 425050.00<br>Chainage |                                                                                               |                                                                                     |                                                                                      |                                                                                      |  |
| Samples and Tests                                                                                                                                                                                                                              |  |                                          |                  |                                                                                                                                                                   |                    | Strata                                                                        |                                                                                                                                                                      |                                                                                             |                                                                                               |                                                                                     |                                                                                      |                                                                                      |  |
| Depth                                                                                                                                                                                                                                          |  | TCR<br>SCR<br>RQD                        | If               | Records/Samples                                                                                                                                                   | Date<br>Casing     | Time<br>Water                                                                 | Description<br>(Continued from Sheet 1)                                                                                                                              |                                                                                             | Depth, Level/<br>(Thickness)                                                                  | Legend                                                                              | Backfill/<br>Instruments                                                             |                                                                                      |  |
| 10.00-11.00                                                                                                                                                                                                                                    |  | 64<br>36<br>0                            | NI<br>NI<br>60   | CS 8                                                                                                                                                              |                    |                                                                               | Very weak locally extremely weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, undulating, rough.<br>(CADEBY LIMESTONE) |                                                                                             | 10.00-10.36 m<br>AZCL                                                                         |  |   |                                                                                      |  |
| 11.00-12.00<br>11.64-11.71                                                                                                                                                                                                                     |  | 53<br>38<br>0                            |                  |                                                                                                                                                                   |                    |                                                                               | 10.56-10.60 m 1 No.<br>40mm diameter subhorizontal vein of calcite                                                                                                   |                                                                                             | 11.00-11.47 m<br>AZCL                                                                         |                                                                                     |                                                                                      |                                                                                      |  |
| 12.00-13.00                                                                                                                                                                                                                                    |  | 40<br>21<br>0                            |                  |                                                                                                                                                                   |                    |                                                                               | 11.71-11.76 m 1 No.<br>subvertical planar rough fracture                                                                                                             |                                                                                             | 12.00-12.60 m<br>AZCL                                                                         |                                                                                     |                                                                                      |                                                                                      |  |
| 13.00-14.00                                                                                                                                                                                                                                    |  | 75<br>69<br>25                           |                  |                                                                                                                                                                   |                    |                                                                               | 12.72-12.85 m NI                                                                                                                                                     |                                                                                             | 13.00-13.25 m<br>AZCL                                                                         |                                                                                     |                                                                                      |                                                                                      |  |
| 13.00-14.00                                                                                                                                                                                                                                    |  | 91<br>76<br>43                           |                  |                                                                                                                                                                   |                    |                                                                               | 13.35-13.40 m<br>multiple 15-30mm diameter vughs with calcite infilling                                                                                              |                                                                                             | 13.48-13.54 m NI                                                                              |                                                                                     |                                                                                      |                                                                                      |  |
| 14.00-15.50                                                                                                                                                                                                                                    |  | 40<br>100<br>280                         | 40<br>100<br>280 | CS 9                                                                                                                                                              | 23/02/2011<br>3.00 | dry                                                                           | Weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to medium spaced, planar, rough.<br>(CADEBY LIMESTONE)                                  |                                                                                             | 14.00-14.13 m<br>AZCL                                                                         | (1.96)                                                                              |  |  |  |
| 15.37-15.50                                                                                                                                                                                                                                    |  | 91<br>76<br>43                           |                  |                                                                                                                                                                   |                    |                                                                               | 14.78-14.93 m<br>multiple 15-20m diameter vughs                                                                                                                      |                                                                                             | 15.15-15.22 m 2 No.<br>70mm diameter vughs                                                    |                                                                                     |                                                                                      |                                                                                      |  |
|                                                                                                                                                                                                                                                |  |                                          |                  |                                                                                                                                                                   |                    |                                                                               | EXPLORATORY HOLE ENDS AT 15.50 m                                                                                                                                     |                                                                                             | 15.50                                                                                         | +2.59                                                                               |                                                                                      |                                                                                      |  |
| Depth                                                                                                                                                                                                                                          |  | TCR<br>SCR<br>RQD                        | If               | Records/Samples                                                                                                                                                   | Date<br>Casing     | Time<br>Water                                                                 |                                                                                                                                                                      |                                                                                             |                                                                                               |                                                                                     |                                                                                      |                                                                                      |  |
| Groundwater Entries<br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                                                                                                                |  |                                          |                  |                                                                                                                                                                   |                    | Depth sealed (m)                                                              |                                                                                                                                                                      | Depth Related Remarks *<br>From to (m)                                                      |                                                                                               | Chiselling<br>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.<br>Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:39:13<br>AGS |  |                                          |                  |                                                                                                                                                                   |                    | Project<br>Project No.<br>Carried out for                                     |                                                                                                                                                                      |                                                                                             | FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br>A1008-11<br>Scottish and Southern Energy PLC |                                                                                     |                                                                                      | Borehole<br>BH610<br>Sheet 2 of 2                                                    |  |

# Borehole Log



Soil Mechanics

|                                                                                                                                                                         |                                                  |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------|-----------------------|--|
| <b>Drilled</b> CS/GB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                           | <b>Start</b> 09/02/2011<br><b>End</b> 15/02/2011 | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. | <b>Depth from</b> 0.00m<br><b>to</b> 9.00m<br><b>Diameter</b> 150mm<br><b>Casing Depth</b> 9.00m | <b>Ground Level</b> +13.66 mOD<br><b>Coordinates</b> E 447231.55<br><b>National Grid</b> N 424847.77<br><b>Chainage</b> |                                                                                                                                                        |                          |              |                       |  |
| <b>Samples and Tests</b>                                                                                                                                                |                                                  |                                                                                                                                                                          | <b>Strata</b>                                                                                    |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
| 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.                                                                                                                               |                                                                                                  |                                                                                                                         | TOPSOIL.<br>(Foreman's description)                                                                                                                    | (0.30)                   |              |                       |  |
| 0.30-0.50                                                                                                                                                               | B 2                                              |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        | 0.30 +13.36              |              |                       |  |
| 0.50                                                                                                                                                                    | ES 3                                             |                                                                                                                                                                          |                                                                                                  |                                                                                                                         | Soft dark grey brown slightly sandy slightly gravelly CLAY. Gravel is angular fine to medium of sandstone and brick.<br>(MADE GROUND)                  | 0.50 +13.16              |              |                       |  |
| 0.75-1.00                                                                                                                                                               | B 4                                              |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        | 0.70 +12.96              |              |                       |  |
| 1.00                                                                                                                                                                    | ES 5                                             |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
| 1.20-1.65                                                                                                                                                               | SPT S D 6                                        | N=30 (7,8/7,8,8,7)                                                                                                                                                       |                                                                                                  | dry                                                                                                                     | Dark grey locally mottled cream slightly silty sandy angular fine to medium GRAVEL of limestone, brick and glass.<br>(MADE GROUND)                     | (1.50)                   |              |                       |  |
| 1.20-1.65                                                                                                                                                               |                                                  |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
| 1.65-2.10                                                                                                                                                               | B 7                                              |                                                                                                                                                                          |                                                                                                  |                                                                                                                         | Dark red brown slightly silty sandy angular fine to coarse GRAVEL of red shale and limestone.<br>(MADE GROUND)                                         |                          |              |                       |  |
| 2.10-2.55                                                                                                                                                               | SPT S D 8                                        | N=15 (3,4/3,4,4,4)                                                                                                                                                       | 2.10                                                                                             | dry                                                                                                                     |                                                                                                                                                        | 2.20 +11.46              |              |                       |  |
| 2.10-2.55                                                                                                                                                               |                                                  |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
| 2.55-3.00                                                                                                                                                               | B 9                                              |                                                                                                                                                                          |                                                                                                  |                                                                                                                         | Light brown cream slightly silty gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of limestone.<br>(MADE GROUND)        | (1.35)                   |              |                       |  |
| 3.10-3.55                                                                                                                                                               | U 10                                             | 45 blows                                                                                                                                                                 | 3.10                                                                                             | dry                                                                                                                     | Firm locally stiff thinly laminated dark red brown slightly sandy CLAY. Locally grading to clayey sand.                                                |                          |              |                       |  |
| 3.55-3.75                                                                                                                                                               | D 11                                             |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        | 3.55 +10.11              |              |                       |  |
| 3.75-4.20                                                                                                                                                               | SPT S D 12                                       | * N=17 (3,4/4,4,4,5)                                                                                                                                                     | 3.75                                                                                             |                                                                                                                         | Medium dense dark grey brown slightly gravelly fine to coarse SAND. Gravel is angular fine to medium of sandstone and limestone.                       | (1.20)                   |              |                       |  |
| 3.75-4.20                                                                                                                                                               |                                                  |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
| 4.10                                                                                                                                                                    | EWM 28                                           |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
| 4.20-4.75                                                                                                                                                               | B 13                                             |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
| 4.75-5.20                                                                                                                                                               | SPT S D 14                                       | N=19 (3,4/5,4,5,5)                                                                                                                                                       | 4.75                                                                                             |                                                                                                                         | Medium dense dark brown slightly silty angular fine to coarse GRAVEL of sandstone and limestone.                                                       | 4.75 +8.91               |              |                       |  |
| 4.75-5.20                                                                                                                                                               |                                                  |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
| 5.00-5.75                                                                                                                                                               | B 15                                             |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
| 5.75-6.20                                                                                                                                                               | SPT S D 16                                       | N=22 (4,5/6,5,5,6)                                                                                                                                                       | 5.75                                                                                             |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
| 5.75-6.20                                                                                                                                                               |                                                  |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
| 6.20-7.00                                                                                                                                                               | B 17                                             |                                                                                                                                                                          |                                                                                                  |                                                                                                                         | 6.20-7.00 m Occasional subangular cobbles of limestone 70-100mm in diameter.                                                                           | (4.05)                   |              |                       |  |
| 7.30-7.75                                                                                                                                                               | SPT S D 18                                       | N=21 (5,4/5,5,5,6)                                                                                                                                                       | 7.30                                                                                             |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
| 7.30-7.75                                                                                                                                                               |                                                  |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
| 7.30-8.20                                                                                                                                                               | B 19                                             |                                                                                                                                                                          |                                                                                                  |                                                                                                                         |                                                                                                                                                        |                          |              |                       |  |
| 8.80-9.10                                                                                                                                                               | SPT S D 20                                       | 65 (9,10/15,50)                                                                                                                                                          | 8.80                                                                                             | 7.10                                                                                                                    | Very weak to weak yellowish cream LIMESTONE. Recovered as sandy gravel.                                                                                | 8.80 +4.86               |              |                       |  |
| 8.80-9.10                                                                                                                                                               |                                                  |                                                                                                                                                                          | 09/02/2011                                                                                       | 7.10                                                                                                                    |                                                                                                                                                        |                          |              |                       |  |
|                                                                                                                                                                         |                                                  |                                                                                                                                                                          | 14/02/2011                                                                                       | 0800                                                                                                                    | 9.00-10.50 m AZCL                                                                                                                                      | 9.00 +4.66               |              |                       |  |
|                                                                                                                                                                         |                                                  |                                                                                                                                                                          | 9.00                                                                                             | 0.00                                                                                                                    | (CADEBY LIMESTONE)                                                                                                                                     |                          |              |                       |  |
| 9.00-10.50                                                                                                                                                              | 0<br>0<br>0                                      | Flush: 9.00-10.50 Water, 100 %                                                                                                                                           |                                                                                                  |                                                                                                                         | Very weak LIMESTONE. (CADEBY LIMESTONE)                                                                                                                | (1.50)                   |              |                       |  |
| Depth                                                                                                                                                                   | Type & No                                        | Records                                                                                                                                                                  | Date Casing                                                                                      | Time Water                                                                                                              | Stratum continues to 10.50 m                                                                                                                           |                          |              |                       |  |
| <b>Groundwater Entries</b>                                                                                                                                              |                                                  |                                                                                                                                                                          |                                                                                                  |                                                                                                                         | <b>Depth Related Remarks *</b>                                                                                                                         |                          |              |                       |  |
| No.                                                                                                                                                                     | Struck (m)                                       | Post strike behaviour                                                                                                                                                    | Depth sealed (m)                                                                                 |                                                                                                                         | From                                                                                                                                                   | to (m)                   |              |                       |  |
| 1                                                                                                                                                                       | 4.75                                             | Rose to 3.40 m after 20 minutes. Medium inflow.                                                                                                                          | -                                                                                                |                                                                                                                         | 3.75                                                                                                                                                   | 4.35                     | Water added. |                       |  |
|                                                                                                                                                                         |                                                  |                                                                                                                                                                          |                                                                                                  |                                                                                                                         | 5.00                                                                                                                                                   | 8.80                     | Water added. |                       |  |
| <b>Notes:</b> For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. |                                                  |                                                                                                                                                                          |                                                                                                  |                                                                                                                         | <b>Project</b> FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br><b>Project No.</b> A1008-11<br><b>Carried out for</b> Scottish and Southern Energy PLC |                          |              |                       |  |
| Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:39:27                                                                                                     |                                                  |                                                                                                                                                                          |                                                                                                  |                                                                                                                         | <b>Borehole</b> BH611<br>Sheet 1 of 3                                                                                                                  |                          |              |                       |  |



# Borehole Log



Soil Mechanics

| <b>Drilled</b> CS/GB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    |                   | <b>Start</b> 09/02/2011<br><b>End</b> 15/02/2011 | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. |                |               | <b>Depth from</b> 0.00m<br><b>to</b> 9.00m<br><b>Diameter</b> 150mm<br><b>Casing Depth</b> 9.00m<br>20.50m 121mm 12.00m                                                                                                                                                                     | <b>Ground Level</b> +13.66 mOD<br><b>Coordinates</b> E 447231.55<br><b>National Grid</b> N 424847.77<br><b>Chainage</b> |                                                 |                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------|
| Samples and Tests                                                                                                                                                |                   |                                                  |                                                                                                                                                                          |                |               | Strata                                                                                                                                                                                                                                                                                      |                                                                                                                         |                                                 |                          |
| Depth                                                                                                                                                            | TCR<br>SCR<br>ROD | If                                               | Records/Samples                                                                                                                                                          | Date<br>Casing | Time<br>Water | Description<br>(Continued from Sheet 1)                                                                                                                                                                                                                                                     | Depth, Level<br>(Thickness)                                                                                             | Legend                                          | Backfill/<br>Instruments |
| 10.62-10.72                                                                                                                                                      |                   |                                                  | CS 21                                                                                                                                                                    |                |               | Very weak LIMESTONE.<br>(CADEBY LIMESTONE)                                                                                                                                                                                                                                                  | 10.50 +3.16                                                                                                             |                                                 | SP                       |
| 10.50-11.50                                                                                                                                                      | 95<br>90<br>0     |                                                  |                                                                                                                                                                          |                |               | Weak to medium strong yellowish cream LIMESTONE. Fractures are subhorizontal, closely to medium spaced, planar, rough.<br>(CADEBY LIMESTONE)                                                                                                                                                |                                                                                                                         |                                                 |                          |
| 11.50-13.00                                                                                                                                                      | 100<br>19<br>10   | NI<br>80<br>160                                  | CS 22                                                                                                                                                                    |                |               | 11.00-11.10 m 1 No. vertical undulating rough fracture<br>11.21-11.27 m frequent 1-2mm diameter grey calcite veins<br>11.40-11.74 m NI<br>11.74-11.78 m frequent 1-2mm diameter grey calcite veins<br>11.90-12.10 m NI<br>12.15-12.42 m multiple 50-60mm diameter vughs<br>12.80-12.85 m NI |                                                                                                                         |                                                 |                          |
| 12.50-12.60                                                                                                                                                      |                   |                                                  |                                                                                                                                                                          |                |               | 13.00 m 1 No. 20mm vugh<br>13.00-13.05 m AZCL<br>13.05-13.17 m NI<br>13.43 m 2 No. 25mm diameter vughs<br>13.60-13.94 m light grey cream limestone<br>13.70-13.90 m NI                                                                                                                      |                                                                                                                         |                                                 |                          |
| 13.00-14.50                                                                                                                                                      | 97<br>77<br>13    |                                                  | CS 23                                                                                                                                                                    |                |               | 14.41-14.45 m 4 No. 20-30mm diameter vughs<br>14.50-14.60 m AZCL<br>14.60-14.70 m NI<br>14.70-14.83 m NI                                                                                                                                                                                    |                                                                                                                         |                                                 |                          |
| 14.01-14.13                                                                                                                                                      |                   |                                                  |                                                                                                                                                                          |                |               | 15.50 m 1 No. 20mm diameter calcite infilled vugh<br>15.80-15.90 m NI<br>very weak limestone<br>16.00-16.30 m AZCL                                                                                                                                                                          | (10.00)                                                                                                                 |                                                 |                          |
| 14.50-16.00                                                                                                                                                      | 82<br>68<br>52    |                                                  | CS 24                                                                                                                                                                    |                |               | 16.00-16.30                                                                                                                                                                                                                                                                                 |                                                                                                                         |                                                 |                          |
| 15.40-15.69                                                                                                                                                      |                   |                                                  |                                                                                                                                                                          |                |               | 16.00-17.50                                                                                                                                                                                                                                                                                 |                                                                                                                         |                                                 |                          |
| 16.00-16.30                                                                                                                                                      |                   |                                                  | CS 25                                                                                                                                                                    |                |               | 17.22-17.40                                                                                                                                                                                                                                                                                 |                                                                                                                         |                                                 |                          |
| 16.00-17.50                                                                                                                                                      | 80<br>80<br>73    |                                                  |                                                                                                                                                                          |                |               | 14/02/2011 12.00 5.30<br>15/02/2011 0800 5.30                                                                                                                                                                                                                                               |                                                                                                                         |                                                 |                          |
| 17.22-17.40                                                                                                                                                      |                   |                                                  | CS 26                                                                                                                                                                    |                |               | 18.10-18.40 m heavily pitted and stained brown                                                                                                                                                                                                                                              |                                                                                                                         |                                                 |                          |
| 17.50-19.00                                                                                                                                                      | 100<br>93<br>93   | 70<br>200<br>460                                 |                                                                                                                                                                          |                |               | 18.60-18.64 m 1 No. 70mm diameter vugh with calcite infilling<br>19.23-19.25 m NI<br>19.61-19.64 m NI                                                                                                                                                                                       |                                                                                                                         |                                                 |                          |
| 18.57-19.00                                                                                                                                                      |                   |                                                  | CS 27                                                                                                                                                                    |                |               |                                                                                                                                                                                                                                                                                             |                                                                                                                         |                                                 |                          |
| 19.00-20.50                                                                                                                                                      | 100<br>93<br>93   |                                                  |                                                                                                                                                                          |                |               |                                                                                                                                                                                                                                                                                             |                                                                                                                         |                                                 |                          |
| Depth                                                                                                                                                            | TCR<br>SCR<br>ROD | If                                               | Records/Samples                                                                                                                                                          | Date<br>Casing | Time<br>Water | Stratum continues to 20.50 m                                                                                                                                                                                                                                                                |                                                                                                                         |                                                 |                          |
| <b>Groundwater Entries</b><br>No. Struck (m) Post strike behaviour Depth sealed (m)                                                                              |                   |                                                  |                                                                                                                                                                          |                |               | <b>Depth Related Remarks *</b><br>From to (m)                                                                                                                                                                                                                                               |                                                                                                                         | <b>Chiselling</b><br>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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC                                                                                                                                                           |                                                                                                                         | Borehole BH611<br>Sheet 2 of 3                  |                          |

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# Borehole Log



Soil Mechanics

|                                                                                                                                                                  |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                                                                                                            |  |                                                                                                                         |        |                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------|--------|--------------------------|
| <b>Drilled</b> CS/GB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    |                   | <b>Start</b> 09/02/2011<br><b>End</b> 15/02/2011 |                 | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. |               | <b>Depth from</b> 0.00m <b>to</b> 9.00m<br><b>Diameter</b> 150mm <b>Casing Depth</b> 9.00m<br>9.00m 20.50m 121mm 12.00m                                                                                                    |  | <b>Ground Level</b> +13.66 mOD<br><b>Coordinates</b> E 447231.55<br><b>National Grid</b> N 424847.77<br><b>Chainage</b> |        |                          |
| <b>Samples and Tests</b>                                                                                                                                         |                   |                                                  |                 |                                                                                                                                                                          |               | <b>Strata</b>                                                                                                                                                                                                              |  |                                                                                                                         |        |                          |
| Depth                                                                                                                                                            | TCR<br>SCR<br>ROD | If                                               | Records/Samples | Date<br>Casing                                                                                                                                                           | Time<br>Water | Description<br>(Continued from Sheet 2)                                                                                                                                                                                    |  | Depth, Level<br>(Thickness)                                                                                             | Legend | Backfill/<br>Instruments |
|                                                                                                                                                                  |                   |                                                  |                 | 15/02/2011<br>12.00                                                                                                                                                      |               | Weak to medium strong yellowish cream LIMESTONE. Fractures are subhorizontal, closely to medium spaced, planar, rough.<br>(CADEBY LIMESTONE)<br>20.26-20.30 m 1 No. 50mm diameter vugh<br>EXPLORATORY HOLE ENDS AT 20.50 m |  | 20.50 -6.84                                                                                                             |        |                          |
| Depth                                                                                                                                                            | TCR<br>SCR<br>ROD | If                                               | Records/Samples | Date<br>Casing                                                                                                                                                           | Time<br>Water |                                                                                                                                                                                                                            |  |                                                                                                                         |        |                          |
| <b>Groundwater Entries</b><br>No. Struck (m) Post strike behaviour Depth sealed (m)                                                                              |                   |                                                  |                 |                                                                                                                                                                          |               | <b>Depth Related Remarks *</b><br>From to (m)                                                                                                                                                                              |  | <b>Chiselling</b><br>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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC                                                                                          |  | Borehole BH611<br>Sheet 3 of 3                                                                                          |        |                          |

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# Borehole Log



Soil Mechanics

|                                                                                                                                                                  |                      |                                                  |                        |                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |  |                                                                                                                         |  |                                       |               |                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------|---------------|------------------------------|
| <b>Drilled</b> CS/GB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    |                      | <b>Start</b> 09/02/2011<br><b>End</b> 24/02/2011 |                        | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Depth from</b> 0.00m <b>to</b> 1.38m<br><b>Diameter</b> 150mm <b>Casing Depth</b> 1.38m                                        |  | <b>Ground Level</b> +20.56 mOD<br><b>Coordinates</b> E 447032.86<br><b>National Grid</b> N 425055.82<br><b>Chainage</b> |  |                                       |               |                              |
| <b>Samples and Tests</b>                                                                                                                                         |                      |                                                  |                        |                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Strata</b>                                                                                                                     |  |                                                                                                                         |  |                                       |               |                              |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b> | <b>Records</b>                                   | <b>Date Casing</b>     | <b>Time Water</b>                                                                                                                                                        | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                   |  |                                                                                                                         |  | <b>Depth, Level (Thickness)</b>       | <b>Legend</b> | <b>Backfill/ Instruments</b> |
| 0.30<br>0.30-1.00<br>0.50                                                                                                                                        | ES 1<br>B 2<br>ES 3  | 0.00-1.20 m Hand excavated inspection pit.       |                        |                                                                                                                                                                          | <b>TOPSOIL.</b><br>(Foreman's description)<br><br>Very weak to weak yellowish cream LIMESTONE.<br>Recovered as slightly sandy gravel.<br>(CADEBY LIMESTONE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                   |  |                                                                                                                         |  | 0.25 +20.31                           |               |                              |
| 1.00<br>1.20-1.38<br>1.20-1.38                                                                                                                                   | ES 4<br>SPT S<br>D 5 | 50 (25/50 for 70mm)                              | 09/02/2011<br>1.38     | dry<br>dry                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |  |                                                                                                                         |  | (1.13)                                |               |                              |
| 1.38-2.90                                                                                                                                                        | 79<br>26<br>0        |                                                  | 23/02/2011<br>1.38     | 0800<br>dry                                                                                                                                                              | Very weak light yellow cream LIMESTONE.<br>Fractures are subhorizontal, very closely to medium spaced, undulating, rough.<br>(CADEBY LIMESTONE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |  |                                                                                                                         |  | 1.38 +19.18                           |               |                              |
| 2.90-4.40                                                                                                                                                        | 100<br>70<br>24      |                                                  |                        |                                                                                                                                                                          | 1.38-1.70 m AZCL<br><br>1.70-1.80 m NI<br>1.80-2.15 m 1 No. subvertical undulating rough fracture<br>1.94-2.00 m NI<br>2.07-2.20 m 1 No. subvertical undulating rough fracture<br>2.56-2.63 m NI<br>2.90-3.10 m NI<br>2.90-3.20 m 1 No. subvertical undulating rough fracture<br>3.47-3.50 m NI<br>3.65-3.70 m NI<br>3.80-4.00 m 1 No. subvertical undulating rough fracture<br>4.13-4.20 m NI<br><br>4.50-4.60 m 1 No. subvertical planar rough fracture<br>4.80-5.00 m NI<br>5.06 m 1 No. 40mm long 10mm wide calcite vein<br>5.35 m 1 No. 10mm diameter vugh<br>5.66-5.72 m NI<br>5.90-6.00 m AZCL<br>6.08-6.17 m NI<br>6.24-6.32 m NI<br><br>6.77-6.83 m NI recovered as gravelly clay<br>6.90-7.00 m AZCL<br>7.00-7.05 m NI<br><br>7.80-7.96 m NI<br><br>8.25-8.30 m multiple 20-30mm diameter calcite infilled vughs, locally NI<br>8.40-8.60 m AZCL<br>8.86-8.90 m NI<br>9.10-9.20 m NI recovered as gravelly sand<br>9.32-9.36 m NI<br><br>9.78-9.85 m multiple 10-20mm diameter |                                                                                                                                   |  |                                                                                                                         |  |                                       |               |                              |
| 4.40-5.90                                                                                                                                                        | 93<br>71<br>28       |                                                  |                        |                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |  |                                                                                                                         |  |                                       |               |                              |
| 5.90-6.90                                                                                                                                                        | 90<br>74<br>0        |                                                  |                        |                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |  |                                                                                                                         |  |                                       |               |                              |
| 7.51-7.65<br>6.90-8.40                                                                                                                                           | 93<br>76<br>30       | CS 6                                             |                        |                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |  |                                                                                                                         |  |                                       |               |                              |
| 8.40-9.90                                                                                                                                                        | 87<br>67<br>23       | Flush: 1.38-14.90 Water, 100 %                   |                        |                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |  |                                                                                                                         |  | (13.52)                               |               |                              |
| <b>Depth</b>                                                                                                                                                     | <b>TCR SPT ROD</b>   | <b>If</b>                                        | <b>Records/Samples</b> | <b>Date Casing</b>                                                                                                                                                       | <b>Time Water</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Stratum continues to 14.90 m                                                                                                      |  |                                                                                                                         |  |                                       |               |                              |
| <b>Groundwater Entries</b><br>No. Struck (m) Post strike behaviour<br>None observed (see Key Sheet)                                                              |                      |                                                  |                        |                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Depth sealed (m)                                                                                                                  |  | Depth Related Remarks *<br>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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |  | Borehole BH612<br>Sheet 1 of 2                                                                                          |  |                                       |               |                              |

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# Borehole Log



Soil Mechanics

| <b>Drilled</b> CS/GB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                    |                   | <b>Start</b> 09/02/2011<br><b>End</b> 24/02/2011 |                 | <b>Equipment, Methods and Remarks</b><br>Dando 150 and Beretta T44 rotary rig.<br>Cable percussion boring followed by rotary core drilling (PWF size) using water flush. |               | <b>Depth from</b> 0.00m <b>to</b> 1.38m<br><b>Diameter</b> 150mm <b>Casing Depth</b> 1.38m<br>1.38m 14.90m 121mm 4.50m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | <b>Ground Level</b> +20.56 mOD<br><b>Coordinates</b> E 447032.86<br><b>National Grid</b> N 425055.82<br><b>Chainage</b> |                                |                          |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------|--|--|
| Samples and Tests                                                                                                                                                |                   |                                                  |                 |                                                                                                                                                                          |               | Strata                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                         |                                |                          |  |  |
| Depth                                                                                                                                                            | TCR<br>SCR<br>ROD | If                                               | Records/Samples | Date<br>Casing                                                                                                                                                           | Time<br>Water | Description<br>(Continued from Sheet 1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | Depth, Level/<br>(Thickness)                                                                                            | Legend                         | Backfill/<br>Instruments |  |  |
| 9.90-11.40                                                                                                                                                       | 87<br>69<br>0     | 30<br>60<br>120                                  | CS 7            | 23/02/2011<br>4.50                                                                                                                                                       | dry           | Very weak light yellow cream LIMESTONE. Fractures are subhorizontal, very closely to medium spaced, undulating, rough. (CADEBY LIMESTONE)<br>:: 9.78m - vughs<br>10.23-10.30 m NI<br>10.36-10.43 m 1 No. subvertical undulating rough fracture<br>10.57-10.70 m 1 No. subvertical undulating rough fracture<br>11.00-11.20 m multiple 10-20mm diameter vughs, stained brown<br>11.40-11.90 m AZCL<br>11.90-12.00 m NI<br>12.03 m 1 No. 10mm diameter vugh<br>12.40-13.15 m AZCL<br>13.15-13.18 m NI<br>13.18-13.25 m 1 No. subvertical undulating rough fracture<br>13.35-13.40 m multiple 20-40mm diameter calcite infilled vughs<br>13.40-13.75 m AZCL<br>13.75-13.84 m NI<br>14.35-14.50 m NI<br>14.56-14.60 m 1 No. 40mm diameter calcite infilled vugh<br>14.75 m 1 No. 40mm diameter calcite infilled vugh |  | 14.90                                                                                                                   | +5.66                          |                          |  |  |
| 11.54-11.66                                                                                                                                                      | 50<br>48<br>22    |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                         |                                |                          |  |  |
| 11.40-12.40                                                                                                                                                      |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                         |                                |                          |  |  |
| 12.40-13.40                                                                                                                                                      | 25<br>25<br>13    |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                         |                                |                          |  |  |
| 13.40-14.90                                                                                                                                                      | 77<br>63<br>35    |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                         |                                |                          |  |  |
| EXPLORATORY HOLE ENDS AT 14.90 m                                                                                                                                 |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                         |                                |                          |  |  |
| Groundwater Entries                                                                                                                                              |                   |                                                  |                 |                                                                                                                                                                          |               | Depth Related Remarks *                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | Chiselling                                                                                                              |                                |                          |  |  |
| No. Struck (m) Post strike behaviour                                                                                                                             |                   |                                                  |                 | Depth sealed (m)                                                                                                                                                         |               | From to (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | Depths (m) Time Tools used                                                                                              |                                |                          |  |  |
| None observed (see Key Sheet)                                                                                                                                    |                   |                                                  |                 |                                                                                                                                                                          |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                         |                                |                          |  |  |
| 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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                                                         | Borehole BH612<br>Sheet 2 of 2 |                          |  |  |

Scale 1:50

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# Borehole Log



Soil Mechanics

|                                                                                                                                                                                                                                         |                                                                                                                                        |                                                                                                                                                        |                                                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| <b>Drilled</b> CS<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                                                                                              | <b>Start</b><br>14/02/2011<br><b>End</b><br>15/02/2011                                                                                 | <b>Equipment, Methods and Remarks</b><br>Dando 150.<br>Cable percussion boring.                                                                        |                                                                     | <b>Depth from</b><br>0.00m<br><b>to</b><br>4.30m<br><b>Diameter</b><br>150mm<br><b>Casing Depth</b><br>4.00m                                           | <b>Ground Level</b> +16.25 mOD<br><b>Coordinates</b> E 447146.37<br><b>National Grid</b> N 424753.79<br><b>Chainage</b>                                                                                                                                                                                                                                                                                                            |                                                                       |
| <b>Samples and Tests</b>                                                                                                                                                                                                                |                                                                                                                                        |                                                                                                                                                        |                                                                     | <b>Strata</b>                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                       |
| <b>Depth</b><br>0.20-0.40<br>0.30<br>0.30-1.00<br>0.50<br><br>1.00<br>1.20-1.65<br>1.20-1.65<br>1.20-2.00<br><br>2.00<br>2.10-2.48<br>2.10-2.55<br><br>4.00-4.30<br>4.00-4.30                                                           | <b>Type &amp; No</b><br>B 2<br>ES 1<br>B 4<br>ES 3<br><br>ES 5<br>SPT S<br>D 6<br>B 7<br><br>ES 8<br>SPT S<br>D 9<br><br>SPT S<br>D 10 | <b>Records</b><br>0.00-1.20 m Hand excavated inspection pit.<br><br>N=7 (1,2/2,1,2,2)<br><br>24 (4,5/5,6,6,7 for 8mm)<br>*<br>65 (9,12/15,50 for 70mm) | <b>Date</b><br>Casing<br><br>2.00<br><br>4.00<br>14/02/2011<br>4.00 | <b>Time</b><br>Water<br><br>dry<br><br>dry<br><br>dry                                                                                                  | <b>Description</b><br>TOPSOIL.<br>Light grey brown slightly silty gravelly fine to coarse SAND with low to medium cobble content. Gravel is angular fine to coarse of limestone and sandstone. Cobbles are up to 400mm in diameter of brick and limestone. (MADE GROUND)<br>1.20-1.65 m Loose.<br>Very weak to weak light yellow cream LIMESTONE. Recovered as sandy gravel. (CADEBY LIMESTONE)<br>EXPLORATORY HOLE ENDS AT 4.30 m |                                                                       |
| <b>Depth, Level (Thickness)</b><br>0.15 +16.10<br><br>(2.05)<br><br>2.20 +14.05<br><br>(2.10)<br><br>4.30 +11.95                                                                                                                        |                                                                                                                                        | <b>Legend</b><br><br>                                                                                                                                  | <b>Backfill/ Instruments</b><br>                                    |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                       |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                                                                                                  |                                                                                                                                        |                                                                                                                                                        |                                                                     | <b>Depth sealed (m)</b><br><br><br><br>                                                                                                                | <b>Depth Related Remarks *</b><br>From to (m)<br>2.20 4.00 Water added to assist boring.                                                                                                                                                                                                                                                                                                                                           | <b>Chiselling</b><br>Depths (m) Time Tools used<br>2.20 -4.00 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.<br>Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:34:57 |                                                                                                                                        |                                                                                                                                                        |                                                                     | <b>Project</b> FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br><b>Project No.</b> A1008-11<br><b>Carried out for</b> Scottish and Southern Energy PLC |                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Borehole</b><br><b>BH613</b><br>Sheet 1 of 1                       |

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|                                                                                                                                                                  |  |                                          |                                            |                                                                           |                                                       |                                                                                                                                                                                                     |  |                                                                                             |                           |              |                       |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------|--------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------|---------------------------|--------------|-----------------------|--|
| Drilled JB<br>Logged BS<br>Checked MT                                                                                                                            |  | Start<br>28/02/2011<br>End<br>28/02/2011 |                                            | Equipment, Methods and Remarks<br>Competitor rig.<br>Windowless sampling. |                                                       | Depth from 0.00m to 6.25m<br>Diameter -<br>Casing Depth                                                                                                                                             |  | Ground Level +12.14 mOD<br>Coordinates E 447647.76<br>National Grid N 425231.13<br>Chainage |                           |              |                       |  |
| Samples and Tests                                                                                                                                                |  |                                          |                                            |                                                                           | Strata                                                |                                                                                                                                                                                                     |  |                                                                                             |                           |              |                       |  |
| Depth                                                                                                                                                            |  | Type & No                                | Records                                    | Date Casing                                                               | Time Water                                            | Description                                                                                                                                                                                         |  |                                                                                             | Depth, Level/ (Thickness) | Legend       | Backfill/ Instruments |  |
| 0.30<br>0.30-0.50<br>0.50<br>0.70-0.90<br><br>1.00                                                                                                               |  | ES 1<br>B 4<br>ES 2<br>B 5<br><br>ES 3   | 0.00-1.20 m Hand excavated inspection pit. |                                                                           |                                                       | TOPSOIL.<br><br>Dark grey brown slightly gravelly clayey fine to coarse SAND with frequent rootlets. Gravel is subangular to subrounded fine to coarse of sandstone and limestone.<br>(MADE GROUND) |  |                                                                                             | 0.10 +12.04<br><br>(0.90) |              |                       |  |
| 1.20-1.65<br>1.20-1.65<br>1.20-1.80                                                                                                                              |  | SPT S<br>D 6<br>B 7                      | N=16 (2,2/3,3,4,6)                         |                                                                           |                                                       | Medium dense dark brown locally mottled black silty fine to medium SAND.                                                                                                                            |  |                                                                                             | 1.00 +11.14<br><br>(1.00) |              |                       |  |
| 1.80-2.25<br>1.80-2.25<br>1.80-2.80                                                                                                                              |  | SPT S<br>D 8<br>B 9                      | N=19 (9,4/5,4,5,5)                         |                                                                           |                                                       | Firm to stiff dark grey brown locally mottled black slightly sandy slightly gravelly CLAY. Gravel is subrounded fine to coarse of sandstone.                                                        |  |                                                                                             | 2.00 +10.14<br><br>(1.60) |              |                       |  |
| 2.80-3.25<br>2.80-3.25<br>2.80-3.60                                                                                                                              |  | SPT S<br>D 10<br>B 11                    | N=13 (3,4/3,3,3,4)                         |                                                                           |                                                       | Medium dense becoming dense dark brown slightly clayey gravelly fine to coarse SAND. Gravel is angular fine to coarse of sandstone and limestone.                                                   |  |                                                                                             | 3.60 +8.54<br><br>(2.65)  |              |                       |  |
| 3.60-3.80<br>3.80-4.25<br>3.80-4.25<br>3.80-4.80                                                                                                                 |  | D 12<br>SPT S<br>D 13<br>B 14            | N=17 (3,3/2,3,6,6)                         |                                                                           |                                                       | 5.00-6.25 m locally grading to sandy gravel                                                                                                                                                         |  |                                                                                             |                           |              |                       |  |
| 4.80-5.25<br>4.80-5.25<br>4.80-5.80                                                                                                                              |  | SPT S<br>D 15<br>B 16                    | N=13 (3,2/3,3,4,3)                         |                                                                           |                                                       |                                                                                                                                                                                                     |  |                                                                                             |                           |              |                       |  |
| 5.80-6.25<br>5.80-6.25                                                                                                                                           |  | SPT S<br>D 17                            | N=34 (9,8/10,9,7,8)                        | 28/02/2011                                                                | 2.80                                                  |                                                                                                                                                                                                     |  |                                                                                             |                           |              |                       |  |
|                                                                                                                                                                  |  |                                          |                                            |                                                                           |                                                       | EXPLORATORY HOLE ENDS AT 6.25 m                                                                                                                                                                     |  |                                                                                             | 6.25 +5.89                |              |                       |  |
| Groundwater Entries                                                                                                                                              |  |                                          |                                            |                                                                           |                                                       | Depth Related Remarks *                                                                                                                                                                             |  |                                                                                             | Chiselling                |              |                       |  |
| No. Struck (m) Post strike behaviour                                                                                                                             |  |                                          |                                            |                                                                           |                                                       | From to (m)                                                                                                                                                                                         |  |                                                                                             | Depths (m)                | Time         | Tools used            |  |
| 1 3.00 -                                                                                                                                                         |  |                                          |                                            |                                                                           |                                                       |                                                                                                                                                                                                     |  |                                                                                             |                           |              |                       |  |
| 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 MULTI-FUEL POWERSTATION - PHASE 2 |                                                                                                                                                                                                     |  |                                                                                             |                           | Borehole     |                       |  |
| Scale 1:50                                                                                                                                                       |  |                                          |                                            |                                                                           | Project No. A1008-11                                  |                                                                                                                                                                                                     |  |                                                                                             |                           | WS601        |                       |  |
| (c) ESGL www.esgl.co.uk 408.24 05/04/2011 16:40:10                                                                                                               |  |                                          |                                            |                                                                           | Carried out for Scottish and Southern Energy PLC      |                                                                                                                                                                                                     |  |                                                                                             |                           | Sheet 1 of 1 |                       |  |

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# Window Sampler Hole Log



Soil Mechanics

|                                                                                                                                                                  |                                                  |                                                                                  |                                                                                                                                   |                                                                                        |                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                       | <b>Start</b> 23/02/2011<br><b>End</b> 23/02/2011 | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                                                                                                                                   | <b>Depth from</b> 0.00m<br><b>to</b> 4.25m<br><b>Diameter</b> -<br><b>Casing Depth</b> | <b>Ground Level</b> +13.84 mOD<br><b>Coordinates</b> E 447205.60<br><b>National Grid</b> N 424878.21<br><b>Chainage</b>                                            |
| <b>Samples and Tests</b>                                                                                                                                         |                                                  |                                                                                  |                                                                                                                                   | <b>Strata</b>                                                                          |                                                                                                                                                                    |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                             | <b>Records</b>                                                                   | <b>Date Casing</b>                                                                                                                | <b>Time Water</b>                                                                      | <b>Description</b>                                                                                                                                                 |
| 0.30<br>0.30-0.50<br>0.50<br>0.70-0.90                                                                                                                           | ES 1<br>B 4<br>ES 2<br>B 5                       | 0.00-1.20 m Hand excavated inspection pit.                                       |                                                                                                                                   |                                                                                        | Soft dark grey brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse of limestone, sandstone and red shale.<br>(MADE GROUND) |
| 1.00<br>1.20-1.65<br>1.20-1.65<br>1.20-1.80                                                                                                                      | ES 3<br>SPT S<br>D 6<br>B 7                      | N=34 (7,7/7,9,9,9)                                                               |                                                                                                                                   |                                                                                        | Dark red brown slightly sandy angular fine to coarse GRAVEL of red shale.<br>(MADE GROUND)                                                                         |
| 1.80-2.00<br>2.00-2.45<br>2.00-3.00<br>2.00-2.45                                                                                                                 | D 8<br>SPT S<br>B 10<br>D 9                      | N=21 (1,2/4,5,6,6)                                                               |                                                                                                                                   |                                                                                        | Dense light yellow cream slightly sandy angular fine to coarse GRAVEL of limestone.<br>(MADE GROUND)                                                               |
| 3.00-3.45<br>3.00-3.45<br>3.00-3.80                                                                                                                              | SPT S<br>D 11<br>B 12                            | N=22 (2,3/4,5,6,7)                                                               |                                                                                                                                   |                                                                                        | Firm dark brown grey slightly sandy slightly gravelly CLAY. Gravel is angular fine to medium of mudstone and limestone.                                            |
| 3.80-4.25<br>3.80-4.25                                                                                                                                           | SPT S<br>D 13                                    | N=25 (4,4/7,6,6,6)                                                               | 23/02/2011                                                                                                                        | dry                                                                                    | Firm to stiff laminated dark grey mottled brown slightly sandy CLAY.                                                                                               |
| 3.80-4.25 m occasional subangular fine gravel of limestone                                                                                                       |                                                  |                                                                                  |                                                                                                                                   |                                                                                        |                                                                                                                                                                    |
| EXPLORATORY HOLE ENDS AT 4.25 m                                                                                                                                  |                                                  |                                                                                  |                                                                                                                                   |                                                                                        |                                                                                                                                                                    |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                             | <b>Records</b>                                                                   | <b>Date Casing</b>                                                                                                                | <b>Time Water</b>                                                                      |                                                                                                                                                                    |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                           |                                                  |                                                                                  | Depth sealed (m)<br>4.25                                                                                                          |                                                                                        | <b>Depth Related Remarks *</b><br>From to (m)<br>4.25 Hole terminated due to collapse.                                                                             |
| <b>Chiselling</b><br>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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                                        |                                                                                                                                                                    |
| Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:40:31                                                                                              |                                                  |                                                                                  | Borehole<br><b>WS603</b><br>Sheet 1 of 1                                                                                          |                                                                                        |                                                                                                                                                                    |



# Window Sampler Hole Log



Soil Mechanics

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| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                       | <b>Start</b> 23/02/2011<br><b>End</b> 23/02/2011                 | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling.     |                                                                                                                                   | <b>Depth from</b> 0.00m<br><b>to</b> 6.25m<br><b>Diameter</b> -<br><b>Casing Depth</b> | <b>Ground Level</b> +14.02 mOD<br><b>Coordinates</b> E 447240.33<br><b>National Grid</b> N 424803.30<br><b>Chainage</b>                                          |
| <b>Samples and Tests</b>                                                                                                                                         |                                                                  |                                                                                      |                                                                                                                                   | <b>Strata</b>                                                                          |                                                                                                                                                                  |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                                             | <b>Records</b>                                                                       | <b>Date Casing</b>                                                                                                                | <b>Time Water</b>                                                                      | <b>Description</b>                                                                                                                                               |
| 0.30<br>0.30-0.50<br>0.50<br>0.70-0.90<br>1.00<br>1.20-1.65<br>1.20-1.65<br>1.20-1.40<br>1.40-2.00                                                               | ES 1<br>B 4<br>ES 2<br>B 5<br>ES 3<br>SPT S<br>D 6<br>D 7<br>B 8 | 0.00-1.20 m Hand excavated inspection pit.<br><br><br><br><br><br>N=28 (4,9/7,6,7,8) |                                                                                                                                   |                                                                                        | Dark grey silty gravelly fine to medium SAND. Gravel is subangular to subrounded fine to coarse of limestone. (MADE GROUND)                                      |
| 2.00-2.45<br>2.00-3.00<br>2.00-2.45                                                                                                                              | SPT S<br>B 10<br>D 9                                             | N=12 (2,3/2,2,4,4)                                                                   |                                                                                                                                   |                                                                                        | Firm locally stiff dark brown grey slightly sandy slightly gravelly CLAY. Gravel is angular fine to medium of limestone and mudstone.                            |
| 3.00-3.45<br>3.00-3.45<br>3.00-4.00<br>3.50-3.75                                                                                                                 | SPT S<br>D 11<br>B 12<br>D 13                                    | N=11 (2,2/2,3,3,3)                                                                   |                                                                                                                                   |                                                                                        | Firm thinly laminated dark brown light grey slightly sandy CLAY with dustings of silt along laminae.                                                             |
| 4.00-4.45<br>4.00-4.45<br>4.00-5.00                                                                                                                              | SPT S<br>D 14<br>B 15                                            | N=21 (3,4/5,5,5,6)                                                                   |                                                                                                                                   |                                                                                        | Medium dense dark grey brown slightly silty slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of sandstone and limestone. |
| 5.00-5.45<br>5.00-5.45<br>5.00-5.80                                                                                                                              | SPT S<br>D 16<br>B 17                                            | N=21 (3,3/5,5,6,5)                                                                   |                                                                                                                                   |                                                                                        |                                                                                                                                                                  |
| 5.80-6.25<br>5.80-6.25                                                                                                                                           | SPT S<br>D 18                                                    | N=29 (6,6/6,7,7,9)                                                                   | 23/02/2011                                                                                                                        | dry                                                                                    |                                                                                                                                                                  |
| EXPLORATORY HOLE ENDS AT 6.25 m                                                                                                                                  |                                                                  |                                                                                      |                                                                                                                                   |                                                                                        |                                                                                                                                                                  |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                                             | <b>Records</b>                                                                       | <b>Date Casing</b>                                                                                                                | <b>Time Water</b>                                                                      |                                                                                                                                                                  |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                           |                                                                  |                                                                                      | Depth sealed (m)                                                                                                                  |                                                                                        | <b>Depth Related Remarks *</b><br>From to (m)<br>6.25 Hole terminated due to collapse.                                                                           |
| <b>Chiselling</b><br>Depths (m) Time Tools used                                                                                                                  |                                                                  |                                                                                      | <b>Borehole</b><br><b>WS605</b><br>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. |                                                                  |                                                                                      | Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                                        |                                                                                                                                                                  |

Scale 1:50

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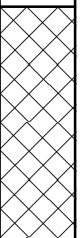
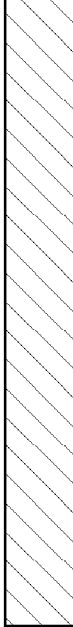
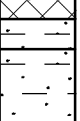
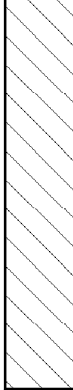
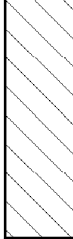
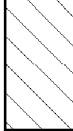
# Window Sampler Hole Log



Soil Mechanics

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                                     | <b>Start</b> 23/02/2011<br><b>End</b> 23/02/2011 | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                                                                                                                                            | <b>Depth from</b> 0.00m<br><b>to</b> 6.45m<br><b>Diameter</b> -<br><b>Casing Depth</b> | <b>Ground Level</b> +15.77 mOD<br><b>Coordinates</b> E 447103.56<br><b>National Grid</b> N 424803.56<br><b>Chainage</b>                                                                                                                         |
| <b>Samples and Tests</b>                                                                                                                                                       |                                                  |                                                                                  |                                                                                                                                            | <b>Strata</b>                                                                          |                                                                                                                                                                                                                                                 |
| <b>Depth</b>                                                                                                                                                                   | <b>Type &amp; No</b>                             | <b>Records</b>                                                                   | <b>Date</b><br>Casing                                                                                                                      | <b>Time</b><br>Water                                                                   | <b>Description</b>                                                                                                                                                                                                                              |
| 0.30                                                                                                                                                                           | ES 1                                             | 0.00-1.20 m Hand excavated inspection pit.                                       |                                                                                                                                            |                                                                                        | TOPSOIL.                                                                                                                                                                                                                                        |
| 0.50                                                                                                                                                                           | ES 2                                             |                                                                                  |                                                                                                                                            |                                                                                        | Grey brown slightly silty slightly gravelly fine to medium SAND. Gravel is subangular to subrounded fine to coarse of limestone. (MADE GROUND)                                                                                                  |
| 0.50-0.70                                                                                                                                                                      | B 4                                              |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 0.70-0.90                                                                                                                                                                      | B 5                                              |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 1.00                                                                                                                                                                           | ES 3                                             | N=16 (4,4/5,4,3,4)                                                               |                                                                                                                                            |                                                                                        | Firm to stiff grey brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine of red shale and coal. (MADE GROUND)                                                                                                       |
| 1.10-1.55                                                                                                                                                                      | SPT S                                            |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 1.10-1.55                                                                                                                                                                      | D 6                                              |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 1.10-1.55                                                                                                                                                                      | B 7                                              |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 1.55-2.00                                                                                                                                                                      | D 8                                              |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 2.00-2.45                                                                                                                                                                      | SPT S                                            | N=6 (1,1/2,1,1,2)                                                                |                                                                                                                                            |                                                                                        | Loose becoming medium dense light grey cream very silty slightly gravelly fine to coarse SAND with low cobble content. Gravel is angular to subangular fine to coarse of limestone. Cobbles are subrounded of limestone. (Possible MADE GROUND) |
| 2.00-3.00                                                                                                                                                                      | B 10                                             |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 2.00-2.45                                                                                                                                                                      | D 9                                              |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 2.96                                                                                                                                                                           | EWM 18                                           | N=24 (2,3/6,6,6,6)                                                               |                                                                                                                                            |                                                                                        | 3.00-3.50 m strong hydrocarbon odour, locally mottled grey                                                                                                                                                                                      |
| 3.00-3.45                                                                                                                                                                      | SPT S                                            |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 3.00-3.45                                                                                                                                                                      | D 11                                             |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 3.00-3.50                                                                                                                                                                      | ES 12                                            |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 3.21                                                                                                                                                                           | EWM 19                                           |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 3.50-4.00                                                                                                                                                                      | B 13                                             |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 4.00-4.45                                                                                                                                                                      | SPT S                                            | N=15 (5,4/5,4,3,3)                                                               |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 4.00-4.45                                                                                                                                                                      | D 14                                             |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 4.00-5.00                                                                                                                                                                      | B 15                                             |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 5.00-5.45                                                                                                                                                                      | SPT S                                            | N=11 (1,2/3,2,3,3)                                                               |                                                                                                                                            |                                                                                        | Soft dark grey brown sandy CLAY.                                                                                                                                                                                                                |
| 5.00-5.45                                                                                                                                                                      | D 16                                             |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 5.00-6.00                                                                                                                                                                      | NR                                               |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| 6.00-6.45                                                                                                                                                                      | SPT S                                            | N=9 (2,2/3,1,2,3)                                                                | 23/02/2011                                                                                                                                 | dry                                                                                    | Soft dark grey brown slightly sandy slightly gravelly CLAY. Gravel is angular fine to medium of sandstone and limestone.                                                                                                                        |
| 6.00-6.45                                                                                                                                                                      | D 17                                             |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| EXPLORATORY HOLE ENDS AT 6.45 m                                                                                                                                                |                                                  |                                                                                  |                                                                                                                                            |                                                                                        |                                                                                                                                                                                                                                                 |
| <b>Depth</b>                                                                                                                                                                   | <b>Type &amp; No</b>                             | <b>Records</b>                                                                   | <b>Date</b><br>Casing                                                                                                                      | <b>Time</b><br>Water                                                                   |                                                                                                                                                                                                                                                 |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                                         |                                                  |                                                                                  | Depth sealed (m)                                                                                                                           |                                                                                        | Depth Related Remarks *<br>From to (m)<br>6.45 Hole terminated due to collapse.                                                                                                                                                                 |
| Chiselling<br>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.<br>Scale 1:50 |                                                  |                                                                                  | Project<br>FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br>Project No.<br>A1008-11<br>Carried out for<br>Scottish and Southern Energy PLC |                                                                                        | Borehole<br>WS606<br>Sheet 1 of 1                                                                                                                                                                                                               |

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------|--------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Drilled JB<br>Logged BS<br>Checked MT                                                                                                                                                                                                                                                                                          |  | Start<br>23/02/2011<br>End<br>23/02/2011 |                                            | Equipment, Methods and Remarks<br>Competitor rig.<br>Windowless sampling. |                                           | Depth from 0.00m to 4.25m<br>Diameter -<br>Casing Depth                                                                                                                                                                                            |                                                                                               | Ground Level +17.03 mOD<br>Coordinates E 447185.69<br>National Grid N 424701.78<br>Chainage |                            |                                                                                     |                                                                                      |
| Samples and Tests                                                                                                                                                                                                                                                                                                              |  |                                          |                                            |                                                                           | Strata                                    |                                                                                                                                                                                                                                                    |                                                                                               |                                                                                             |                            |                                                                                     |                                                                                      |
| Depth                                                                                                                                                                                                                                                                                                                          |  | Type & No                                | Records                                    | Date Casing                                                               | Time Water                                | Description                                                                                                                                                                                                                                        |                                                                                               |                                                                                             | Depth, Level / (Thickness) | Legend                                                                              | Backfill / Instruments                                                               |
| 0.30<br>0.30-0.50<br>0.50<br>0.70-0.90                                                                                                                                                                                                                                                                                         |  | ES 1<br>B 4<br>ES 2<br>B 5               | 0.00-1.20 m Hand excavated inspection pit. |                                                                           |                                           | TOPSOIL.<br><br>Grey brown slightly silty gravelly fine to coarse SAND with low cobble content. Gravel is subrounded to rounded fine to coarse of limestone and sandstone. Cobbles are of limestone and concrete up to 90mm in size. (MADE GROUND) |                                                                                               |                                                                                             | 0.15 +16.88                |  |  |
| 1.00<br>1.20-1.65<br>1.20-1.65<br>1.20-1.80                                                                                                                                                                                                                                                                                    |  | ES 3<br>SPT S<br>D 6<br>B 7              | N=30 (8,9/8,8,7,7)                         |                                                                           |                                           | 1.20-1.65 m Medium dense to dense.                                                                                                                                                                                                                 |                                                                                               |                                                                                             | (1.65)                     |  |  |
| 1.80-2.00<br>2.00-2.45<br>2.00-2.45                                                                                                                                                                                                                                                                                            |  | D 8<br>SPT S<br>D 9                      | N=17 (3,4/4,4,4,5)                         |                                                                           |                                           | Firm to stiff dark orange brown slightly sandy CLAY. Locally poorly laminated.                                                                                                                                                                     |                                                                                               |                                                                                             | 1.80 +15.23                |  |  |
| 2.50-3.00                                                                                                                                                                                                                                                                                                                      |  | B 10                                     |                                            |                                                                           |                                           | Soft light brown grey sandy CLAY with occasional subrounded fine to medium gravel of limestone.                                                                                                                                                    |                                                                                               |                                                                                             | 2.00 +15.03                |  |  |
| 3.00-3.45<br>3.00-3.45<br>3.00-3.50                                                                                                                                                                                                                                                                                            |  | SPT S<br>D 11<br>B 12                    | N=40 (7,7/8,9,11,12)                       |                                                                           |                                           | Dense dark grey brown slightly silty slightly gravelly fine to medium SAND. Gravel is angular fine to medium of limestone and sandstone.                                                                                                           |                                                                                               |                                                                                             | 2.50 +14.53                |  |  |
| 3.50-3.80<br>3.80-4.25<br>3.80-4.21                                                                                                                                                                                                                                                                                            |  | D 13<br>SPT S<br>D 14                    | N=49 (8,12/10,13,13,13)                    | 23/02/2011                                                                | dry                                       | Weak light yellow cream LIMESTONE. (CADEBY LIMESTONE)                                                                                                                                                                                              |                                                                                               |                                                                                             | 3.50 +13.53                |  |  |
|                                                                                                                                                                                                                                                                                                                                |  |                                          |                                            |                                                                           |                                           | EXPLORATORY HOLE ENDS AT 4.25 m                                                                                                                                                                                                                    |                                                                                               |                                                                                             | 4.25 +12.78                |  |  |
| Depth                                                                                                                                                                                                                                                                                                                          |  | Type & No                                | Records                                    | Date Casing                                                               | Time Water                                |                                                                                                                                                                                                                                                    |                                                                                               |                                                                                             |                            |                                                                                     |                                                                                      |
| Groundwater Entries<br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                                                                                                                                                                                                |  |                                          |                                            |                                                                           | Depth sealed (m)                          |                                                                                                                                                                                                                                                    | Depth Related Remarks *<br>From to (m)                                                        |                                                                                             |                            | Chiselling<br>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.<br>Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:41:03<br> |  |                                          |                                            |                                                                           | Project<br>Project No.<br>Carried out for |                                                                                                                                                                                                                                                    | FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br>A1008-11<br>Scottish and Southern Energy PLC |                                                                                             |                            | Borehole<br>WS607<br>Sheet 1 of 1                                                   |                                                                                      |

# Window Sampler Hole Log



Soil Mechanics

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                       | <b>Start</b><br>01/03/2011<br><b>End</b><br>01/03/2011 | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                                                                                                                                   | <b>Depth from</b> 0.00m <b>to</b> 2.05m<br><b>Diameter</b> -<br><b>Casing Depth</b> | <b>Ground Level</b> +19.33 mOD<br><b>Coordinates</b> E 447221.03<br><b>National Grid</b> N 424624.84<br><b>Chainage</b>                                                                                                                                                |
| <b>Samples and Tests</b>                                                                                                                                         |                                                        |                                                                                  |                                                                                                                                   | <b>Strata</b>                                                                       |                                                                                                                                                                                                                                                                        |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                                   | <b>Records</b>                                                                   | <b>Date Casing</b>                                                                                                                | <b>Time Water</b>                                                                   | <b>Description</b>                                                                                                                                                                                                                                                     |
| 0.00-1.20 m                                                                                                                                                      | Hand excavated inspection pit.                         |                                                                                  |                                                                                                                                   |                                                                                     | <b>TOPSOIL.</b><br><br>Light grey brown silty slightly gravelly fine to medium SAND with low cobble content. Gravel is angular to subangular fine to coarse of limestone and rare red shale. Cobbles are subangular of limestone up to 100mm in size.<br>(MADE GROUND) |
| 0.30                                                                                                                                                             | ES 1                                                   |                                                                                  |                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                        |
| 0.30-0.50                                                                                                                                                        | B 4                                                    |                                                                                  |                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                        |
| 0.50                                                                                                                                                             | ES 2                                                   |                                                                                  |                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                        |
| 0.70-1.00                                                                                                                                                        | B 5                                                    |                                                                                  |                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                        |
| 1.00                                                                                                                                                             | ES 3                                                   |                                                                                  |                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                        |
| 1.20-1.65                                                                                                                                                        | SPT S                                                  | N=19 (1,2/3,3,4,9)                                                               |                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                        |
| 1.20-1.65                                                                                                                                                        | D 6                                                    |                                                                                  |                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                        |
| 1.20-1.80                                                                                                                                                        | B 7                                                    |                                                                                  |                                                                                                                                   |                                                                                     | Very weak light yellow cream LIMESTONE.<br>(CADEBY LIMESTONE)                                                                                                                                                                                                          |
| 1.80-2.05                                                                                                                                                        | SPT S                                                  | 50 (14,11 for 50mm/ 30,20 for 50mm)                                              | 01/03/2011                                                                                                                        | dry                                                                                 |                                                                                                                                                                                                                                                                        |
| 1.80-2.05                                                                                                                                                        | D 8                                                    |                                                                                  |                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                        |
| EXPLORATORY HOLE ENDS AT 2.05 m                                                                                                                                  |                                                        |                                                                                  |                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                        |
| Depth Related Remarks *<br>From 2.05 to (m) - Hole terminated on refusal.                                                                                        |                                                        |                                                                                  |                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                        |
| Groundwater Entries<br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                                  |                                                        |                                                                                  |                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                        |
| 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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                                     | Borehole<br><b>WS608</b><br>Sheet 1 of 1                                                                                                                                                                                                                               |

# Window Sampler Hole Log



Soil Mechanics

|                                                                                                                                                                                                                                          |                             |                                                        |                       |                                                                                  |                                                                                                                                                        |                                                                                 |                                    |                                                                                                                         |                                        |                                                                                     |  |                                                 |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------------------------------|--|-------------------------------------------------|--|
| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                                                                                               |                             | <b>Start</b><br>24/02/2011<br><b>End</b><br>24/02/2011 |                       | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                                                                                                                                                        | <b>Depth from</b> 0.00m <b>to</b> 2.05m <b>Diameter</b> - <b>Casing Depth</b> - |                                    | <b>Ground Level</b> +17.79 mOD<br><b>Coordinates</b> E 447078.11<br><b>National Grid</b> N 424976.15<br><b>Chainage</b> |                                        |                                                                                     |  |                                                 |  |
| <b>Samples and Tests</b>                                                                                                                                                                                                                 |                             |                                                        |                       |                                                                                  | <b>Strata</b>                                                                                                                                          |                                                                                 |                                    |                                                                                                                         |                                        |                                                                                     |  |                                                 |  |
| <b>Depth</b>                                                                                                                                                                                                                             | <b>Type &amp; No</b>        | <b>Records</b>                                         | <b>Date</b><br>Casing | <b>Time</b><br>Water                                                             | <b>Description</b>                                                                                                                                     |                                                                                 | <b>Depth, Level</b><br>(Thickness) | <b>Legend</b>                                                                                                           | <b>Backfill/</b><br><b>Instruments</b> |                                                                                     |  |                                                 |  |
| 0.30<br>0.30-0.50<br>0.50<br>0.70-0.90                                                                                                                                                                                                   | ES 1<br>B 4<br>ES 2<br>B 5  | 0.00-1.20 m Hand excavated inspection pit.             |                       |                                                                                  | TOPSOIL.<br><br>Grey brown slightly silty slightly sandy angular to subangular fine to coarse GRAVEL of sandstone.                                     |                                                                                 | 0.20 +17.59<br><br>(0.75)          |                                                                                                                         |                                        |                                                                                     |  |                                                 |  |
| 1.00-1.45<br>1.00<br>1.00-1.45<br>1.00-1.60                                                                                                                                                                                              | SPT S<br>ES 3<br>D 6<br>B 7 | N=32 (8,7/6,9,8,9)                                     |                       |                                                                                  | Very weak light yellow cream LIMESTONE. (CADEBY LIMESTONE)                                                                                             |                                                                                 | 0.95 +16.84<br><br>(1.10)          |                                                                                                                         |                                        |                                                                                     |  |                                                 |  |
| 1.60-2.05<br>1.60-2.05                                                                                                                                                                                                                   | SPT S<br>D 8                | N=50 (9,7/8,10,18,14)                                  | 24/02/2011            | dry                                                                              | EXPLORATORY HOLE ENDS AT 2.05 m                                                                                                                        |                                                                                 | 2.05 +15.74                        |                                                                                                                         |                                        |                                                                                     |  |                                                 |  |
| <div> <div> <b>Groundwater Entries</b><br/>           No. Struck Post strike behaviour<br/>           (m)<br/>           None observed (see Key Sheet)         </div> <div> <b>Depth sealed</b><br/>           (m)         </div> </div> |                             |                                                        |                       |                                                                                  |                                                                                                                                                        |                                                                                 |                                    |                                                                                                                         |                                        | <b>Depth Related Remarks *</b><br>From to (m)<br>2.05 - Hole terminated on refusal. |  | <b>Chiselling</b><br>Depths (m) Time Tools used |  |
| <b>Notes:</b> For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.                                                                  |                             |                                                        |                       |                                                                                  | <b>Project</b> FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br><b>Project No.</b> A1008-11<br><b>Carried out for</b> Scottish and Southern Energy PLC |                                                                                 |                                    |                                                                                                                         |                                        | <b>Borehole</b><br><b>WS609</b><br>Sheet 1 of 1                                     |  |                                                 |  |

Scale 1:50

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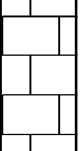
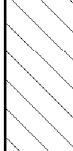
# Window Sampler Hole Log



Soil Mechanics

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| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                       | <b>Start</b> 21/02/2011<br><b>End</b> 21/02/2011              | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling.              |                                                                                                                                   | <b>Depth from</b> 0.00m <b>to</b> 1.65m <b>Diameter</b> - <b>Casing Depth</b> | <b>Ground Level</b> +16.70 mOD<br><b>Coordinates</b> E 447142.13<br><b>National Grid</b> N 425060.66<br><b>Chainage</b>                                                                                |
| <b>Samples and Tests</b>                                                                                                                                         |                                                               |                                                                                               |                                                                                                                                   | <b>Strata</b>                                                                 |                                                                                                                                                                                                        |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                                          | <b>Records</b>                                                                                | <b>Date</b><br>Casing                                                                                                             | <b>Time</b><br>Water                                                          | <b>Description</b>                                                                                                                                                                                     |
| 0.30<br>0.30-0.50<br>0.50<br>0.70-0.90<br><br>1.00<br>1.20-1.54<br>1.20-1.65<br>1.20-1.45                                                                        | ES 1<br>B 4<br>ES 2<br>B 5<br><br>ES 3<br>SPT S<br>D 6<br>D 7 | 0.00-1.20 m Hand excavated inspection pit.<br><br><br><br><br><br>60 (5,13/17,19,24 for 40mm) | 21/02/2011                                                                                                                        | dry                                                                           | TOPSOIL.<br>Firm dark red brown slightly sandy gravelly CLAY. Gravel is angular fine to coarse of red shale and limestone. (MADE GROUND)<br>Very weak light yellow cream LIMESTONE. (CADEBY LIMESTONE) |
|                                                                                                                                                                  |                                                               |                                                                                               |                                                                                                                                   |                                                                               | EXPLORATORY HOLE ENDS AT 1.65 m                                                                                                                                                                        |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                                          | <b>Records</b>                                                                                | <b>Date</b><br>Casing                                                                                                             | <b>Time</b><br>Water                                                          |                                                                                                                                                                                                        |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                           |                                                               |                                                                                               | Depth sealed (m)<br>1.65                                                                                                          |                                                                               | <b>Depth Related Remarks *</b><br>From to (m)<br>1.65 Hole terminated on refusal.                                                                                                                      |
| 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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                               | Borehole<br><b>WS610</b><br>Sheet 1 of 1                                                                                                                                                               |

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|                                                                                                                                                                                                                                                                                                                                |  |                                          |                                               |                                                                           |                                           |                                                                                                                                                 |  |                                                                                               |                              |                                                                                     |                                                                                     |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
| Drilled JB<br>Logged BS<br>Checked MT                                                                                                                                                                                                                                                                                          |  | Start<br>24/02/2011<br>End<br>24/02/2011 |                                               | Equipment, Methods and Remarks<br>Competitor rig.<br>Windowless sampling. |                                           | Depth from 0.00m to 1.45m<br>Diameter -<br>Casing Depth                                                                                         |  | Ground Level +18.20 mOD<br>Coordinates E 447092.44<br>National Grid N 425093.11<br>Chainage   |                              |                                                                                     |                                                                                     |  |
| Samples and Tests                                                                                                                                                                                                                                                                                                              |  |                                          |                                               |                                                                           | Strata                                    |                                                                                                                                                 |  |                                                                                               |                              |                                                                                     |                                                                                     |  |
| Depth                                                                                                                                                                                                                                                                                                                          |  | Type & No                                | Records                                       | Date<br>Casing                                                            | Time<br>Water                             | Description                                                                                                                                     |  |                                                                                               | Depth, Level/<br>(Thickness) | Legend                                                                              | Backfill/<br>Instruments                                                            |  |
| 0.30<br>0.30-0.50<br>0.50<br>0.70-0.90                                                                                                                                                                                                                                                                                         |  | ES 1<br>B 4<br>ES 2<br>B 5               | 0.00-1.00 m Hand excavated<br>inspection pit. |                                                                           |                                           | Dark grey brown slightly silty slightly<br>gravelly fine SAND. Gravel is angular fine to<br>coarse of red shale and limestone.<br>(MADE GROUND) |  |                                                                                               | (0.40)<br>0.40 +17.80        |  |  |  |
| 1.00-1.45<br>1.00<br>1.00-1.45                                                                                                                                                                                                                                                                                                 |  | SPT S<br>ES 3<br>D 6                     | N=43 (13,11/11,10,10,12)                      | 24/02/2011                                                                | dry                                       | Weak light yellow cream LIMESTONE.<br>(CADEBY LIMESTONE)                                                                                        |  |                                                                                               | (1.05)                       |  |  |  |
|                                                                                                                                                                                                                                                                                                                                |  |                                          |                                               |                                                                           |                                           | EXPLORATORY HOLE ENDS AT 1.45 m                                                                                                                 |  |                                                                                               | 1.45 +16.75                  |                                                                                     |                                                                                     |  |
| Depth                                                                                                                                                                                                                                                                                                                          |  | Type & No                                | Records                                       | Date<br>Casing                                                            | Time<br>Water                             |                                                                                                                                                 |  |                                                                                               |                              |                                                                                     |                                                                                     |  |
| Groundwater Entries<br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                                                                                                                                                                                                |  |                                          |                                               |                                                                           | Depth sealed (m)                          |                                                                                                                                                 |  | Depth Related Remarks *<br>From to (m)                                                        |                              |                                                                                     | Chiselling<br>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.<br>Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:41:42<br> |  |                                          |                                               |                                                                           | Project<br>Project No.<br>Carried out for |                                                                                                                                                 |  | FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br>A1008-11<br>Scottish and Southern Energy PLC |                              |                                                                                     | Borehole<br>WS611<br>Sheet 1 of 1                                                   |  |

# Window Sampler Hole Log



Soil Mechanics

|                                                                                                                                                                                |                                    |                                                                                         |                                           |                                                                                  |                                                                                                                     |                                                                               |  |                                                                                                                         |  |                                                 |               |                                        |
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| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                                     |                                    | <b>Start</b> 24/02/2011<br><b>End</b> 24/02/2011                                        |                                           | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                                                                                                                     | <b>Depth from</b> 0.00m <b>to</b> 0.68m <b>Diameter</b> - <b>Casing Depth</b> |  | <b>Ground Level</b> +22.05 mOD<br><b>Coordinates</b> E 447039.82<br><b>National Grid</b> N 425122.27<br><b>Chainage</b> |  |                                                 |               |                                        |
| <b>Samples and Tests</b>                                                                                                                                                       |                                    |                                                                                         |                                           |                                                                                  |                                                                                                                     | <b>Strata</b>                                                                 |  |                                                                                                                         |  |                                                 |               |                                        |
| <b>Depth</b>                                                                                                                                                                   | <b>Type &amp; No</b>               | <b>Records</b>                                                                          | <b>Date</b><br>Casing                     | <b>Time</b><br>Water                                                             | <b>Description</b>                                                                                                  |                                                                               |  |                                                                                                                         |  | <b>Depth, Level</b><br>(Thickness)              | <b>Legend</b> | <b>Backfill/</b><br><b>Instruments</b> |
| 0.30<br>0.30-0.50<br>0.50-0.68<br>0.50-0.67<br>0.50-0.60                                                                                                                       | ES 1<br>B 2<br>SPT S<br>D 3<br>D 4 | 0.00-0.40 m Hand excavated inspection pit.<br><br>50 (18.7 for 15mm/<br>36.14 for 10mm) | 24/02/2011                                | dry                                                                              | TOPSOIL.<br><hr/> Weak light yellow cream LIMESTONE.<br>(CADEBY LIMESTONE)<br><hr/> EXPLORATORY HOLE ENDS AT 0.68 m |                                                                               |  |                                                                                                                         |  | (0.30)<br>0.30 +21.75<br>(0.38)<br>0.68 +21.38  |               |                                        |
| <b>Depth</b>                                                                                                                                                                   | <b>Type &amp; No</b>               | <b>Records</b>                                                                          | <b>Date</b><br>Casing                     | <b>Time</b><br>Water                                                             |                                                                                                                     |                                                                               |  |                                                                                                                         |  |                                                 |               |                                        |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                                         |                                    |                                                                                         | Depth sealed<br>(m)                       |                                                                                  | <b>Depth Related Remarks *</b><br>From to (m)<br>0.68 - Hole terminated on refusal.                                 |                                                                               |  |                                                                                                                         |  | <b>Chiselling</b><br>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.<br>Scale 1:50 |                                    |                                                                                         | Project<br>Project No.<br>Carried out for |                                                                                  | FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br>A1008-11<br>Scottish and Southern Energy PLC                       |                                                                               |  |                                                                                                                         |  | Borehole<br><b>WS612</b><br>Sheet 1 of 1        |               |                                        |



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| Drilled JB<br>Logged BS<br>Checked MT                                                                                                                                                                                                          |  | Start<br>24/02/2011<br>End<br>24/02/2011 |                                            | Equipment, Methods and Remarks<br>Competitor rig.<br>Windowless sampling. |                                                                                                                                   | Depth from 0.00m to 2.16m<br>Diameter -<br>Casing Depth                                                                            |  | Ground Level +21.32 mOD<br>Coordinates E 447063.15<br>National Grid N 425181.77<br>Chainage |                            |                                          |                        |  |
| Samples and Tests                                                                                                                                                                                                                              |  |                                          |                                            |                                                                           | Strata                                                                                                                            |                                                                                                                                    |  |                                                                                             |                            |                                          |                        |  |
| Depth                                                                                                                                                                                                                                          |  | Type & No                                | Records                                    | Date Casing                                                               | Time Water                                                                                                                        | Description                                                                                                                        |  |                                                                                             | Depth, Level / (Thickness) | Legend                                   | Backfill / Instruments |  |
| 0.30<br>0.30-0.50<br>0.50<br>0.70-0.90                                                                                                                                                                                                         |  | ES 1<br>B 4<br>ES 2<br>B 5               | 0.00-1.20 m Hand excavated inspection pit. |                                                                           |                                                                                                                                   | TOPSOIL.                                                                                                                           |  |                                                                                             | 0.25 +21.07                |                                          |                        |  |
| 1.00<br>1.20-1.65<br>1.20-1.65<br>1.20-1.80                                                                                                                                                                                                    |  | ES 3<br>SPT S<br>D 6<br>B 7              | N=18 (2,3/4,4,5,5)                         |                                                                           |                                                                                                                                   | Dark orange brown slightly sandy clayey gravelly fine to coarse SAND. Gravel is angular fine to coarse of limestone and sandstone. |  |                                                                                             | (0.75)                     |                                          |                        |  |
| 1.80-2.16<br>1.80-2.16                                                                                                                                                                                                                         |  | SPT S<br>D 8                             | 50 (7,7/11,13,26 for 60mm)                 | 24/02/2011                                                                | dry                                                                                                                               | Soft light grey pink slightly sandy gravelly CLAY. Gravel is angular fine of limestone.                                            |  |                                                                                             | 1.00 +20.32<br>(0.30)      |                                          |                        |  |
|                                                                                                                                                                                                                                                |  |                                          |                                            |                                                                           |                                                                                                                                   | Weak light yellow cream LIMESTONE. (CADEBY LIMESTONE)                                                                              |  |                                                                                             | 1.30 +20.02                |                                          |                        |  |
|                                                                                                                                                                                                                                                |  |                                          |                                            |                                                                           |                                                                                                                                   |                                                                                                                                    |  |                                                                                             | (0.86)                     |                                          |                        |  |
|                                                                                                                                                                                                                                                |  |                                          |                                            |                                                                           |                                                                                                                                   | EXPLORATORY HOLE ENDS AT 2.16 m                                                                                                    |  |                                                                                             | 2.16 +19.16                |                                          |                        |  |
| Depth                                                                                                                                                                                                                                          |  | Type & No                                | Records                                    | Date Casing                                                               | Time Water                                                                                                                        |                                                                                                                                    |  |                                                                                             |                            |                                          |                        |  |
| Groundwater Entries<br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                                                                                                                |  |                                          |                                            |                                                                           | Depth sealed (m)<br>Depth Related Remarks *<br>From to (m)<br>2.16 - Hole terminated on refusal.                                  |                                                                                                                                    |  |                                                                                             |                            | Chiselling<br>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.<br>Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:42:00<br>AGS |  |                                          |                                            |                                                                           | Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                                                                                    |  |                                                                                             |                            | Borehole<br>WS613<br>Sheet 1 of 1        |                        |  |

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| Drilled<br>Logged<br>Checked                                                                                                                                                                                                                    |  | JB<br>BS<br>MT                | Start<br>22/02/2011<br>End<br>22/02/2011   |                | Equipment, Methods and Remarks<br>Competitor rig.<br>Windowless sampling. |                                                                                                                                                    | Depth from<br>0.00m |  | to<br>7.45m | Diameter<br>- | Casing Depth | Ground Level<br>Coordinates<br>National Grid<br>Chainage |  | +15.02 mOD<br>E 447113.29<br>N 424842.51 |                          |
| Samples and Tests                                                                                                                                                                                                                               |  |                               |                                            |                |                                                                           | Strata                                                                                                                                             |                     |  |             |               |              |                                                          |  |                                          |                          |
| Depth                                                                                                                                                                                                                                           |  | Type & No                     | Records                                    | Date<br>Casing | Time<br>Water                                                             | Description                                                                                                                                        |                     |  |             |               |              | Depth, Level/<br>(Thickness)                             |  | Legend                                   | Backfill/<br>Instruments |
| 0.30<br>0.30-0.50<br>0.50<br>0.50-0.90                                                                                                                                                                                                          |  | ES 1<br>B 4<br>ES 2<br>B 5    | 0.00-1.20 m Hand excavated inspection pit. |                |                                                                           | TOPSOIL.                                                                                                                                           |                     |  |             |               |              | (0.28)<br>0.28 +14.74                                    |  |                                          |                          |
| 1.00<br>1.20-1.65<br>1.20-1.65<br>1.20-2.00                                                                                                                                                                                                     |  | ES 3<br>SPT S<br>D 6<br>B 7   | N=4 (1,2/1,1,1,1)                          |                |                                                                           | Light grey brown silty slightly gravelly fine to medium SAND. Gravel is subangular fine to coarse of limestone.<br>(MADE GROUND)                   |                     |  |             |               |              | (0.72)<br>1.00 +14.02                                    |  |                                          |                          |
| 2.00-2.45<br>2.00-2.45<br>2.00-2.50                                                                                                                                                                                                             |  | SPT S<br>D 8<br>D 9           | N=26 (6,7/11,8,4,3)                        |                |                                                                           | Soft to very soft dark brown slightly sandy slightly gravelly CLAY. Gravel is angular fine to medium of limestone and sandstone.<br>(MADE GROUND)  |                     |  |             |               |              | (0.70)<br>1.70 +13.32                                    |  |                                          |                          |
| 2.50-2.80<br>2.80-3.00                                                                                                                                                                                                                          |  | D 10<br>D 11                  |                                            |                |                                                                           | Medium dense light grey cream slightly silty slightly sandy angular fine to coarse GRAVEL of limestone.<br>(MADE GROUND)                           |                     |  |             |               |              | (0.80)<br>2.50 +12.52                                    |  |                                          |                          |
| 3.00-3.45<br>3.00-3.45<br>3.00-4.00                                                                                                                                                                                                             |  | SPT S<br>D 12<br>D 13         | N=17 (2,3/3,5,4,5)                         |                |                                                                           | Soft dark brown slightly sandy CLAY.                                                                                                               |                     |  |             |               |              | (0.30)<br>2.80 +12.22                                    |  |                                          |                          |
| 4.00-4.45<br>4.00-4.45<br>4.00-4.90                                                                                                                                                                                                             |  | SPT S<br>D 14<br>D 15         | N=14 (2,2/3,2,4,5)                         |                |                                                                           | Soft dark grey black locally mottled grey slightly sandy CLAY with rare subrounded fine to medium gravel of coal and limestone.                    |                     |  |             |               |              | (1.90)<br>3.00 +12.02                                    |  |                                          |                          |
| 4.90-5.00<br>5.00-5.45<br>5.00-5.45<br>5.00-6.00                                                                                                                                                                                                |  | D 16<br>SPT S<br>D 17<br>B 18 | N=16 (4,4/4,4,4,4)                         |                |                                                                           | Firm dark grey locally mottled black slightly sandy CLAY with occasional rootlets.                                                                 |                     |  |             |               |              | (4.90)<br>4.90 +10.12<br>5.00 +10.02                     |  |                                          |                          |
| 6.00-6.45                                                                                                                                                                                                                                       |  | SPT S                         | N=34 (7,8/8,8,8,10)                        |                |                                                                           | Very weak light yellow cream LIMESTONE.<br>(CADEBY LIMESTONE)                                                                                      |                     |  |             |               |              | (2.45)                                                   |  |                                          |                          |
| 7.00-7.45                                                                                                                                                                                                                                       |  | SPT S                         | 50 (5,19/11,14,13,12 for 70mm)             | 22/02/2011     | dry                                                                       | EXPLORARY HOLE ENDS AT 7.45 m                                                                                                                      |                     |  |             |               |              | 7.45 +7.57                                               |  |                                          |                          |
| Depth                                                                                                                                                                                                                                           |  | Type & No                     | Records                                    | Date<br>Casing | Time<br>Water                                                             |                                                                                                                                                    |                     |  |             |               |              |                                                          |  |                                          |                          |
| Groundwater Entries<br>No. Struck Post strike behaviour<br>(m)<br><br>None observed (see Key Sheet)                                                                                                                                             |  |                               |                                            |                |                                                                           | Depth Related Remarks *<br>From to (m)<br>7.45 - Hole terminated on refusal.                                                                       |                     |  |             |               |              | Chiselling<br>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.<br><br>Scale 1:50<br><br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:42:10 |  |                               |                                            |                |                                                                           | Project<br>FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br><br>Project No.<br>A1008-11<br><br>Carried out for<br>Scottish and Southern Energy PLC |                     |  |             |               |              | Borehole<br><br>WS614<br><br>Sheet 1 of 1                |  |                                          |                          |

# Window Sampler Hole Log



Soil Mechanics

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| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                       | <b>Start</b> 22/02/2011<br><b>End</b> 22/02/2011 | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                                                                                                                                                        | <b>Depth from</b> 0.00m<br><b>to</b> 3.45m<br><b>Diameter</b> -<br><b>Casing Depth</b> | <b>Ground Level</b> +13.87 mOD<br><b>Coordinates</b> E 447090.78<br><b>National Grid</b> N 424868.36<br><b>Chainage</b>                                                                           |
| <b>Samples and Tests</b>                                                                                                                                         |                                                  |                                                                                  |                                                                                                                                                        | <b>Strata</b>                                                                          |                                                                                                                                                                                                   |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                             | <b>Records</b>                                                                   | <b>Date Casing</b>                                                                                                                                     | <b>Time Water</b>                                                                      | <b>Description</b>                                                                                                                                                                                |
| 0.30<br>0.30-0.50<br>0.50                                                                                                                                        | ES 1<br>B 4<br>ES 2                              | 0.00-1.20 m Hand excavated inspection pit.                                       |                                                                                                                                                        |                                                                                        | <b>TOPSOIL.</b><br><br>Dark brown grey slightly sandy gravelly fine to coarse SAND with occasional rootlets. Gravel is subrounded to rounded fine to coarse of limestone and brick. (MADE GROUND) |
| 1.00<br>1.20-1.65<br>1.20-1.65<br>1.20-1.80                                                                                                                      | ES 3<br>SPT S<br>D 5<br>B 6                      | N=11 (3,3/2,2,3,4)                                                               |                                                                                                                                                        |                                                                                        | Soft dark brown sandy CLAY with rare subrounded fine to medium gravel of limestone.                                                                                                               |
| 1.80-2.00<br>2.00-2.45<br>2.00-3.00<br>2.00-2.45                                                                                                                 | D 7<br>SPT S<br>B 9<br>D 9                       | N=30 (7,8/8,8,6,8)                                                               |                                                                                                                                                        |                                                                                        | Soft thinly laminated dark red brown slightly sandy CLAY. Light brown dustings of silt along laminae.                                                                                             |
| 3.00-3.45<br>3.00-3.45                                                                                                                                           | SPT S<br>D 10                                    | N=49 (6,6/9,9,14,17)                                                             | 22/02/2011                                                                                                                                             | dry                                                                                    | Very weak light yellow cream LIMESTONE. (CADEBY LIMESTONE)                                                                                                                                        |
| EXPLORATORY HOLE ENDS AT 3.45 m                                                                                                                                  |                                                  |                                                                                  |                                                                                                                                                        |                                                                                        |                                                                                                                                                                                                   |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                           |                                                  |                                                                                  |                                                                                                                                                        |                                                                                        |                                                                                                                                                                                                   |
| <b>Depth Related Remarks *</b><br>From to (m)<br>3.45 - Hole terminated on refusal.                                                                              |                                                  |                                                                                  |                                                                                                                                                        |                                                                                        |                                                                                                                                                                                                   |
| <b>Chiselling</b><br>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. |                                                  |                                                                                  | <b>Project</b> FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br><b>Project No.</b> A1008-11<br><b>Carried out for</b> Scottish and Southern Energy PLC |                                                                                        | <b>Borehole</b><br><b>WS615</b><br>Sheet 1 of 1                                                                                                                                                   |

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| Drilled JB<br>Logged BS<br>Checked MT                                                                                                                                                                                                          |  | Start<br>24/02/2011<br>End<br>24/02/2011   |                                                                                           | Equipment, Methods and Remarks<br>Competitor rig.<br>Windowless sampling. |            | Depth from 0.00m to 0.90m<br>Diameter -<br>Casing Depth                                                                                            |  | Ground Level +15.77 mOD<br>Coordinates E 447067.27<br>National Grid N 424934.49<br>Chainage |                                              |        |                        |
| Samples and Tests                                                                                                                                                                                                                              |  |                                            |                                                                                           |                                                                           | Strata     |                                                                                                                                                    |  |                                                                                             |                                              |        |                        |
| Depth                                                                                                                                                                                                                                          |  | Type & No                                  | Records                                                                                   | Date Casing                                                               | Time Water | Description                                                                                                                                        |  |                                                                                             | Depth, Level / (Thickness)                   | Legend | Backfill / Instruments |
| 0.30<br>0.40-0.50<br>0.50-0.79<br>0.50<br>0.50-0.90<br>0.50-0.90                                                                                                                                                                               |  | ES 1<br>B 3<br>SPT S<br>ES 2<br>D 4<br>D 5 | 0.00-0.50 m Hand excavated inspection pit.<br><br>50 (25 for 60mm/<br>13,15,20,2 for 2mm) | 24/02/2011                                                                | dry        | TOPSOIL.<br><br>Very weak light yellow cream LIMESTONE.<br>(CADEBY LIMESTONE)                                                                      |  |                                                                                             | 0.25 +15.52<br><br>(0.65)<br><br>0.90 +14.87 |        |                        |
|                                                                                                                                                                                                                                                |  |                                            |                                                                                           |                                                                           |            | EXPLORATORY HOLE ENDS AT 0.90 m                                                                                                                    |  |                                                                                             |                                              |        |                        |
| Depth                                                                                                                                                                                                                                          |  | Type & No                                  | Records                                                                                   | Date Casing                                                               | Time Water |                                                                                                                                                    |  |                                                                                             |                                              |        |                        |
| Groundwater Entries<br>No. Struck Post strike behaviour<br>(m)<br><br>None observed (see Key Sheet)                                                                                                                                            |  |                                            |                                                                                           | Depth sealed (m)                                                          |            | Depth Related Remarks *<br>From to (m)<br>0.90 - Hole terminated on refusal.                                                                       |  |                                                                                             | Chiselling<br>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.<br>Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:42:32<br>AGS |  |                                            |                                                                                           |                                                                           |            | Project<br>FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br><br>Project No.<br>A1008-11<br><br>Carried out for<br>Scottish and Southern Energy PLC |  |                                                                                             | Borehole<br><br>WS616<br><br>Sheet 1 of 1    |        |                        |

# Window Sampler Hole Log



Soil Mechanics

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| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                       |                                    | <b>Start</b> 22/02/2011<br><b>End</b> 22/02/2011                       |                                                                                                                                   | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                                                                                   | <b>Depth from</b> 0.00m <b>to</b> 1.30m <b>Diameter</b> - <b>Casing Depth</b> |                                                 | <b>Ground Level</b> +16.45 mOD<br><b>Coordinates</b> E 447122.78<br><b>National Grid</b> N 424998.99<br><b>Chainage</b> |                                        |
| <b>Samples and Tests</b>                                                                                                                                         |                                    |                                                                        |                                                                                                                                   |                                                                                  |                                                                                   | <b>Strata</b>                                                                 |                                                 |                                                                                                                         |                                        |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>               | <b>Records</b>                                                         | <b>Date</b><br>Casing                                                                                                             | <b>Time</b><br>Water                                                             | <b>Description</b>                                                                |                                                                               | <b>Depth, Level</b><br>(Thickness)              | <b>Legend</b>                                                                                                           | <b>Backfill/</b><br><b>Instruments</b> |
| 0.30<br>0.30-0.40<br>0.40-0.85<br>0.40-1.00                                                                                                                      | ES 1<br>B 2<br>SPT S<br>D 3<br>B 4 | 0.00-0.40 m Hand excavated inspection pit.<br><br>N=40 (4,7/9,9,10,12) | 22/02/2011                                                                                                                        | dry                                                                              | TOPSOIL.                                                                          | (0.30)                                                                        |                                                 |                                                                                                                         |                                        |
| 1.00-1.30<br>1.00-1.30                                                                                                                                           | SPT S<br>D 5                       | 50 (12,12/24,26 for 70mm)                                              |                                                                                                                                   |                                                                                  | Very weak light yellow cream LIMESTONE.<br>(CADEBY LIMESTONE)                     | (1.00)                                                                        |                                                 |                                                                                                                         |                                        |
|                                                                                                                                                                  |                                    |                                                                        |                                                                                                                                   |                                                                                  | EXPLORATORY HOLE ENDS AT 1.30 m                                                   |                                                                               | 1.30 +15.15                                     |                                                                                                                         |                                        |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>               | <b>Records</b>                                                         | <b>Date</b><br>Casing                                                                                                             | <b>Time</b><br>Water                                                             |                                                                                   |                                                                               |                                                 |                                                                                                                         |                                        |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                           |                                    |                                                                        | Depth sealed (m)                                                                                                                  |                                                                                  | <b>Depth Related Remarks *</b><br>From to (m)<br>1.30 Hole terminated on refusal. |                                                                               | <b>Chiselling</b><br>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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                                  |                                                                                   |                                                                               | Borehole<br><b>WS617</b><br>Sheet 1 of 1        |                                                                                                                         |                                        |

# Window Sampler Hole Log



Soil Mechanics

|                                                                                                                                                                  |                                                        |                                                                                  |                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                       | <b>Start</b><br>21/02/2011<br><b>End</b><br>21/02/2011 | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                                                                                                                                   | <b>Depth from</b> 0.00m <b>to</b> 1.70m<br><b>Diameter</b> -<br><b>Casing Depth</b> | <b>Ground Level</b> +15.74 mOD<br><b>Coordinates</b> E 447179.97<br><b>National Grid</b> N 425058.10<br><b>Chainage</b>                                                                                                                                                                |
| <b>Samples and Tests</b>                                                                                                                                         |                                                        |                                                                                  |                                                                                                                                   | <b>Strata</b>                                                                       |                                                                                                                                                                                                                                                                                        |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                                   | <b>Records</b>                                                                   | <b>Date</b><br>Casing                                                                                                             | <b>Time</b><br>Water                                                                | <b>Description</b>                                                                                                                                                                                                                                                                     |
| 0.30<br>0.30-0.80<br>0.50                                                                                                                                        | ES 1<br>B 4<br>ES 2                                    | 0.00-1.20 m Hand excavated inspection pit.                                       |                                                                                                                                   |                                                                                     | TOPSOIL.                                                                                                                                                                                                                                                                               |
| 1.00<br>1.00-1.20<br>1.20-1.61<br>1.20-1.65<br>1.20-1.70                                                                                                         | ES 3<br>B 5<br>SPT S<br>D 6<br>D 7                     | 50 (4,5/8,10,16,16 for 35mm)                                                     | 21/02/2011                                                                                                                        |                                                                                     | Dark red brown slightly clayey gravelly fine to coarse SAND with low cobble content. Gravel is angular to subangular fine to coarse of limestone and red shale. Cobbles are subrounded of limestone.<br>(MADE GROUND)<br>Very weak light yellow cream LIMESTONE.<br>(CADEBY LIMESTONE) |
| EXPLORATORY HOLE ENDS AT 1.70 m                                                                                                                                  |                                                        |                                                                                  |                                                                                                                                   |                                                                                     |                                                                                                                                                                                                                                                                                        |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                                   | <b>Records</b>                                                                   | <b>Date</b><br>Casing                                                                                                             | <b>Time</b><br>Water                                                                |                                                                                                                                                                                                                                                                                        |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                           |                                                        |                                                                                  | Depth sealed (m)<br>1.70                                                                                                          |                                                                                     | Depth Related Remarks *<br>From to (m)<br>1.70 Hole terminated on refusal.                                                                                                                                                                                                             |
| 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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                                     | Borehole<br><b>WS618</b><br>Sheet 1 of 1                                                                                                                                                                                                                                               |

# Window Sampler Hole Log



Soil Mechanics

|                                                                                                                                                                  |                      |                                                  |                       |                                                                                  |                                                                                                                                   |                                                                                 |                                                                                   |                                                                                                                         |                                                 |                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------------|-----------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------|
| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                       |                      | <b>Start</b> 21/02/2011<br><b>End</b> 21/02/2011 |                       | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                                                                                                                                   | <b>Depth from</b> 0.00m <b>to</b> 1.65m <b>Diameter</b> - <b>Casing Depth</b> - |                                                                                   | <b>Ground Level</b> +14.63 mOD<br><b>Coordinates</b> E 447241.97<br><b>National Grid</b> N 425095.23<br><b>Chainage</b> |                                                 |                                        |
| <b>Samples and Tests</b>                                                                                                                                         |                      |                                                  |                       |                                                                                  | <b>Strata</b>                                                                                                                     |                                                                                 |                                                                                   |                                                                                                                         |                                                 |                                        |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b> | <b>Records</b>                                   | <b>Date</b><br>Casing | <b>Time</b><br>Water                                                             | <b>Description</b>                                                                                                                |                                                                                 |                                                                                   | <b>Depth, Level</b><br>(Thickness)                                                                                      | <b>Legend</b>                                   | <b>Backfill/</b><br><b>Instruments</b> |
| 0.30<br>0.30-0.50<br>0.50                                                                                                                                        | ES 1<br>B 4<br>ES 2  | 0.00-1.20 m Hand excavated inspection pit.       |                       |                                                                                  | TOPSOIL.                                                                                                                          |                                                                                 |                                                                                   | 0.20 +14.43                                                                                                             |                                                 |                                        |
|                                                                                                                                                                  |                      |                                                  |                       |                                                                                  | Firm to stiff dark brown mottled grey slightly sandy CLAY.                                                                        |                                                                                 |                                                                                   | 0.40 +14.23                                                                                                             |                                                 |                                        |
| 0.80-1.20                                                                                                                                                        | B 5                  |                                                  |                       |                                                                                  | Firm to stiff light yellow cream slightly sandy CLAY. Locally grading to clayey sand.                                             |                                                                                 |                                                                                   | (0.40)                                                                                                                  |                                                 |                                        |
| 1.00                                                                                                                                                             | ES 3                 |                                                  |                       |                                                                                  | Very weak light yellow cream LIMESTONE. (CADEBY LIMESTONE)                                                                        |                                                                                 |                                                                                   | 0.80 +13.83                                                                                                             |                                                 |                                        |
| 1.20-1.65<br>1.20-1.65<br>1.20-1.65                                                                                                                              | SPT S<br>D 6<br>B 7  | N=50 (3,3/5,12,15,18)                            | 21/02/2011            | dry                                                                              |                                                                                                                                   |                                                                                 |                                                                                   | (0.85)                                                                                                                  |                                                 |                                        |
|                                                                                                                                                                  |                      |                                                  |                       |                                                                                  | EXPLORATORY HOLE ENDS AT 1.65 m                                                                                                   |                                                                                 |                                                                                   | 1.65 +12.98                                                                                                             |                                                 |                                        |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b> | <b>Records</b>                                   | <b>Date</b><br>Casing | <b>Time</b><br>Water                                                             |                                                                                                                                   |                                                                                 |                                                                                   |                                                                                                                         |                                                 |                                        |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                           |                      |                                                  |                       |                                                                                  | Depth sealed (m)                                                                                                                  |                                                                                 | <b>Depth Related Remarks *</b><br>From to (m)<br>1.65 Hole terminated on refusal. |                                                                                                                         | <b>Chiselling</b><br>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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                                 | Borehole<br><b>WS619</b><br>Sheet 1 of 1                                          |                                                                                                                         |                                                 |                                        |

# Window Sampler Hole Log



Soil Mechanics

|                                                                                                                                                                  |                                                  |                                                                                  |                                                                                                                                   |                                                                                        |                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                       | <b>Start</b> 21/02/2011<br><b>End</b> 21/02/2011 | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                                                                                                                                   | <b>Depth from</b> 0.00m<br><b>to</b> 3.45m<br><b>Diameter</b> -<br><b>Casing Depth</b> | <b>Ground Level</b> +14.47 mOD<br><b>Coordinates</b> E 447335.81<br><b>National Grid</b> N 425164.50<br><b>Chainage</b>                                                                                                                                                           |
| <b>Samples and Tests</b>                                                                                                                                         |                                                  |                                                                                  |                                                                                                                                   | <b>Strata</b>                                                                          |                                                                                                                                                                                                                                                                                   |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                             | <b>Records</b>                                                                   | <b>Date Casing</b>                                                                                                                | <b>Time Water</b>                                                                      | <b>Description</b>                                                                                                                                                                                                                                                                |
| 0.30<br>0.30-0.50<br>0.50                                                                                                                                        | ES 1<br>B 4<br>ES 2                              | 0.00-1.20 m Hand excavated inspection pit.                                       |                                                                                                                                   |                                                                                        | <b>TOPSOIL.</b><br><br>Dark red brown slightly clayey gravelly fine to coarse SAND with low cobble content. Gravel is angular to subangular fine to coarse of limestone, red shale and sandstone. Cobbles are subrounded of limestone up to 80mm in size.<br><b>(MADE GROUND)</b> |
| 0.80-1.00<br>1.00                                                                                                                                                | B 5<br>ES 3                                      |                                                                                  |                                                                                                                                   |                                                                                        |                                                                                                                                                                                                                                                                                   |
| 1.20-1.65<br>1.20-1.65<br>1.20-1.80                                                                                                                              | SPT S<br>D 6<br>B 7                              | N=32 (6,6/8,8,8,8)                                                               |                                                                                                                                   |                                                                                        | Very weak light yellow cream LIMESTONE.<br><b>(CADEBY LIMESTONE)</b>                                                                                                                                                                                                              |
| 1.80-2.25<br>1.80-2.25<br>1.80-3.00                                                                                                                              | SPT S<br>D 8<br>B 9                              | N=22 (5,6/5,5,6,6)                                                               |                                                                                                                                   |                                                                                        |                                                                                                                                                                                                                                                                                   |
| 3.00-3.45<br>3.00-3.45                                                                                                                                           | SPT S<br>D 10                                    | N=47 (13,12/12,12,11,12)                                                         | 21/02/2011                                                                                                                        | dry                                                                                    | 2.70-3.00 m mottled pink                                                                                                                                                                                                                                                          |
| EXPLORATORY HOLE ENDS AT 3.45 m                                                                                                                                  |                                                  |                                                                                  |                                                                                                                                   |                                                                                        |                                                                                                                                                                                                                                                                                   |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                             | <b>Records</b>                                                                   | <b>Date Casing</b>                                                                                                                | <b>Time Water</b>                                                                      |                                                                                                                                                                                                                                                                                   |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                           |                                                  |                                                                                  | Depth sealed (m)                                                                                                                  |                                                                                        | <b>Depth Related Remarks *</b><br>From to (m)<br>3.45 Hole terminated on refusal.                                                                                                                                                                                                 |
| 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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                                        | Borehole<br><b>WS620</b><br>Sheet 1 of 1                                                                                                                                                                                                                                          |
| Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:43:07                                                                                              |                                                  |                                                                                  |                                                                                                                                   |                                                                                        |                                                                                                                                                                                                                                                                                   |



# Window Sampler Hole Log



Soil Mechanics

| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                                                                                   | <b>Start</b><br>01/03/2011<br><b>End</b><br>01/03/2011 | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                    | <b>Depth from</b> 0.00m<br><b>to</b> 4.45m<br><b>Diameter</b> -<br><b>Casing Depth</b>                                                                 | <b>Ground Level</b> +14.26 mOD<br><b>Coordinates</b> E 447470.53<br><b>National Grid</b> N 425265.73<br><b>Chainage</b>                                                                                                           |     |            |                       |                  |                               |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------|-----------------------|------------------|-------------------------------|--|--|--|
| <b>Samples and Tests</b>                                                                                                                                                                                                     |                                                        |                                                                                  |                    | <b>Strata</b>                                                                                                                                          |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| <b>Depth</b>                                                                                                                                                                                                                 | <b>Type &amp; No</b>                                   | <b>Records</b>                                                                   | <b>Date Casing</b> | <b>Time Water</b>                                                                                                                                      | <b>Description</b>                                                                                                                                                                                                                |     |            |                       |                  |                               |  |  |  |
| 0.00-0.50                                                                                                                                                                                                                    | B 4                                                    | 0.00-1.20 m Hand excavated inspection pit.                                       |                    |                                                                                                                                                        | Firm locally soft dark grey brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is angular to subangular fine to coarse of limestone, red shale and brick. Cobbles are subangular of brick. (MADE GROUND) |     |            |                       |                  |                               |  |  |  |
| 0.30                                                                                                                                                                                                                         | ES 1                                                   |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| 0.50                                                                                                                                                                                                                         | ES 2                                                   |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| 0.50-1.20                                                                                                                                                                                                                    | B 5                                                    |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| 1.00                                                                                                                                                                                                                         | ES 3                                                   |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| 1.20-1.65                                                                                                                                                                                                                    | SPT S                                                  | N=18 (2,2/2,4,5,7)                                                               |                    |                                                                                                                                                        | Firm dark brown mottled grey slightly sandy slightly gravelly CLAY with high cobble content. Gravel is angular fine to medium of sandstone and limestone. Cobbles are subrounded of limestone. (MADE GROUND)                      |     |            |                       |                  |                               |  |  |  |
| 1.20-1.65                                                                                                                                                                                                                    | D 6                                                    |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| 1.20-1.80                                                                                                                                                                                                                    | B 8                                                    |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| 1.80                                                                                                                                                                                                                         | ES 7                                                   |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| 2.00-2.45                                                                                                                                                                                                                    | SPT S                                                  | N=38 (6,9/10,10,9,9)                                                             |                    |                                                                                                                                                        | Extremely weak light yellow white LIMESTONE. Recovered as silty sand. (CADEBY LIMESTONE)                                                                                                                                          |     |            |                       |                  |                               |  |  |  |
| 2.00-3.00                                                                                                                                                                                                                    | B 11                                                   |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| 2.00-2.45                                                                                                                                                                                                                    | D 9                                                    |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| 2.80                                                                                                                                                                                                                         | ES 10                                                  |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| 3.00-3.45                                                                                                                                                                                                                    | SPT S                                                  | N=5 (3,1/1,2,1,1)                                                                |                    |                                                                                                                                                        | Weak to extremely weak light grey white LIMESTONE. Locally recovered as gravelly clay. (CADEBY LIMESTONE)                                                                                                                         |     |            |                       |                  |                               |  |  |  |
| 3.00-3.45                                                                                                                                                                                                                    | D 12                                                   |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| 3.00-4.00                                                                                                                                                                                                                    | B 13                                                   |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| 4.00-4.43                                                                                                                                                                                                                    | SPT S                                                  | 50 (7,7/7,10,20,13 for 50mm)                                                     |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| 4.00-4.45                                                                                                                                                                                                                    | D 14                                                   |                                                                                  | 01/03/2011         | dry                                                                                                                                                    |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| EXPLORATORY HOLE ENDS AT 4.45 m                                                                                                                                                                                              |                                                        |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| <b>Groundwater Entries</b><br><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">None observed (see Key Sheet)</td> </tr> </table> |                                                        |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   | No. | Struck (m) | Post strike behaviour | Depth sealed (m) | None observed (see Key Sheet) |  |  |  |
| No.                                                                                                                                                                                                                          | Struck (m)                                             | Post strike behaviour                                                            | Depth sealed (m)   |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| None observed (see Key Sheet)                                                                                                                                                                                                |                                                        |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| <b>Depth Related Remarks *</b><br>From to (m)<br>4.45 - Hole terminated on refusal.                                                                                                                                          |                                                        |                                                                                  |                    | <b>Chiselling</b><br>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.                                                             |                                                        |                                                                                  |                    | <b>Borehole</b><br><b>WS621</b><br>Sheet 1 of 1                                                                                                        |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |
| Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:43:16                                                                                                                                                          |                                                        |                                                                                  |                    | <b>Project</b> FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br><b>Project No.</b> A1008-11<br><b>Carried out for</b> Scottish and Southern Energy PLC |                                                                                                                                                                                                                                   |     |            |                       |                  |                               |  |  |  |

# Window Sampler Hole Log



Soil Mechanics

| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                                                                               | <b>Start</b> 28/02/2011<br><b>End</b> 28/02/2011 | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                    | <b>Depth from</b> 0.00m<br><b>to</b> 6.45m<br><b>Diameter</b> -<br><b>Casing Depth</b>                                                                 | <b>Ground Level</b> +12.97 mOD<br><b>Coordinates</b> E 447527.84<br><b>National Grid</b> N 425252.09<br><b>Chainage</b>                              |     |            |                       |                  |   |      |   |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------|-----------------------|------------------|---|------|---|---|
| <b>Samples and Tests</b>                                                                                                                                                                                                 |                                                  |                                                                                  |                    | <b>Strata</b>                                                                                                                                          |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| <b>Depth</b>                                                                                                                                                                                                             | <b>Type &amp; No</b>                             | <b>Records</b>                                                                   | <b>Date Casing</b> | <b>Time Water</b>                                                                                                                                      | <b>Description</b>                                                                                                                                   |     |            |                       |                  |   |      |   |   |
| 0.30                                                                                                                                                                                                                     | ES 1                                             | 0.00-1.20 m Hand excavated inspection pit.                                       |                    |                                                                                                                                                        | TOPSOIL.                                                                                                                                             |     |            |                       |                  |   |      |   |   |
| 0.50                                                                                                                                                                                                                     | ES 2                                             |                                                                                  |                    |                                                                                                                                                        | Dark grey brown silty slightly gravelly fine to medium SAND with occasional rootlets. Gravel is angular fine to coarse of sandstone and limestone.   |     |            |                       |                  |   |      |   |   |
| 0.70-1.20                                                                                                                                                                                                                | B 4                                              |                                                                                  |                    |                                                                                                                                                        | 0.50 m orange brown                                                                                                                                  |     |            |                       |                  |   |      |   |   |
| 1.00                                                                                                                                                                                                                     | ES 3                                             |                                                                                  |                    |                                                                                                                                                        | Soft to firm dark orange brown locally mottled cream slightly gravelly very sandy CLAY. Gravel is angular fine to coarse of sandstone and limestone. |     |            |                       |                  |   |      |   |   |
| 1.20-1.65                                                                                                                                                                                                                | SPT S                                            | N=10 (2,2/2,2,3,3)                                                               |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 1.20-1.65                                                                                                                                                                                                                | D 5                                              |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 1.20-2.00                                                                                                                                                                                                                | B 6                                              |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 2.00-2.45                                                                                                                                                                                                                | SPT S                                            | N=6 (1,1/2,1,3,-)                                                                |                    |                                                                                                                                                        | 2.00-2.80 m very gravelly                                                                                                                            |     |            |                       |                  |   |      |   |   |
| 2.00-2.45                                                                                                                                                                                                                | D 7                                              |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 2.00-2.80                                                                                                                                                                                                                | B 8                                              |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 2.80-3.00                                                                                                                                                                                                                | D 9                                              |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 3.00-3.45                                                                                                                                                                                                                | SPT S                                            | N=31 (5,5/5,8,8,10)                                                              |                    |                                                                                                                                                        | Extremely weak light grey white LIMESTONE. Locally grading to firm to stiff clay. (CADEBY LIMESTONE)                                                 |     |            |                       |                  |   |      |   |   |
| 3.00-3.45                                                                                                                                                                                                                | D 10                                             |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 3.00-4.00                                                                                                                                                                                                                | B 11                                             |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 4.00-4.45                                                                                                                                                                                                                | SPT S                                            | N=16 (3,2/2,3,4,7)                                                               |                    |                                                                                                                                                        | Weak light yellow cream LIMESTONE. Locally recovered as sandy gravel. (CADEBY LIMESTONE)                                                             |     |            |                       |                  |   |      |   |   |
| 4.00-4.45                                                                                                                                                                                                                | D 12                                             |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 4.00-5.00                                                                                                                                                                                                                | B 13                                             |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 5.00-5.45                                                                                                                                                                                                                | SPT S                                            | N=29 (4,4/7,6,8,8)                                                               |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 5.00-5.45                                                                                                                                                                                                                | D 14                                             |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 5.00-6.00                                                                                                                                                                                                                | B 15                                             |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 6.00-6.43                                                                                                                                                                                                                | SPT S                                            | 50 (6,8/7,14,18,11 for 50mm)                                                     |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 6.00-6.45                                                                                                                                                                                                                | D 16                                             |                                                                                  | 28/02/2011         |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| EXPLORATORY HOLE ENDS AT 6.45 m                                                                                                                                                                                          |                                                  |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| <b>Groundwater Entries</b><br><table border="1"> <tr> <th>No.</th> <th>Struck (m)</th> <th>Post strike behaviour</th> <th>Depth sealed (m)</th> </tr> <tr> <td>1</td> <td>4.00</td> <td>-</td> <td>-</td> </tr> </table> |                                                  |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      | No. | Struck (m) | Post strike behaviour | Depth sealed (m) | 1 | 4.00 | - | - |
| No.                                                                                                                                                                                                                      | Struck (m)                                       | Post strike behaviour                                                            | Depth sealed (m)   |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| 1                                                                                                                                                                                                                        | 4.00                                             | -                                                                                | -                  |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| <b>Depth Related Remarks *</b><br>From 6.45 to (m) - Hole terminated on refusal.                                                                                                                                         |                                                  |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| <b>Chiselling</b><br>Depths (m) Time Tools used                                                                                                                                                                          |                                                  |                                                                                  |                    |                                                                                                                                                        |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| <b>Notes:</b> For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.                                                  |                                                  |                                                                                  |                    | <b>Project</b> FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br><b>Project No.</b> A1008-11<br><b>Carried out for</b> Scottish and Southern Energy PLC |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |
| Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:43:25                                                                                                                                                      |                                                  |                                                                                  |                    | <b>Borehole</b> WS622<br>Sheet 1 of 1                                                                                                                  |                                                                                                                                                      |     |            |                       |                  |   |      |   |   |

# Window Sampler Hole Log



Soil Mechanics

|                                                                                                                                                                  |                                                  |                                                                                  |                    |                                                                                                                                   |                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                       | <b>Start</b> 24/02/2011<br><b>End</b> 24/02/2011 | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                    | <b>Depth from</b> 0.00m<br><b>to</b> 3.45m<br><b>Diameter</b> -<br><b>Casing Depth</b>                                            | <b>Ground Level</b> +14.23 mOD<br><b>Coordinates</b> E 447105.49<br><b>National Grid</b> N 424892.52<br><b>Chainage</b> |
| <b>Samples and Tests</b>                                                                                                                                         |                                                  |                                                                                  |                    | <b>Strata</b>                                                                                                                     |                                                                                                                         |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                             | <b>Records</b>                                                                   | <b>Date Casing</b> | <b>Time Water</b>                                                                                                                 | <b>Description</b>                                                                                                      |
| 0.30                                                                                                                                                             | ES 1                                             | 0.00-1.20 m Hand excavated inspection pit.                                       |                    |                                                                                                                                   | TOPSOIL.                                                                                                                |
| 0.30-0.50                                                                                                                                                        | B 4                                              |                                                                                  |                    |                                                                                                                                   |                                                                                                                         |
| 0.50                                                                                                                                                             | ES 2                                             |                                                                                  |                    |                                                                                                                                   | Dark red brown slightly sandy angular fine to coarse GRAVEL of red shale.                                               |
| 0.70-0.90                                                                                                                                                        | B 5                                              |                                                                                  |                    |                                                                                                                                   | (MADE GROUND)                                                                                                           |
| 1.00                                                                                                                                                             | ES 3                                             |                                                                                  |                    |                                                                                                                                   | Soft light brown pink sandy CLAY.                                                                                       |
| 1.20-1.65                                                                                                                                                        | SPT S                                            | N=26 (2,2/4,6,8,8)                                                               |                    |                                                                                                                                   |                                                                                                                         |
| 1.20-1.65                                                                                                                                                        | D 6                                              |                                                                                  |                    |                                                                                                                                   |                                                                                                                         |
| 1.20-2.00                                                                                                                                                        | B 7                                              |                                                                                  |                    |                                                                                                                                   | Weak light yellow cream LIMESTONE. (CADEBY LIMESTONE)                                                                   |
| 2.00-2.45                                                                                                                                                        | SPT S                                            | N=35 (4,4/5,10,11,9)                                                             |                    |                                                                                                                                   |                                                                                                                         |
| 2.00-2.45                                                                                                                                                        | D 8                                              |                                                                                  |                    |                                                                                                                                   |                                                                                                                         |
| 2.00-3.00                                                                                                                                                        | B 9                                              |                                                                                  |                    |                                                                                                                                   |                                                                                                                         |
| 3.00-3.42                                                                                                                                                        | SPT S                                            | 50 (8,14/13,15,13,9 for 40mm)                                                    |                    |                                                                                                                                   |                                                                                                                         |
| 3.00-3.45                                                                                                                                                        | D 10                                             |                                                                                  | 24/02/2011         | dry                                                                                                                               |                                                                                                                         |
| EXPLORATORY HOLE ENDS AT 3.45 m                                                                                                                                  |                                                  |                                                                                  |                    |                                                                                                                                   |                                                                                                                         |
| Groundwater Entries                                                                                                                                              |                                                  |                                                                                  |                    |                                                                                                                                   |                                                                                                                         |
| No.                                                                                                                                                              | Struck (m)                                       | Post strike behaviour                                                            | Depth sealed (m)   | Depth Related Remarks *                                                                                                           |                                                                                                                         |
|                                                                                                                                                                  |                                                  |                                                                                  |                    | From                                                                                                                              | to (m)                                                                                                                  |
|                                                                                                                                                                  |                                                  |                                                                                  |                    | 3.45                                                                                                                              | - Hole terminated on refusal.                                                                                           |
| None observed (see Key Sheet)                                                                                                                                    |                                                  |                                                                                  |                    |                                                                                                                                   |                                                                                                                         |
|                                                                                                                                                                  |                                                  |                                                                                  |                    | 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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                                                                         |
| Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:43:36                                                                                              |                                                  |                                                                                  |                    | Borehole WS623<br>Sheet 1 of 1                                                                                                    |                                                                                                                         |

# Window Sampler Hole Log



Soil Mechanics

|                                                                                                                                                                                                                                         |                                                               |                                                                                        |                                                                                                                                   |                                                                                        |                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                                                                                              | <b>Start</b> 22/02/2011<br><b>End</b> 22/02/2011              | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling.       |                                                                                                                                   | <b>Depth from</b> 0.00m<br><b>to</b> 1.70m<br><b>Diameter</b> -<br><b>Casing Depth</b> | <b>Ground Level</b> +17.20 mOD<br><b>Coordinates</b> E 447155.14<br><b>National Grid</b> N 425079.80<br><b>Chainage</b>                                                                                              |
| <b>Samples and Tests</b>                                                                                                                                                                                                                |                                                               |                                                                                        |                                                                                                                                   | <b>Strata</b>                                                                          |                                                                                                                                                                                                                      |
| <b>Depth</b>                                                                                                                                                                                                                            | <b>Type &amp; No</b>                                          | <b>Records</b>                                                                         | <b>Date</b><br>Casing                                                                                                             | <b>Time</b><br>Water                                                                   | <b>Description</b>                                                                                                                                                                                                   |
| 0.30<br>0.30-0.50<br>0.50<br>0.70-1.00<br><br>1.00<br>1.20-1.65<br>1.20-1.65<br>1.20-1.70                                                                                                                                               | ES 1<br>B 4<br>ES 2<br>B 5<br><br>ES 3<br>SPT S<br>D 6<br>D 7 | 0.00-1.20 m Hand excavated inspection pit.<br><br><br><br><br><br>N=46 (3,3/4,8,16,18) | 22/02/2011                                                                                                                        | dry                                                                                    | TOPSOIL.<br><br>Dark grey brown slightly sandy slightly gravelly SILT. Gravel is angular fine of sandstone, limestone and red shale. (MADE GROUND)<br><br>Very weak light yellow cream LIMESTONE. (CADEBY LIMESTONE) |
|                                                                                                                                                                                                                                         |                                                               |                                                                                        |                                                                                                                                   |                                                                                        | Depth, Level / (Thickness)<br>0.20 +17.00<br>(0.85)<br>1.05 +16.15<br>(0.65)<br>1.70 +15.50                                                                                                                          |
|                                                                                                                                                                                                                                         |                                                               |                                                                                        |                                                                                                                                   |                                                                                        | Legend<br>Backfill/ Instruments                                                                                                                                                                                      |
| EXPLORATORY HOLE ENDS AT 1.70 m                                                                                                                                                                                                         |                                                               |                                                                                        |                                                                                                                                   |                                                                                        |                                                                                                                                                                                                                      |
| <b>Depth</b>                                                                                                                                                                                                                            | <b>Type &amp; No</b>                                          | <b>Records</b>                                                                         | <b>Date</b><br>Casing                                                                                                             | <b>Time</b><br>Water                                                                   |                                                                                                                                                                                                                      |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                                                                                                  |                                                               |                                                                                        | Depth sealed (m)                                                                                                                  |                                                                                        | Depth Related Remarks *<br>From to (m)<br>1.70 Hole terminated on refusal.                                                                                                                                           |
| Chiselling<br>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.<br>Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:43:45 |                                                               |                                                                                        | Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                                        | Borehole<br><b>WS624</b><br>Sheet 1 of 1                                                                                                                                                                             |

# Window Sampler Hole Log



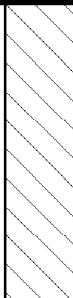
Soil Mechanics

| <b>Drilled</b> CS<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                                                                                                                 | <b>Start</b><br>28/01/2011<br><b>End</b><br>28/01/2011 | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                    |                   |                                                                                                                                                                   | <b>Depth from</b> 0.00m <b>to</b> 5.45m <b>Diameter</b> - <b>Casing Depth</b> - | <b>Ground Level</b> +14.21 mOD<br><b>Coordinates</b> E 447261.14 N 425072.30<br><b>Chainage</b> |                              |   |      |   |   |                                                                                     |  |                                                 |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------|--------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------|---|------|---|---|-------------------------------------------------------------------------------------|--|-------------------------------------------------|--|
| <b>Samples and Tests</b>                                                                                                                                                                                                                                   |                                                        |                                                                                  |                    |                   | <b>Strata</b>                                                                                                                                                     |                                                                                 |                                                                                                 |                              |   |      |   |   |                                                                                     |  |                                                 |  |
| <b>Depth</b>                                                                                                                                                                                                                                               | <b>Type &amp; No</b>                                   | <b>Records</b>                                                                   | <b>Date Casing</b> | <b>Time Water</b> | <b>Description</b>                                                                                                                                                | <b>Depth, Level (Thickness)</b>                                                 | <b>Legend</b>                                                                                   | <b>Backfill/ Instruments</b> |   |      |   |   |                                                                                     |  |                                                 |  |
| 0.20-0.60<br>0.30<br>0.50<br>0.60-1.20                                                                                                                                                                                                                     | B 4<br>ES 1<br>ES 2<br>B 5                             | 0.00-1.20 m Hand excavated inspection pit.                                       |                    |                   | Limestone HARDCORE.<br>(MADE GROUND)                                                                                                                              | 0.20 +14.01                                                                     |                                                                                                 |                              |   |      |   |   |                                                                                     |  |                                                 |  |
|                                                                                                                                                                                                                                                            |                                                        |                                                                                  |                    |                   | Firm dark orange brown sandy slightly gravelly CLAY. Gravel is angular fine to coarse of red shale, limestone and brick.                                          | (0.40)                                                                          |                                                                                                 |                              |   |      |   |   |                                                                                     |  |                                                 |  |
|                                                                                                                                                                                                                                                            |                                                        |                                                                                  |                    |                   |                                                                                                                                                                   | 0.60 +13.61                                                                     |                                                                                                 |                              |   |      |   |   |                                                                                     |  |                                                 |  |
| 1.00<br>1.20-1.65<br>1.20-1.65<br>1.20-2.00                                                                                                                                                                                                                | ES 3<br>SPT S<br>D 6<br>B 7                            | N=13 (2,3/3,3,3,4)                                                               |                    |                   | Firm locally stiff locally thinly laminated dark red brown slightly sandy slightly gravelly CLAY. Gravel is subangular fine to medium of limestone and sandstone. | (2.20)                                                                          |                                                                                                 |                              |   |      |   |   |                                                                                     |  |                                                 |  |
| 2.00-2.45<br>2.00-2.45<br>2.00-2.80                                                                                                                                                                                                                        | SPT S<br>D 8<br>B 9                                    | N=17 (3,3/2,4,5,6)                                                               |                    |                   |                                                                                                                                                                   |                                                                                 |                                                                                                 |                              |   |      |   |   |                                                                                     |  |                                                 |  |
| 2.80-3.00<br>3.00-3.45<br>3.00-3.45<br>3.00-4.00                                                                                                                                                                                                           | D 10<br>SPT S<br>D 11<br>B 12                          | N=10 (2,2/2,2,3,3)                                                               |                    |                   | Extremely weak light yellow cream LIMESTONE.<br>Recovered as silty fine sand.<br>(CADEBY LIMESTONE)                                                               | 2.80 +11.41                                                                     |                                                                                                 |                              |   |      |   |   |                                                                                     |  |                                                 |  |
| 4.00-4.45<br>4.00-4.45<br>4.00-5.00                                                                                                                                                                                                                        | SPT S<br>D 13<br>B 14                                  | N=16 (2,2/4,4,4,4)                                                               |                    |                   |                                                                                                                                                                   | (2.65)                                                                          |                                                                                                 |                              |   |      |   |   |                                                                                     |  |                                                 |  |
| 5.00-5.45<br>5.00-5.45                                                                                                                                                                                                                                     | SPT S<br>D 15                                          | N=68 (4,4/5,6,7,50)                                                              | 28/01/2011         | dry               |                                                                                                                                                                   |                                                                                 |                                                                                                 |                              |   |      |   |   |                                                                                     |  |                                                 |  |
|                                                                                                                                                                                                                                                            |                                                        |                                                                                  |                    |                   | EXPLORATORY HOLE ENDS AT 5.45 m                                                                                                                                   | 5.45 +8.76                                                                      |                                                                                                 |                              |   |      |   |   |                                                                                     |  |                                                 |  |
| <b>Depth</b>                                                                                                                                                                                                                                               | <b>Type &amp; No</b>                                   | <b>Records</b>                                                                   | <b>Date Casing</b> | <b>Time Water</b> |                                                                                                                                                                   |                                                                                 |                                                                                                 |                              |   |      |   |   |                                                                                     |  |                                                 |  |
| <b>Groundwater Entries</b><br><table border="1"> <thead> <tr> <th>No.</th> <th>Struck (m)</th> <th>Post strike behaviour</th> <th>Depth sealed (m)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>4.00</td> <td>-</td> <td>-</td> </tr> </tbody> </table> |                                                        |                                                                                  |                    |                   | No.                                                                                                                                                               | Struck (m)                                                                      | Post strike behaviour                                                                           | Depth sealed (m)             | 1 | 4.00 | - | - | <b>Depth Related Remarks *</b><br>From to (m)<br>5.45 - Hole terminated on refusal. |  | <b>Chiselling</b><br>Depths (m) Time Tools used |  |
| No.                                                                                                                                                                                                                                                        | Struck (m)                                             | Post strike behaviour                                                            | Depth sealed (m)   |                   |                                                                                                                                                                   |                                                                                 |                                                                                                 |                              |   |      |   |   |                                                                                     |  |                                                 |  |
| 1                                                                                                                                                                                                                                                          | 4.00                                                   | -                                                                                | -                  |                   |                                                                                                                                                                   |                                                                                 |                                                                                                 |                              |   |      |   |   |                                                                                     |  |                                                 |  |
| 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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC                                 |                                                                                 | Borehole<br><b>WS625</b><br>Sheet 1 of 1                                                        |                              |   |      |   |   |                                                                                     |  |                                                 |  |

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|                                                                                                                                                                                                                                             |  |                                          |                                                                                                    |                                                                           |               |                                                                                                                 |  |                                                                                             |        |                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------|--------|--------------------------|
| Drilled CS<br>Logged BS<br>Checked MT                                                                                                                                                                                                       |  | Start<br>28/02/2011<br>End<br>28/02/2011 |                                                                                                    | Equipment, Methods and Remarks<br>Competitor rig.<br>Windowless sampling. |               | Depth from 0.00m to 1.65m Diameter - Casing Depth                                                               |  | Ground Level +15.37 mOD<br>Coordinates E 447244.97<br>National Grid N 425152.30<br>Chainage |        |                          |
| Samples and Tests                                                                                                                                                                                                                           |  |                                          |                                                                                                    |                                                                           | Strata        |                                                                                                                 |  |                                                                                             |        |                          |
| Depth                                                                                                                                                                                                                                       |  | Type & No                                | Records                                                                                            | Date<br>Casing                                                            | Time<br>Water | Description                                                                                                     |  | Depth, Level/<br>(Thickness)                                                                | Legend | Backfill/<br>Instruments |
| 0.20-0.50<br>0.30                                                                                                                                                                                                                           |  | B 4<br>ES 1                              | 0.00-1.20 m Hand excavated inspection pit.<br><br><br><br>N=56 (4,5/7,10,19,20)<br><br><br><br>dry | 28/02/2011                                                                |               | TOPSOIL.                                                                                                        |  | 0.20 +15.17                                                                                 |        |                          |
| 0.50<br>0.50-1.00                                                                                                                                                                                                                           |  | ES 2<br>B 5                              |                                                                                                    |                                                                           |               | Dark red brown slightly silty slightly sandy angular fine to coarse GRAVEL of red shale. (MADE GROUND)          |  | (0.80)                                                                                      |        |                          |
| 1.00                                                                                                                                                                                                                                        |  | ES 3                                     |                                                                                                    |                                                                           |               | Firm locally stiff light pink grey slightly sandy gravelly CLAY. Gravel is angular fine to coarse of limestone. |  | 1.00 +14.37                                                                                 |        |                          |
| 1.20-1.65<br>1.20-1.65                                                                                                                                                                                                                      |  | SPT S<br>D 6                             |                                                                                                    |                                                                           |               | (CADEBY LIMESTONE)                                                                                              |  | 1.20 +14.17                                                                                 |        |                          |
|                                                                                                                                                                                                                                             |  |                                          |                                                                                                    |                                                                           |               | Extremely weak light yellow cream LIMESTONE. (CADEBY LIMESTONE)                                                 |  | (0.45)                                                                                      |        |                          |
|                                                                                                                                                                                                                                             |  |                                          |                                                                                                    |                                                                           |               | EXPLORED HOLE ENDS AT 1.65 m                                                                                    |  | 1.65 +13.72                                                                                 |        |                          |
| Depth                                                                                                                                                                                                                                       |  | Type & No                                | Records                                                                                            | Date<br>Casing                                                            | Time<br>Water |                                                                                                                 |  |                                                                                             |        |                          |
| Groundwater Entries<br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                                                                                                             |  |                                          |                                                                                                    | Depth sealed (m)                                                          |               | Depth Related Remarks *<br>From to (m)<br>1.65 Hole terminated on refusal.                                      |  | 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.<br>Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 26/05/2011 09:50:32<br> |  |                                          |                                                                                                    | Project<br>Project No.<br>Carried out for                                 |               | FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br>A1008-11<br>Scottish and Southern Energy PLC                   |  | Borehole<br><br>WS626<br>Sheet 1 of 1                                                       |        |                          |

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|                                                                                                                                                                                                                                                                                                                                       |  |                                                  |  |                                                                                  |  |                                                                                                                                                        |  |                                                                                                                                                                        |  |                                                                                                                                                                                                    |  |                                                                                     |  |                                                                                     |  |                   |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------|--|----------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------|--|
| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                                                                                                                                                                                            |  | <b>Start</b> 01/03/2011<br><b>End</b> 01/03/2011 |  | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |  | <b>Depth from</b> 0.00m <b>to</b> 2.00m <b>Diameter</b> - <b>Casing Depth</b>                                                                          |  | <b>Ground Level</b> +15.18 mOD<br><b>Coordinates</b> E 447389.28<br><b>National Grid</b> N 425168.69<br><b>Chainage</b>                                                |  |                                                                                                                                                                                                    |  |                                                                                     |  |                                                                                     |  |                   |  |
| <b>Samples and Tests</b>                                                                                                                                                                                                                                                                                                              |  |                                                  |  |                                                                                  |  | <b>Strata</b>                                                                                                                                          |  |                                                                                                                                                                        |  |                                                                                                                                                                                                    |  |                                                                                     |  |                                                                                     |  |                   |  |
| <b>Depth</b>                                                                                                                                                                                                                                                                                                                          |  | <b>Type &amp; No</b>                             |  | <b>Records</b>                                                                   |  | <b>Date Casing</b> <b>Time Water</b>                                                                                                                   |  | <b>Description</b>                                                                                                                                                     |  | <b>Depth, Level/ (Thickness)</b>                                                                                                                                                                   |  | <b>Legend</b>                                                                       |  | <b>Backfill/ Instruments</b>                                                        |  |                   |  |
| 0.00-0.50                                                                                                                                                                                                                                                                                                                             |  | B 4                                              |  | 0.00-1.20 m Hand excavated inspection pit.                                       |  | 01/03/2011<br>dry                                                                                                                                      |  | Dark brown slightly gravelly silty fine to medium SAND with frequent rootlets. Gravel is subangular fine to coarse of sandstone, brick and limestone.<br>(MADE GROUND) |  | (0.50)                                                                                                                                                                                             |  |  |  |  |  |                   |  |
| 0.30                                                                                                                                                                                                                                                                                                                                  |  | ES 1                                             |  |                                                                                  |  |                                                                                                                                                        |  |                                                                                                                                                                        |  | (0.50)                                                                                                                                                                                             |  |  |  |                                                                                     |  |                   |  |
| 0.50                                                                                                                                                                                                                                                                                                                                  |  | ES 2                                             |  |                                                                                  |  |                                                                                                                                                        |  |                                                                                                                                                                        |  | 1.00 +14.18                                                                                                                                                                                        |  |  |  |                                                                                     |  |                   |  |
| 0.50-1.00                                                                                                                                                                                                                                                                                                                             |  | B 5                                              |  |                                                                                  |  |                                                                                                                                                        |  |                                                                                                                                                                        |  | 1.20 +13.98                                                                                                                                                                                        |  |  |  |                                                                                     |  |                   |  |
| 1.00                                                                                                                                                                                                                                                                                                                                  |  | ES 3                                             |  |                                                                                  |  |                                                                                                                                                        |  |                                                                                                                                                                        |  | (0.80)                                                                                                                                                                                             |  |  |  |                                                                                     |  |                   |  |
| 1.00-1.20                                                                                                                                                                                                                                                                                                                             |  | B 6                                              |  |                                                                                  |  |                                                                                                                                                        |  |                                                                                                                                                                        |  |                                                                                                                                                                                                    |  |                                                                                     |  |                                                                                     |  |                   |  |
| 1.20-2.00                                                                                                                                                                                                                                                                                                                             |  | B 7                                              |  |                                                                                  |  |                                                                                                                                                        |  |                                                                                                                                                                        |  |                                                                                                                                                                                                    |  |                                                                                     |  |                                                                                     |  |                   |  |
| 1.60-1.80                                                                                                                                                                                                                                                                                                                             |  | D 8                                              |  |                                                                                  |  |                                                                                                                                                        |  |                                                                                                                                                                        |  | Soft locally firm brown mottled grey slightly sandy gravelly CLAY. Gravel is angular fine to coarse of limestone.<br>1.60-1.80 m dark brown slightly silty slightly sandy fine gravel of sandstone |  |                                                                                     |  |                                                                                     |  |                   |  |
|                                                                                                                                                                                                                                                                                                                                       |  |                                                  |  |                                                                                  |  |                                                                                                                                                        |  | Extremely weak light yellow cream LIMESTONE Recovered as slightly gravelly silt.<br>(CADEBY LIMESTONE)                                                                 |  | 2.00 +13.18                                                                                                                                                                                        |  |                                                                                     |  |                                                                                     |  |                   |  |
|                                                                                                                                                                                                                                                                                                                                       |  |                                                  |  |                                                                                  |  |                                                                                                                                                        |  | EXPLORATORY HOLE ENDS AT 2.00 m                                                                                                                                        |  |                                                                                                                                                                                                    |  |                                                                                     |  |                                                                                     |  |                   |  |
| <b>Depth</b>                                                                                                                                                                                                                                                                                                                          |  | <b>Type &amp; No</b>                             |  | <b>Records</b>                                                                   |  | <b>Date Casing</b> <b>Time Water</b>                                                                                                                   |  |                                                                                                                                                                        |  |                                                                                                                                                                                                    |  |                                                                                     |  |                                                                                     |  |                   |  |
| <b>Groundwater Entries</b>                                                                                                                                                                                                                                                                                                            |  |                                                  |  |                                                                                  |  | <b>Depth Related Remarks *</b>                                                                                                                         |  |                                                                                                                                                                        |  |                                                                                                                                                                                                    |  | <b>Chiselling</b>                                                                   |  |                                                                                     |  |                   |  |
| <b>No.</b>                                                                                                                                                                                                                                                                                                                            |  | <b>Struck (m)</b>                                |  | <b>Post strike behaviour</b>                                                     |  | <b>Depth sealed (m)</b>                                                                                                                                |  | <b>From</b>                                                                                                                                                            |  | <b>to (m)</b>                                                                                                                                                                                      |  | <b>Depths (m)</b>                                                                   |  | <b>Time</b>                                                                         |  | <b>Tools used</b> |  |
| None observed (see Key Sheet)                                                                                                                                                                                                                                                                                                         |  |                                                  |  |                                                                                  |  |                                                                                                                                                        |  |                                                                                                                                                                        |  |                                                                                                                                                                                                    |  |                                                                                     |  |                                                                                     |  |                   |  |
| <b>Notes:</b> For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.<br>Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:44:12<br> |  |                                                  |  |                                                                                  |  | <b>Project</b> FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br><b>Project No.</b> A1008-11<br><b>Carried out for</b> Scottish and Southern Energy PLC |  |                                                                                                                                                                        |  |                                                                                                                                                                                                    |  | <b>Borehole</b><br><b>WS627</b><br>Sheet 1 of 1                                     |  |                                                                                     |  |                   |  |

# Window Sampler Hole Log



Soil Mechanics

|                                                                                                                                                                  |                                                        |                                                                                  |                                                                                                                                                                 |                                                                                                      |                                                                                                                                                                                                                      |                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                       | <b>Start</b><br>01/03/2011<br><b>End</b><br>01/03/2011 | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                                                                                                                                                                 | <b>Depth from</b><br>0.00m<br><b>to</b><br>3.00m<br><b>Diameter</b><br>-<br><b>Casing Depth</b><br>- | <b>Ground Level</b><br>+14.85 mOD<br><b>Coordinates</b><br>E 447372.68<br>N 425128.02<br><b>Chainage</b>                                                                                                             |                                                 |
| <b>Samples and Tests</b>                                                                                                                                         |                                                        |                                                                                  |                                                                                                                                                                 | <b>Strata</b>                                                                                        |                                                                                                                                                                                                                      |                                                 |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                                   | <b>Records</b>                                                                   | <b>Date</b><br>Casing                                                                                                                                           | <b>Time</b><br>Water                                                                                 | <b>Description</b>                                                                                                                                                                                                   | <b>Depth, Level</b><br>(Thickness)              |
| 0.00-0.90                                                                                                                                                        | B 4                                                    | 0.00-1.20 m Hand excavated inspection pit.                                       |                                                                                                                                                                 |                                                                                                      | Light grey slightly silty angular fine to coarse GRAVEL of limestone with low cobble content. Cobbles are of limestone. (MADE GROUND)                                                                                | (0.90)                                          |
| 0.30                                                                                                                                                             | ES 1                                                   |                                                                                  |                                                                                                                                                                 |                                                                                                      |                                                                                                                                                                                                                      |                                                 |
| 0.50                                                                                                                                                             | ES 2                                                   |                                                                                  |                                                                                                                                                                 |                                                                                                      |                                                                                                                                                                                                                      |                                                 |
| 0.90-1.20                                                                                                                                                        | B 5                                                    |                                                                                  |                                                                                                                                                                 |                                                                                                      | Dark grey mottled black slightly sandy slightly silty fine to medium GRAVEL of sandstone, limestone and red shale with frequent fragments of wood and rare rootlets. Slight hydrocarbon odour present. (MADE GROUND) | 0.90 +13.95                                     |
| 1.00                                                                                                                                                             | ES 3                                                   |                                                                                  |                                                                                                                                                                 |                                                                                                      |                                                                                                                                                                                                                      |                                                 |
| 1.20-2.00                                                                                                                                                        | B 7                                                    |                                                                                  |                                                                                                                                                                 |                                                                                                      |                                                                                                                                                                                                                      |                                                 |
| 1.80                                                                                                                                                             | ES 6                                                   |                                                                                  |                                                                                                                                                                 |                                                                                                      | Dark brown slightly gravelly clayey fine to medium SAND. Gravel is angular fine to coarse of limestone, sandstone and red shale. (MADE GROUND)                                                                       | (1.20)                                          |
| 2.50                                                                                                                                                             | ES 8                                                   |                                                                                  |                                                                                                                                                                 |                                                                                                      |                                                                                                                                                                                                                      |                                                 |
| 2.80-3.00                                                                                                                                                        | B 9                                                    |                                                                                  |                                                                                                                                                                 |                                                                                                      |                                                                                                                                                                                                                      |                                                 |
|                                                                                                                                                                  |                                                        |                                                                                  | 01/03/2011                                                                                                                                                      | dry                                                                                                  | Firm light red pink slightly sandy slightly gravelly CLAY. Gravel is angular fine to coarse of limestone.                                                                                                            | 2.40 +12.45                                     |
|                                                                                                                                                                  |                                                        |                                                                                  |                                                                                                                                                                 |                                                                                                      | Extremely weak light yellow cream LIMESTONE. (CADEBY LIMESTONE)                                                                                                                                                      | (0.40)                                          |
|                                                                                                                                                                  |                                                        |                                                                                  |                                                                                                                                                                 |                                                                                                      | EXPLORATORY HOLE ENDS AT 3.00 m                                                                                                                                                                                      | 2.80 +12.05                                     |
|                                                                                                                                                                  |                                                        |                                                                                  |                                                                                                                                                                 |                                                                                                      |                                                                                                                                                                                                                      | 3.00 +11.85                                     |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                                   | <b>Records</b>                                                                   | <b>Date</b><br>Casing                                                                                                                                           | <b>Time</b><br>Water                                                                                 |                                                                                                                                                                                                                      |                                                 |
| <b>Groundwater Entries</b>                                                                                                                                       |                                                        |                                                                                  | <b>Depth sealed</b><br>(m)                                                                                                                                      |                                                                                                      | <b>Depth Related Remarks *</b><br>From to (m)                                                                                                                                                                        | <b>Chiselling</b><br>Depths (m)                 |
| <b>No. Struck</b><br>(m)<br>None observed (see Key Sheet)                                                                                                        |                                                        |                                                                                  |                                                                                                                                                                 |                                                                                                      |                                                                                                                                                                                                                      | <b>Time</b><br><b>Tools used</b>                |
| 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. |                                                        |                                                                                  | <b>Project</b><br>FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2<br><b>Project No.</b><br>A1008-11<br><b>Carried out for</b><br>Scottish and Southern Energy PLC |                                                                                                      |                                                                                                                                                                                                                      | <b>Borehole</b><br><b>WS628</b><br>Sheet 1 of 1 |



# Window Sampler Hole Log



Soil Mechanics

|                                                                                                                                                                  |                                                        |                                                                                  |                                                                                                                                   |                                                                               |                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Drilled</b> JB<br><b>Logged</b> BS<br><b>Checked</b> MT                                                                                                       | <b>Start</b><br>01/03/2011<br><b>End</b><br>01/03/2011 | <b>Equipment, Methods and Remarks</b><br>Competitor rig.<br>Windowless sampling. |                                                                                                                                   | <b>Depth from</b> 0.00m <b>to</b> 2.00m <b>Diameter</b> - <b>Casing Depth</b> | <b>Ground Level</b> +15.23 mOD<br><b>Coordinates</b> E 447435.66<br><b>National Grid</b> N 425169.67<br><b>Chainage</b>                          |
| <b>Samples and Tests</b>                                                                                                                                         |                                                        |                                                                                  |                                                                                                                                   | <b>Strata</b>                                                                 |                                                                                                                                                  |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                                   | <b>Records</b>                                                                   | <b>Date</b><br>Casing                                                                                                             | <b>Time</b><br>Water                                                          | <b>Description</b>                                                                                                                               |
| 0.00-0.50                                                                                                                                                        | B 4                                                    | 0.00-1.20 m Hand excavated inspection pit.                                       | 01/03/2011                                                                                                                        | dry                                                                           | Dark brown slightly clayey slightly gravelly fine SAND with occasional rootlets. Gravel is subangular to subrounded fine to coarse of sandstone. |
| 0.30                                                                                                                                                             | ES 1                                                   |                                                                                  |                                                                                                                                   |                                                                               | (MADE GROUND)                                                                                                                                    |
| 0.50                                                                                                                                                             | ES 2                                                   |                                                                                  |                                                                                                                                   |                                                                               | Dark brown slightly gravelly silty fine to medium SAND with low cobble and boulder content. Cobbles and boulders are of sandstone.               |
| 0.50-1.20                                                                                                                                                        | B 5                                                    |                                                                                  |                                                                                                                                   |                                                                               |                                                                                                                                                  |
| 1.00                                                                                                                                                             | ES 3                                                   |                                                                                  |                                                                                                                                   |                                                                               |                                                                                                                                                  |
| 1.20-1.50                                                                                                                                                        | B 6                                                    |                                                                                  |                                                                                                                                   |                                                                               |                                                                                                                                                  |
| 1.50-2.00                                                                                                                                                        | B 7                                                    |                                                                                  |                                                                                                                                   |                                                                               |                                                                                                                                                  |
|                                                                                                                                                                  |                                                        |                                                                                  |                                                                                                                                   |                                                                               | Stiff to firm dark red brown slightly sandy gravelly CLAY. Gravel is angular fine to coarse of sandstone and limestone.                          |
|                                                                                                                                                                  |                                                        |                                                                                  |                                                                                                                                   |                                                                               | EXPLORATORY HOLE ENDS AT 2.00 m                                                                                                                  |
| <b>Depth</b>                                                                                                                                                     | <b>Type &amp; No</b>                                   | <b>Records</b>                                                                   | <b>Date</b><br>Casing                                                                                                             | <b>Time</b><br>Water                                                          |                                                                                                                                                  |
| <b>Groundwater Entries</b><br>No. Struck Post strike behaviour<br>(m)<br>None observed (see Key Sheet)                                                           |                                                        |                                                                                  | Depth sealed (m)                                                                                                                  |                                                                               | Depth Related Remarks *<br>From to (m)                                                                                                           |
| Chiselling<br>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 MULTI-FUEL POWERSTATION - PHASE 2<br>Project No. A1008-11<br>Carried out for Scottish and Southern Energy PLC |                                                                               |                                                                                                                                                  |
| Scale 1:50<br>(c) ESGL www.esgl.co.uk<br>408.24 05/04/2011 16:44:29                                                                                              |                                                        |                                                                                  | Borehole<br><b>WS629</b><br>Sheet 1 of 1                                                                                          |                                                                               |                                                                                                                                                  |

**ENCLOSURE B**  
**INSTRUMENTATION AND MONITORING**

|                                |               |
|--------------------------------|---------------|
| Installation Details           | B1            |
| Gas and Groundwater Monitoring | B2.1 to B2.41 |
| Water Quality Management       | B3.1 and B3.2 |

# 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 |
|---------|---------------|-------------------|----------------------|------------------------|--------------------------|-----------------------------|------------------------------|---------------------------|-----------------|---------|
| BH601   |               | SP                | 18 Feb 2011          | 0.00                   | 50                       | 5.00                        | 8.00                         | Gas tap                   | Stop cock cover |         |
| BH603   |               | SPIE              | 14 Feb 2011          | 12.50                  | 19                       | 10.00                       | 15.00                        | None                      | Stop cock cover |         |
| BH604   |               | SP                | 16 Feb 2011          | 0.00                   | 50                       | 5.00                        | 10.00                        | Gas tap                   | Stop cock cover |         |
| BH605   |               | SP                | 22 Feb 2011          | 0.00                   | 50                       | 3.00                        | 7.00                         | Gas tap                   | Stop cock cover |         |
| BH606   |               | SP                | 17 Feb 2011          | 0.00                   | 50                       | 6.00                        | 10.00                        | Gas tap                   | Stop cock cover |         |
| BH607   |               | SP                | 23 Feb 2011          | 0.00                   | 50                       | 3.00                        | 6.00                         | Gas tap                   | Stop cock cover |         |
| BH608   |               | SP                | 24 Feb 2011          | 0.00                   | 50                       | 6.00                        | 10.00                        | Gas tap                   | Stop cock cover |         |
| BH609   |               | SP                | 14 Feb 2011          | 0.00                   | 50                       | 5.00                        | 9.00                         | Gas tap                   | Stop cock cover |         |
| BH610   |               | SP                | 23 Feb 2011          | 0.00                   | 50                       | 3.00                        | 5.00                         | Gas tap                   | Stop cock cover |         |
| BH611   |               | SP                | 15 Feb 2011          | 0.00                   | 50                       | 4.00                        | 10.00                        | Gas tap                   | Stop cock cover |         |
| WS606   |               | SP                | 23 Feb 2011          | 0.00                   | 50                       | 1.00                        | 4.00                         | Gas tap                   | Stop cock cover |         |
| WS622   |               | SP                | 28 Feb 2011          | 0.00                   | 50                       | 1.00                        | 3.00                         | Gas tap                   | Stop cock cover |         |

Notes: Type: SP - Standpipe, SPIE - Standpipe Piezometer, HPIE - Hydraulic Piezometer, PPIE - Pneumatic Piezometer, EPIE - Electronic Piezometer Prepared: 04/04/2011 11:26



Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Table

**B1**

# Groundwater Monitoring



Soil Mechanics

| Hole ID | Instrument ID | Instrument Type | Base of Instrument (mBGL) | Reference Depth (mBGL) | Reading     |               |                                    |                                    |          |
|---------|---------------|-----------------|---------------------------|------------------------|-------------|---------------|------------------------------------|------------------------------------|----------|
|         |               |                 |                           |                        | Date        | Time (hhmmss) | Water Level (mBGL)<br>* calculated | Head (m above Tip)<br>* calculated | Comments |
| BH101   |               | SP              | 6                         | 0.00                   | 28 Mar 2011 | 131000        | 5.49                               |                                    |          |
| BH101   |               | SP              | 6                         | 0.00                   | 4 Apr 2011  | 133000        | 5.58                               |                                    |          |
| BH101   |               | SP              | 6                         | 0.00                   | 19 Apr 2011 | 101000        | 5.59                               |                                    |          |
| BH101   |               | SP              | 6                         | 0.00                   | 3 May 2011  | 131800        | 5.68                               |                                    |          |
| BH102   |               | SP              | 3                         | 0.00                   | 28 Mar 2011 | 155500        | 3.00                               |                                    | Damp     |
| BH102   |               | SP              | 3                         | 0.00                   | 4 Apr 2011  | 134000        | 3.00                               |                                    | Damp     |
| BH102   |               | SP              | 3                         | 0.00                   | 19 Apr 2011 | 132500        | 3.00                               |                                    | Damp     |
| BH102   |               | SP              | 3                         | 0.00                   | 3 May 2011  | 132500        |                                    |                                    | Dry.     |
| BH107   |               | SP              | 14                        | 0.00                   | 28 Mar 2011 | 141000        | 3.42                               |                                    |          |
| BH107   |               | SP              | 14                        | 0.00                   | 4 Apr 2011  | 151500        | 3.48                               |                                    |          |
| BH107   |               | SP              | 14                        | 0.00                   | 19 Apr 2011 | 143700        | 3.52                               |                                    |          |
| BH107   |               | SP              | 14                        | 0.00                   | 3 May 2011  | 133700        | 3.56                               |                                    |          |
| BH112   |               | SPIE            | 17.5                      | 17.50                  | 28 Mar 2011 | 132000        | 4.67                               | 12.83 *                            |          |
| BH112   |               | SPIE            | 17.5                      | 17.50                  | 4 Apr 2011  | 133500        | 4.71                               | 12.79 *                            |          |
| BH112   |               | SPIE            | 17.5                      | 17.50                  | 19 Apr 2011 | 132000        | 4.73                               | 12.77 *                            |          |
| BH112   |               | SPIE            | 17.5                      | 17.50                  | 3 May 2011  | 132200        | 4.81                               | 12.69 *                            |          |
| BH406   |               | SP              | 4                         | 0.00                   | 28 Mar 2011 | 140000        | 3.27                               |                                    |          |
| BH406   |               | SP              | 4                         | 0.00                   | 4 Apr 2011  | 151700        | 3.32                               |                                    |          |
| BH406   |               | SP              | 4                         | 0.00                   | 19 Apr 2011 | 143500        | 3.35                               |                                    |          |
| BH406   |               | SP              | 4                         | 0.00                   | 3 May 2011  | 133500        | 3.42                               |                                    |          |
| BH601   |               | SP              | 8                         | 0.00                   | 28 Mar 2011 | 133000        | 3.53                               |                                    |          |
| BH601   |               | SP              | 8                         | 0.00                   | 4 Apr 2011  | 141500        | 3.60                               |                                    |          |
| BH601   |               | SP              | 8                         | 0.00                   | 19 Apr 2011 | 135700        | 3.63                               |                                    |          |
| BH601   |               | SP              | 8                         | 0.00                   | 4 May 2011  | 104800        | 3.68                               |                                    |          |
| BH603   |               | SPIE            | 12.5                      | 12.50                  | 28 Mar 2011 | 101000        | 4.71                               | 7.79 *                             |          |
| BH603   |               | SPIE            | 12.5                      | 12.50                  | 4 Apr 2011  | 113000        | 4.74                               | 7.76 *                             |          |
| BH603   |               | SPIE            | 12.5                      | 12.50                  | 19 Apr 2011 | 104300        | 4.80                               | 7.70 *                             |          |
| BH603   |               | SPIE            | 12.5                      | 12.50                  | 3 May 2011  | 130000        | 4.87                               | 7.63 *                             |          |
| BH604   |               | SP              | 10                        | 0.00                   | 28 Mar 2011 | 102500        | 4.68                               |                                    |          |
| BH604   |               | SP              | 10                        | 0.00                   | 4 Apr 2011  | 120000        | 4.75                               |                                    |          |
| BH604   |               | SP              | 10                        | 0.00                   | 19 Apr 2011 | 112300        | 4.80                               |                                    |          |
| BH604   |               | SP              | 10                        | 0.00                   | 4 May 2011  | 074700        | 4.91                               |                                    |          |
| BH605   |               | SP              | 7                         | 0.00                   | 28 Mar 2011 | 112500        | 4.88                               |                                    |          |
| BH605   |               | SP              | 7                         | 0.00                   | 4 Apr 2011  | 103200        | 4.98                               |                                    |          |
| BH605   |               | SP              | 7                         | 0.00                   | 19 Apr 2011 | 103200        | 5.00                               |                                    |          |
| BH605   |               | SP              | 7                         | 0.00                   | 3 May 2011  | 115500        | 5.10                               |                                    |          |
| BH606   |               | SP              | 10                        | 0.00                   | 28 Mar 2011 | 130000        | 4.27                               |                                    |          |
| BH606   |               | SP              | 10                        | 0.00                   | 4 Apr 2011  | 161500        | 4.32                               |                                    |          |
| BH606   |               | SP              | 10                        | 0.00                   | 19 Apr 2011 | 131500        | 4.35                               |                                    |          |
| BH606   |               | SP              | 10                        | 0.00                   | 3 May 2011  | 131100        | 4.40                               |                                    |          |
| BH607   |               | SP              | 6                         | 0.00                   | 28 Mar 2011 | 121000        | 5.08                               |                                    |          |
| BH607   |               | SP              | 6                         | 0.00                   | 4 Apr 2011  | 085500        | 5.12                               |                                    |          |

Notes: Type: SP - Standpipe, SPIE - Standpipe Piezometer, HPIE - Hydraulic Piezometer, PPIE - Pneumatic Piezometer, EPIE - Vibrating Wire Piezometer, PWEL - Pumping Well

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
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Sheet  
**B2.1**

# Groundwater Monitoring



Soil Mechanics

| Hole ID | Instrument ID | Instrument Type | Base of Instrument (mBGL) | Reference Depth (mBGL) | Reading     |               |                                    |                                    |          |
|---------|---------------|-----------------|---------------------------|------------------------|-------------|---------------|------------------------------------|------------------------------------|----------|
|         |               |                 |                           |                        | Date        | Time (hhmmss) | Water Level (mBGL)<br>* calculated | Head (m above Tip)<br>* calculated | Comments |
| BH607   |               | SP              | 6                         | 0.00                   | 19 Apr 2011 | 080600        | 5.15                               |                                    |          |
| BH607   |               | SP              | 6                         | 0.00                   | 3 May 2011  | 091500        | 5.24                               |                                    |          |
| BH608   |               | SP              | 10                        | 0.00                   | 28 Mar 2011 | 122500        | 6.07                               |                                    |          |
| BH608   |               | SP              | 10                        | 0.00                   | 4 Apr 2011  | 081200        | 6.07                               |                                    |          |
| BH608   |               | SP              | 10                        | 0.00                   | 19 Apr 2011 | 084200        | 6.05                               |                                    |          |
| BH608   |               | SP              | 10                        | 0.00                   | 3 May 2011  | 095000        | 6.16                               |                                    |          |
| BH609   |               | SP              | 9                         | 0.00                   | 28 Mar 2011 | 115000        | 7.00                               |                                    |          |
| BH609   |               | SP              | 9                         | 0.00                   | 4 Apr 2011  | 094500        | 7.08                               |                                    |          |
| BH609   |               | SP              | 9                         | 0.00                   | 19 Apr 2011 | 091800        | 7.11                               |                                    |          |
| BH609   |               | SP              | 9                         | 0.00                   | 3 May 2011  | 105600        | 7.20                               |                                    |          |
| BH610   |               | SP              | 5                         | 0.00                   | 28 Mar 2011 | 114000        |                                    |                                    | Dry.     |
| BH610   |               | SP              | 5                         | 0.00                   | 4 Apr 2011  | 111000        |                                    |                                    | Dry.     |
| BH610   |               | SP              | 5                         | 0.00                   | 19 Apr 2011 | 095500        |                                    |                                    | Dry.     |
| BH610   |               | SP              | 5                         | 0.00                   | 3 May 2011  | 123700        |                                    |                                    | Dry.     |
| BH611   |               | SP              | 10                        | 0.00                   | 28 Mar 2011 | 111000        | 4.05                               |                                    |          |
| BH611   |               | SP              | 10                        | 0.00                   | 4 Apr 2011  | 125700        | 4.10                               |                                    |          |
| BH611   |               | SP              | 10                        | 0.00                   | 19 Apr 2011 | 123600        | 4.15                               |                                    |          |
| BH611   |               | SP              | 10                        | 0.00                   | 4 May 2011  | 091500        | 4.23                               |                                    |          |
| WS606   |               | SP              | 3.5                       | 0.00                   | 28 Mar 2011 | 114000        | 2.86                               |                                    |          |
| WS606   |               | SP              | 3.5                       | 0.00                   | 4 Apr 2011  | 123500        | 2.96                               |                                    |          |
| WS606   |               | SP              | 3.5                       | 0.00                   | 19 Apr 2011 | 115500        | 3.04                               |                                    |          |
| WS606   |               | SP              | 3.5                       | 0.00                   | 4 May 2011  | 082400        | 3.21                               |                                    |          |
| WS622   |               | SP              | 2.5                       | 0.00                   | 28 Mar 2011 | 144000        |                                    |                                    | Dry.     |
| WS622   |               | SP              | 2.5                       | 0.00                   | 4 Apr 2011  | 151200        |                                    |                                    | Dry.     |
| WS622   |               | SP              | 2.5                       | 0.00                   | 19 Apr 2011 | 143200        |                                    |                                    | Dry.     |
| WS622   |               | SP              | 2.5                       | 0.00                   | 4 May 2011  | 101200        |                                    |                                    | Dry.     |

Notes: Type: SP - Standpipe, SPIE - Standpipe Piezometer, HPIE - Hydraulic Piezometer, PPIE - Pneumatic Piezometer, EPIE - Vibrating Wire Piezometer, PWEL - Pumping Well

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
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Sheet  
**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 | 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 | 20.7 |
| 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          | 0.20        |
| 2          | 0.00        |
| 3          | 0.20        |
| 4          | 0.00        |
| 5          | 0.10        |
| 6          | 0.50        |
| 7          | 0.00        |
| 8          | 0.00        |
| 9          | 0.40        |
| 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 | 20.6 | 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 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
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 Carried out for Scottish and Southern Energy PLC

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 | 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 | 20.8 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.8 | 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 | 21.0 |
| 3.0        | 0.0 | 0.0 | 0.0 | 20.8 |
| 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 | 20.8 |
| 7.0        | 0.0 | 0.0 | 0.0 | 20.8 |
| 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          | 0.00        |
| 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 | 20.8 | 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 | 20.8 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.8 | 60s   | 0.0 | 0.0      | 0.0 | 20.8 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
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Figure

**B2.4**

# 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 | 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 | 20.8 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.8 | 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 | 20.7 |
| 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 | 20.7 |
| 9.0        | 0.0 | 0.0 | 0.0 | 20.7 |
| 10.0       | 0.0 | 0.0 | 0.0 | 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          | 0.10        |
| 2          | 0.20        |
| 3          | 0.00        |
| 4          | 0.10        |
| 5          | 0.30        |
| 6          | 0.10        |
| 7          | 0.20        |
| 8          | 0.30        |
| 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 | 20.8 | 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 | 20.8 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.8 | 60s   | 0.0 | 0.0      | 0.0 | 20.8 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
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Figure

**B2.5**



# 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      | 0.3 | 20.4 | 5s    | 0.0 | 0.0      | 0.3 | 20.4 |
| 30s   | 0.0 | 0.0      | 0.3 | 20.4 | 30s   | 0.0 | 0.0      | 0.3 | 20.4 |
| 60s   | 0.0 | 0.0      | 0.3 | 20.4 | 60s   | 0.0 | 0.0      | 0.3 | 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 | 0.3 | 20.4 |
| 2.0        | 0.0 | 0.0 | 0.3 | 20.4 |
| 3.0        | 0.0 | 0.0 | 0.3 | 20.4 |
| 4.0        | 0.0 | 0.0 | 0.3 | 20.4 |
| 5.0        | 0.0 | 0.0 | 0.3 | 20.4 |
| 6.0        | 0.0 | 0.0 | 0.3 | 20.4 |
| 7.0        | 0.0 | 0.0 | 0.3 | 20.4 |
| 8.0        | 0.0 | 0.0 | 0.3 | 20.4 |
| 9.0        | 0.0 | 0.0 | 0.3 | 20.4 |
| 10.0       | 0.0 | 0.0 | 0.3 | 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      | 0.3 | 20.3 | 5s    | 0.0 | 0.0      | 0.3 | 20.3 |
| 30s   | 0.0 | 0.0      | 0.3 | 20.0 | 30s   | 0.0 | 0.0      | 0.3 | 20.0 |
| 60s   | 0.0 | 0.0      | 0.3 | 20.0 | 60s   | 0.0 | 0.0      | 0.3 | 20.0 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
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Figure

**B2.6**

# 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 | 20.8 | 5s    | 0.0 | 0.0      | 0.0 | 20.8 |
| 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 | 20.8 | 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 | 21.1 |
| 2.0        | 0.0 | 0.0 | 0.0 | 20.8 |
| 3.0        | 0.0 | 0.0 | 0.0 | 21.0 |
| 4.0        | 0.0 | 0.0 | 0.0 | 20.8 |
| 5.0        | 0.0 | 0.0 | 0.0 | 20.8 |
| 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 | 20.8 |
| 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    | 0.0 | 0.0      | 0.0 | 20.7 | 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 | 20.8 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.6 | 60s   | 0.0 | 0.0      | 0.0 | 20.8 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.7**

# 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 | 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 | 0.3 | 19.7 |
| 5.0        | 0.0 | 0.0 | 0.3 | 19.7 |
| 6.0        | 0.0 | 0.0 | 0.3 | 19.7 |
| 7.0        | 0.0 | 0.0 | 0.3 | 19.7 |
| 8.0        | 0.0 | 0.0 | 0.3 | 19.7 |
| 9.0        | 0.0 | 0.0 | 0.6 | 19.4 |
| 10.0       | 0.0 | 0.0 | 0.7 | 19.1 |

## 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 | 20.7 | 5s    | 0.0 | 0.0      | 0.0 | 20.7 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.7 | 30s   | 0.0 | 0.0      | 0.1 | 20.4 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.7 | 60s   | 0.0 | 0.0      | 0.3 | 19.9 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.8**

# 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 | 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 | 0.2 | 20.5 |
| 8.0        | 0.0 | 0.0 | 0.2 | 20.5 |
| 9.0        | 0.0 | 0.0 | 0.5 | 20.2 |
| 10.0       | 0.0 | 0.0 | 0.3 | 20.0 |

## 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          | 0.00        |
| 2          | 0.30        |
| 3          | 0.00        |
| 4          | 0.30        |
| 5          | 0.30        |
| 6          | 0.30        |
| 7          | 0.30        |
| 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    | 0.0 | 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      | 0.1 | 20.5 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.9**

# 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      | 1.0 | 19.8 | 5s    | 0.0 | 0.0      | 1.0 | 19.8 |
| 30s   | 0.0 | 0.0      | 1.5 | 19.3 | 30s   | 0.0 | 0.0      | 1.5 | 19.3 |
| 60s   | 0.0 | 0.0      | 1.7 | 19.0 | 60s   | 0.0 | 0.0      | 1.7 | 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 | 1.0 | 19.8 |
| 2.0        | 0.0 | 0.0 | 1.0 | 19.8 |
| 3.0        | 0.0 | 0.0 | 1.0 | 19.8 |
| 4.0        | 0.0 | 0.0 | 1.5 | 19.3 |
| 5.0        | 0.0 | 0.0 | 1.5 | 19.3 |
| 6.0        | 0.0 | 0.0 | 1.7 | 19.0 |
| 7.0        | 0.0 | 0.0 | 1.7 | 19.0 |
| 8.0        | 0.0 | 0.0 | 1.7 | 19.0 |
| 9.0        | 0.0 | 0.0 | 1.7 | 19.0 |
| 10.0       | 0.0 | 0.0 | 1.9 | 18.8 |

## 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          | -2.00       |
| 5          | -4.00       |
| 6          | -3.00       |
| 7          | -1.00       |
| 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      | 1.8 | 19.0 | 5s    | 0.0 | 0.0      | 1.8 | 19.0 |
| 30s   | 0.0 | 0.0      | 1.8 | 19.0 | 30s   | 0.0 | 0.0      | 1.8 | 19.0 |
| 60s   | 0.0 | 0.0      | 1.8 | 19.0 | 60s   | 0.0 | 0.0      | 1.8 | 19.0 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.10**

# 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      | 0.4 | 20.2 | 5s    | 0.0 | 0.0      | 0.4 | 20.2 |
| 30s   | 0.0 | 0.0      | 0.4 | 20.2 | 30s   | 0.0 | 0.0      | 0.4 | 20.2 |
| 60s   | 0.0 | 0.0      | 0.4 | 20.2 | 60s   | 0.0 | 0.0      | 0.4 | 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 | 0.4 | 20.2 |
| 2.0        | 0.0 | 0.0 | 0.4 | 20.2 |
| 3.0        | 0.0 | 0.0 | 0.4 | 20.2 |
| 4.0        | 0.0 | 0.0 | 0.4 | 20.2 |
| 5.0        | 0.0 | 0.0 | 0.4 | 20.2 |
| 6.0        | 0.0 | 0.0 | 0.4 | 20.2 |
| 7.0        | 0.0 | 0.0 | 0.4 | 20.2 |
| 8.0        | 0.0 | 0.0 | 0.4 | 20.2 |
| 9.0        | 0.0 | 0.0 | 0.5 | 20.0 |
| 10.0       | 0.0 | 0.0 | 0.6 | 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          | 4.00        |
| 5          | 2.00        |
| 6          | 1.00        |
| 7          | 0.00        |
| 8          | 0.00        |
| 9          | 1.00        |
| 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      | 0.4 | 20.2 | 5s    | 0.0 | 0.0      | 0.4 | 20.2 |
| 30s   | 0.0 | 0.0      | 0.9 | 19.8 | 30s   | 0.0 | 0.0      | 0.9 | 19.8 |
| 60s   | 0.0 | 0.0      | 1.0 | 19.7 | 60s   | 0.0 | 0.0      | 1.0 | 19.7 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.11**

# 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 | 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 | 20.8 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.8 | 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 | 20.8 |
| 3.0        | 0.0 | 0.0 | 0.0 | 20.7 |
| 4.0        | 0.0 | 0.0 | 0.0 | 20.8 |
| 5.0        | 0.0 | 0.0 | 0.0 | 20.8 |
| 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 | 20.8 |
| 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          | -0.90       |
| 2          | -0.20       |
| 3          | 0.50        |
| 4          | 0.90        |
| 5          | 0.20        |
| 6          | 2.30        |
| 7          | -0.70       |
| 8          | -1.40       |
| 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 | 20.8 | 5s    | 0.0 | 0.0      | 0.0 | 20.8 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.7 | 30s   | 0.0 | 0.0      | 0.0 | 20.8 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.7 | 60s   | 0.0 | 0.0      | 0.0 | 20.8 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

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    | 0.0 | 0.0      | 0.0 | 20.9 | 5s    | 0.0 | 0.0      | 0.0 | 20.9 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.9 | 30s   | 0.0 | 0.0      | 0.1 | 20.7 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.9 | 60s   | 0.0 | 0.0      | 0.2 | 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 | 20.9 |
| 2.0        | 0.0 | 0.0 | 0.0 | 21.0 |
| 3.0        | 0.0 | 0.0 | 0.0 | 20.8 |
| 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 | 20.8 |
| 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 | 20.7 |

## 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          | 0.80        |
| 2          | 0.50        |
| 3          | 0.20        |
| 4          | 1.20        |
| 5          | 0.50        |
| 6          | -0.10       |
| 7          | -0.40       |
| 8          | 0.80        |
| 9          | 0.50        |
| 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 | 0.0   | 0.0 | 0.0      | 0.0 | 20.9 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.8 | 0.0   | 0.0 | 0.0      | 0.0 | 20.9 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.8 | 0.0   | 0.0 | 0.0      | 0.0 | 20.9 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.13**



# 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 | 20.9 | 5s    | 0.0 | 0.0      | 0.0 | 20.9 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.9 | 30s   | 0.0 | 0.0      | 0.2 | 20.5 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.9 | 60s   | 0.0 | 0.0      | 0.3 | 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 | 20.8 |
| 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 |
| 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 | 20.8 |
| 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          | -0.10       |
| 2          | 0.10        |
| 3          | 0.20        |
| 4          | 0.40        |
| 5          | -0.80       |
| 6          | -1.20       |
| 7          | -0.90       |
| 8          | -1.40       |
| 9          | 0.40        |
| 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 | 20.9 | 5s    | 0.0 | 0.0      | 0.0 | 20.9 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.8 | 30s   | 0.0 | 0.0      | 0.1 | 20.7 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.8 | 60s   | 0.0 | 0.0      | 0.2 | 20.7 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

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      | 0.1 | 20.8 | 5s    | 0.0 | 0.0      | 0.0 | 20.9 |
| 30s   | 0.0 | 0.0      | 0.9 | 19.1 | 30s   | 0.0 | 0.0      | 3.0 | 14.7 |
| 60s   | 0.0 | 0.0      | 1.0 | 19.2 | 60s   | 0.0 | 0.0      | 3.8 | 14.4 |

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 | 1.2 | 18.7 |
| 2.0        | 0.0 | 0.0 | 1.4 | 18.3 |
| 3.0        | 0.0 | 0.0 | 2.0 | 17.7 |
| 4.0        | 0.0 | 0.0 | 2.2 | 17.5 |
| 5.0        | 0.0 | 0.0 | 2.4 | 17.2 |
| 6.0        | 0.0 | 0.0 | 2.8 | 16.6 |
| 7.0        | 0.0 | 0.0 | 3.1 | 16.2 |
| 8.0        | 0.0 | 0.0 | 3.2 | 15.8 |
| 9.0        | 0.0 | 0.0 | 3.5 | 15.3 |
| 10.0       | 0.0 | 0.0 | 3.7 | 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          | -0.30       |
| 2          | -0.30       |
| 3          | -0.20       |
| 4          | -0.10       |
| 5          | 0.00        |
| 6          | 0.00        |
| 7          | 0.10        |
| 8          | 0.30        |
| 9          | 0.40        |
| 10         | 0.90        |

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      | 1.6 | 18.3 | 5s    | 0.0 | 0.0      | 2.4 | 16.2 |
| 30s   | 0.0 | 0.0      | 2.6 | 15.2 | 30s   | 0.0 | 0.0      | 3.5 | 15.4 |
| 60s   | 0.0 | 0.0      | 3.8 | 14.7 | 60s   | 0.0 | 0.0      | 3.5 | 15.3 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.15**

# 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 | 20.5 | 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 | 20.8 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.8 | 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 | 21.1 |
| 2.0        | 0.0 | 0.0 | 0.0 | 20.9 |
| 3.0        | 0.0 | 0.0 | 0.0 | 21.2 |
| 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 | 20.9 |
| 8.0        | 0.0 | 0.0 | 0.0 | 21.0 |
| 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          | -0.20       |
| 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         | -0.10       |

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 | 21.0 | 5s    | 0.0 | 0.0      | 0.0 | 21.0 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.9 | 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 | 20.9 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

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 | 20.9 | 5s    | 0.0 | 0.0      | 0.0 | 20.9 |
| 30s   | 0.0 | 0.0      | 2.0 | 19.5 | 30s   | 0.0 | 0.0      | 1.0 | 20.0 |
| 60s   | 0.0 | 0.0      | 2.1 | 19.2 | 60s   | 0.0 | 0.0      | 4.3 | 17.1 |

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 | 2.1 | 18.6 |
| 2.0        | 0.0 | 0.0 | 2.3 | 18.4 |
| 3.0        | 0.0 | 0.0 | 2.6 | 18.2 |
| 4.0        | 0.0 | 0.0 | 2.6 | 18.2 |
| 5.0        | 0.0 | 0.0 | 2.6 | 18.3 |
| 6.0        | 0.0 | 0.0 | 2.7 | 18.2 |
| 7.0        | 0.0 | 0.0 | 2.7 | 18.1 |
| 8.0        | 0.0 | 0.0 | 2.8 | 18.0 |
| 9.0        | 0.0 | 0.0 | 3.0 | 18.0 |
| 10.0       | 0.0 | 0.0 | 3.2 | 17.8 |

## 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          | -0.30       |
| 2          | 0.40        |
| 3          | 2.20        |
| 4          | 6.40        |
| 5          | 4.80        |
| 6          | 3.00        |
| 7          | 2.30        |
| 8          | 1.90        |
| 9          | 0.50        |
| 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 | 21.0 | 5s    | 0.0 | 0.0      | 0.2 | 20.5 |
| 30s   | 0.0 | 0.0      | 3.2 | 17.8 | 30s   | 0.0 | 0.0      | 4.0 | 17.0 |
| 60s   | 0.0 | 0.0      | 3.3 | 17.6 | 60s   | 0.0 | 0.0      | 4.1 | 17.1 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

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      | 0.0 | 21.0 | 5s    | 0.0 | 0.0      | 0.0 | 20.9 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.9 | 30s   | 0.0 | 0.0      | 0.0 | 20.2 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.9 | 60s   | 0.0 | 0.0      | 0.0 | 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 | 0.0 | 20.7 |
| 2.0        | 0.0 | 0.0 | 0.1 | 20.7 |
| 3.0        | 0.0 | 0.0 | 0.3 | 20.5 |
| 4.0        | 0.0 | 0.0 | 1.1 | 19.7 |
| 5.0        | 0.0 | 0.0 | 1.5 | 19.5 |
| 6.0        | 0.0 | 0.0 | 1.8 | 19.2 |
| 7.0        | 0.0 | 0.0 | 1.7 | 19.2 |
| 8.0        | 0.0 | 0.0 | 1.7 | 19.3 |
| 9.0        | 0.0 | 0.0 | 1.6 | 19.3 |
| 10.0       | 0.0 | 0.0 | 1.6 | 19.2 |

## 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          | 1.70        |
| 2          | 1.50        |
| 3          | 2.20        |
| 4          | 2.10        |
| 5          | 1.50        |
| 6          | 1.40        |
| 7          | 1.50        |
| 8          | 1.50        |
| 9          | 1.70        |
| 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      | 0.0 | 21.0 | 5s    | 0.0 | 0.0      | 1.3 | 19.5 |
| 30s   | 0.0 | 0.0      | 1.2 | 19.3 | 30s   | 0.0 | 0.0      | 1.1 | 19.6 |
| 60s   | 0.0 | 0.0      | 1.2 | 19.4 | 60s   | 0.0 | 0.0      | 1.1 | 19.7 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

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      | 0.0 | 20.9 | 5s    | 0.0 | 0.0      | 0.0 | 21.0 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.9 | 30s   | 0.0 | 0.0      | 0.3 | 20.8 |
| 60s   | 0.0 | 0.0      | 0.0 | 21.0 | 60s   | 0.0 | 0.0      | 0.1 | 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 | 21.0 |
| 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 | 0.1 | 20.9 |
| 5.0        | 0.0 | 0.0 | 0.1 | 21.0 |
| 6.0        | 0.0 | 0.0 | 0.1 | 20.9 |
| 7.0        | 0.0 | 0.0 | 0.1 | 21.0 |
| 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          | -0.50       |
| 2          | -0.20       |
| 3          | -0.10       |
| 4          | 0.00        |
| 5          | 0.00        |
| 6          | -0.20       |
| 7          | -0.10       |
| 8          | -0.20       |
| 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 | 21.0 | 5s    | 0.0 | 0.0      | 0.0 | 20.9 |
| 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 | 21.0 | 60s   | 0.0 | 0.0      | 0.0 | 20.8 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

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      | 0.0 | 20.8 | 5s    | 0.0 | 0.0      | 0.1 | 20.6 |
| 30s   | 0.0 | 0.0      | 2.5 | 18.3 | 30s   | 0.0 | 0.0      | 5.1 | 12.7 |
| 60s   | 0.0 | 0.0      | 2.8 | 18.0 | 60s   | 0.0 | 0.0      | 5.2 | 12.7 |

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 | 3.8 | 17.4 |
| 2.0        | 0.0 | 0.0 | 4.1 | 16.9 |
| 3.0        | 0.0 | 0.0 | 4.1 | 16.7 |
| 4.0        | 0.0 | 0.0 | 4.1 | 16.6 |
| 5.0        | 0.0 | 0.0 | 4.3 | 16.1 |
| 6.0        | 0.0 | 0.0 | 4.3 | 16.0 |
| 7.0        | 0.0 | 0.0 | 4.3 | 16.0 |
| 8.0        | 0.0 | 0.0 | 4.3 | 16.0 |
| 9.0        | 0.0 | 0.0 | 4.3 | 16.0 |
| 10.0       | 0.0 | 0.0 | 4.3 | 16.0 |

## 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          | 0.50        |
| 2          | 1.20        |
| 3          | -0.70       |
| 4          | 0.30        |
| 5          | -0.30       |
| 6          | 0.50        |
| 7          | 0.00        |
| 8          | -0.20       |
| 9          | 0.30        |
| 10         | 0.70        |

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      | 0.0 | 20.9 | 5s    | 0.0 | 0.0      | 0.1 | 20.8 |
| 30s   | 0.0 | 0.0      | 4.3 | 16.4 | 30s   | 0.0 | 0.0      | 4.5 | 15.5 |
| 60s   | 0.0 | 0.0      | 4.3 | 16.4 | 60s   | 0.0 | 0.0      | 4.6 | 15.1 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

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 | 0.0      | 0.0 | 20.9 | 5s    | 0.0 | 0.0      | 0.0 | 20.9 |
| 30s   | 0.0 | 0.0      | 0.5 | 20.2 | 30s   | 0.0 | 0.0      | 2.5 | 18.5 |
| 60s   | 0.0 | 0.0      | 0.8 | 20.1 | 60s   | 0.0 | 0.0      | 2.6 | 18.4 |

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 | 1.1 | 19.7 |
| 2.0        | 0.0 | 0.0 | 1.3 | 19.6 |
| 3.0        | 0.0 | 0.0 | 1.4 | 19.6 |
| 4.0        | 0.0 | 0.0 | 1.7 | 19.1 |
| 5.0        | 0.0 | 0.0 | 1.8 | 19.1 |
| 6.0        | 0.0 | 0.0 | 1.8 | 19.0 |
| 7.0        | 0.0 | 0.0 | 1.9 | 18.9 |
| 8.0        | 0.0 | 0.0 | 1.8 | 18.9 |
| 9.0        | 0.0 | 0.0 | 1.7 | 19.2 |
| 10.0       | 0.0 | 0.0 | 1.8 | 19.1 |

## 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          | 0.50        |
| 3          | 0.90        |
| 4          | 1.30        |
| 5          | 0.00        |
| 6          | -0.10       |
| 7          | 1.10        |
| 8          | 0.50        |
| 9          | 1.20        |
| 10         | 2.20        |

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      | 0.2 | 20.6 | 5s    | 0.0 | 0.0      | 0.0 | 20.9 |
| 30s   | 0.0 | 0.0      | 1.7 | 19.3 | 30s   | 0.0 | 0.0      | 1.2 | 19.5 |
| 60s   | 0.0 | 0.0      | 1.9 | 19.1 | 60s   | 0.0 | 0.0      | 2.0 | 18.9 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.21**



# 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 | 20.7 | 5s    | 0.0 | 0.0      | 0.0 | 20.6 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.7 | 30s   | 0.0 | 0.0      | 0.0 | 20.5 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.6 | 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 | 20.4 |
| 3.0        | 0.0 | 0.0 | 0.0 | 20.3 |
| 4.0        | 0.0 | 0.0 | 0.0 | 20.2 |
| 5.0        | 0.0 | 0.0 | 0.0 | 20.5 |
| 6.0        | 0.0 | 0.0 | 0.0 | 20.5 |
| 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          | 0.10        |
| 2          | 0.50        |
| 3          | 1.70        |
| 4          | 1.10        |
| 5          | 0.40        |
| 6          | 0.20        |
| 7          | 0.30        |
| 8          | 0.40        |
| 9          | 0.20        |
| 10         | 0.90        |

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 | 20.7 |
| 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 | 20.5 | 60s   | 0.0 | 0.0      | 0.0 | 20.4 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

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      | 0.0 | 20.6 | 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 | 20.4 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.7 | 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 | 20.5 |
| 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 | 20.4 |
| 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          | -0.10       |
| 2          | 0.10        |
| 3          | 0.30        |
| 4          | -0.10       |
| 5          | 0.10        |
| 6          | 0.20        |
| 7          | 0.20        |
| 8          | 0.50        |
| 9          | 0.40        |
| 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 | 20.6 | 0.0   | 0.0 | 0.0      | 0.0 | 20.6 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.5 | 0.0   | 0.0 | 0.0      | 0.0 | 20.5 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.6 | 0.0   | 0.0 | 0.0      | 0.0 | 20.5 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.23**

# 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 | 20.5 | 5s    | 0.0 | 0.0      | 0.0 | 20.5 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.5 | 30s   | 0.0 | 0.0      | 0.7 | 19.9 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.5 | 60s   | 0.0 | 0.0      | 0.7 | 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 | 0.0 | 20.5 |
| 2.0        | 0.0 | 0.0 | 0.0 | 20.3 |
| 3.0        | 0.0 | 0.0 | 0.3 | 20.1 |
| 4.0        | 0.0 | 0.0 | 0.6 | 19.9 |
| 5.0        | 0.0 | 0.0 | 0.7 | 19.7 |
| 6.0        | 0.0 | 0.0 | 0.7 | 19.8 |
| 7.0        | 0.0 | 0.0 | 0.5 | 20.1 |
| 8.0        | 0.0 | 0.0 | 0.5 | 20.1 |
| 9.0        | 0.0 | 0.0 | 0.5 | 20.1 |
| 10.0       | 0.0 | 0.0 | 0.5 | 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          | 0.10        |
| 3          | 0.60        |
| 4          | 0.30        |
| 5          | 0.70        |
| 6          | 0.60        |
| 7          | 0.50        |
| 8          | 0.30        |
| 9          | 0.70        |
| 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      | 0.0 | 20.5 | 5s    | 0.0 | 0.0      | 0.0 | 20.5 |
| 30s   | 0.0 | 0.0      | 0.5 | 20.1 | 30s   | 0.0 | 0.0      | 0.7 | 19.8 |
| 60s   | 0.0 | 0.0      | 0.5 | 20.1 | 60s   | 0.0 | 0.0      | 0.7 | 19.8 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

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      | 1.4 | 19.1 | 5s    | 0.0 | 0.0      | 0.0 | 20.5 |
| 30s   | 0.0 | 0.0      | 2.1 | 16.7 | 30s   | 0.0 | 0.0      | 2.7 | 16.6 |
| 60s   | 0.0 | 0.0      | 2.3 | 15.9 | 60s   | 0.0 | 0.0      | 3.0 | 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 | 2.3 | 15.5 |
| 2.0        | 0.0 | 0.0 | 2.4 | 15.1 |
| 3.0        | 0.0 | 0.0 | 2.5 | 14.9 |
| 4.0        | 0.0 | 0.0 | 2.5 | 14.6 |
| 5.0        | 0.0 | 0.0 | 2.6 | 14.5 |
| 6.0        | 0.0 | 0.0 | 2.7 | 14.3 |
| 7.0        | 0.0 | 0.0 | 2.7 | 14.1 |
| 8.0        | 0.0 | 0.0 | 2.8 | 14.0 |
| 9.0        | 0.0 | 0.0 | 2.8 | 13.8 |
| 10.0       | 0.0 | 0.0 | 2.8 | 13.7 |

## 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          | -1.60       |
| 2          | -1.50       |
| 3          | -1.40       |
| 4          | -1.60       |
| 5          | -1.50       |
| 6          | -1.70       |
| 7          | -1.90       |
| 8          | -1.70       |
| 9          | -1.80       |
| 10         | -1.80       |

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      | 1.8 | 16.4 | 30s   | 0.0 | 0.0      | 2.5 | 14.9 |
| 60s   | 0.0 | 0.0      | 2.3 | 15.1 | 60s   | 0.0 | 0.0      | 2.7 | 13.8 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.25**

# 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 | 20.5 | 5s    | 0.0 | 0.0      | 0.0 | 20.4 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.3 | 30s   | 0.0 | 0.0      | 0.0 | 20.2 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.3 | 60s   | 0.0 | 0.0      | 0.0 | 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 | 20.1 |
| 3.0        | 0.0 | 0.0 | 0.0 | 20.1 |
| 4.0        | 0.0 | 0.0 | 0.0 | 20.0 |
| 5.0        | 0.0 | 0.0 | 0.0 | 20.0 |
| 6.0        | 0.0 | 0.0 | 0.0 | 20.0 |
| 7.0        | 0.0 | 0.0 | 0.0 | 20.0 |
| 8.0        | 0.0 | 0.0 | 0.0 | 20.0 |
| 9.0        | 0.0 | 0.0 | 0.0 | 20.0 |
| 10.0       | 0.0 | 0.0 | 0.0 | 20.0 |

## 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          | 0.20        |
| 2          | 0.30        |
| 3          | 0.20        |
| 4          | 0.20        |
| 5          | 0.30        |
| 6          | 0.30        |
| 7          | 0.30        |
| 8          | 0.20        |
| 9          | 0.20        |
| 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 | 20.3 | 5s    | 0.0 | 0.0      | 0.0 | 20.2 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.1 | 30s   | 0.0 | 0.0      | 0.0 | 20.1 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.1 | 60s   | 0.0 | 0.0      | 0.0 | 20.1 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.26**

# 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      | 0.3 | 20.4 | 5s    | 0.0 | 0.0      | 0.0 | 20.5 |
| 30s   | 0.0 | 0.0      | 2.2 | 18.1 | 30s   | 0.0 | 0.0      | 3.0 | 17.2 |
| 60s   | 0.0 | 0.0      | 2.4 | 17.8 | 60s   | 0.0 | 0.0      | 3.3 | 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 | 2.4 | 17.8 |
| 2.0        | 0.0 | 0.0 | 2.4 | 17.6 |
| 3.0        | 0.0 | 0.0 | 2.5 | 17.5 |
| 4.0        | 0.0 | 0.0 | 2.7 | 17.2 |
| 5.0        | 0.0 | 0.0 | 2.7 | 17.1 |
| 6.0        | 0.0 | 0.0 | 2.7 | 17.1 |
| 7.0        | 0.0 | 0.0 | 2.8 | 17.1 |
| 8.0        | 0.0 | 0.0 | 2.8 | 17.0 |
| 9.0        | 0.0 | 0.0 | 2.8 | 17.0 |
| 10.0       | 0.0 | 0.0 | 2.8 | 17.0 |

## 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          | -1.80       |
| 2          | -1.50       |
| 3          | -1.20       |
| 4          | -0.60       |
| 5          | 0.00        |
| 6          | 0.30        |
| 7          | 0.30        |
| 8          | 0.40        |
| 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 | 20.5 | 5s    | 0.0 | 0.0      | 0.3 | 20.4 |
| 30s   | 0.0 | 0.0      | 2.5 | 17.9 | 30s   | 0.0 | 0.0      | 2.8 | 17.2 |
| 60s   | 0.0 | 0.0      | 2.9 | 17.1 | 60s   | 0.0 | 0.0      | 3.1 | 16.6 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.27**

# 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 | 20.5 | 5s    | 0.0 | 0.0      | 0.0 | 20.4 |
| 30s   | 0.0 | 0.0      | 0.3 | 20.1 | 30s   | 0.0 | 0.0      | 1.2 | 19.4 |
| 60s   | 0.0 | 0.0      | 0.6 | 20.0 | 60s   | 0.0 | 0.0      | 1.2 | 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 | 0.8 | 19.7 |
| 2.0        | 0.0 | 0.0 | 1.2 | 19.5 |
| 3.0        | 0.0 | 0.0 | 1.3 | 19.5 |
| 4.0        | 0.0 | 0.0 | 1.3 | 19.5 |
| 5.0        | 0.0 | 0.0 | 1.4 | 19.4 |
| 6.0        | 0.0 | 0.0 | 1.4 | 19.4 |
| 7.0        | 0.0 | 0.0 | 1.4 | 19.4 |
| 8.0        | 0.0 | 0.0 | 1.4 | 19.4 |
| 9.0        | 0.0 | 0.0 | 1.4 | 19.4 |
| 10.0       | 0.0 | 0.0 | 1.4 | 19.4 |

## 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          | -0.60       |
| 2          | -0.20       |
| 3          | -0.10       |
| 4          | 0.20        |
| 5          | 0.50        |
| 6          | -0.20       |
| 7          | 0.00        |
| 8          | 0.10        |
| 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 | 20.5 | 5s    | 0.0 | 0.0      | 0.0 | 20.5 |
| 30s   | 0.0 | 0.0      | 1.1 | 19.7 | 30s   | 0.0 | 0.0      | 1.0 | 19.7 |
| 60s   | 0.0 | 0.0      | 1.3 | 19.5 | 60s   | 0.0 | 0.0      | 1.1 | 19.6 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.28**

# 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 | 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 | 20.5 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.6 | 60s   | 0.0 | 0.0      | 0.0 | 20.5 |

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 | 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 | 0.1 | 20.6 |
| 5.0        | 0.0 | 0.0 | 0.1 | 20.6 |
| 6.0        | 0.0 | 0.0 | 0.1 | 20.4 |
| 7.0        | 0.0 | 0.0 | 0.1 | 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          | 0.50        |
| 2          | 0.10        |
| 3          | 0.10        |
| 4          | 0.10        |
| 5          | 0.20        |
| 6          | -0.10       |
| 7          | 1.00        |
| 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 | 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 | 20.5 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.6 | 60s   | 0.0 | 0.0      | 0.0 | 20.5 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

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      | 0.0 | 20.6 | 5s    | 0.0 | 0.0      | 0.0 | 20.6 |
| 30s   | 0.0 | 0.0      | 0.9 | 20.0 | 30s   | 0.0 | 0.0      | 4.6 | 11.4 |
| 60s   | 0.0 | 0.0      | 1.0 | 19.9 | 60s   | 0.0 | 0.0      | 4.8 | 10.2 |

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 | 1.4 | 19.5 |
| 2.0        | 0.0 | 0.0 | 2.1 | 18.8 |
| 3.0        | 0.0 | 0.0 | 2.4 | 18.4 |
| 4.0        | 0.0 | 0.0 | 2.6 | 17.7 |
| 5.0        | 0.0 | 0.0 | 2.9 | 16.9 |
| 6.0        | 0.0 | 0.0 | 3.3 | 16.1 |
| 7.0        | 0.0 | 0.0 | 3.3 | 15.5 |
| 8.0        | 0.0 | 0.0 | 3.3 | 15.6 |
| 9.0        | 0.0 | 0.0 | 3.3 | 15.7 |
| 10.0       | 0.0 | 0.0 | 3.3 | 15.6 |

## 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          | 0.10        |
| 3          | 0.20        |
| 4          | 0.00        |
| 5          | 0.10        |
| 6          | 0.00        |
| 7          | 0.40        |
| 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 | 20.5 | 5s    | 0.0 | 0.0      | 0.0 | 20.5 |
| 30s   | 0.0 | 0.0      | 3.3 | 16.0 | 30s   | 0.0 | 0.0      | 3.6 | 15.0 |
| 60s   | 0.0 | 0.0      | 3.3 | 16.3 | 60s   | 0.0 | 0.0      | 3.9 | 14.2 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.30**

# 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 | 20.5 | 5s    | 0.0 | 0.0      | 0.0 | 20.5 |
| 30s   | 0.0 | 0.0      | 1.4 | 19.1 | 30s   | 0.0 | 0.0      | 2.1 | 18.4 |
| 60s   | 0.0 | 0.0      | 1.6 | 18.6 | 60s   | 0.0 | 0.0      | 2.4 | 17.9 |

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 | 1.6 | 18.9 |
| 2.0        | 0.0 | 0.0 | 1.7 | 18.7 |
| 3.0        | 0.0 | 0.0 | 1.8 | 18.6 |
| 4.0        | 0.0 | 0.0 | 1.9 | 18.4 |
| 5.0        | 0.0 | 0.0 | 1.9 | 18.3 |
| 6.0        | 0.0 | 0.0 | 1.8 | 18.8 |
| 7.0        | 0.0 | 0.0 | 2.0 | 18.4 |
| 8.0        | 0.0 | 0.0 | 1.9 | 18.5 |
| 9.0        | 0.0 | 0.0 | 2.0 | 18.4 |
| 10.0       | 0.0 | 0.0 | 2.0 | 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          | 0.30        |
| 2          | 0.40        |
| 3          | 0.20        |
| 4          | 0.40        |
| 5          | 0.10        |
| 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      | 0.0 | 20.6 | 5s    | 0.0 | 0.0      | 0.0 | 20.5 |
| 30s   | 0.0 | 0.0      | 1.5 | 19.2 | 30s   | 0.0 | 0.0      | 2.3 | 18.5 |
| 60s   | 0.0 | 0.0      | 1.4 | 19.3 | 60s   | 0.0 | 0.0      | 2.4 | 17.9 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.31**

# 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 | 20.5 | 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 | 20.5 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.6 | 60s   | 0.0 | 0.0      | 0.0 | 20.5 |

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 | 20.5 |
| 2.0        | 0.0 | 0.0 | 0.0 | 20.5 |
| 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 | 20.5 |
| 7.0        | 0.0 | 0.0 | 0.0 | 20.6 |
| 8.0        | 0.0 | 0.0 | 0.0 | 20.5 |
| 9.0        | 0.0 | 0.0 | 0.0 | 20.5 |
| 10.0       | 0.0 | 0.0 | 0.0 | 20.5 |

## 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          | 0.50        |
| 2          | 1.50        |
| 3          | 0.50        |
| 4          | 0.70        |
| 5          | 3.30        |
| 6          | 2.70        |
| 7          | 1.70        |
| 8          | 1.40        |
| 9          | 2.20        |
| 10         | 1.60        |

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      | 0.0 | 20.6 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.5 | 60s   | 0.0 | 0.0      | 0.0 | 20.6 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

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 | 20.5 | 5s    | 0.0 | 0.0      | 0.0 | 20.6 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.6 | 30s   | 0.0 | 0.0      | 0.1 | 20.4 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.6 | 60s   | 0.0 | 0.0      | 0.1 | 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 | 20.5 |
| 2.0        | 0.0 | 0.0 | 0.0 | 20.5 |
| 3.0        | 0.0 | 0.0 | 0.0 | 20.4 |
| 4.0        | 0.0 | 0.0 | 0.0 | 20.3 |
| 5.0        | 0.0 | 0.0 | 0.0 | 20.3 |
| 6.0        | 0.0 | 0.0 | 0.0 | 20.3 |
| 7.0        | 0.0 | 0.0 | 0.0 | 20.3 |
| 8.0        | 0.0 | 0.0 | 0.0 | 20.3 |
| 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          | -0.10       |
| 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    | 0.0 | 0.0      | 0.0 | 20.5 | 0.0   | 0.0 | 0.0      | 0.0 | 20.4 |
| 30s   | 0.0 | 0.0      | 0.0 | 20.5 | 0.0   | 0.0 | 0.0      | 0.0 | 20.4 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.5 | 0.0   | 0.0 | 0.0      | 0.0 | 20.4 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.33**

# 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 | 20.6 | 5s    | 0.0 | 0.0      | 0.0 | 20.7 |
| 30s   | 0.0 | 0.0      | 0.5 | 20.2 | 30s   | 0.0 | 0.0      | 1.3 | 19.6 |
| 60s   | 0.0 | 0.0      | 0.6 | 20.2 | 60s   | 0.0 | 0.0      | 1.5 | 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 | 0.7 | 20.0 |
| 2.0        | 0.0 | 0.0 | 0.8 | 19.9 |
| 3.0        | 0.0 | 0.0 | 0.9 | 19.9 |
| 4.0        | 0.0 | 0.0 | 0.9 | 19.8 |
| 5.0        | 0.0 | 0.0 | 0.9 | 19.8 |
| 6.0        | 0.0 | 0.0 | 1.0 | 19.6 |
| 7.0        | 0.0 | 0.0 | 1.0 | 19.6 |
| 8.0        | 0.0 | 0.0 | 1.0 | 19.5 |
| 9.0        | 0.0 | 0.0 | 1.0 | 19.5 |
| 10.0       | 0.0 | 0.0 | 1.0 | 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          | 0.50        |
| 2          | -0.10       |
| 3          | -0.20       |
| 4          | 0.00        |
| 5          | 0.90        |
| 6          | 1.00        |
| 7          | 0.80        |
| 8          | 1.40        |
| 9          | 0.40        |
| 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 | 20.6 | 5s    | 0.0 | 0.0      | 0.0 | 20.6 |
| 30s   | 0.0 | 0.0      | 1.1 | 19.5 | 30s   | 0.0 | 0.0      | 1.0 | 19.5 |
| 60s   | 0.0 | 0.0      | 1.1 | 19.5 | 60s   | 0.0 | 0.0      | 1.2 | 19.4 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.34**

# 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 | 20.6 | 5s    | 0.0 | 0.0      | 0.0 | 20.6 |
| 30s   | 0.0 | 0.0      | 1.9 | 16.9 | 30s   | 0.0 | 0.0      | 2.5 | 16.9 |
| 60s   | 0.0 | 0.0      | 2.2 | 16.0 | 60s   | 0.0 | 0.0      | 2.9 | 14.2 |

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 | 2.2 | 16.5 |
| 2.0        | 0.0 | 0.0 | 2.8 | 14.7 |
| 3.0        | 0.0 | 0.0 | 2.9 | 14.4 |
| 4.0        | 0.0 | 0.0 | 2.9 | 14.3 |
| 5.0        | 0.0 | 0.0 | 2.8 | 14.4 |
| 6.0        | 0.0 | 0.0 | 2.8 | 14.4 |
| 7.0        | 0.0 | 0.0 | 2.8 | 14.4 |
| 8.0        | 0.0 | 0.0 | 2.8 | 14.5 |
| 9.0        | 0.0 | 0.0 | 2.7 | 14.5 |
| 10.0       | 0.0 | 0.0 | 2.7 | 14.5 |

## 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          | -1.70       |
| 2          | -0.40       |
| 3          | -1.70       |
| 4          | -1.90       |
| 5          | -0.80       |
| 6          | -2.00       |
| 7          | -2.10       |
| 8          | -1.70       |
| 9          | -1.70       |
| 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      | 0.0 | 20.6 | 5s    | 0.0 | 0.0      | 0.0 | 20.5 |
| 30s   | 0.0 | 0.0      | 1.8 | 16.5 | 30s   | 0.0 | 0.0      | 2.4 | 15.2 |
| 60s   | 0.0 | 0.0      | 2.2 | 15.8 | 60s   | 0.0 | 0.0      | 2.7 | 14.5 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

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 | 19.8 | 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 | 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 | 20.5 |
| 2.0        | 0.0 | 0.0 | 0.0 | 20.5 |
| 3.0        | 0.0 | 0.0 | 0.0 | 20.4 |
| 4.0        | 0.0 | 0.0 | 0.1 | 20.1 |
| 5.0        | 0.0 | 0.0 | 0.2 | 20.0 |
| 6.0        | 0.0 | 0.0 | 0.2 | 20.0 |
| 7.0        | 0.0 | 0.0 | 0.2 | 20.0 |
| 8.0        | 0.0 | 0.0 | 0.0 | 20.2 |
| 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          | 0.20        |
| 3          | -0.40       |
| 4          | -0.50       |
| 5          | -0.30       |
| 6          | 0.00        |
| 7          | -0.20       |
| 8          | -0.10       |
| 9          | -0.50       |
| 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      | 0.0 | 20.5 | 5s    | 0.0 | 0.0      | 0.0 | 20.5 |
| 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 | 20.5 | 60s   | 0.0 | 0.0      | 0.0 | 20.6 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

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      | 0.0 | 20.7 | 5s    | 0.0 | 0.0      | 0.0 | 20.7 |
| 30s   | 0.0 | 0.0      | 2.7 | 17.9 | 30s   | 0.0 | 0.0      | 2.9 | 18.5 |
| 60s   | 0.0 | 0.0      | 2.8 | 17.8 | 60s   | 0.0 | 0.0      | 3.5 | 17.6 |

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 | 2.7 | 17.7 |
| 2.0        | 0.0 | 0.0 | 2.8 | 17.6 |
| 3.0        | 0.0 | 0.0 | 2.8 | 17.5 |
| 4.0        | 0.0 | 0.0 | 2.8 | 17.5 |
| 5.0        | 0.0 | 0.0 | 2.8 | 17.5 |
| 6.0        | 0.0 | 0.0 | 2.8 | 17.5 |
| 7.0        | 0.0 | 0.0 | 2.9 | 17.4 |
| 8.0        | 0.0 | 0.0 | 2.9 | 17.4 |
| 9.0        | 0.0 | 0.0 | 2.9 | 17.2 |
| 10.0       | 0.0 | 0.0 | 2.9 | 17.2 |

## 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          | 1.20        |
| 2          | 1.40        |
| 3          | 0.70        |
| 4          | 0.30        |
| 5          | -1.20       |
| 6          | 0.20        |
| 7          | 1.40        |
| 8          | 1.60        |
| 9          | 2.60        |
| 10         | 2.20        |

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 | 20.5 | 5s    | 0.0 | 0.0      | 0.0 | 20.5 |
| 30s   | 0.0 | 0.0      | 2.9 | 17.5 | 30s   | 0.0 | 0.0      | 3.1 | 17.2 |
| 60s   | 0.0 | 0.0      | 3.1 | 17.1 | 60s   | 0.0 | 0.0      | 3.3 | 16.9 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.37**



# 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 | 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      | 0.8 | 20.0 |
| 60s   | 0.0 | 0.0      | 0.0 | 20.6 | 60s   | 0.0 | 0.0      | 0.9 | 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 | 0.7 | 20.7 |
| 2.0        | 0.0 | 0.0 | 0.2 | 20.7 |
| 3.0        | 0.0 | 0.0 | 0.1 | 20.5 |
| 4.0        | 0.0 | 0.0 | 0.1 | 19.7 |
| 5.0        | 0.0 | 0.0 | 0.4 | 19.5 |
| 6.0        | 0.0 | 0.0 | 0.5 | 19.2 |
| 7.0        | 0.0 | 0.0 | 0.7 | 19.2 |
| 8.0        | 0.0 | 0.0 | 0.5 | 19.3 |
| 9.0        | 0.0 | 0.0 | 0.6 | 19.3 |
| 10.0       | 0.0 | 0.0 | 0.6 | 19.2 |

## 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          | 0.50        |
| 2          | 0.70        |
| 3          | 0.60        |
| 4          | 0.90        |
| 5          | 0.80        |
| 6          | 0.70        |
| 7          | 0.30        |
| 8          | -0.10       |
| 9          | 0.10        |
| 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      | 0.0 | 20.6 | 5s    | 0.0 | 0.0      | 0.0 | 20.6 |
| 30s   | 0.0 | 0.0      | 0.2 | 20.4 | 30s   | 0.0 | 0.0      | 0.4 | 20.4 |
| 60s   | 0.0 | 0.0      | 0.2 | 20.4 | 60s   | 0.0 | 0.0      | 0.7 | 20.1 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.38**

# 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 | 20.4 | 5s    | 0.0 | 0.0      | 0.0 | 20.4 |
| 30s   | 0.0 | 0.0      | 0.0 | 18.9 | 30s   | 0.0 | 0.0      | 0.4 | 12.5 |
| 60s   | 0.0 | 0.0      | 0.0 | 19.3 | 60s   | 0.0 | 0.0      | 0.4 | 12.7 |

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 | 20.3 |
| 2.0        | 0.0 | 0.0 | 0.0 | 20.1 |
| 3.0        | 0.0 | 0.0 | 0.0 | 19.5 |
| 4.0        | 0.0 | 1.0 | 0.1 | 18.0 |
| 5.0        | 0.0 | 1.1 | 0.1 | 16.9 |
| 6.0        | 0.0 | 1.2 | 0.1 | 16.1 |
| 7.0        | 0.0 | 1.3 | 0.1 | 15.5 |
| 8.0        | 0.0 | 1.2 | 0.1 | 14.7 |
| 9.0        | 0.0 | 1.4 | 0.2 | 14.3 |
| 10.0       | 0.0 | 1.4 | 0.2 | 13.7 |

## 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          | 0.00        |
| 3          | 0.30        |
| 4          | 0.20        |
| 5          | 0.10        |
| 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 | 20.5 | 5s    | 0.0 | 0.0      | 0.0 | 20.5 |
| 30s   | 0.0 | 1.1      | 0.0 | 17.2 | 30s   | 0.0 | 0.0      | 0.2 | 14.5 |
| 60s   | 0.0 | 1.0      | 0.0 | 18.2 | 60s   | 0.0 | 0.0      | 0.2 | 14.4 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.39**

# 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 | 20.5 | 5s    | 0.0 | 0.0      | 0.0 | 20.5 |
| 30s   | 0.0 | 0.0      | 0.5 | 19.5 | 30s   | 0.0 | 0.0      | 4.3 | 12.3 |
| 60s   | 0.0 | 0.0      | 0.6 | 19.3 | 60s   | 0.0 | 0.0      | 4.5 | 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 | 0.6 | 19.2 |
| 2.0        | 0.0 | 0.0 | 0.8 | 18.9 |
| 3.0        | 0.0 | 0.0 | 1.0 | 18.5 |
| 4.0        | 0.0 | 0.0 | 1.5 | 18.0 |
| 5.0        | 0.0 | 0.0 | 1.6 | 17.8 |
| 6.0        | 0.0 | 0.0 | 1.8 | 17.5 |
| 7.0        | 0.0 | 0.0 | 2.1 | 16.7 |
| 8.0        | 0.0 | 0.0 | 2.1 | 16.7 |
| 9.0        | 0.0 | 0.0 | 2.1 | 16.7 |
| 10.0       | 0.0 | 0.0 | 2.1 | 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          | 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 | 20.4 |
| 30s   | 0.0 | 0.0      | 1.7 | 17.6 | 30s   | 0.0 | 0.0      | 2.8 | 15.8 |
| 60s   | 0.0 | 0.0      | 1.6 | 17.6 | 60s   | 0.0 | 0.0      | 2.9 | 15.5 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.40**

# 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 | 20.6 | 5s    | 0.0 | 0.0      | 0.0 | 20.6 |
| 30s   | 0.0 | 0.0      | 1.3 | 19.4 | 30s   | 0.0 | 0.0      | 2.4 | 18.3 |
| 60s   | 0.0 | 0.0      | 1.5 | 19.2 | 60s   | 0.0 | 0.0      | 2.6 | 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 | 1.6 | 19.0 |
| 2.0        | 0.0 | 0.0 | 1.9 | 18.6 |
| 3.0        | 0.0 | 0.0 | 2.2 | 18.4 |
| 4.0        | 0.0 | 0.0 | 2.1 | 18.5 |
| 5.0        | 0.0 | 0.0 | 2.1 | 18.5 |
| 6.0        | 0.0 | 0.0 | 2.0 | 18.4 |
| 7.0        | 0.0 | 0.0 | 2.0 | 18.4 |
| 8.0        | 0.0 | 0.0 | 2.0 | 18.4 |
| 9.0        | 0.0 | 0.0 | 2.0 | 18.4 |
| 10.0       | 0.0 | 0.0 | 2.0 | 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          | 0.10        |
| 2          | 0.00        |
| 3          | 0.00        |
| 4          | 0.10        |
| 5          | 0.00        |
| 6          | 0.00        |
| 7          | 0.10        |
| 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 | 20.5 | 5s    | 0.0 | 0.0      | 0.0 | 20.6 |
| 30s   | 0.0 | 0.0      | 1.4 | 19.3 | 30s   | 0.0 | 0.0      | 1.9 | 18.6 |
| 60s   | 0.0 | 0.0      | 1.7 | 19.0 | 60s   | 0.0 | 0.0      | 2.5 | 18.1 |

Notes:

Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2  
 Project No. A1008-11  
 Carried out for Scottish and Southern Energy PLC

Figure

**B2.41**

# Water Quality Monitoring



Soil Mechanics

Date  Air temperature (oC)  Cloud Cover

Operator  Barometric Pressure (mbars)  Precipitation

Equipment Used

| Borehole/<br>Instrument | Depth of<br>Installation<br>(m BGL) | Time of<br>Reading | Depth to<br>Groundwater<br>(m BGL) | Temp<br>(°C) | pH   | Dissolved<br>O <sub>2</sub><br>(mg/l) | Elec. Cond.<br>(uS/cm) | Redox<br>(mV) | Remarks                                                         |
|-------------------------|-------------------------------------|--------------------|------------------------------------|--------------|------|---------------------------------------|------------------------|---------------|-----------------------------------------------------------------|
| BH601                   | 7.8                                 | 14:25              | 14:24                              | 10           | 7.54 | 2.82                                  | 884                    | 95            |                                                                 |
| BH605                   | 7.3                                 | 10:35              | 23:31                              | 10           | 7.3  | 2.64                                  | 1667                   | 78            | Cloudy brown, no smell.                                         |
| BH608                   | 10                                  | 08:12              | 01:40                              | 10           | 7.49 | 0.66                                  | 820                    | -76           | Creamy, viscous, cream coloured solids, no smell.               |
| BH609                   | 9.1                                 | 09:50              | 01:55                              | 11           | 7.27 | 5                                     | 1160                   | 69            | Cloudy pale brown, no smell.                                    |
| BH610                   | 4.4                                 | 11:10              | Dry                                | NA           | NA   | NA                                    | NA                     | NA            | Hole dry.                                                       |
| BH611                   | 10.1                                | 13:00              | 02:24                              | 9            | 7.4  | 1.5                                   | 1640                   | 65            | Cloudy brown, no smell.                                         |
| BH102                   | 3.05                                | 13:40              | Dry                                | NA           | NA   | NA                                    | NA                     | NA            | Hole dry.                                                       |
| WS606                   | 3.4                                 | 12:37              | 23:02                              | 8            | 7.17 | 1.51                                  | 1153                   | 28            | Muddy brown, no smell. (Insufficient water for complete sample) |
| FB Up                   | NA                                  | 15:45              | NA                                 | 9            | 8.11 | 7.86                                  | 1806                   | 88            | Fryson Beck Upstream Sample                                     |
| FB Dn                   | NA                                  | 15:30              | NA                                 | 9            | 8.14 | 7.1                                   | 1684                   | 96            | Fryson Beck Downstream Sample                                   |

|        |                                                                                                                                                         |                             |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| Notes: | <b>Project</b> FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2<br><b>Project No.</b> A1008-11<br><b>Carried out for</b> Scottish and Southern Energy PLC | <b>Figure</b><br><b>3.1</b> |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|

# Water Quality Monitoring



Soil Mechanics

Date  Air temperature (oC)  Cloud Cover

Operator  Barometric Pressure (mbars)  Precipitation

Equipment Used

| Borehole/<br>Instrument | Depth of<br>Installation<br>(m BGL) | Time of<br>Reading | Depth to<br>Groundwater<br>(m BGL) | Temp<br>(°C) | pH   | Dissolved<br>O <sub>2</sub><br>(mg/l) | Elec. Cond.<br>(uS/cm) | Redox<br>(mV) | Remarks                                                         |
|-------------------------|-------------------------------------|--------------------|------------------------------------|--------------|------|---------------------------------------|------------------------|---------------|-----------------------------------------------------------------|
| BH601                   | 7.8                                 | 10:50              | 16:19                              | 10           | 7.65 | 3.82                                  | 734                    | 71            | Pale brown cloudy, no smell.                                    |
| BH605                   | 7.3                                 | 12:00              | 02:24                              | 11           | 7.33 | 3.27                                  | 1669                   | 57            | Cloudy pale brown, no smell.                                    |
| BH608                   | 10                                  | 09:55              | 03:50                              | 11           | 7.4  | 1.18                                  | 1016                   | 18            | Cream coloured, no smell.                                       |
| BH609                   | 9.1                                 | 11:00              | 04:48                              | 11           | 7.34 | 5.36                                  | 1109                   | 59            | Cloudy pale brown, no smell.                                    |
| BH610                   | 4.4                                 | 12:37              | Dry                                | NA           | NA   | NA                                    | NA                     | NA            | Hole dry.                                                       |
| BH611                   | 10.1                                | 09:20              | 05:31                              | 10           | 7.42 | 1.53                                  | 755                    | 51            | Muddy brown, no smell.                                          |
| BH102                   | 3.05                                | 13:25              | Dry                                | NA           | NA   | NA                                    | NA                     | NA            | Hole dry.                                                       |
| WS606                   | 3.4                                 | 08:30              | 05:02                              | 9            | 7.16 | 1.92                                  | 939                    | -3            | Muddy brown, no smell. (Insufficient water for complete sample) |
| FB Up                   | NA                                  | 14:10              | NA                                 | 10           | 8.24 | 5.69                                  | 1895                   | 58            | Fryston Beck Upstream Sample                                    |
| FB Dn                   | NA                                  | 14:00              | NA                                 | 10           | 8.26 | 6.03                                  | 1895                   | 57            | Fryston Beck Downstream Sample                                  |

Notes:

**Project** FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
**Project No.** A1008-11  
**Carried out for** Scottish and Southern Energy PLC

**Figure**

**3.2**

**ENCLOSURE C**  
**GEOTECHNICAL LABORATORY TEST RESULTS**

|                                                                             |              |
|-----------------------------------------------------------------------------|--------------|
| Index Properties – Summary of Results                                       | INDX 1 to 2  |
| Particle Size Distribution Analyses                                         | PSD 1 to 96  |
| Unconsolidated Undrained Triaxial Compression Tests –<br>Summary of Results | UUSUM 1      |
| One Dimensional Consolidation Test                                          | OED 1 to 4   |
| Dry Density / Moisture Content Relationship Test                            | COMPL 1 to 6 |
| Chemical Tests Summary of Results                                           | CHEM 1 to 4  |
| Uniaxial Compressive Strength of Rock Tests – Summary of<br>Results         | RUCS 1       |
| Point Load Index Test                                                       | PLT 1 to 5   |

# INDEX PROPERTIES - SUMMARY OF RESULTS

|            |                                            |
|------------|--------------------------------------------|
| Project No | Project Name                               |
| A1008-11   | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2 |

| Hole No. | Sample |           |      |      | Soil Description                                                | p                 | p <sub>d</sub> | W   | < 425<br>µm<br>sieve | W <sub>L</sub> | W <sub>p</sub>    | I <sub>p</sub> | p <sub>s</sub> | Remarks |
|----------|--------|-----------|------|------|-----------------------------------------------------------------|-------------------|----------------|-----|----------------------|----------------|-------------------|----------------|----------------|---------|
|          | No.    | Depth (m) |      | type |                                                                 |                   |                |     |                      |                |                   |                |                |         |
|          |        | from      | to   |      |                                                                 | Mg/m <sup>3</sup> | %              | %   | %                    | %              | Mg/m <sup>3</sup> |                |                |         |
| BH601    | 4      | 0.60      | 1.00 | B    | Brown slightly sandy slightly gravelly CLAY with one cobble.    |                   |                | 19  | 52 s                 | 45 a           | 21                | 24             |                |         |
| BH602    | 5      | 1.20      | 1.65 | D    | Brown slightly sandy slightly gravelly CLAY.                    |                   |                | 15  |                      |                |                   |                |                |         |
| BH602    | 6      | 1.65      | 2.00 | B    | Brown slightly gravelly sandy CLAY.                             |                   |                |     | 77 s                 | 31 a           | 17                | 14             |                |         |
| BH602    | 7      | 2.10      | 2.55 | U    | Firm to stiff brown slightly sandy gravelly CLAY.               |                   |                | 9.4 |                      |                |                   |                |                |         |
| BH602    | 8      | 2.55      | 2.75 | D    | Light reddish brown slightly sandy slightly gravelly CLAY.      |                   |                | 17  | 97 n                 | 42 a           | 20                | 22             |                |         |
| BH603    | 7      | 1.60      | 2.30 | B    | Light brown slightly sandy slightly gravelly SILT.              |                   |                | 18  | 75 s                 | 25 b           | NP                |                |                |         |
| BH604    | 9      | 2.65      | 2.85 | D    | Brown slightly sandy CLAY.                                      |                   |                | 29  | 100 n                | 58 a           | 26                | 32             |                |         |
| BH604    | 10     | 2.85      | 3.30 | D    | Brown slightly gravelly sandy CLAY.                             |                   |                | 25  | 99 n                 | 53 a           | 23                | 30             |                |         |
| BH604    | 11     | 3.00      | 3.50 | B    | Brown slightly sandy slightly gravelly CLAY.                    |                   |                | 31  | 98 s                 | 58 a           | 22                | 36             |                |         |
| BH604    | 12     | 3.85      | 4.30 | U    | Light brown slightly gravelly SILT.                             |                   |                | 22  | 91 s                 | 32 b           | NP                |                |                |         |
| BH606    | 6      | 1.50      | 2.10 | B    | Brown slightly gravelly sandy CLAY.                             |                   |                | 14  | 72 s                 | 28 a           | 15                | 13             |                |         |
| BH607    | 2      | 0.40      | 0.60 | B    | Brown slightly sandy slightly gravelly CLAY.                    |                   |                | 19  | 96 s                 | 40 a           | 19                | 21             |                |         |
| BH607    | 4      | 0.60      | 1.00 | B    | Reddish brown slightly sandy slightly gravelly CLAY.            |                   |                | 17  | 95 s                 | 35 a           | 17                | 18             |                |         |
| BH608    | 4      | 0.75      | 1.00 | B    | Brown slightly sandy slightly gravelly CLAY with rare rootlets. |                   |                | 17  | 51 s                 | 46 a           | 19                | 27             |                |         |
| BH611    | 9      | 2.55      | 3.00 | B    | Light brown slightly sandy slightly gravelly CLAY.              |                   |                | 22  | 92 n                 | 53 a           | 24                | 29             |                |         |
| WS601    | 9      | 1.80      | 2.80 | B    | Brown slightly gravelly sandy CLAY.                             |                   |                | 11  | 78 s                 | 23 a           | 15                | 8              |                |         |
| WS601    | 11     | 2.80      | 3.60 | B    | Greyish brown slightly gravelly sandy CLAY.                     |                   |                | 12  | 66 s                 | 26 a           | 14                | 12             |                |         |
| WS602    | 9      | 2.00      | 3.00 | B    | Brown clayey gravelly SAND.                                     |                   |                | 11  | 67 s                 | 24 a           | 15                | 9              |                |         |
| WS602    | 8      | 2.00      | 2.45 | D    | Brown slightly gravelly sandy CLAY.                             |                   |                | 6.6 | 65 s                 | 23 a           | 14                | 9              |                |         |
| WS602    | 11     | 3.00      | 4.00 | B    | Brownish grey slightly gravelly sandy silty CLAY.               |                   |                | 18  | 80 s                 | 23 a           | 17                | 6              |                |         |
| WS602    | 10     | 3.00      | 3.45 | D    | Brown slightly gravelly sandy silty CLAY.                       |                   |                | 16  | 80 s                 | 22 b           | 16                | 6              |                |         |
| WS603    | 10     | 2.00      | 3.00 | B    | Greyish brown slightly gravelly sandy CLAY.                     |                   |                | 22  | 85 s                 | 37 a           | 20                | 17             |                |         |
| WS603    | 9      | 2.00      | 2.45 | D    | Brown slightly gravelly sandy CLAY.                             |                   |                | 16  | 79 s                 | 36 a           | 18                | 18             |                |         |
| WS603    | 11     | 3.00      | 3.45 | D    | Light brown slightly sandy slightly gravelly CLAY.              |                   |                | 27  | 88 s                 | 49 a           | 19                | 30             |                |         |
| WS605    | 7      | 1.20      | 1.40 | D    | Light brown slightly gravelly SILT.                             |                   |                | 19  | 82 s                 | 28 b           | NP                |                |                |         |
| WS605    | 9      | 2.00      | 2.45 | D    | Brown slightly sandy CLAY.                                      |                   |                | 28  | 100 n                | 61 a           | 26                | 35             |                |         |
| WS605    | 12     | 3.00      | 4.00 | B    | Brown slightly sandy CLAY.                                      |                   |                | 32  | 98 s                 | 43 a           | 20                | 23             |                |         |
| WS606    | 16     | 5.00      | 5.45 | D    | Brown slightly sandy slightly gravelly CLAY.                    |                   |                | 26  | 74 s                 | 37 a           | 23                | 14             |                |         |
| WS606    | 17     | 6.00      | 6.45 | D    | Brown slightly sandy slightly gravelly CLAY.                    |                   |                | 22  | 59 s                 | 32 a           | 20                | 12             |                |         |
| WS607    | 9      | 2.00      | 2.45 | D    | Brown slightly sandy slightly gravelly silty CLAY.              |                   |                | 15  | 73 s                 | 26 b           | 17                | 9              |                |         |
| WS614    | 6      | 1.20      | 1.65 | D    | Brownish grey slightly sandy slightly gravelly CLAY.            |                   |                | 21  | 69 s                 | 34 a           | 17                | 17             |                |         |
| WS614    | 10     | 2.50      | 2.80 | D    | Brown slightly sandy slightly gravelly CLAY.                    |                   |                | 24  | 89 s                 | 37 a           | 19                | 18             |                |         |

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 : | $\rho$   | bulk density, linear | $W_L$ | Liquid limit      | $W_P$ | Plastic limit    | <425 $\mu$ m preparation | $\rho_s$          | particle density      |
|       | $\rho_d$ | 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 |

|                                            |                                                                                                           |                          |                                   |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------|
| <b>QA Ref</b><br>SLR 1<br>Rev 84<br>Nov 08 |  <b>Soil Mechanics</b> | Printed:07/04/2011 13:59 | <b>Table</b><br><br><b>INDX 1</b> |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------|



## INDEX PROPERTIES - SUMMARY OF RESULTS

| Project No | Project Name                               |
|------------|--------------------------------------------|
| A1008-11   | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2 |

| Hole No. | Sample |           |      |      | Soil Description                                                   | $p$               | $p_d$ | $W$ | < 425 $\mu$ m sieve | $W_L$ | $W_P$             | $I_P$ | $p_s$ | Remarks |
|----------|--------|-----------|------|------|--------------------------------------------------------------------|-------------------|-------|-----|---------------------|-------|-------------------|-------|-------|---------|
|          | No.    | Depth (m) |      | type |                                                                    |                   |       |     |                     |       |                   |       |       |         |
|          |        | from      | to   |      |                                                                    | Mg/m <sup>3</sup> | %     | %   | %                   | %     | Mg/m <sup>3</sup> |       |       |         |
| WS614    | 11     | 2.80      | 3.00 | D    | Dark greyish brown slightly sandy slightly gravelly clayey SILT.   |                   |       | 33  | 94 s                | 45 a  | 31                | 14    |       |         |
| WS614    | 13     | 3.00      | 4.00 | D    | Brown slightly sandy slightly gravelly CLAY.                       |                   |       | 23  | 91 s                | 34 a  | 24                | 10    |       |         |
| WS614    | 15     | 4.00      | 4.90 | D    | Greyish brown slightly sandy slightly gravelly CLAY.               |                   |       | 29  | 94 n                | 36 a  | 19                | 17    |       |         |
| WS615    | 6      | 1.20      | 1.80 | B    | Brown slightly gravelly slightly sandy CLAY.                       |                   |       | 29  | 97 s                | 46 a  | 20                | 26    |       |         |
| WS615    | 5      | 1.20      | 1.65 | D    | Brown slightly gravelly sandy CLAY.                                |                   |       | 15  | 77 s                | 24 a  | 13                | 11    |       |         |
| WS619    | 4      | 0.30      | 0.50 | B    | Brown slightly gravelly slightly sandy CLAY.                       |                   |       | 25  | 98 n                | 56 a  | 22                | 34    |       |         |
| WS622    | 4      | 0.70      | 1.20 | B    | Brown slightly gravelly sandy CLAY.                                |                   |       | 12  | 60 s                | 33 a  | 15                | 18    |       |         |
| WS622    | 7      | 2.00      | 2.45 | D    | Light brown slightly sandy gravelly CLAY.                          |                   |       | 17  | 52 s                | 43 a  | 18                | 25    |       |         |
| WS622    | 10     | 3.00      | 3.45 | D    | Light brown silty CLAY.                                            |                   |       | 15  |                     |       |                   |       |       |         |
| WS622    | 12     | 4.00      | 4.45 | D    | Light brown SILT.                                                  |                   |       | 22  |                     |       |                   |       |       |         |
| WS622    | 14     | 5.00      | 5.45 | D    | Light brown slightly gravelly SILT.                                |                   |       | 24  |                     |       |                   |       |       |         |
| WS622    | 16     | 6.00      | 6.45 | D    | Light brown SILT.                                                  |                   |       | 24  |                     |       |                   |       |       |         |
| WS623    | 5      | 0.70      | 0.90 | B    | Brown slightly gravelly slightly sandy CLAY.                       |                   |       | 24  | 97 s                | 39 a  | 22                | 17    |       |         |
| WS623    | 6      | 1.20      | 1.65 | D    | Light brown slightly sandy SILT with frequent clay pockets.        |                   |       | 20  | 88 s                | 39 a  | 21                | 18    |       |         |
| WS625    | 6      | 1.20      | 1.65 | D    | Reddish brown slightly sandy slightly gravelly CLAY.               |                   |       | 18  | 79 s                | 47 a  | 20                | 27    |       |         |
| WS625    | 10     | 2.80      | 3.00 | D    | Light yellowish brown slightly sandy slightly gravelly silty CLAY. |                   |       | 28  | 91 s                | 32 a  | 24                | 8     |       |         |
| WS625    | 13     | 4.00      | 4.45 | D    | Yellowish brown slightly gravelly slightly sandy SILT.             |                   |       | 32  | 99 s                | 37 b  | NP                |       |       |         |
| WS627    | 5      | 0.50      | 1.00 | B    | Brown slightly gravelly sandy CLAY with one cobble.                |                   |       | 16  | 72 s                | 43 a  | 19                | 24    |       |         |
| WS627    | 6      | 1.00      | 1.20 | B    | Light brown slightly sandy slightly gravelly CLAY.                 |                   |       | 16  | 55 n                | 31 a  | 15                | 16    |       |         |
| WS629    | 7      | 1.50      | 2.00 | B    | Brown slightly gravelly sandy CLAY.                                |                   |       | 12  | 75 s                | 25 a  | 14                | 11    |       |         |

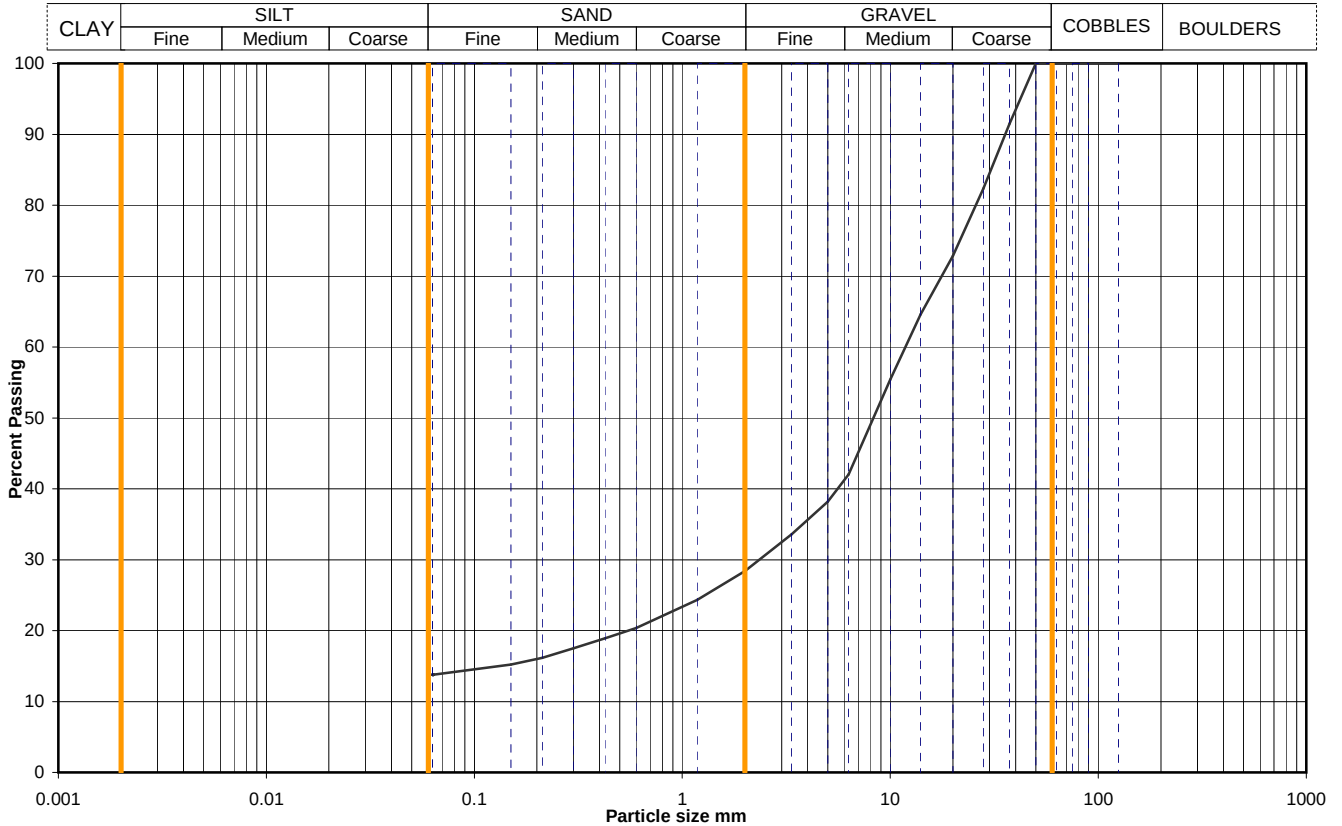
General notes: All above tests carried out to BS1377 : 1990 definitive method in all cases unless annotated otherwise. See individual test reports for further details.

|       |          |                      |       |                   |       |                  |                    |                   |                       |
|-------|----------|----------------------|-------|-------------------|-------|------------------|--------------------|-------------------|-----------------------|
| Key : | $\rho$   | bulk density, linear | $W_L$ | Liquid limit      | $W_P$ | Plastic limit    | <425um preparation | $\rho_s$          | particle density      |
|       | $\rho_d$ | 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 |

|                                            |                                                                                                           |                          |                                   |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------|
| <b>QA Ref</b><br>SLR 1<br>Rev 84<br>Nov 08 |  <b>Soil Mechanics</b> | Printed:07/04/2011 13:59 | <b>Table</b><br><br><b>INDX 2</b> |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------|

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH601 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.20  |   |
|              |                                               |                 | Samp No       | 2                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102240000000054 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 100       |                  |           |
| 63               | 100       |                  |           |
| 50               | 100       |                  |           |
| 37.5             | 92        |                  |           |
| 28               | 82        |                  |           |
| 20               | 73        |                  |           |
| 14               | 65        |                  |           |
| 10               | 55        |                  |           |
| 6.3              | 42        |                  |           |
| 5.0              | 38        |                  |           |
| 3.35             | 34        |                  |           |
| 2.00             | 28        |                  |           |
| 1.18             | 24        |                  |           |
| 0.600            | 20        |                  |           |
| 0.425            | 19        |                  |           |
| 0.300            | 18        |                  |           |
| 0.212            | 16        |                  |           |
| 0.150            | 15        |                  |           |
| 0.063            | 14        |                  |           |

|                                                                   |                                    |       |          |
|-------------------------------------------------------------------|------------------------------------|-------|----------|
| Soil description                                                  | Brownish grey clayey sandy GRAVEL. |       |          |
| Preparation / Pretreatment                                        | Sieve: natural material            |       |          |
| Remarks                                                           |                                    |       |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders                 | Whole | * < 60mm |
|                                                                   | Gravel                             | 0     | 0        |
|                                                                   | Sand                               | 72    | 72       |
|                                                                   | Silt                               | 15    | 15       |
|                                                                   | Clay                               | 13    | 13       |

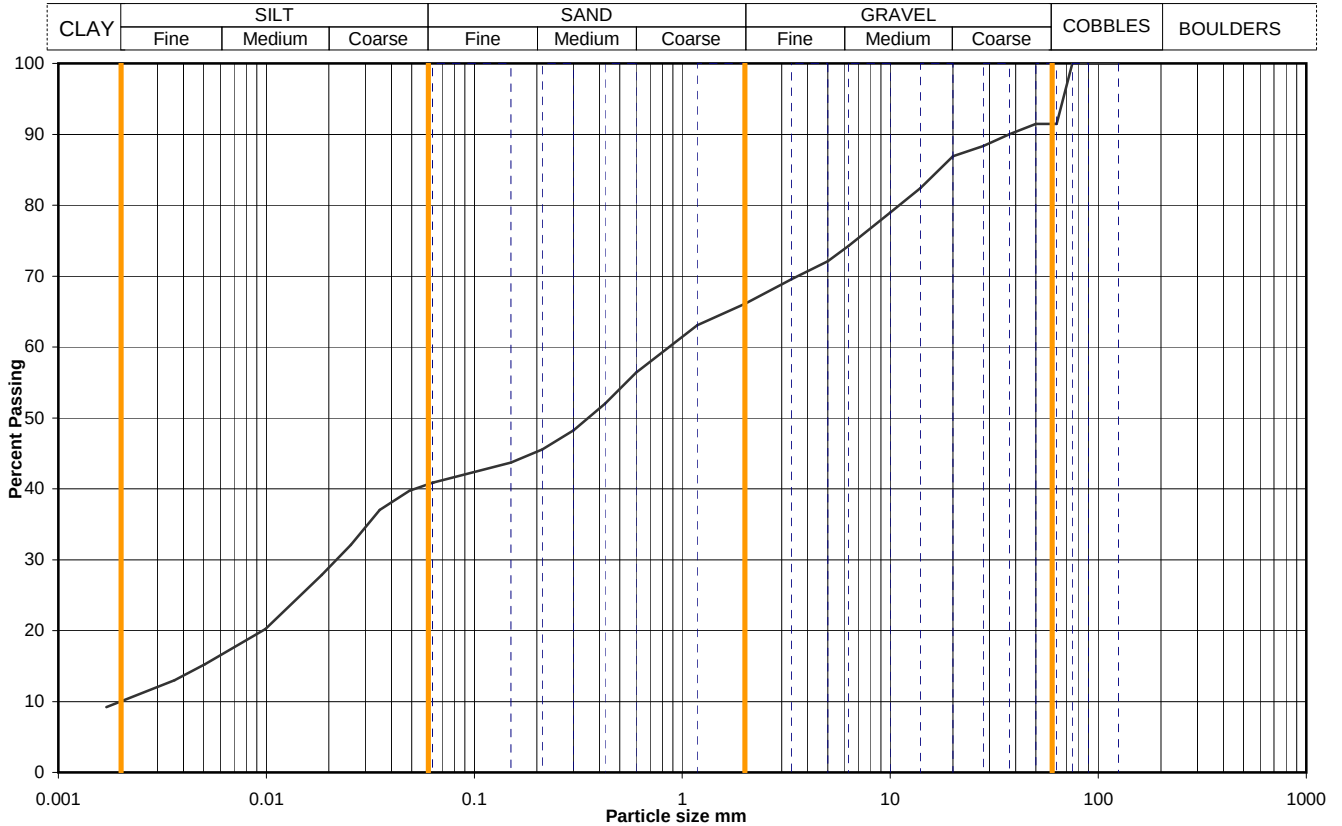
|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |               |
|-------------|-------------------------|---------------|
| Test Method | BS 1377 : Part 2 : 1990 |               |
|             | Sieving                 | 9.2 wet sieve |
|             | Sedimentation           | none          |

|                              |                                                                                                           |                           |                        |
|------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------|------------------------|
| QA Ref                       |  <b>Soil Mechanics</b> | Printed: 07/04/2011 14:00 | Figure<br><b>PSD 1</b> |
| SLR 2,9<br>Rev 84<br>Sept 08 |                                                                                                           |                           |                        |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH601 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.60  |   |
|              |                                               |                 | Samp No       | 4                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102240000000057 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                       |           |
|------------------|-----------|-------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                    | % Passing |
| 125              | 100       | 0.0630                              | 41        |
| 90               | 100       | 0.0488                              | 40        |
| 75               | 100       | 0.0351                              | 37        |
| 63               | 91        | 0.0255                              | 32        |
| 50               | 91        | 0.0184                              | 28        |
| 37.5             | 90        | 0.0099                              | 20        |
| 28               | 88        | 0.0051                              | 15        |
| 20               | 87        | 0.0036                              | 13        |
| 14               | 82        | 0.0017                              | 9         |
| 10               | 79        |                                     |           |
| 6.3              | 74        |                                     |           |
| 5.0              | 72        |                                     |           |
| 3.35             | 70        |                                     |           |
| 2.00             | 66        |                                     |           |
| 1.18             | 63        |                                     |           |
| 0.600            | 56        | Particle density, Mg/m <sup>3</sup> |           |
| 0.425            | 52        | 2.65 assumed                        |           |
| 0.300            | 48        | Dry mass of sample, kg              |           |
| 0.212            | 46        | 5.8                                 |           |
| 0.150            | 44        |                                     |           |
| 0.063            | 41        |                                     |           |

|                                                                  |                                                              |       |         |
|------------------------------------------------------------------|--------------------------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly sandy slightly gravelly CLAY with one cobble. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                  |       |         |
| Remarks                                                          |                                                              |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                           | Whole | * <60mm |
|                                                                  | Gravel                                                       | 9     | 0       |
|                                                                  | Sand                                                         | 25    | 27      |
|                                                                  | Silt                                                         | 25    | 27      |
|                                                                  | Clay                                                         | 31    | 34      |
|                                                                  |                                                              | 10    | 11      |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 434 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| 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



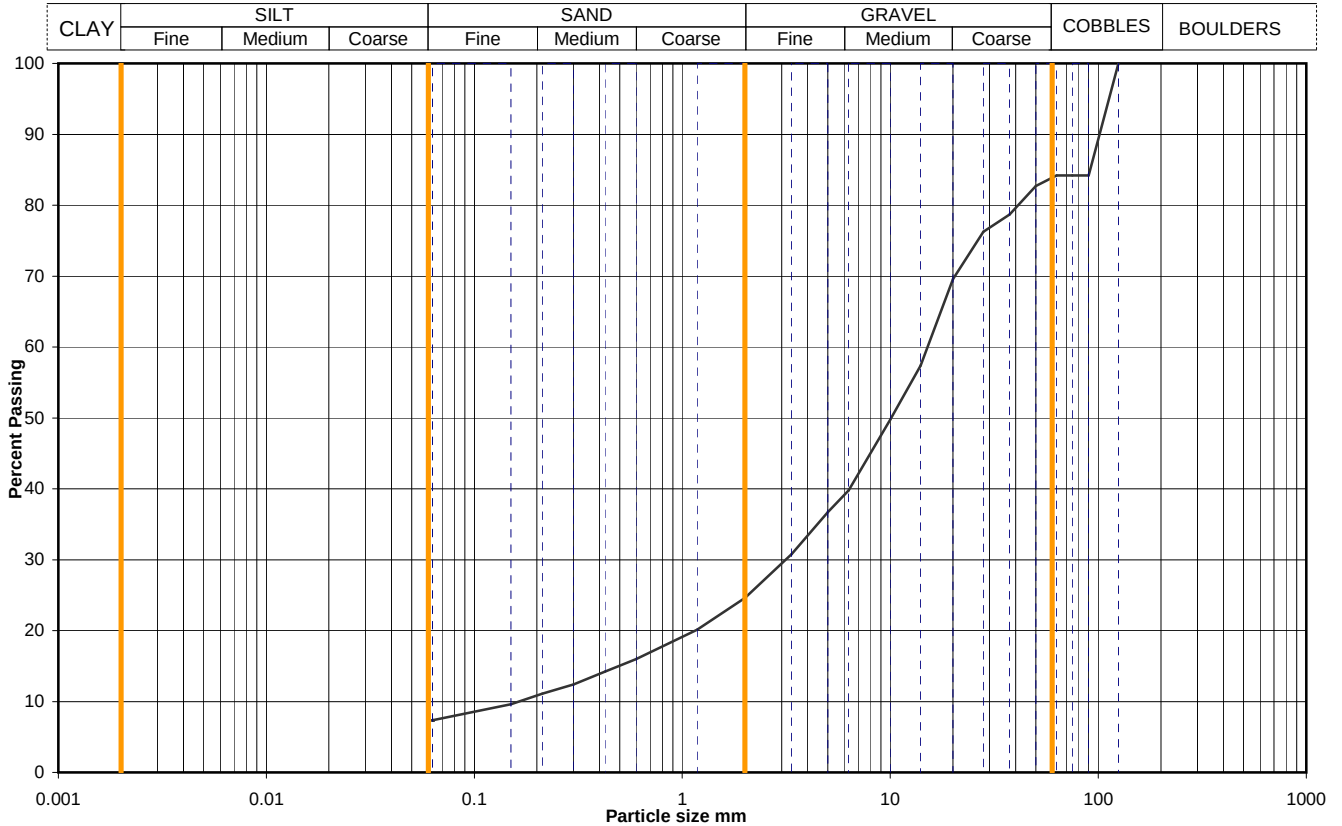
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Figure

PSD 2

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH602 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.30  |   |
|              |                                               |                 | Samp No       | 2                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102240000000063 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 84        |                  |           |
| 75               | 84        |                  |           |
| 63               | 84        |                  |           |
| 50               | 83        |                  |           |
| 37.5             | 79        |                  |           |
| 28               | 76        |                  |           |
| 20               | 70        |                  |           |
| 14               | 57        |                  |           |
| 10               | 50        |                  |           |
| 6.3              | 40        |                  |           |
| 5.0              | 37        |                  |           |
| 3.35             | 31        |                  |           |
| 2.00             | 25        |                  |           |
| 1.18             | 20        |                  |           |
| 0.600            | 16        |                  |           |
| 0.425            | 14        |                  |           |
| 0.300            | 12        |                  |           |
| 0.212            | 11        |                  |           |
| 0.150            | 10        |                  |           |
| 0.063            | 7         |                  |           |

|                                    |  |
|------------------------------------|--|
| Dry mass of sample, kg<br><br>11.5 |  |
|                                    |  |
|                                    |  |
|                                    |  |

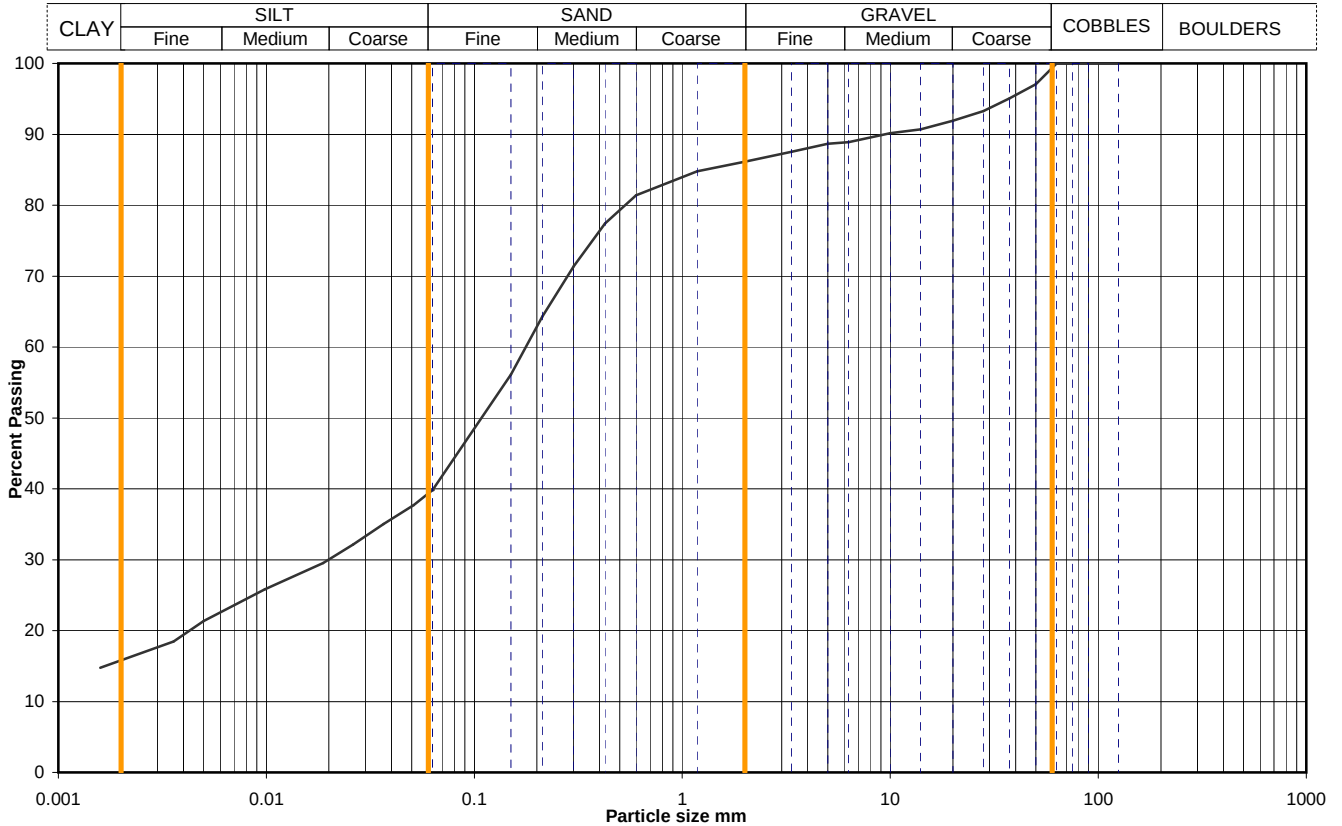
|                                                                  |                                                      |             |         |
|------------------------------------------------------------------|------------------------------------------------------|-------------|---------|
| Soil description                                                 | Reddish brown clayey sandy GRAVEL with one cobble.   |             |         |
| Preparation / Pretreatment                                       | Sieve: natural material                              |             |         |
| Remarks                                                          |                                                      |             |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders<br>Gravel<br>Sand<br>Silt<br>Clay | Whole       | * <60mm |
|                                                                  |                                                      | 16          | 0       |
|                                                                  |                                                      | 59          | 70      |
|                                                                  |                                                      | 17          | 20      |
|                                                                  |                                                      | silt+clay = |         |
|                                                                  |                                                      | 8           | 10      |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 92 |
|------------------------|-------------------|----|

|             |                         |               |
|-------------|-------------------------|---------------|
| Test Method | BS 1377 : Part 2 : 1990 |               |
|             | Sieving                 | 9.2 wet sieve |
|             | Sedimentation           | none          |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH602 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 1.65  |   |
|              |                                               |                 | Samp No       | 6                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102240000000067 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 40        |
| 90               | 100       | 0.0511                                              | 38        |
| 75               | 100       | 0.0365                                              | 35        |
| 63               | 100       | 0.0262                                              | 32        |
| 50               | 97        | 0.0187                                              | 30        |
| 37.5             | 95        | 0.0098                                              | 26        |
| 28               | 93        | 0.0050                                              | 21        |
| 20               | 92        | 0.0036                                              | 18        |
| 14               | 91        | 0.0016                                              | 15        |
| 10               | 90        |                                                     |           |
| 6.3              | 89        |                                                     |           |
| 5.0              | 89        |                                                     |           |
| 3.35             | 88        |                                                     |           |
| 2.00             | 86        |                                                     |           |
| 1.18             | 85        |                                                     |           |
| 0.600            | 81        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 77        |                                                     |           |
| 0.300            | 71        | Dry mass of sample, kg<br>10.1                      |           |
| 0.212            | 64        |                                                     |           |
| 0.150            | 56        |                                                     |           |
| 0.063            | 40        |                                                     |           |

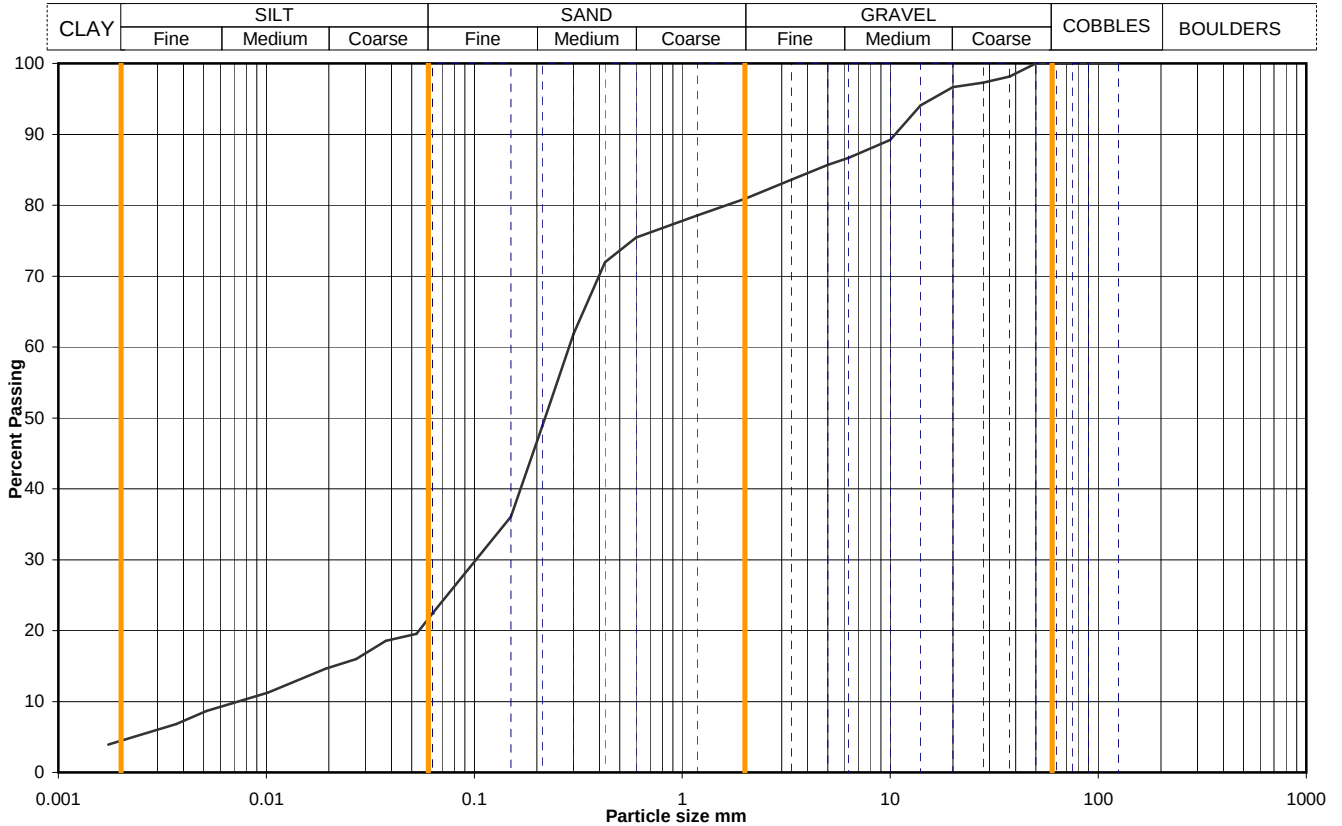
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy CLAY.         |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 1     | 0       |
|                                                                  | Sand                                        | 13    | 13      |
|                                                                  | Silt                                        | 47    | 47      |
|                                                                  | Clay                                        | 23    | 23      |
|                                                                  |                                             | 16    | 16      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH603 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.60  |   |
|              |                                               |                 | Samp No       | 4                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102220000000004 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                       |           |
|------------------|-----------|-------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                    | % Passing |
| 125              | 100       | 0.0630                              | 22        |
| 90               | 100       | 0.0527                              | 20        |
| 75               | 100       | 0.0375                              | 19        |
| 63               | 100       | 0.0270                              | 16        |
| 50               | 100       | 0.0192                              | 15        |
| 37.5             | 98        | 0.0101                              | 11        |
| 28               | 97        | 0.0052                              | 9         |
| 20               | 97        | 0.0037                              | 7         |
| 14               | 94        | 0.0017                              | 4         |
| 10               | 89        |                                     |           |
| 6.3              | 87        |                                     |           |
| 5.0              | 86        |                                     |           |
| 3.35             | 84        |                                     |           |
| 2.00             | 81        |                                     |           |
| 1.18             | 79        |                                     |           |
| 0.600            | 75        | Particle density, Mg/m <sup>3</sup> |           |
| 0.425            | 72        | 2.65 assumed                        |           |
| 0.300            | 62        | Dry mass of sample, kg              |           |
| 0.212            | 49        | 10.0                                |           |
| 0.150            | 36        |                                     |           |
| 0.063            | 22        |                                     |           |

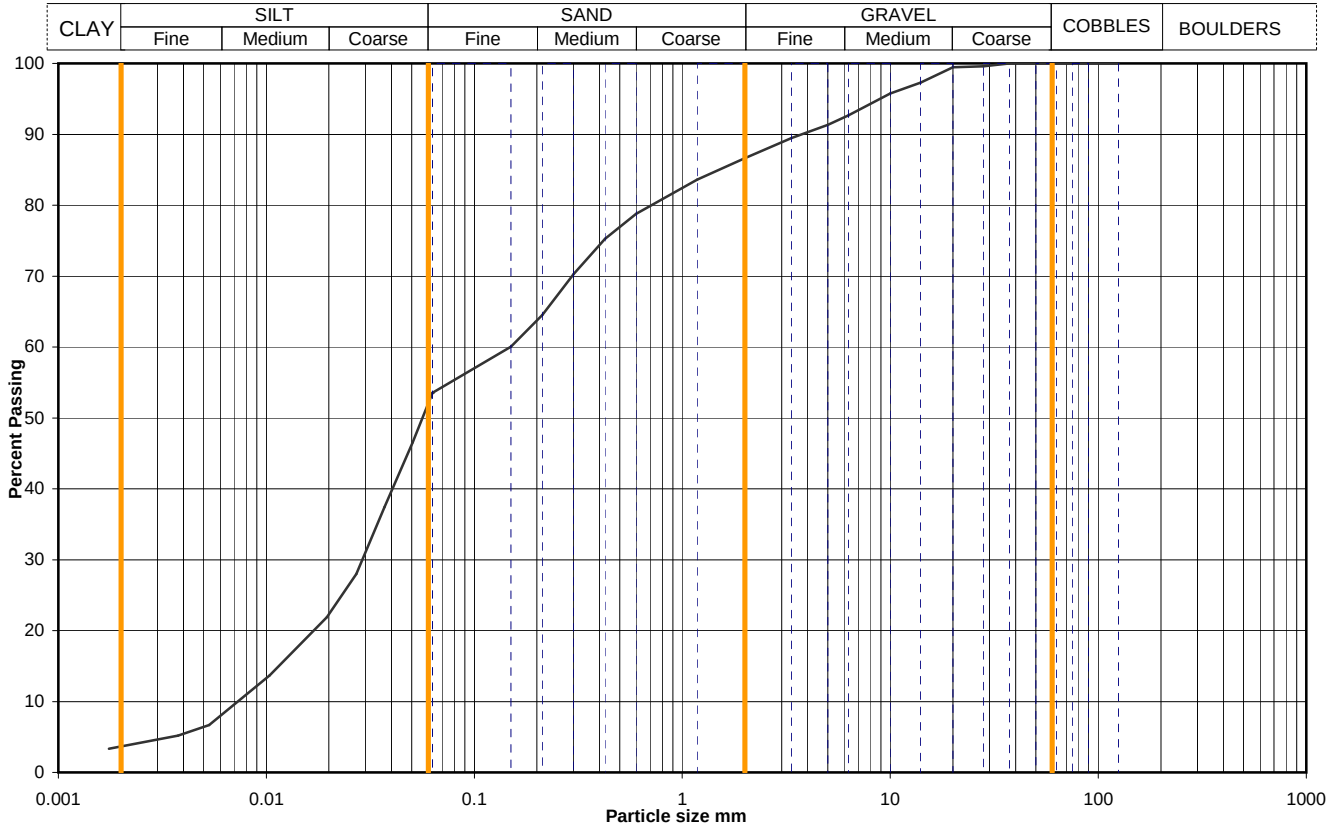
|                                                                  |                                                               |       |         |
|------------------------------------------------------------------|---------------------------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy clayey SILT with rare rootlets. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                   |       |         |
| Remarks                                                          |                                                               |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                            | Whole | * <60mm |
|                                                                  | Gravel                                                        | 0     | 0       |
|                                                                  | Sand                                                          | 19    | 19      |
|                                                                  | Silt                                                          | 59    | 59      |
|                                                                  | Clay                                                          | 17    | 17      |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 39 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH603 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 1.60  |   |
|              |                                               |                 | Samp No       | 7                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102220000000007 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 54        |
| 90               | 100       | 0.0504                  | 47        |
| 75               | 100       | 0.0370                  | 37        |
| 63               | 100       | 0.0271                  | 28        |
| 50               | 100       | 0.0196                  | 22        |
| 37.5             | 100       | 0.0104                  | 14        |
| 28               | 100       | 0.0053                  | 7         |
| 20               | 99        | 0.0038                  | 5         |
| 14               | 97        | 0.0018                  | 3         |
| 10               | 96        |                         |           |
| 6.3              | 93        |                         |           |
| 5.0              | 91        |                         |           |
| 3.35             | 89        |                         |           |
| 2.00             | 87        |                         |           |
| 1.18             | 84        |                         |           |
| 0.600            | 79        | Particle density, Mg/m3 |           |
| 0.425            | 75        | 2.65 assumed            |           |
| 0.300            | 70        | Dry mass of sample, kg  |           |
| 0.212            | 65        | 10.7                    |           |
| 0.150            | 60        |                         |           |
| 0.063            | 54        |                         |           |

|                                                                   |                                                    |       |          |
|-------------------------------------------------------------------|----------------------------------------------------|-------|----------|
| Soil description                                                  | Light brown slightly sandy slightly gravelly SILT. |       |          |
| Preparation / Pretreatment                                        | Sieve: natural material Hydro: as BS1377           |       |          |
| Remarks                                                           |                                                    |       |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders                                 | Whole | * < 60mm |
|                                                                   | Gravel                                             | 0     | 0        |
|                                                                   | Sand                                               | 13    | 13       |
|                                                                   | Silt                                               | 35    | 35       |
|                                                                   | Clay                                               | 48    | 48       |
|                                                                   |                                                    | 4     | 4        |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 21 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

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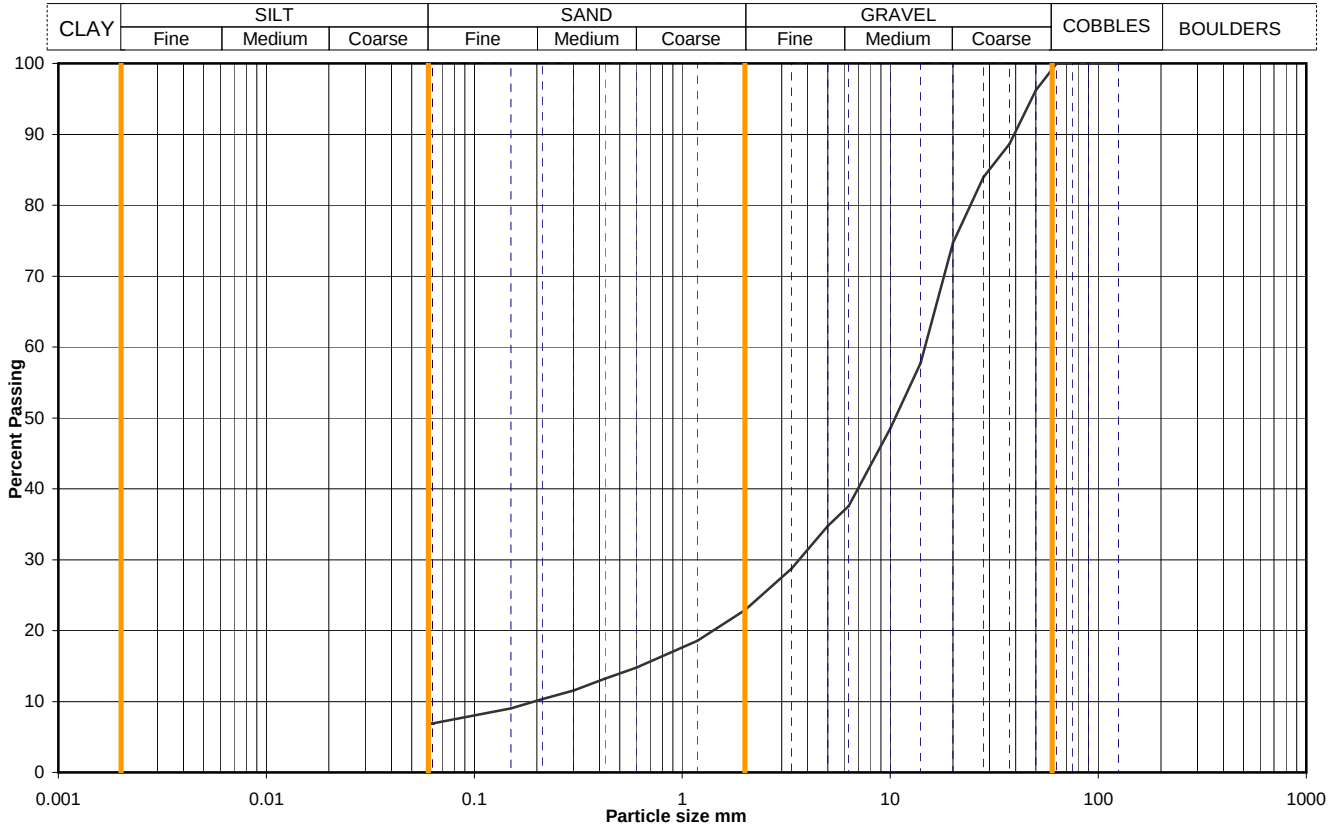
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Figure

PSD 6

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH604 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.60  |   |
|              |                                               |                 | Samp No       | 4                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102220000000012 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 100       |                  |           |
| 63               | 100       |                  |           |
| 50               | 96        |                  |           |
| 37.5             | 89        |                  |           |
| 28               | 84        |                  |           |
| 20               | 75        |                  |           |
| 14               | 58        |                  |           |
| 10               | 48        |                  |           |
| 6.3              | 38        |                  |           |
| 5.0              | 35        |                  |           |
| 3.35             | 29        |                  |           |
| 2.00             | 23        |                  |           |
| 1.18             | 19        |                  |           |
| 0.600            | 15        |                  |           |
| 0.425            | 13        |                  |           |
| 0.300            | 12        |                  |           |
| 0.212            | 10        |                  |           |
| 0.150            | 9         |                  |           |
| 0.063            | 7         |                  |           |

|                        |  |  |  |
|------------------------|--|--|--|
| Dry mass of sample, kg |  |  |  |
|                        |  |  |  |
|                        |  |  |  |
|                        |  |  |  |
| 10.0                   |  |  |  |

|                                                                   |                                                                     |             |          |
|-------------------------------------------------------------------|---------------------------------------------------------------------|-------------|----------|
| Soil description                                                  | Reddish brown clayey sandy GRAVEL. Gravel contains brick fragments. |             |          |
| Preparation / Pretreatment                                        | Sieve: natural material                                             |             |          |
| Remarks                                                           |                                                                     |             |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders<br>Gravel<br>Sand<br>Silt<br>Clay                | Whole       | * < 60mm |
|                                                                   |                                                                     | 1           | 0        |
|                                                                   |                                                                     | 76          | 77       |
|                                                                   |                                                                     | 16          | 16       |
|                                                                   |                                                                     | silt+clay = |          |
|                                                                   |                                                                     | 7           | 7        |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 76 |
|------------------------|-------------------|----|

|             |                         |               |
|-------------|-------------------------|---------------|
| Test Method | BS 1377 : Part 2 : 1990 |               |
|             | Sieving                 | 9.2 wet sieve |
|             | Sedimentation           | none          |

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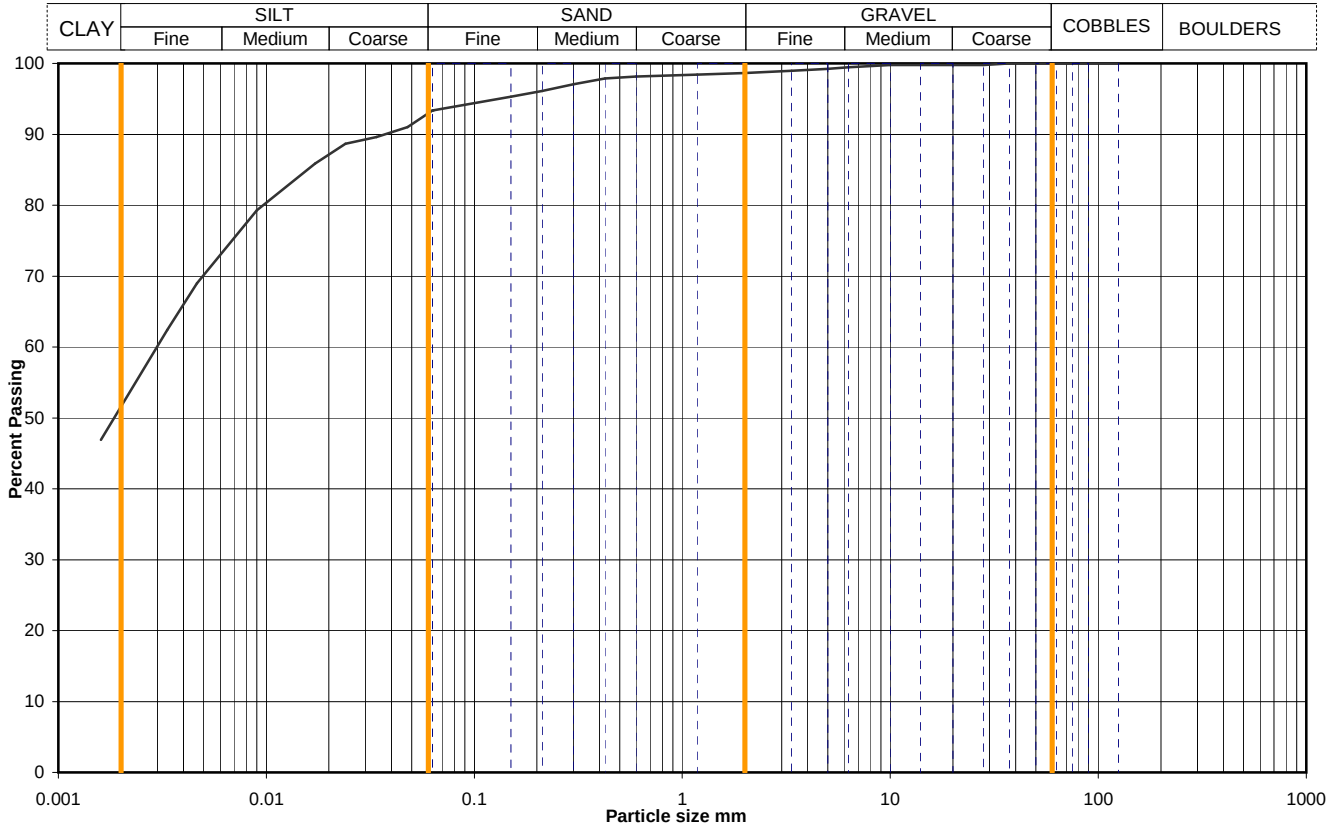
Figure

PSD 7



## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH604 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 3.00  |   |
|              |                                               |                 | Samp No       | 11                            | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102220000000019 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 93        |
| 90               | 100       | 0.0477                  | 91        |
| 75               | 100       | 0.0339                  | 90        |
| 63               | 100       | 0.0240                  | 89        |
| 50               | 100       | 0.0171                  | 86        |
| 37.5             | 100       | 0.0090                  | 79        |
| 28               | 100       | 0.0046                  | 69        |
| 20               | 100       | 0.0033                  | 62        |
| 14               | 100       | 0.0016                  | 47        |
| 10               | 100       |                         |           |
| 6.3              | 99        |                         |           |
| 5.0              | 99        |                         |           |
| 3.35             | 99        |                         |           |
| 2.00             | 99        |                         |           |
| 1.18             | 98        |                         |           |
| 0.600            | 98        | Particle density, Mg/m3 |           |
| 0.425            | 98        | 2.65 assumed            |           |
| 0.300            | 97        | Dry mass of sample, kg  |           |
| 0.212            | 96        | 10.4                    |           |
| 0.150            | 95        |                         |           |
| 0.063            | 93        |                         |           |

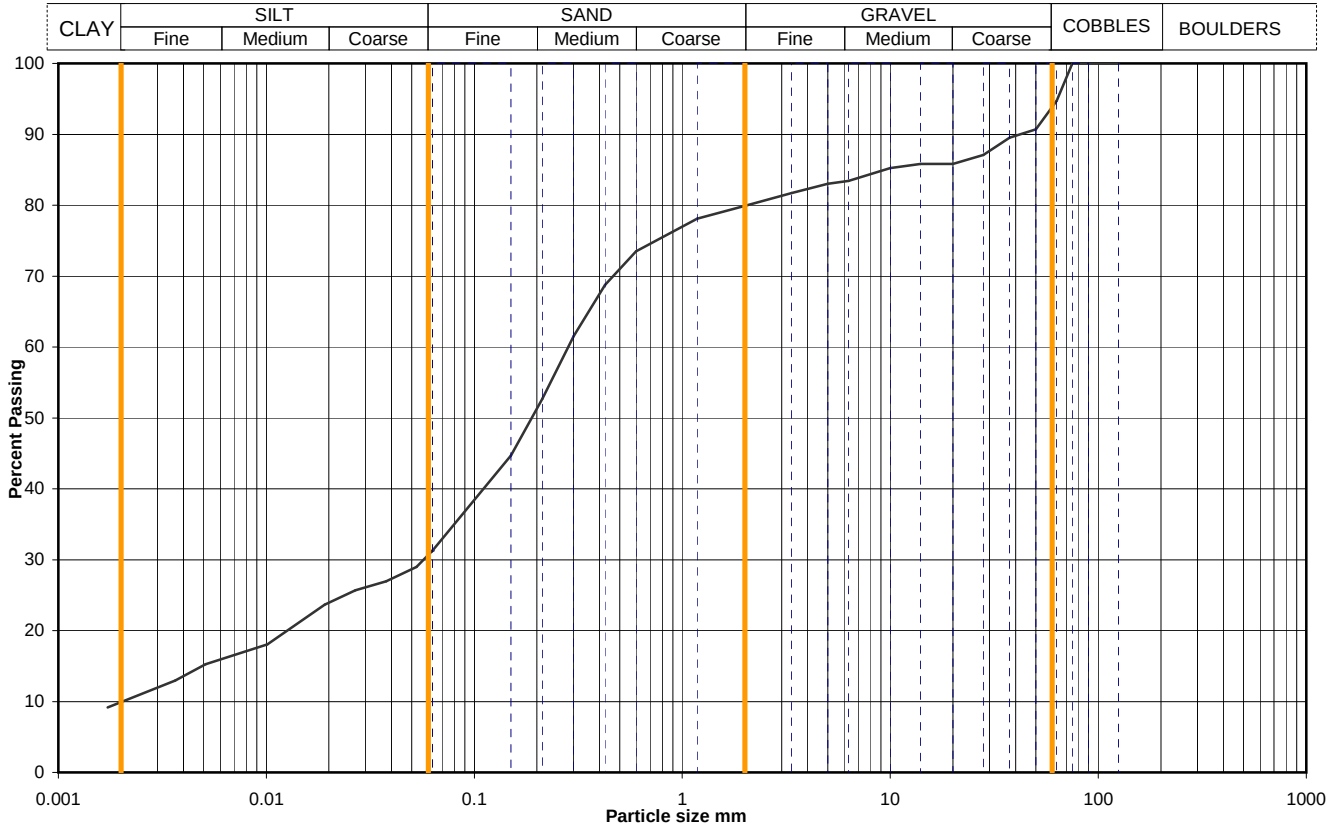
|                                                                  |                                              |       |         |
|------------------------------------------------------------------|----------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly sandy slightly gravelly CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377  |       |         |
| Remarks                                                          |                                              |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                           | Whole | * <60mm |
|                                                                  | Gravel                                       | 0     | 0       |
|                                                                  | Sand                                         | 1     | 1       |
|                                                                  | Silt                                         | 6     | 6       |
|                                                                  | Clay                                         | 41    | 41      |
|                                                                  |                                              | 52    | 52      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH606 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.40  |   |
|              |                                               |                 | Samp No       | 2                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102240000000079 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 31        |
| 90               | 100       | 0.0528                                  | 29        |
| 75               | 100       | 0.0377                                  | 27        |
| 63               | 95        | 0.0268                                  | 26        |
| 50               | 91        | 0.0191                                  | 24        |
| 37.5             | 90        | 0.0101                                  | 18        |
| 28               | 87        | 0.0051                                  | 15        |
| 20               | 86        | 0.0036                                  | 13        |
| 14               | 86        | 0.0017                                  | 9         |
| 10               | 85        |                                         |           |
| 6.3              | 83        |                                         |           |
| 5.0              | 83        |                                         |           |
| 3.35             | 82        |                                         |           |
| 2.00             | 80        |                                         |           |
| 1.18             | 78        |                                         |           |
| 0.600            | 73        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 69        |                                         |           |
| 0.300            | 62        | Dry mass of sample, kg<br>8.4           |           |
| 0.212            | 53        |                                         |           |
| 0.150            | 45        |                                         |           |
| 0.063            | 31        |                                         |           |

|                                                                  |                                                     |       |         |
|------------------------------------------------------------------|-----------------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy CLAY with one cobble. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377         |       |         |
| Remarks                                                          |                                                     |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                  | Whole | * <60mm |
|                                                                  | Gravel                                              | 6     | 0       |
|                                                                  | Sand                                                | 14    | 15      |
|                                                                  | Silt                                                | 49    | 52      |
|                                                                  | Clay                                                | 21    | 22      |
|                                                                  |                                                     | 10    | 11      |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 139 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

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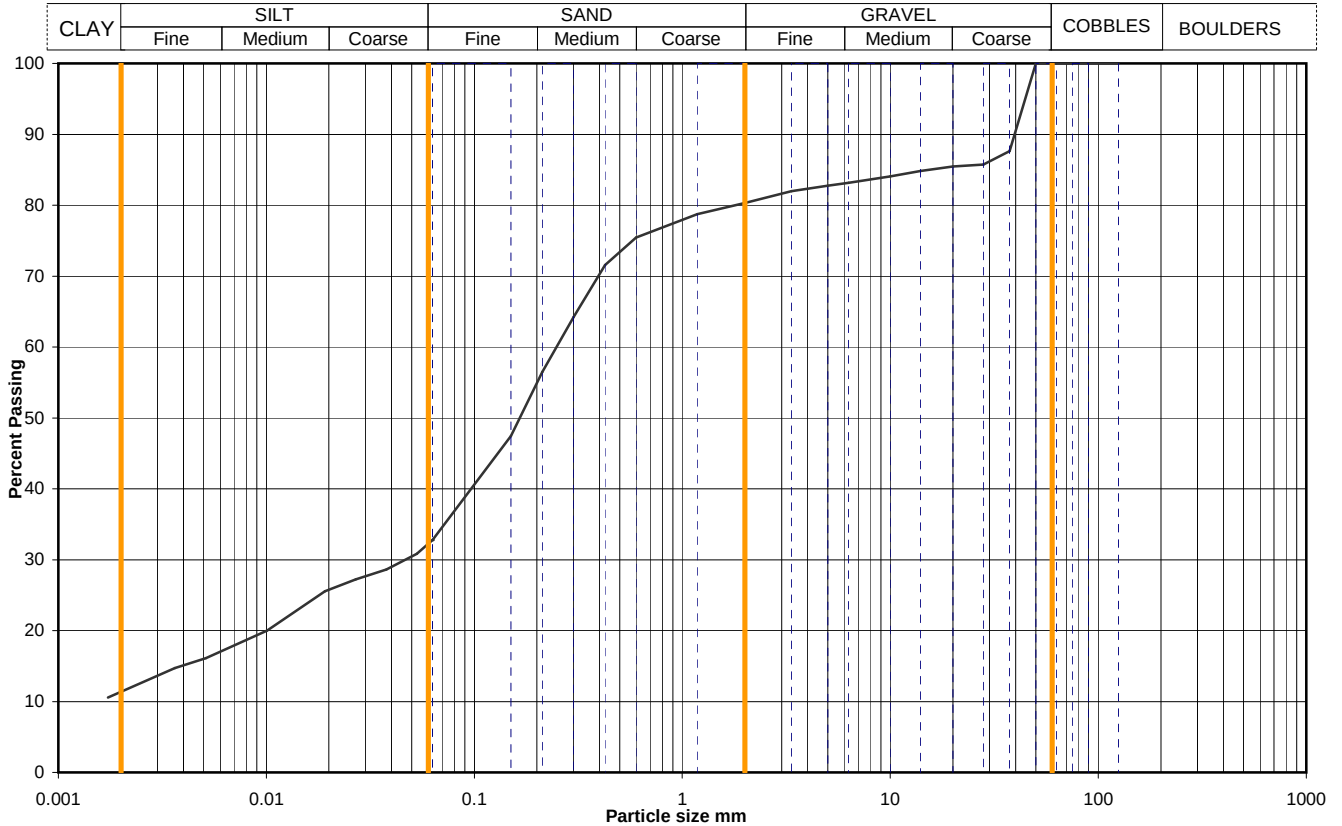
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Figure

PSD 9

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH606 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 1.50  |   |
|              |                                               |                 | Samp No       | 6                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102240000000083 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 33        |
| 90               | 100       | 0.0530                                              | 31        |
| 75               | 100       | 0.0378                                              | 29        |
| 63               | 100       | 0.0269                                              | 27        |
| 50               | 100       | 0.0191                                              | 26        |
| 37.5             | 88        | 0.0101                                              | 20        |
| 28               | 86        | 0.0051                                              | 16        |
| 20               | 85        | 0.0036                                              | 15        |
| 14               | 85        | 0.0017                                              | 11        |
| 10               | 84        |                                                     |           |
| 6.3              | 83        |                                                     |           |
| 5.0              | 83        |                                                     |           |
| 3.35             | 82        |                                                     |           |
| 2.00             | 80        |                                                     |           |
| 1.18             | 79        |                                                     |           |
| 0.600            | 75        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 72        |                                                     |           |
| 0.300            | 64        | Dry mass of sample, kg<br>5.5                       |           |
| 0.212            | 56        |                                                     |           |
| 0.150            | 47        |                                                     |           |
| 0.063            | 33        |                                                     |           |

|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy CLAY.         |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 20    | 20      |
|                                                                  | Silt                                        | 48    | 48      |
|                                                                  | Clay                                        | 21    | 21      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| 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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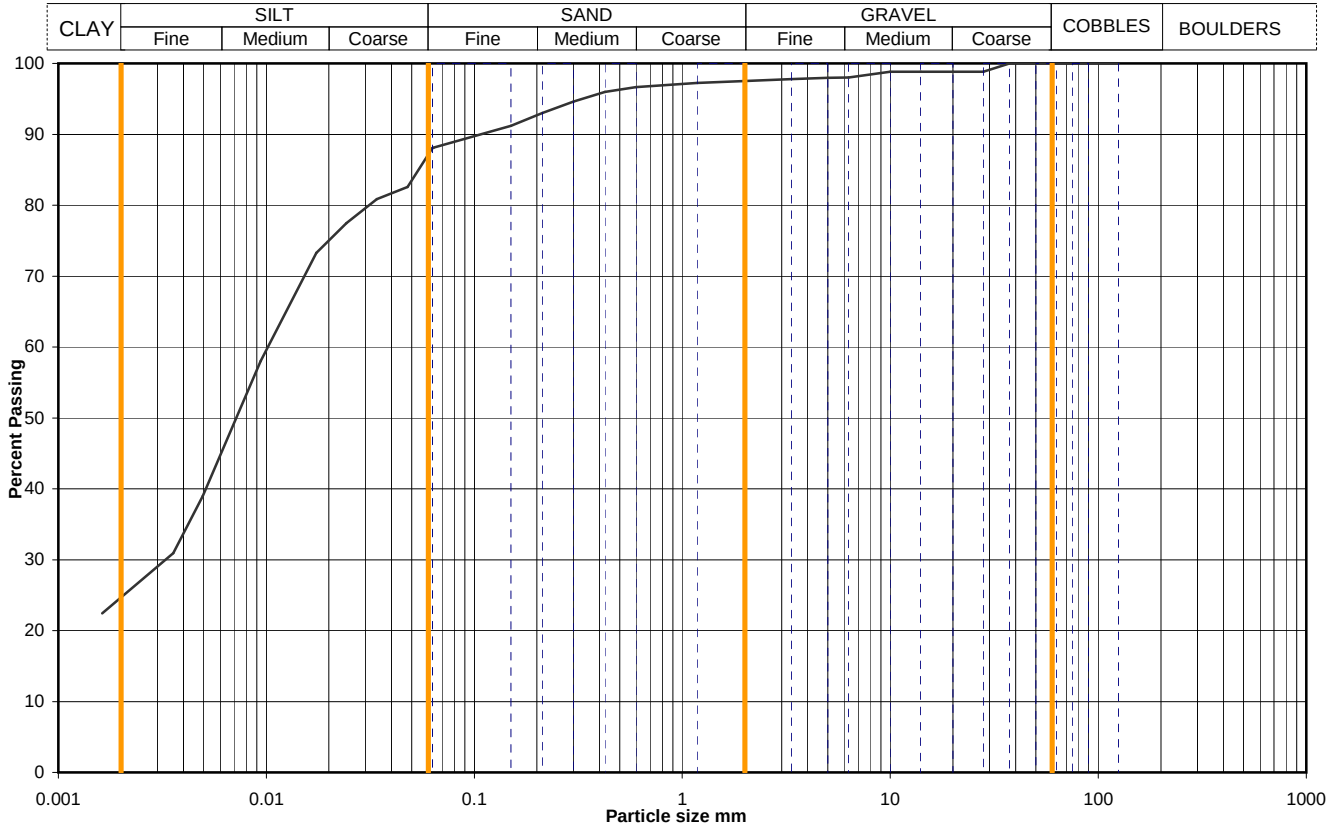
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Figure

**PSD 10**

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH607 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.40  |   |
|              |                                               |                 | Samp No       | 2                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102240000000090 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 88        |
| 90               | 100       | 0.0477                                              | 83        |
| 75               | 100       | 0.0339                                              | 81        |
| 63               | 100       | 0.0243                                              | 77        |
| 50               | 100       | 0.0174                                              | 73        |
| 37.5             | 100       | 0.0094                                              | 58        |
| 28               | 99        | 0.0049                                              | 39        |
| 20               | 99        | 0.0036                                              | 31        |
| 14               | 99        | 0.0016                                              | 22        |
| 10               | 99        |                                                     |           |
| 6.3              | 98        |                                                     |           |
| 5.0              | 98        |                                                     |           |
| 3.35             | 98        |                                                     |           |
| 2.00             | 98        |                                                     |           |
| 1.18             | 97        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.600            | 97        |                                                     |           |
| 0.425            | 96        | Dry mass of sample, kg<br>9.0                       |           |
| 0.300            | 95        |                                                     |           |
| 0.212            | 93        |                                                     |           |
| 0.150            | 91        |                                                     |           |
| 0.063            | 88        |                                                     |           |

|                                                                  |                                              |       |         |
|------------------------------------------------------------------|----------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly sandy slightly gravelly CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377  |       |         |
| Remarks                                                          |                                              |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                           | Whole | * <60mm |
|                                                                  | Gravel                                       | 0     | 0       |
|                                                                  | Sand                                         | 2     | 2       |
|                                                                  | Silt                                         | 10    | 10      |
|                                                                  | Clay                                         | 63    | 63      |
|                                                                  |                                              | 25    | 25      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| 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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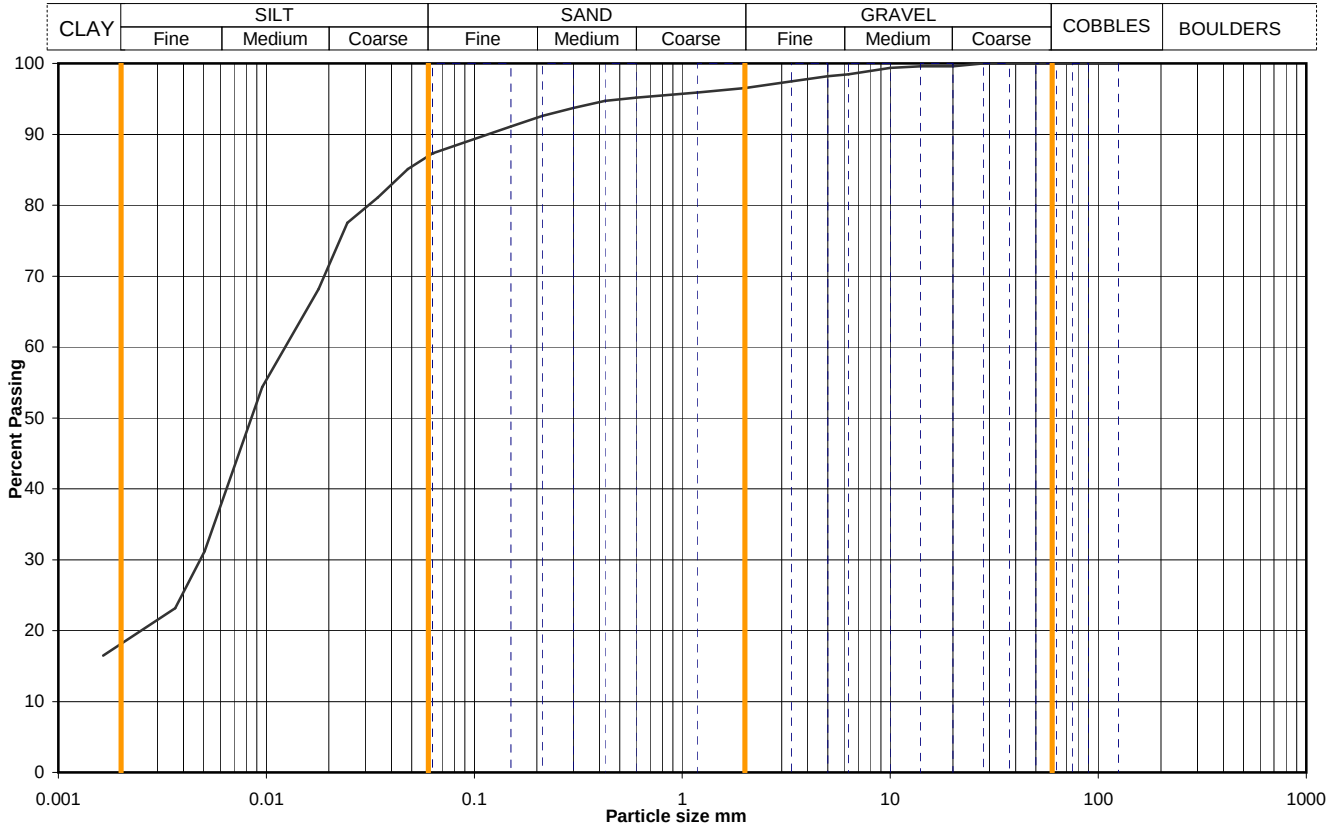
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Figure

**PSD 11**

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH607 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.60  |   |
|              |                                               |                 | Samp No       | 4                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102240000000092 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                       |           |
|------------------|-----------|-------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                    | % Passing |
| 125              | 100       | 0.0630                              | 87        |
| 90               | 100       | 0.0480                              | 85        |
| 75               | 100       | 0.0344                              | 81        |
| 63               | 100       | 0.0246                              | 78        |
| 50               | 100       | 0.0178                              | 68        |
| 37.5             | 100       | 0.0096                              | 54        |
| 28               | 100       | 0.0051                              | 31        |
| 20               | 100       | 0.0036                              | 23        |
| 14               | 100       | 0.0016                              | 16        |
| 10               | 99        |                                     |           |
| 6.3              | 98        |                                     |           |
| 5.0              | 98        |                                     |           |
| 3.35             | 97        |                                     |           |
| 2.00             | 97        |                                     |           |
| 1.18             | 96        |                                     |           |
| 0.600            | 95        | Particle density, Mg/m <sup>3</sup> |           |
| 0.425            | 95        | 2.65 assumed                        |           |
| 0.300            | 94        | Dry mass of sample, kg              |           |
| 0.212            | 93        | 10.6                                |           |
| 0.150            | 91        |                                     |           |
| 0.063            | 87        |                                     |           |

|                                                                   |                                                      |       |          |
|-------------------------------------------------------------------|------------------------------------------------------|-------|----------|
| Soil description                                                  | Reddish brown slightly sandy slightly gravelly CLAY. |       |          |
| Preparation / Pretreatment                                        | Sieve: natural material Hydro: as BS1377             |       |          |
| Remarks                                                           |                                                      |       |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders                                   | Whole | * < 60mm |
|                                                                   | Gravel                                               | 0     | 0        |
|                                                                   | Sand                                                 | 3     | 3        |
|                                                                   | Silt                                                 | 10    | 10       |
|                                                                   | Clay                                                 | 69    | 69       |
|                                                                   |                                                      | 18    | 18       |

|                        |                   |                |
|------------------------|-------------------|----------------|
| 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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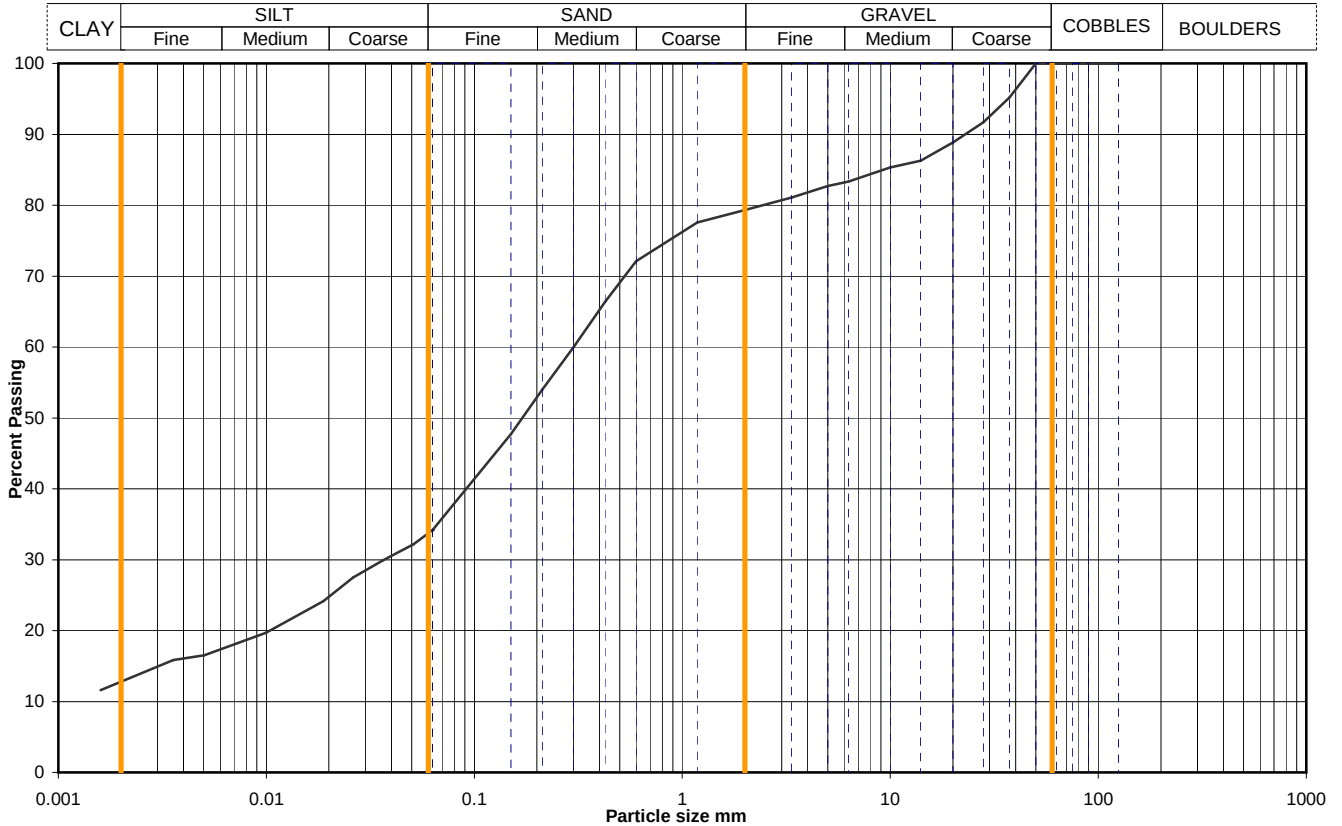
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Figure

PSD 12

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH608 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.30  |   |
|              |                                               |                 | Samp No       | 2                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102240000000098 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 34        |
| 90               | 100       | 0.0510                  | 32        |
| 75               | 100       | 0.0365                  | 30        |
| 63               | 100       | 0.0261                  | 27        |
| 50               | 100       | 0.0188                  | 24        |
| 37.5             | 95        | 0.0099                  | 20        |
| 28               | 92        | 0.0050                  | 17        |
| 20               | 89        | 0.0036                  | 16        |
| 14               | 86        | 0.0016                  | 12        |
| 10               | 85        |                         |           |
| 6.3              | 83        |                         |           |
| 5.0              | 83        |                         |           |
| 3.35             | 81        |                         |           |
| 2.00             | 79        |                         |           |
| 1.18             | 78        |                         |           |
| 0.600            | 72        | Particle density, Mg/m3 |           |
| 0.425            | 66        | 2.65 assumed            |           |
| 0.300            | 60        | Dry mass of sample, kg  |           |
| 0.212            | 54        | 12.2                    |           |
| 0.150            | 48        |                         |           |
| 0.063            | 34        |                         |           |

|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy CLAY.         |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 21    | 21      |
|                                                                  | Silt                                        | 46    | 46      |
|                                                                  | Clay                                        | 21    | 21      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| 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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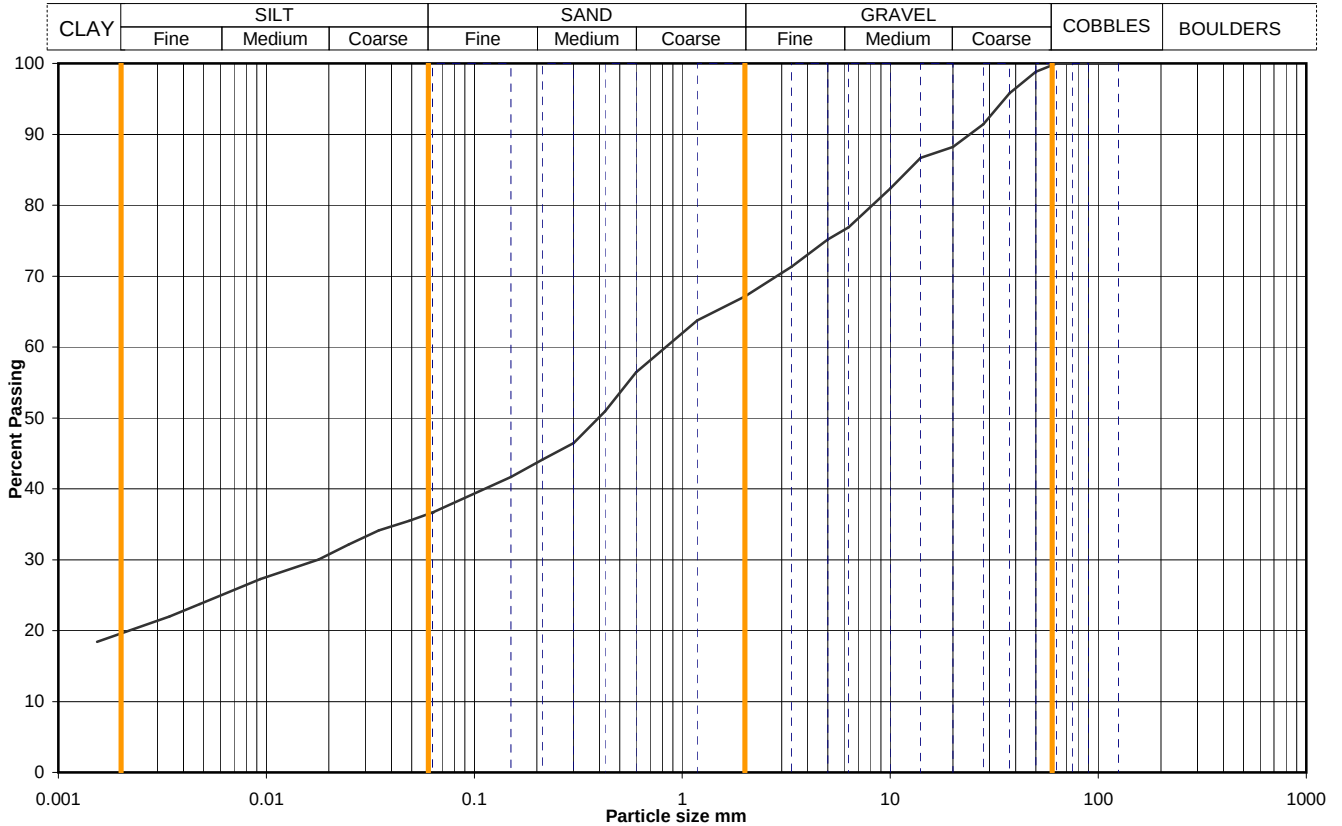
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Figure

**PSD 13**

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH608 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.75  |   |
|              |                                               |                 | Samp No       | 4                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102240000000100 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 37        |
| 90               | 100       | 0.0486                  | 35        |
| 75               | 100       | 0.0347                  | 34        |
| 63               | 100       | 0.0249                  | 32        |
| 50               | 99        | 0.0178                  | 30        |
| 37.5             | 96        | 0.0094                  | 27        |
| 28               | 91        | 0.0048                  | 24        |
| 20               | 88        | 0.0034                  | 22        |
| 14               | 87        | 0.0015                  | 18        |
| 10               | 82        |                         |           |
| 6.3              | 77        |                         |           |
| 5.0              | 75        |                         |           |
| 3.35             | 71        |                         |           |
| 2.00             | 67        |                         |           |
| 1.18             | 64        |                         |           |
| 0.600            | 56        | Particle density, Mg/m3 |           |
| 0.425            | 51        | 2.65 assumed            |           |
| 0.300            | 46        | Dry mass of sample, kg  |           |
| 0.212            | 44        | 13.5                    |           |
| 0.150            | 42        |                         |           |
| 0.063            | 37        |                         |           |

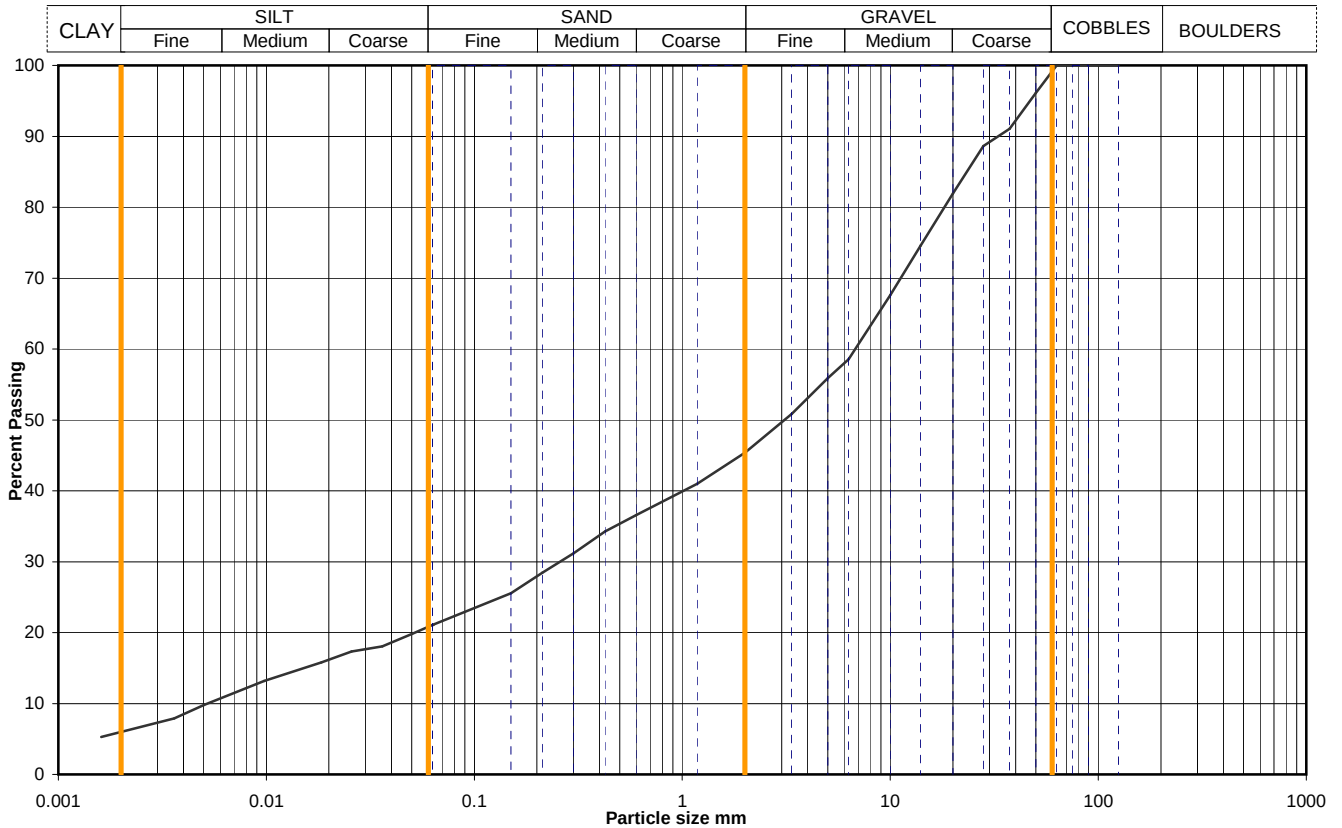
|                                                                  |                                                                 |       |         |
|------------------------------------------------------------------|-----------------------------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly sandy slightly gravelly CLAY with rare rootlets. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                     |       |         |
| Remarks                                                          |                                                                 |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                              | Whole | * <60mm |
|                                                                  | Gravel                                                          | 0     | 0       |
|                                                                  | Sand                                                            | 33    | 33      |
|                                                                  | Silt                                                            | 31    | 31      |
|                                                                  | Clay                                                            | 17    | 17      |
|                                                                  |                                                                 | 19    | 19      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH609 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.30  |   |
|              |                                               |                 | Samp No       | 2                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102220000000024 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                       |           |
|------------------|-----------|-------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                    | % Passing |
| 125              | 100       | 0.0630                              | 21        |
| 90               | 100       | 0.0501                              | 20        |
| 75               | 100       | 0.0361                              | 18        |
| 63               | 100       | 0.0257                              | 17        |
| 50               | 96        | 0.0184                              | 16        |
| 37.5             | 91        | 0.0097                              | 13        |
| 28               | 89        | 0.0050                              | 10        |
| 20               | 82        | 0.0036                              | 8         |
| 14               | 75        | 0.0016                              | 5         |
| 10               | 68        |                                     |           |
| 6.3              | 59        |                                     |           |
| 5.0              | 56        |                                     |           |
| 3.35             | 51        |                                     |           |
| 2.00             | 45        |                                     |           |
| 1.18             | 41        |                                     |           |
| 0.600            | 37        | Particle density, Mg/m <sup>3</sup> |           |
| 0.425            | 34        | 2.65 assumed                        |           |
| 0.300            | 31        | Dry mass of sample, kg              |           |
| 0.212            | 28        | 11.3                                |           |
| 0.150            | 26        |                                     |           |
| 0.063            | 21        |                                     |           |

|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Reddish brown slightly sandy gravelly CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 1     | 0       |
|                                                                  | Sand                                        | 54    | 55      |
|                                                                  | Silt                                        | 25    | 25      |
|                                                                  | Clay                                        | 14    | 14      |
|                                                                  |                                             | 6     | 6       |

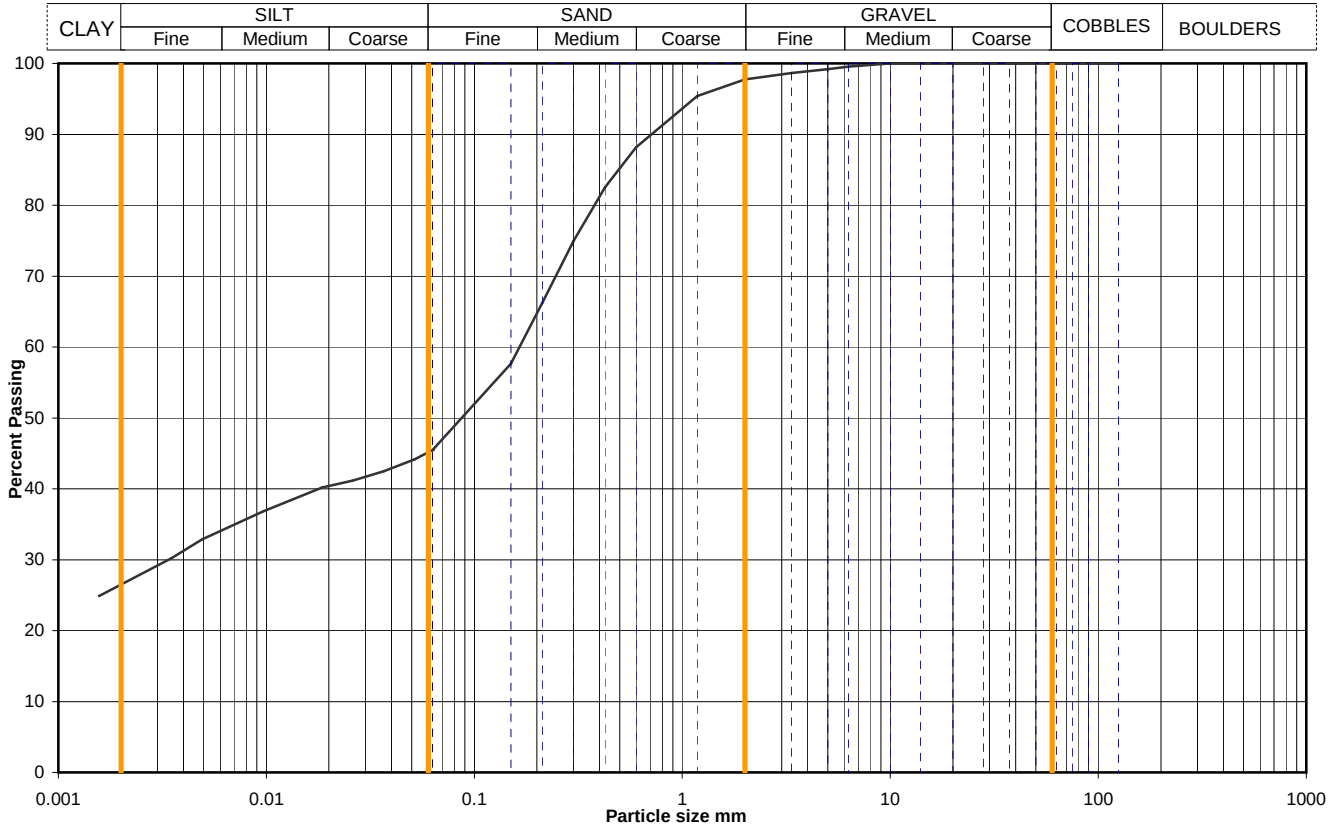
|                        |                   |      |
|------------------------|-------------------|------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 1296 |
|------------------------|-------------------|------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |



## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH609 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.50  |   |
|              |                                               |                 | Samp No       | 4                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102220000000026 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 45        |
| 90               | 100       | 0.0517                                  | 44        |
| 75               | 100       | 0.0368                                  | 42        |
| 63               | 100       | 0.0261                                  | 41        |
| 50               | 100       | 0.0185                                  | 40        |
| 37.5             | 100       | 0.0097                                  | 37        |
| 28               | 100       | 0.0049                                  | 33        |
| 20               | 100       | 0.0035                                  | 30        |
| 14               | 100       | 0.0016                                  | 25        |
| 10               | 100       |                                         |           |
| 6.3              | 100       |                                         |           |
| 5.0              | 99        |                                         |           |
| 3.35             | 99        |                                         |           |
| 2.00             | 98        |                                         |           |
| 1.18             | 95        |                                         |           |
| 0.600            | 88        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 83        |                                         |           |
| 0.300            | 75        | Dry mass of sample, kg<br>12.0          |           |
| 0.212            | 66        |                                         |           |
| 0.150            | 58        |                                         |           |
| 0.063            | 45        |                                         |           |

|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy CLAY.         |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 2     | 2       |
|                                                                  | Silt                                        | 53    | 53      |
|                                                                  | Clay                                        | 19    | 19      |
|                                                                  |                                             | 26    | 26      |

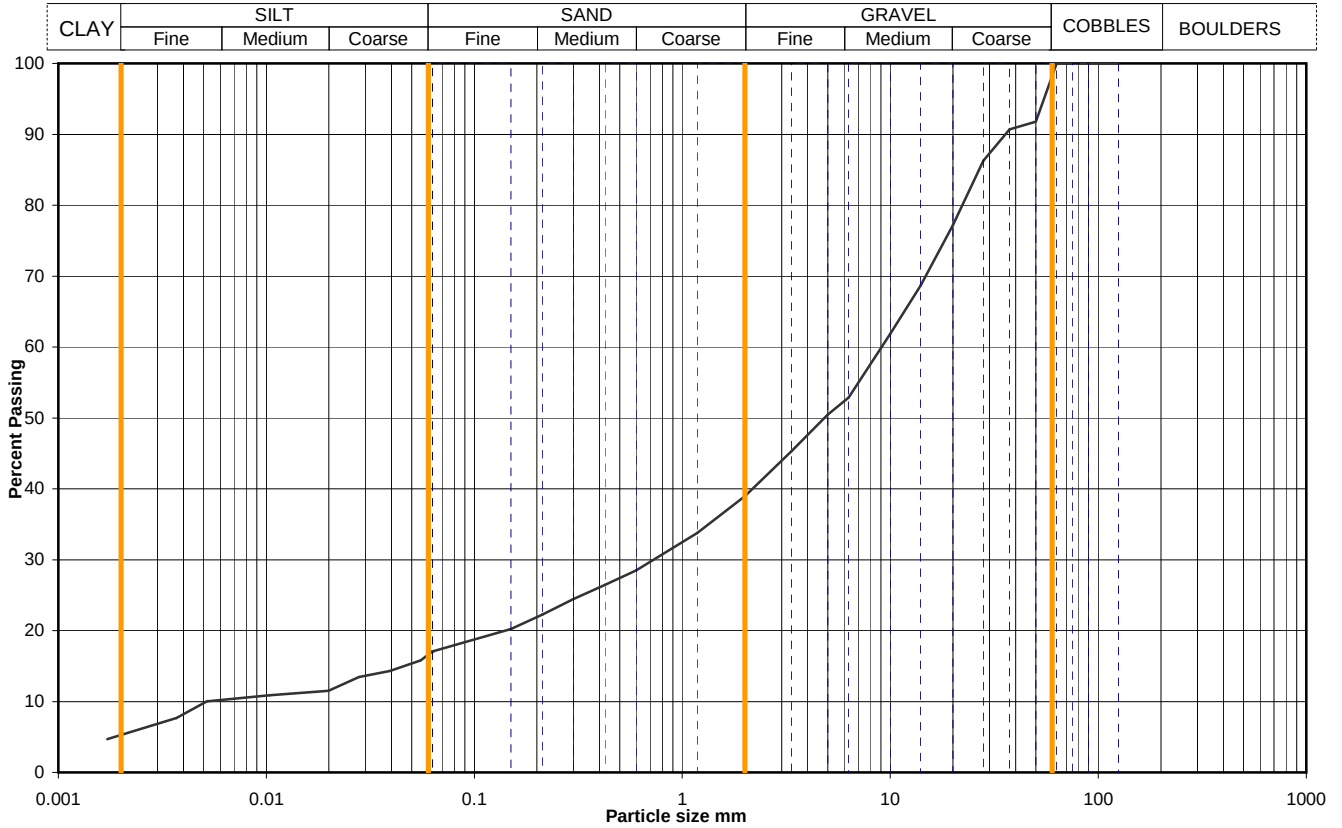
|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

|                                        |                                                                                                           |                           |                         |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------|-------------------------|
| QA Ref<br>SLR 2,9<br>Rev 84<br>Sept 08 |  <b>Soil Mechanics</b> | Printed: 07/04/2011 14:00 | Figure<br><b>PSD 16</b> |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------|-------------------------|

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH610 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.20  |   |
|              |                                               |                 | Samp No       | 2                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102240000000105 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                       |           |
|------------------|-----------|-------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                    | % Passing |
| 125              | 100       | 0.0630                              | 17        |
| 90               | 100       | 0.0552                              | 16        |
| 75               | 100       | 0.0393                              | 14        |
| 63               | 100       | 0.0279                              | 13        |
| 50               | 92        | 0.0199                              | 12        |
| 37.5             | 91        | 0.0103                              | 11        |
| 28               | 86        | 0.0052                              | 10        |
| 20               | 77        | 0.0037                              | 8         |
| 14               | 69        | 0.0017                              | 5         |
| 10               | 62        |                                     |           |
| 6.3              | 53        |                                     |           |
| 5.0              | 50        |                                     |           |
| 3.35             | 45        |                                     |           |
| 2.00             | 39        |                                     |           |
| 1.18             | 34        |                                     |           |
| 0.600            | 29        | Particle density, Mg/m <sup>3</sup> |           |
| 0.425            | 26        | 2.65 assumed                        |           |
| 0.300            | 24        | Dry mass of sample, kg              |           |
| 0.212            | 22        | 10.6                                |           |
| 0.150            | 20        |                                     |           |
| 0.063            | 17        |                                     |           |

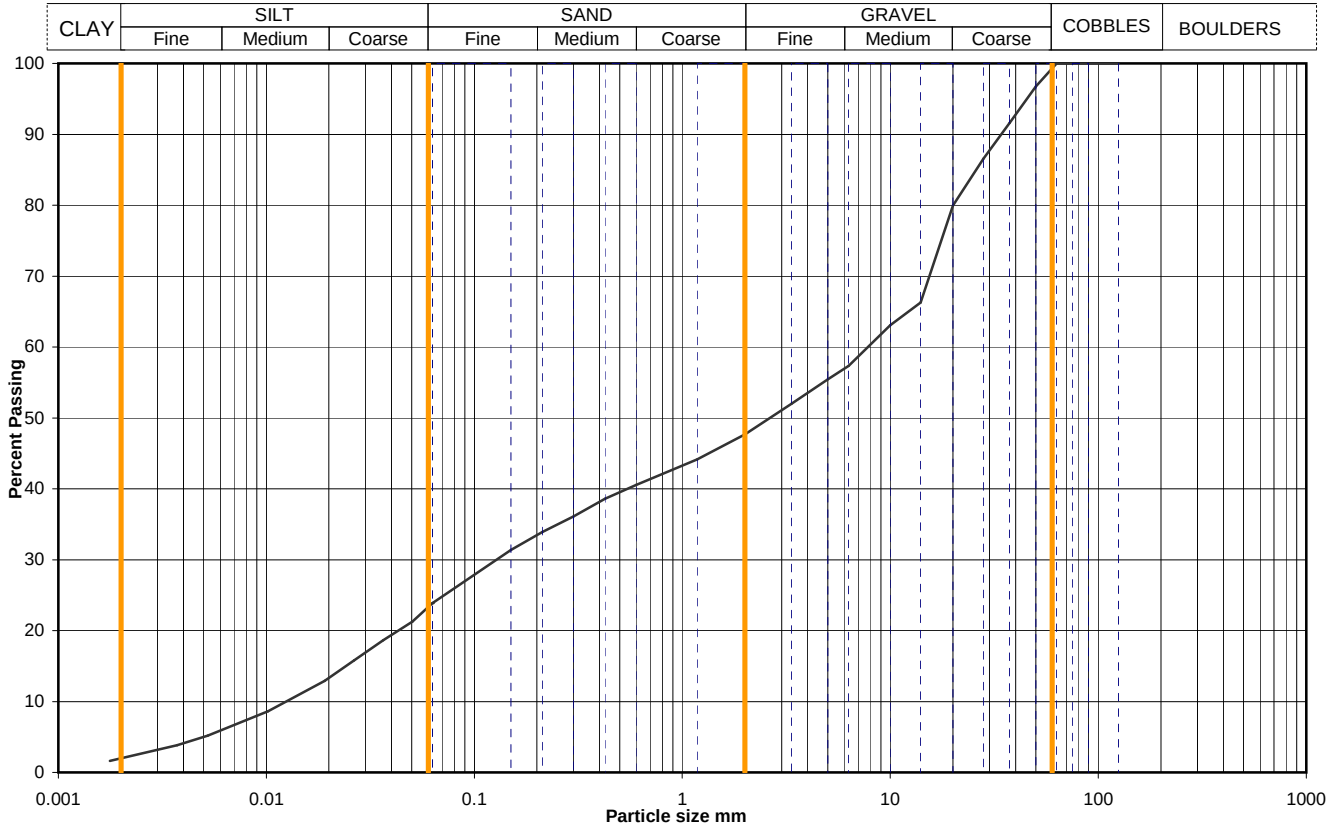
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown silty very sandy GRAVEL.              |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 2     | 0       |
|                                                                  | Sand                                        | 59    | 60      |
|                                                                  | Silt                                        | 22    | 22      |
|                                                                  | Clay                                        | 12    | 12      |
|                                                                  |                                             | 5     | 5       |

|                        |                   |      |
|------------------------|-------------------|------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 1764 |
|------------------------|-------------------|------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH611 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.30  |   |
|              |                                               |                 | Samp No       | 2                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102220000000030 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 24        |
| 90               | 100       | 0.0503                                  | 21        |
| 75               | 100       | 0.0364                                  | 19        |
| 63               | 100       | 0.0264                                  | 16        |
| 50               | 97        | 0.0191                                  | 13        |
| 37.5             | 92        | 0.0102                                  | 9         |
| 28               | 87        | 0.0052                                  | 5         |
| 20               | 80        | 0.0037                                  | 4         |
| 14               | 66        | 0.0018                                  | 2         |
| 10               | 63        |                                         |           |
| 6.3              | 57        |                                         |           |
| 5.0              | 55        |                                         |           |
| 3.35             | 52        |                                         |           |
| 2.00             | 48        |                                         |           |
| 1.18             | 44        |                                         |           |
| 0.600            | 41        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 39        |                                         |           |
| 0.300            | 36        | Dry mass of sample, kg<br>8.4           |           |
| 0.212            | 34        |                                         |           |
| 0.150            | 31        |                                         |           |
| 0.063            | 24        |                                         |           |

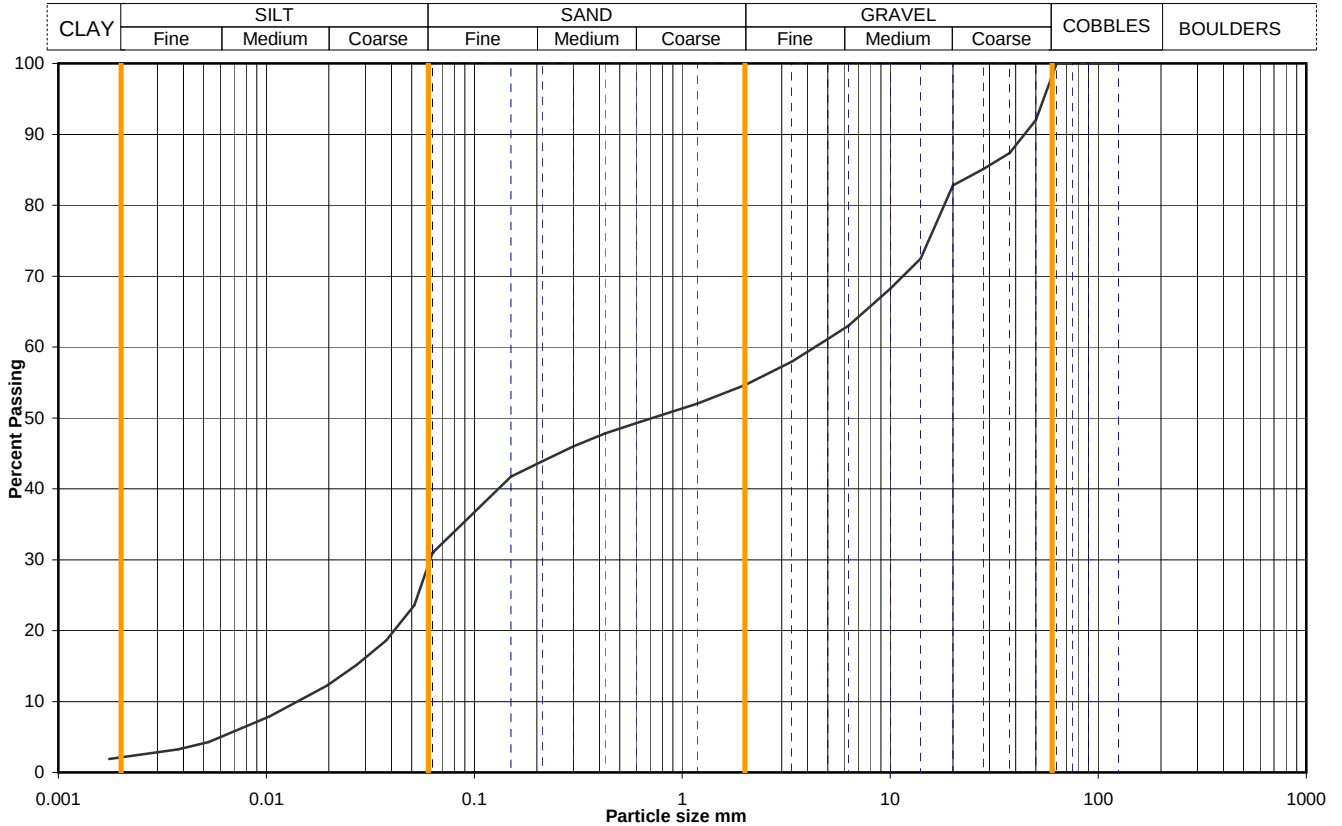
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Greyish brown slightly sandy gravelly SILT. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 1     | 0       |
|                                                                  | Sand                                        | 51    | 52      |
|                                                                  | Silt                                        | 24    | 24      |
|                                                                  | Clay                                        | 22    | 22      |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 628 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH611 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.75  |   |
|              |                                               |                 | Samp No       | 4                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102220000000032 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 31        |
| 90               | 100       | 0.0514                  | 24        |
| 75               | 100       | 0.0376                  | 19        |
| 63               | 100       | 0.0272                  | 15        |
| 50               | 92        | 0.0196                  | 12        |
| 37.5             | 87        | 0.0104                  | 8         |
| 28               | 85        | 0.0053                  | 4         |
| 20               | 83        | 0.0038                  | 3         |
| 14               | 72        | 0.0018                  | 2         |
| 10               | 68        |                         |           |
| 6.3              | 63        |                         |           |
| 5.0              | 61        |                         |           |
| 3.35             | 58        |                         |           |
| 2.00             | 55        |                         |           |
| 1.18             | 52        |                         |           |
| 0.600            | 49        | Particle density, Mg/m3 |           |
| 0.425            | 48        | 2.65 assumed            |           |
| 0.300            | 46        | Dry mass of sample, kg  |           |
| 0.212            | 44        | 11.4                    |           |
| 0.150            | 42        |                         |           |
| 0.063            | 31        |                         |           |

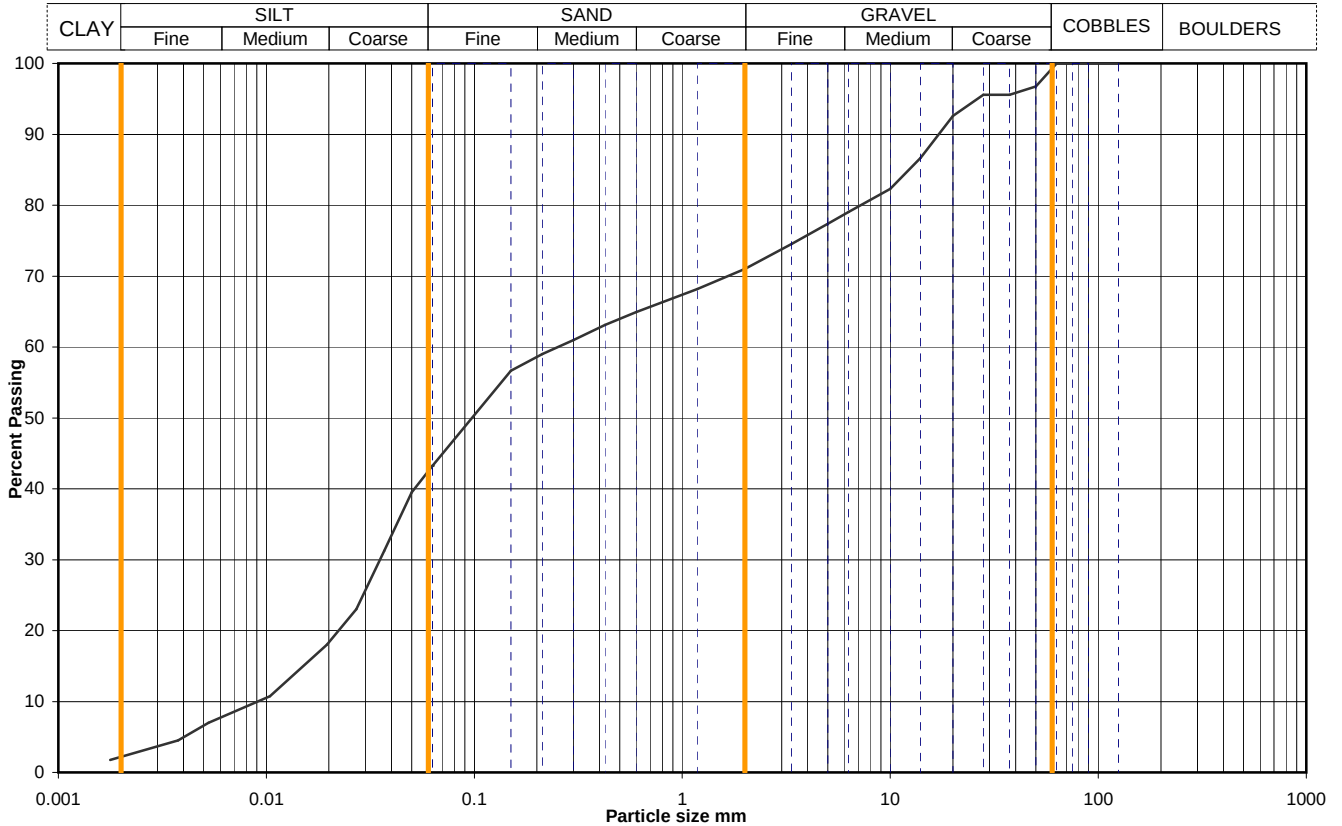
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Cream slightly sandy gravelly SILT.         |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 2     | 0       |
|                                                                  | Sand                                        | 43    | 44      |
|                                                                  | Silt                                        | 25    | 26      |
|                                                                  | Clay                                        | 27    | 28      |
|                                                                  |                                             | 3     | 3       |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 308 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH611 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 1.65  |   |
|              |                                               |                 | Samp No       | 7                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102220000000035 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                       |           |
|------------------|-----------|-------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                    | % Passing |
| 125              | 100       | 0.0630                              | 43        |
| 90               | 100       | 0.0501                              | 40        |
| 75               | 100       | 0.0368                              | 31        |
| 63               | 100       | 0.0270                              | 23        |
| 50               | 97        | 0.0195                              | 18        |
| 37.5             | 96        | 0.0104                              | 11        |
| 28               | 96        | 0.0053                              | 7         |
| 20               | 93        | 0.0038                              | 5         |
| 14               | 87        | 0.0018                              | 2         |
| 10               | 82        |                                     |           |
| 6.3              | 79        |                                     |           |
| 5.0              | 77        |                                     |           |
| 3.35             | 75        |                                     |           |
| 2.00             | 71        |                                     |           |
| 1.18             | 68        |                                     |           |
| 0.600            | 65        | Particle density, Mg/m <sup>3</sup> |           |
| 0.425            | 63        | 2.65 assumed                        |           |
| 0.300            | 61        | Dry mass of sample, kg              |           |
| 0.212            | 59        | 4.8                                 |           |
| 0.150            | 57        |                                     |           |
| 0.063            | 43        |                                     |           |

|                                                                   |                                                    |       |          |
|-------------------------------------------------------------------|----------------------------------------------------|-------|----------|
| Soil description                                                  | Light brown slightly sandy slightly gravelly SILT. |       |          |
| Preparation / Pretreatment                                        | Sieve: natural material Hydro: as BS1377           |       |          |
| Remarks                                                           |                                                    |       |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders                                 | Whole | * < 60mm |
|                                                                   | Gravel                                             | 1     | 0        |
|                                                                   | Sand                                               | 28    | 28       |
|                                                                   | Silt                                               | 29    | 29       |
|                                                                   | Clay                                               | 40    | 40       |
|                                                                   |                                                    | 2     | 2        |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 28 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

QA Ref

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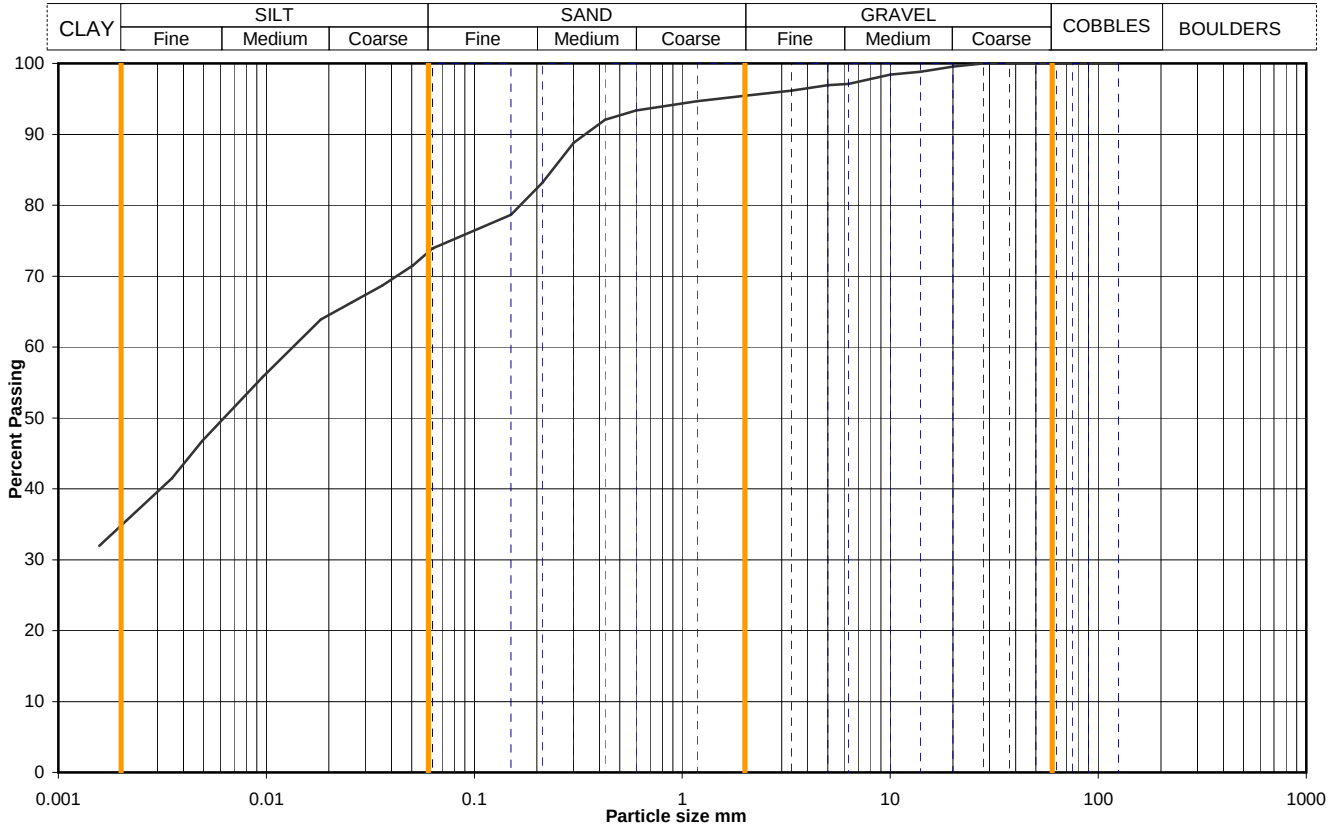
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Figure

PSD 20

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH611 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 2.55  |   |
|              |                                               |                 | Samp No       | 9                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102220000000037 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 74        |
| 90               | 100       | 0.0506                                  | 72        |
| 75               | 100       | 0.0361                                  | 69        |
| 63               | 100       | 0.0257                                  | 66        |
| 50               | 100       | 0.0183                                  | 64        |
| 37.5             | 100       | 0.0096                                  | 56        |
| 28               | 100       | 0.0049                                  | 47        |
| 20               | 100       | 0.0035                                  | 41        |
| 14               | 99        | 0.0016                                  | 32        |
| 10               | 98        |                                         |           |
| 6.3              | 97        |                                         |           |
| 5.0              | 97        |                                         |           |
| 3.35             | 96        |                                         |           |
| 2.00             | 95        |                                         |           |
| 1.18             | 95        |                                         |           |
| 0.600            | 93        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 92        |                                         |           |
| 0.300            | 89        | Dry mass of sample, kg<br>6.4           |           |
| 0.212            | 83        |                                         |           |
| 0.150            | 79        |                                         |           |
| 0.063            | 74        |                                         |           |

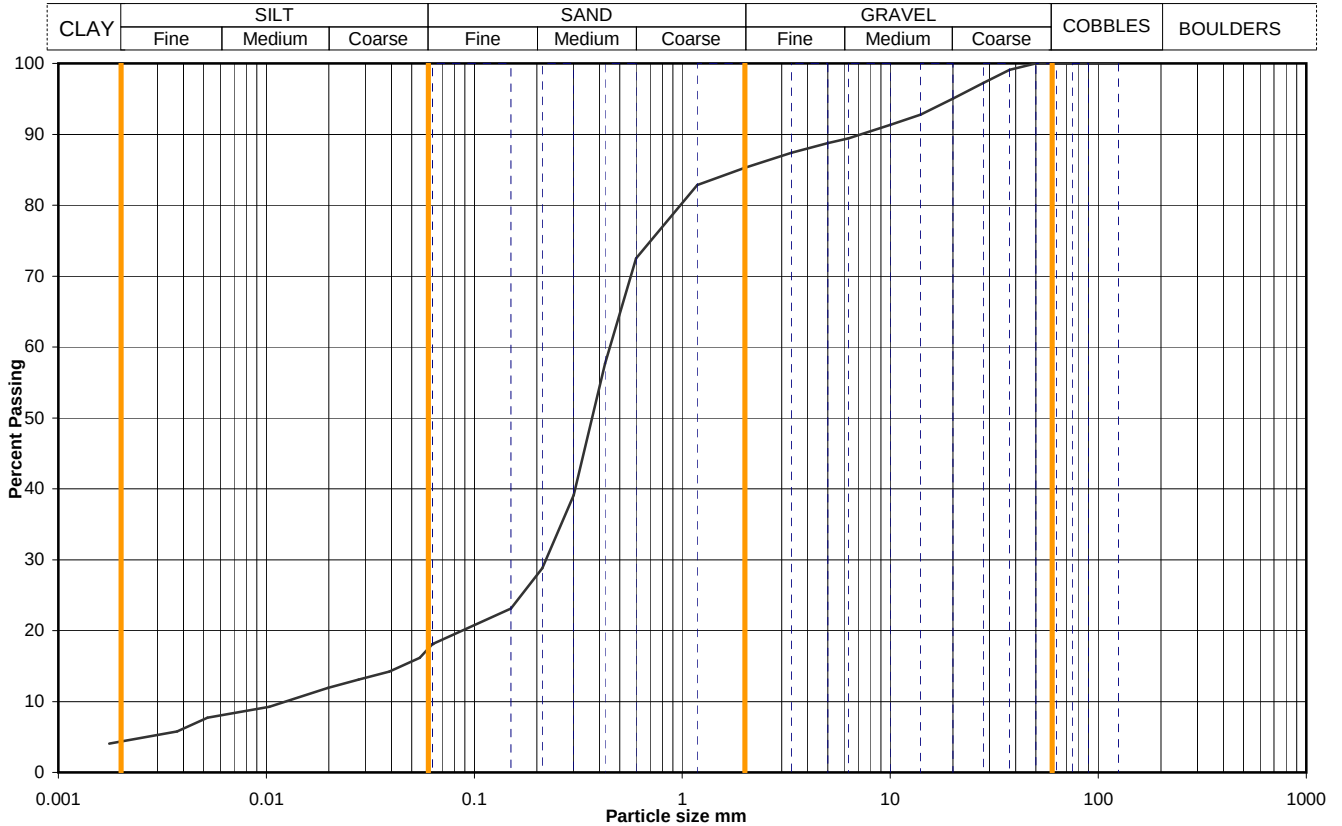
|                                                                 |                                                    |       |        |
|-----------------------------------------------------------------|----------------------------------------------------|-------|--------|
| Soil description                                                | Light brown slightly sandy slightly gravelly CLAY. |       |        |
| Preparation / Pretreatment                                      | Sieve: natural material    Hydro: as BS1377        |       |        |
| Remarks                                                         |                                                    |       |        |
| Sample Proportions<br><br>*<60mm values to aid description only | Cobbles / boulders                                 | Whole | *<60mm |
|                                                                 | Gravel                                             | 0     | 0      |
|                                                                 | Sand                                               | 5     | 5      |
|                                                                 | Silt                                               | 22    | 22     |
|                                                                 | Clay                                               | 38    | 38     |
|                                                                 |                                                    | 35    | 35     |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH611 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 4.20  |   |
|              |                                               |                 | Samp No       | 13                            | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102220000000041 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 18        |
| 90               | 100       | 0.0545                                              | 16        |
| 75               | 100       | 0.0390                                              | 14        |
| 63               | 100       | 0.0277                                              | 13        |
| 50               | 100       | 0.0197                                              | 12        |
| 37.5             | 99        | 0.0103                                              | 9         |
| 28               | 97        | 0.0052                                              | 8         |
| 20               | 95        | 0.0037                                              | 6         |
| 14               | 93        | 0.0018                                              | 4         |
| 10               | 91        |                                                     |           |
| 6.3              | 89        |                                                     |           |
| 5.0              | 89        |                                                     |           |
| 3.35             | 87        |                                                     |           |
| 2.00             | 85        |                                                     |           |
| 1.18             | 83        |                                                     |           |
| 0.600            | 73        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 58        |                                                     |           |
| 0.300            | 39        | Dry mass of sample, kg<br>7.4                       |           |
| 0.212            | 29        |                                                     |           |
| 0.150            | 23        |                                                     |           |
| 0.063            | 18        |                                                     |           |

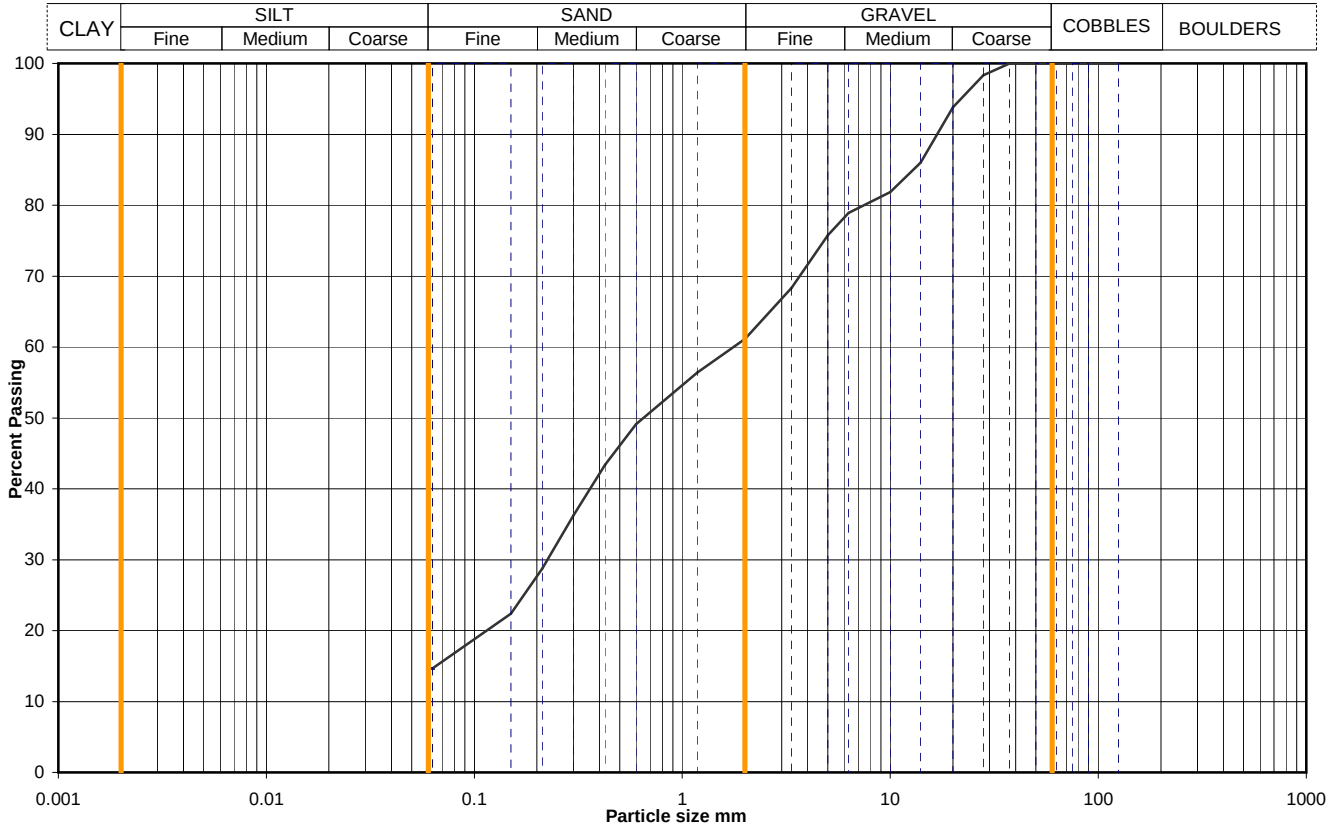
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Light brown slightly clayey gravelly SAND.  |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 15    | 15      |
|                                                                  | Silt                                        | 68    | 68      |
|                                                                  | Clay                                        | 13    | 13      |
|                                                                  |                                             | 4     | 4       |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 36 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH611 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 6.20  |   |
|              |                                               |                 | Samp No       | 17                            | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102220000000045 |       |   |
|              |                                               |                 | 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               | 94        |                  |           |
| 14               | 86        |                  |           |
| 10               | 82        |                  |           |
| 6.3              | 79        |                  |           |
| 5.0              | 76        |                  |           |
| 3.35             | 68        |                  |           |
| 2.00             | 61        |                  |           |
| 1.18             | 56        |                  |           |
| 0.600            | 49        |                  |           |
| 0.425            | 43        |                  |           |
| 0.300            | 36        |                  |           |
| 0.212            | 29        |                  |           |
| 0.150            | 22        |                  |           |
| 0.063            | 15        |                  |           |

|                                                                  |                                        |       |         |
|------------------------------------------------------------------|----------------------------------------|-------|---------|
| Soil description                                                 | Light brown clayey very gravelly SAND. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material                |       |         |
| Remarks                                                          |                                        |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                     | Whole | * <60mm |
|                                                                  | Gravel                                 | 0     | 0       |
|                                                                  | Sand                                   | 39    | 39      |
|                                                                  | Silt                                   | 46    | 46      |
|                                                                  | Clay                                   | 15    | 15      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

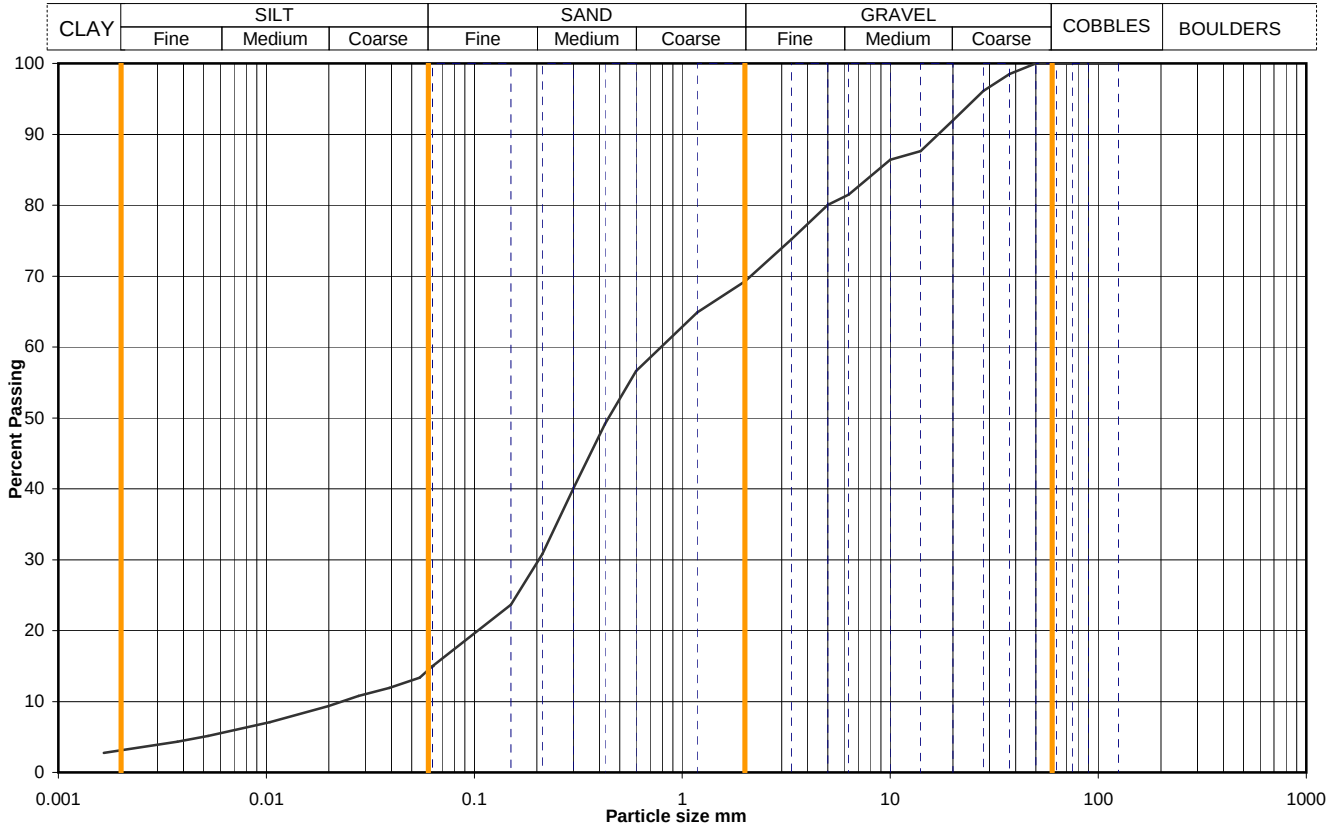
|             |                         |               |
|-------------|-------------------------|---------------|
| Test Method | BS 1377 : Part 2 : 1990 |               |
|             | Sieving                 | 9.2 wet sieve |
|             | Sedimentation           | none          |

|                                        |                                                                                                    |                           |                         |
|----------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------|-------------------------|
| QA Ref<br>SLR 2,9<br>Rev 84<br>Sept 08 |  Soil Mechanics | Printed: 07/04/2011 14:01 | Figure<br><b>PSD 23</b> |
|----------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------|-------------------------|



## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH611 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 7.30  |   |
|              |                                               |                 | Samp No       | 19                            | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102220000000047 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                       |           |
|------------------|-----------|-------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                    | % Passing |
| 125              | 100       | 0.0630                              | 15        |
| 90               | 100       | 0.0547                              | 13        |
| 75               | 100       | 0.0390                              | 12        |
| 63               | 100       | 0.0278                              | 11        |
| 50               | 100       | 0.0198                              | 9         |
| 37.5             | 99        | 0.0104                              | 7         |
| 28               | 96        | 0.0053                              | 5         |
| 20               | 92        | 0.0037                              | 4         |
| 14               | 88        | 0.0017                              | 3         |
| 10               | 86        |                                     |           |
| 6.3              | 81        |                                     |           |
| 5.0              | 80        |                                     |           |
| 3.35             | 75        |                                     |           |
| 2.00             | 69        |                                     |           |
| 1.18             | 65        |                                     |           |
| 0.600            | 57        | Particle density, Mg/m <sup>3</sup> |           |
| 0.425            | 49        | 2.65 assumed                        |           |
| 0.300            | 40        | Dry mass of sample, kg              |           |
| 0.212            | 31        | 12.1                                |           |
| 0.150            | 24        |                                     |           |
| 0.063            | 15        |                                     |           |

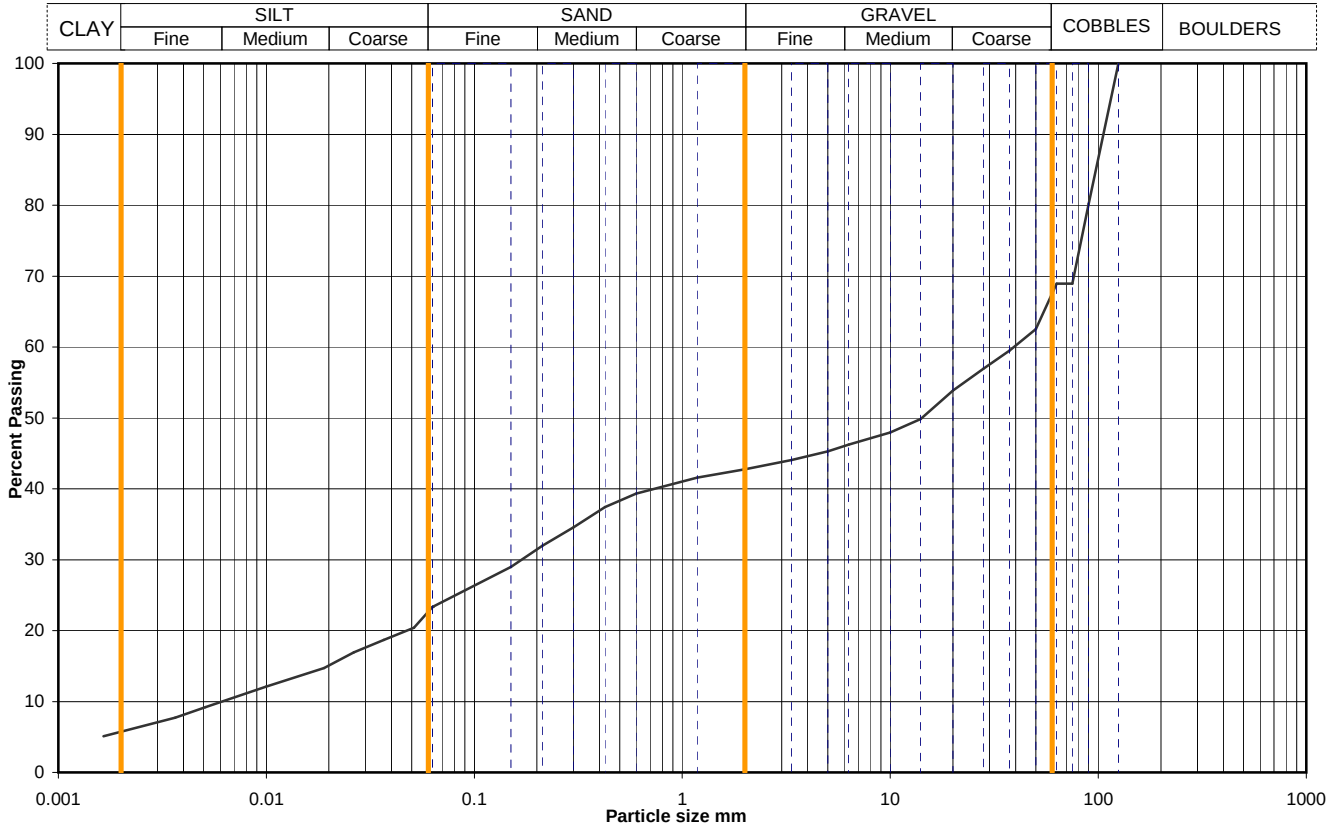
|                                                                                          |                                             |       |        |
|------------------------------------------------------------------------------------------|---------------------------------------------|-------|--------|
| Soil description                                                                         | Brown silty very gravelly SAND.             |       |        |
| Preparation / Pretreatment                                                               | Sieve: natural material    Hydro: as BS1377 |       |        |
| Remarks                                                                                  |                                             |       |        |
| <b>Sample Proportions</b><br><br><small>*&lt;60mm values to aid description only</small> | Cobbles / boulders                          | Whole | *<60mm |
|                                                                                          | Gravel                                      | 0     | 0      |
|                                                                                          | Sand                                        | 31    | 31     |
|                                                                                          | Silt                                        | 55    | 55     |
|                                                                                          | Clay                                        | 11    | 11     |
|                                                                                          |                                             | 3     | 3      |

|                               |                                        |    |
|-------------------------------|----------------------------------------|----|
| <b>Uniformity Coefficient</b> | <b>D<sub>60</sub> / D<sub>10</sub></b> | 34 |
|-------------------------------|----------------------------------------|----|

|                    |                         |                |
|--------------------|-------------------------|----------------|
| <b>Test Method</b> | BS 1377 : Part 2 : 1990 |                |
|                    | Sieving                 | 9.2 wet sieve  |
|                    | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH613 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.30  |   |
|              |                                               |                 | Samp No       | 4                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102240000000112 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 23        |
| 90               | 80        | 0.0513                                              | 20        |
| 75               | 69        | 0.0368                                              | 19        |
| 63               | 69        | 0.0264                                              | 17        |
| 50               | 63        | 0.0190                                              | 15        |
| 37.5             | 60        | 0.0100                                              | 12        |
| 28               | 57        | 0.0051                                              | 9         |
| 20               | 54        | 0.0036                                              | 8         |
| 14               | 50        | 0.0017                                              | 5         |
| 10               | 48        |                                                     |           |
| 6.3              | 46        |                                                     |           |
| 5.0              | 45        |                                                     |           |
| 3.35             | 44        |                                                     |           |
| 2.00             | 43        |                                                     |           |
| 1.18             | 42        |                                                     |           |
| 0.600            | 39        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 37        |                                                     |           |
| 0.300            | 35        | Dry mass of sample, kg<br>11.8                      |           |
| 0.212            | 32        |                                                     |           |
| 0.150            | 29        |                                                     |           |
| 0.063            | 23        |                                                     |           |

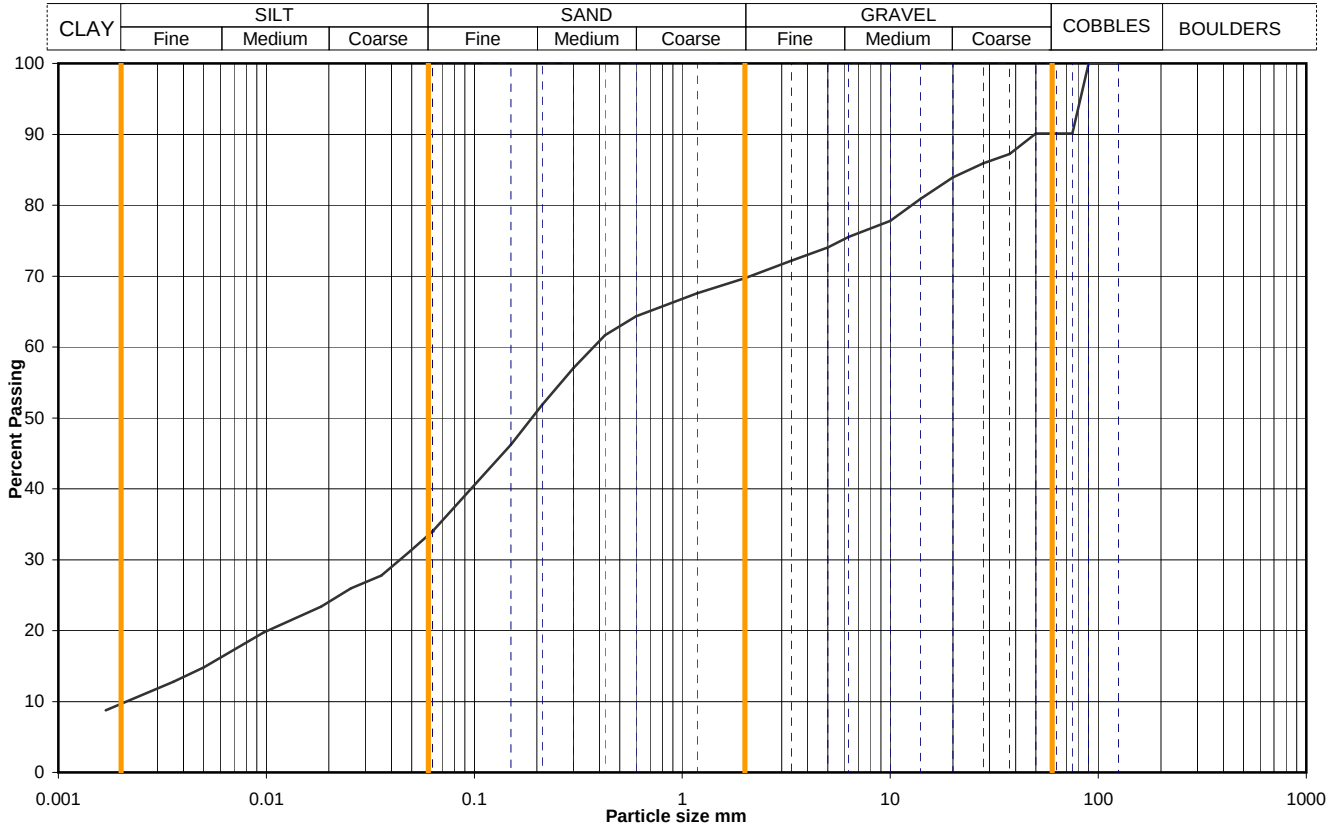
|                                                                  |                                                              |       |         |
|------------------------------------------------------------------|--------------------------------------------------------------|-------|---------|
| Soil description                                                 | Light brown slightly sandy gravelly CLAY with three cobbles. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                  |       |         |
| Remarks                                                          |                                                              |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                           | Whole | * <60mm |
|                                                                  | Gravel                                                       | 32    | 0       |
|                                                                  | Sand                                                         | 25    | 37      |
|                                                                  | Silt                                                         | 20    | 29      |
|                                                                  | Clay                                                         | 17    | 25      |
|                                                                  |                                                              | 6     | 9       |

|                        |                   |      |
|------------------------|-------------------|------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 6394 |
|------------------------|-------------------|------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH613 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 1.20  |   |
|              |                                               |                 | Samp No       | 7                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102240000000116 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       | 0.0630           | 34        |
| 90               | 100       | 0.0492           | 31        |
| 75               | 90        | 0.0357           | 28        |
| 63               | 90        | 0.0255           | 26        |
| 50               | 90        | 0.0184           | 23        |
| 37.5             | 87        | 0.0097           | 20        |
| 28               | 86        | 0.0050           | 15        |
| 20               | 84        | 0.0036           | 13        |
| 14               | 81        | 0.0017           | 9         |
| 10               | 78        |                  |           |
| 6.3              | 76        |                  |           |
| 5.0              | 74        |                  |           |
| 3.35             | 72        |                  |           |
| 2.00             | 70        |                  |           |
| 1.18             | 68        |                  |           |
| 0.600            | 64        |                  |           |
| 0.425            | 62        |                  |           |
| 0.300            | 57        |                  |           |
| 0.212            | 52        |                  |           |
| 0.150            | 46        |                  |           |
| 0.063            | 34        |                  |           |

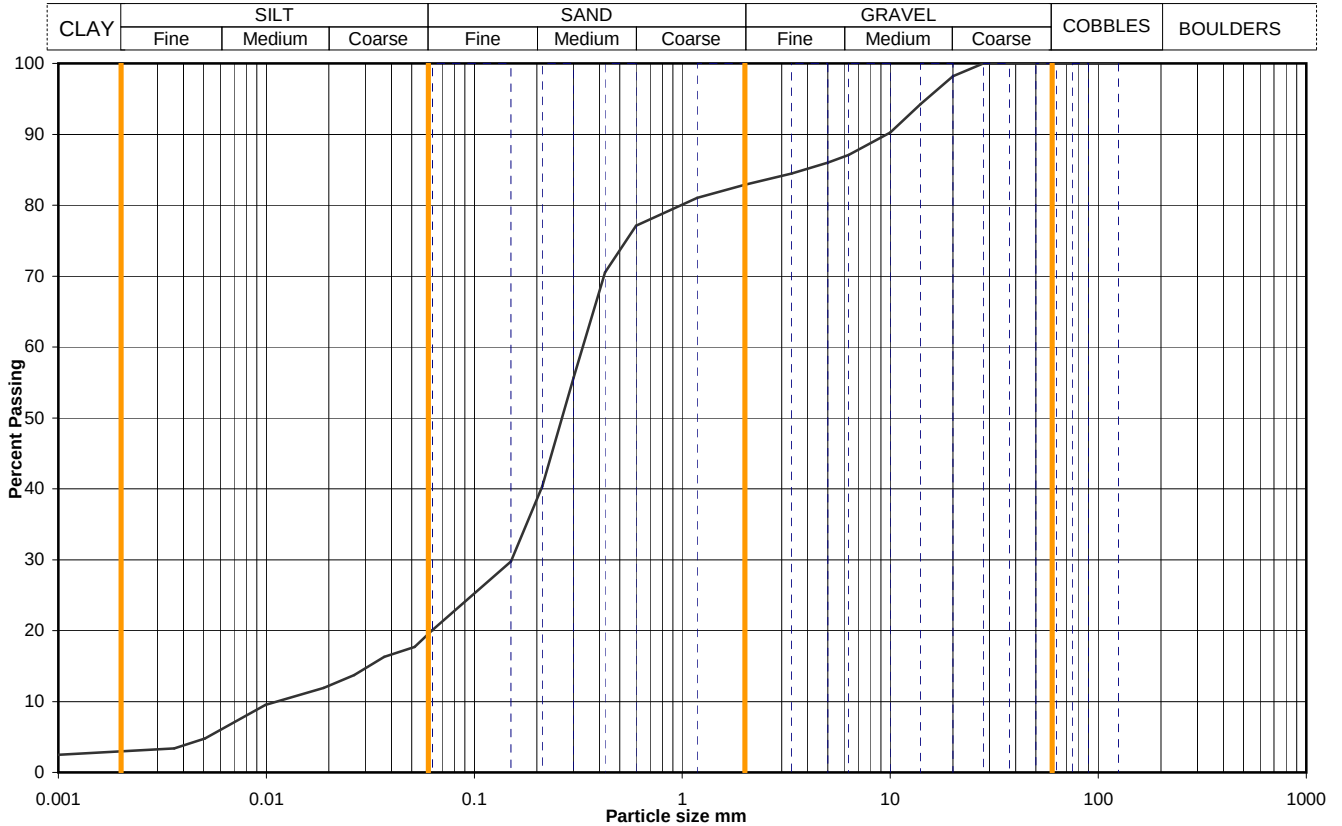
|                                                                   |                                                             |       |          |
|-------------------------------------------------------------------|-------------------------------------------------------------|-------|----------|
| Soil description                                                  | Brownish grey slightly gravelly sandy CLAY with one cobble. |       |          |
| Preparation / Pretreatment                                        | Sieve: natural material    Hydro: as BS1377                 |       |          |
| Remarks                                                           |                                                             |       |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders                                          | Whole | * < 60mm |
|                                                                   | Gravel                                                      | 10    | 0        |
|                                                                   | Sand                                                        | 20    | 22       |
|                                                                   | Silt                                                        | 36    | 40       |
|                                                                   | Clay                                                        | 24    | 27       |
|                                                                   |                                                             | 10    | 11       |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 176 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS601 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.70  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304288919 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 20        |
| 90               | 100       | 0.0517                                              | 18        |
| 75               | 100       | 0.0368                                              | 16        |
| 63               | 100       | 0.0264                                              | 14        |
| 50               | 100       | 0.0189                                              | 12        |
| 37.5             | 100       | 0.0099                                              | 10        |
| 28               | 100       | 0.0051                                              | 5         |
| 20               | 98        | 0.0036                                              | 3         |
| 14               | 94        | 0.0009                                              | 2         |
| 10               | 90        |                                                     |           |
| 6.3              | 87        |                                                     |           |
| 5.0              | 86        |                                                     |           |
| 3.35             | 84        |                                                     |           |
| 2.00             | 83        |                                                     |           |
| 1.18             | 81        |                                                     |           |
| 0.600            | 77        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 71        |                                                     |           |
| 0.300            | 56        | Dry mass of sample, kg<br>3.5                       |           |
| 0.212            | 40        |                                                     |           |
| 0.150            | 30        |                                                     |           |
| 0.063            | 20        |                                                     |           |

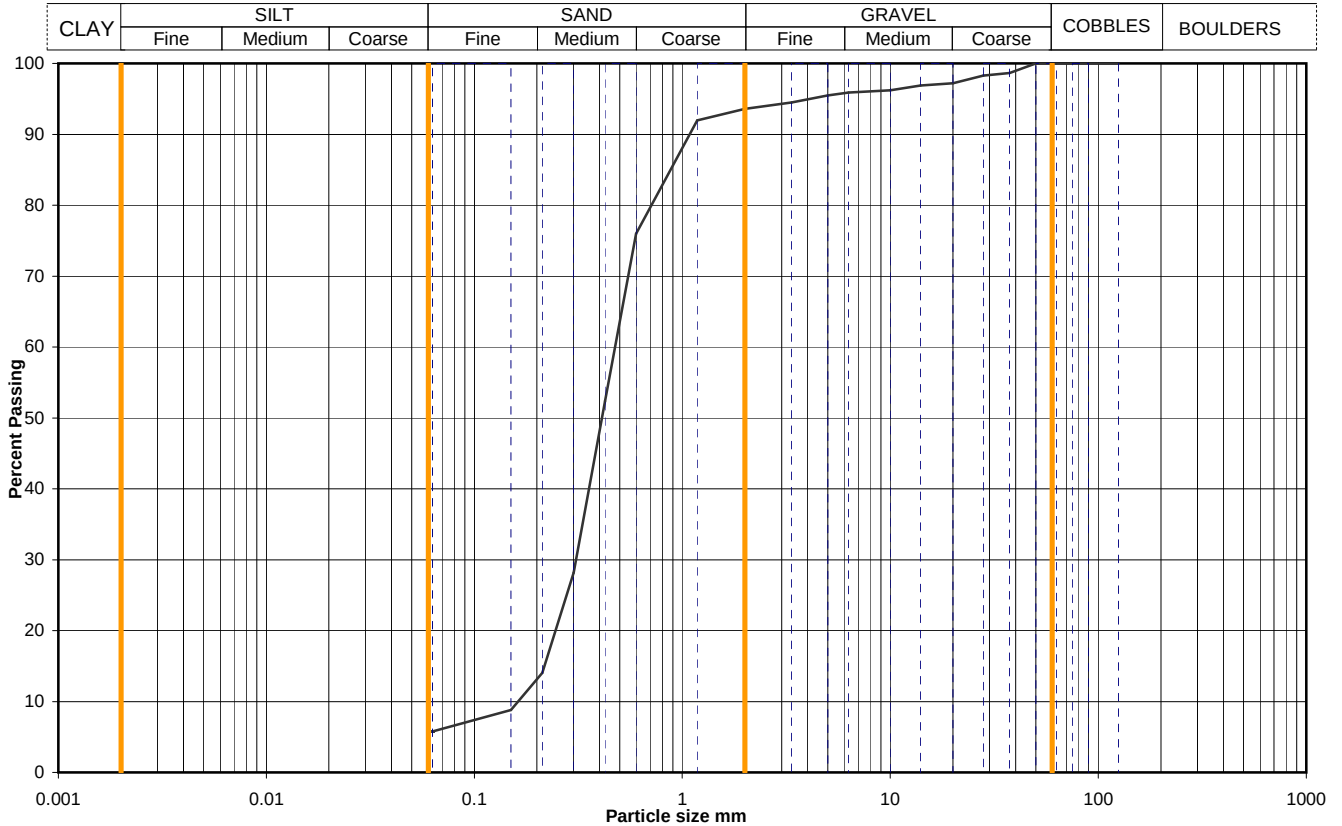
|                                                                  |                                                                   |       |         |
|------------------------------------------------------------------|-------------------------------------------------------------------|-------|---------|
| Soil description                                                 | Dark brown slightly gravelly sandy SILT with occasional rootlets. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                       |       |         |
| Remarks                                                          |                                                                   |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                                | Whole | * <60mm |
|                                                                  | Gravel                                                            | 0     | 0       |
|                                                                  | Sand                                                              | 17    | 17      |
|                                                                  | Silt                                                              | 63    | 63      |
|                                                                  | Clay                                                              | 17    | 17      |
|                                                                  |                                                                   | 3     | 3       |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 30 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS601 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.20  |   |
|              |                                               |                 | Samp No       | 7                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304085153 |       |   |
|              |                                               |                 | 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               | 98        |                  |           |
| 20               | 97        |                  |           |
| 14               | 97        |                  |           |
| 10               | 96        |                  |           |
| 6.3              | 96        |                  |           |
| 5.0              | 95        |                  |           |
| 3.35             | 94        |                  |           |
| 2.00             | 94        |                  |           |
| 1.18             | 92        |                  |           |
| 0.600            | 76        |                  |           |
| 0.425            | 52        |                  |           |
| 0.300            | 28        |                  |           |
| 0.212            | 14        |                  |           |
| 0.150            | 9         |                  |           |
| 0.063            | 6         |                  |           |

|                                   |  |
|-----------------------------------|--|
| Dry mass of sample, kg<br><br>5.8 |  |
|                                   |  |
|                                   |  |
|                                   |  |

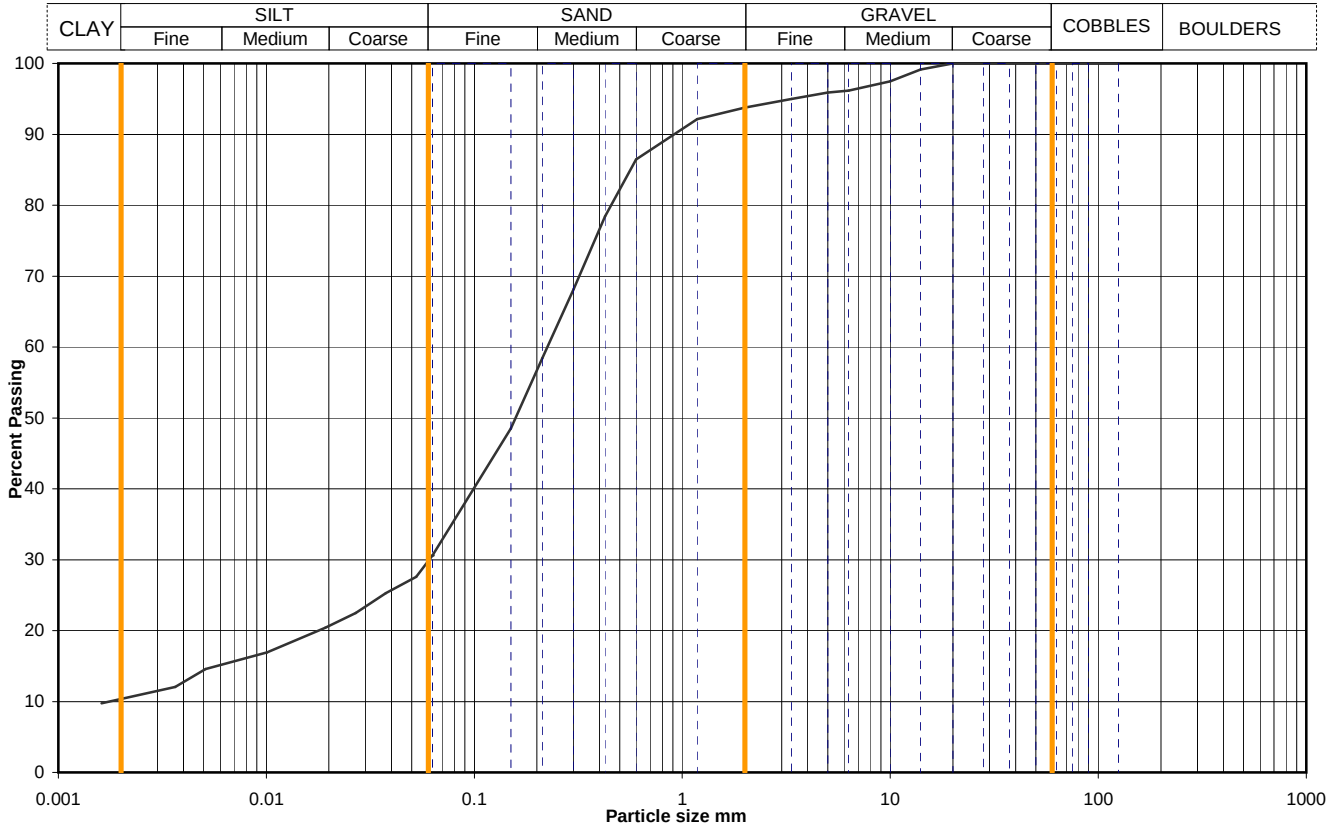
|                                                                   |                                                            |             |          |
|-------------------------------------------------------------------|------------------------------------------------------------|-------------|----------|
| Soil description                                                  | Light brown gravelly SAND with occasional pockets of clay. |             |          |
| Preparation / Pretreatment                                        | Sieve: natural material                                    |             |          |
| Remarks                                                           |                                                            |             |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders<br>Gravel<br>Sand<br>Silt<br>Clay       | Whole       | * < 60mm |
|                                                                   |                                                            | 0           | 0        |
|                                                                   |                                                            | 6           | 6        |
|                                                                   |                                                            | 88          | 88       |
|                                                                   |                                                            | silt+clay = |          |
|                                                                   |                                                            | 6           | 6        |

|                        |                   |   |
|------------------------|-------------------|---|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 3 |
|------------------------|-------------------|---|

|             |                         |               |
|-------------|-------------------------|---------------|
| Test Method | BS 1377 : Part 2 : 1990 |               |
|             | Sieving                 | 9.2 wet sieve |
|             | Sedimentation           | none          |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS601 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.80  |   |
|              |                                               |                 | Samp No       | 9                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304795806 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 31        |
| 90               | 100       | 0.0525                                              | 28        |
| 75               | 100       | 0.0376                                              | 25        |
| 63               | 100       | 0.0269                                              | 22        |
| 50               | 100       | 0.0192                                              | 20        |
| 37.5             | 100       | 0.0101                                              | 17        |
| 28               | 100       | 0.0051                                              | 15        |
| 20               | 100       | 0.0036                                              | 12        |
| 14               | 99        | 0.0016                                              | 10        |
| 10               | 97        |                                                     |           |
| 6.3              | 96        |                                                     |           |
| 5.0              | 96        |                                                     |           |
| 3.35             | 95        |                                                     |           |
| 2.00             | 94        |                                                     |           |
| 1.18             | 92        |                                                     |           |
| 0.600            | 86        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 78        |                                                     |           |
| 0.300            | 68        | Dry mass of sample, kg<br>7.1                       |           |
| 0.212            | 58        |                                                     |           |
| 0.150            | 49        |                                                     |           |
| 0.063            | 31        |                                                     |           |

|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy CLAY.         |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 6     | 6       |
|                                                                  | Silt                                        | 64    | 64      |
|                                                                  | Clay                                        | 20    | 20      |
|                                                                  |                                             | 10    | 10      |

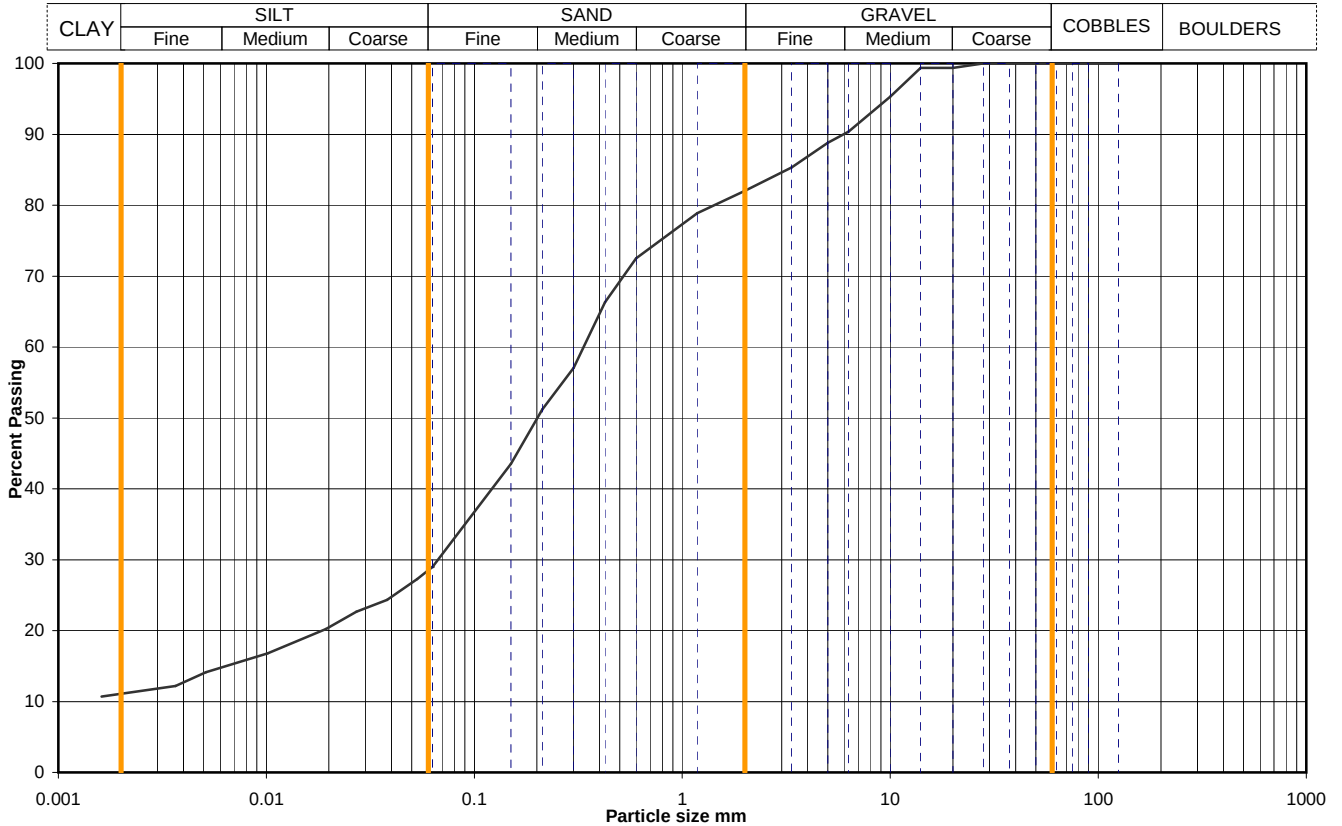
|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 127 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

|                                        |                                                                                                    |                           |                         |
|----------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------|-------------------------|
| QA Ref<br>SLR 2,9<br>Rev 84<br>Sept 08 |  Soil Mechanics | Printed: 07/04/2011 14:01 | Figure<br><b>PSD 29</b> |
|----------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------|-------------------------|

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS601 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 2.80  |   |
|              |                                               |                 | Samp No       | 11                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304069979 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 29        |
| 90               | 100       | 0.0530                                  | 27        |
| 75               | 100       | 0.0380                                  | 24        |
| 63               | 100       | 0.0271                                  | 23        |
| 50               | 100       | 0.0193                                  | 20        |
| 37.5             | 100       | 0.0101                                  | 17        |
| 28               | 100       | 0.0051                                  | 14        |
| 20               | 99        | 0.0037                                  | 12        |
| 14               | 99        | 0.0016                                  | 11        |
| 10               | 95        |                                         |           |
| 6.3              | 90        |                                         |           |
| 5.0              | 89        |                                         |           |
| 3.35             | 85        |                                         |           |
| 2.00             | 82        |                                         |           |
| 1.18             | 79        |                                         |           |
| 0.600            | 73        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 66        |                                         |           |
| 0.300            | 57        | Dry mass of sample, kg<br>2.1           |           |
| 0.212            | 51        |                                         |           |
| 0.150            | 44        |                                         |           |
| 0.063            | 29        |                                         |           |

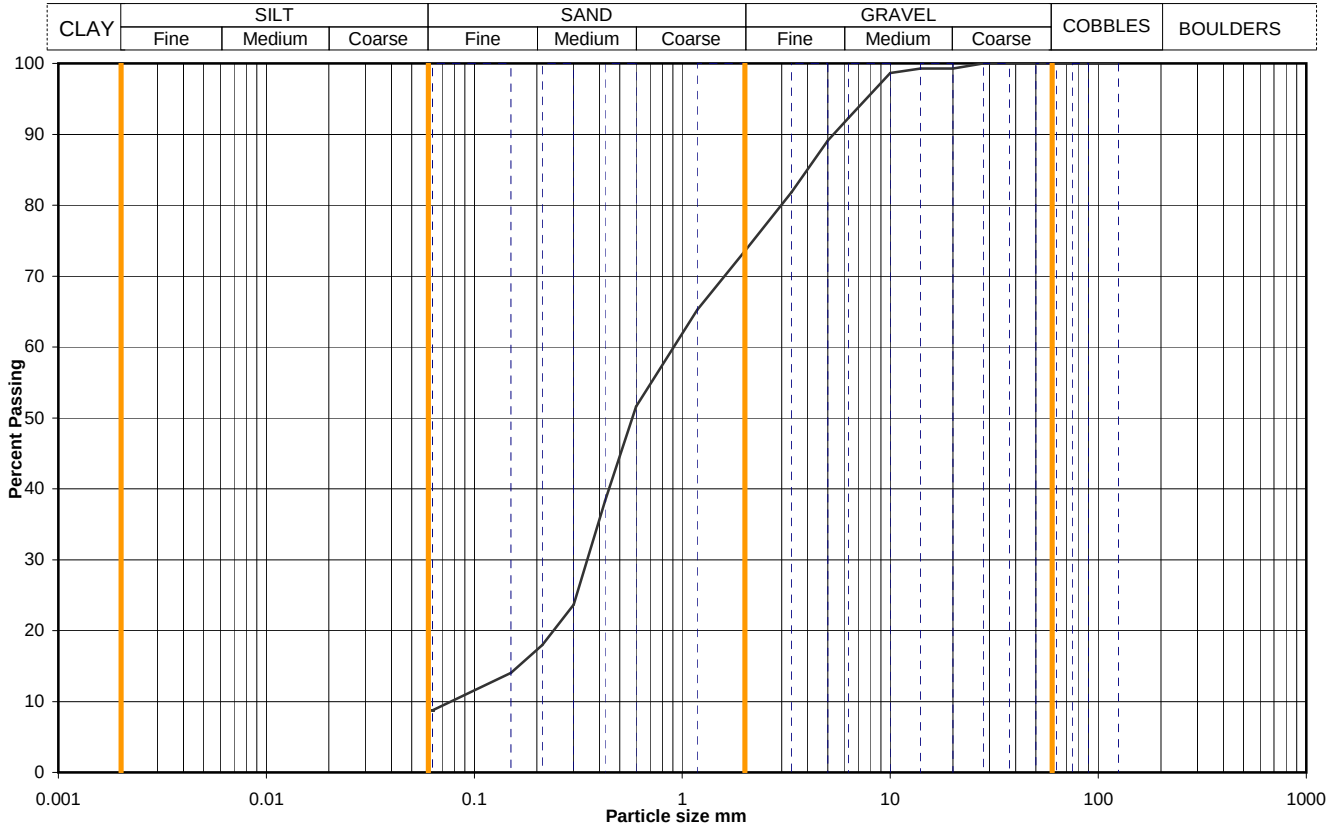
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Greyish brown slightly gravelly sandy CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 18    | 18      |
|                                                                  | Silt                                        | 54    | 54      |
|                                                                  | Clay                                        | 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 |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS601 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 3.80  |   |
|              |                                               |                 | Samp No       | 14                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304952987 |       |   |
|              |                                               |                 | 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               | 99        |                  |           |
| 14               | 99        |                  |           |
| 10               | 99        |                  |           |
| 6.3              | 92        |                  |           |
| 5.0              | 89        |                  |           |
| 3.35             | 82        |                  |           |
| 2.00             | 74        |                  |           |
| 1.18             | 65        |                  |           |
| 0.600            | 52        |                  |           |
| 0.425            | 38        |                  |           |
| 0.300            | 24        |                  |           |
| 0.212            | 18        |                  |           |
| 0.150            | 14        |                  |           |
| 0.063            | 9         |                  |           |

|                        |  |
|------------------------|--|
| Dry mass of sample, kg |  |
| 4.3                    |  |

|                                                                  |                                  |               |         |
|------------------------------------------------------------------|----------------------------------|---------------|---------|
| Soil description                                                 | Brown clayey very gravelly SAND. |               |         |
| Preparation / Pretreatment                                       | Sieve: natural material          |               |         |
| Remarks                                                          |                                  |               |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders               | Whole         | * <60mm |
|                                                                  | Gravel                           | 0             | 0       |
|                                                                  | Sand                             | 26            | 26      |
|                                                                  | Silt                             | 65            | 65      |
|                                                                  | Clay                             | silt+clay = 9 | 9       |

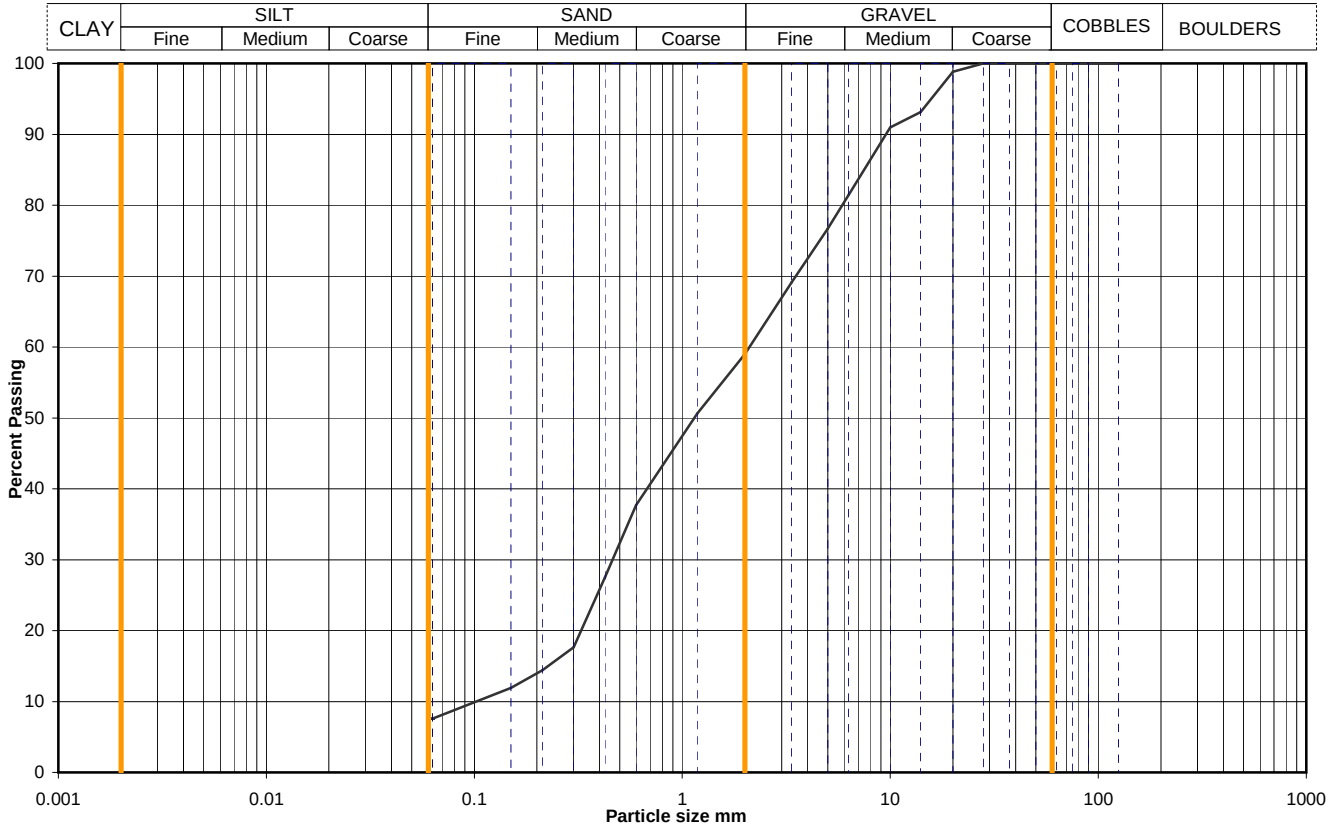
|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 12 |
|------------------------|-------------------|----|

|             |                         |               |
|-------------|-------------------------|---------------|
| Test Method | BS 1377 : Part 2 : 1990 |               |
|             | Sieving                 | 9.2 wet sieve |
|             | Sedimentation           | none          |



## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS601 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 4.80  |   |
|              |                                               |                 | Samp No       | 16                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304290132 |       |   |
|              |                                               |                 | 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               | 99        |                  |           |
| 14               | 93        |                  |           |
| 10               | 91        |                  |           |
| 6.3              | 81        |                  |           |
| 5.0              | 77        |                  |           |
| 3.35             | 69        |                  |           |
| 2.00             | 59        |                  |           |
| 1.18             | 51        |                  |           |
| 0.600            | 38        |                  |           |
| 0.425            | 28        |                  |           |
| 0.300            | 18        |                  |           |
| 0.212            | 14        |                  |           |
| 0.150            | 12        |                  |           |
| 0.063            | 8         |                  |           |

|                                                                   |                                  |             |          |
|-------------------------------------------------------------------|----------------------------------|-------------|----------|
| Soil description                                                  | Brown clayey very gravelly SAND. |             |          |
| Preparation / Pretreatment                                        | Sieve: natural material          |             |          |
| Remarks                                                           |                                  |             |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders               | Whole       | * < 60mm |
|                                                                   | Gravel                           | 0           | 0        |
|                                                                   | Sand                             | 41          | 41       |
|                                                                   | Silt                             | 51          | 51       |
|                                                                   | Clay                             | silt+clay = |          |

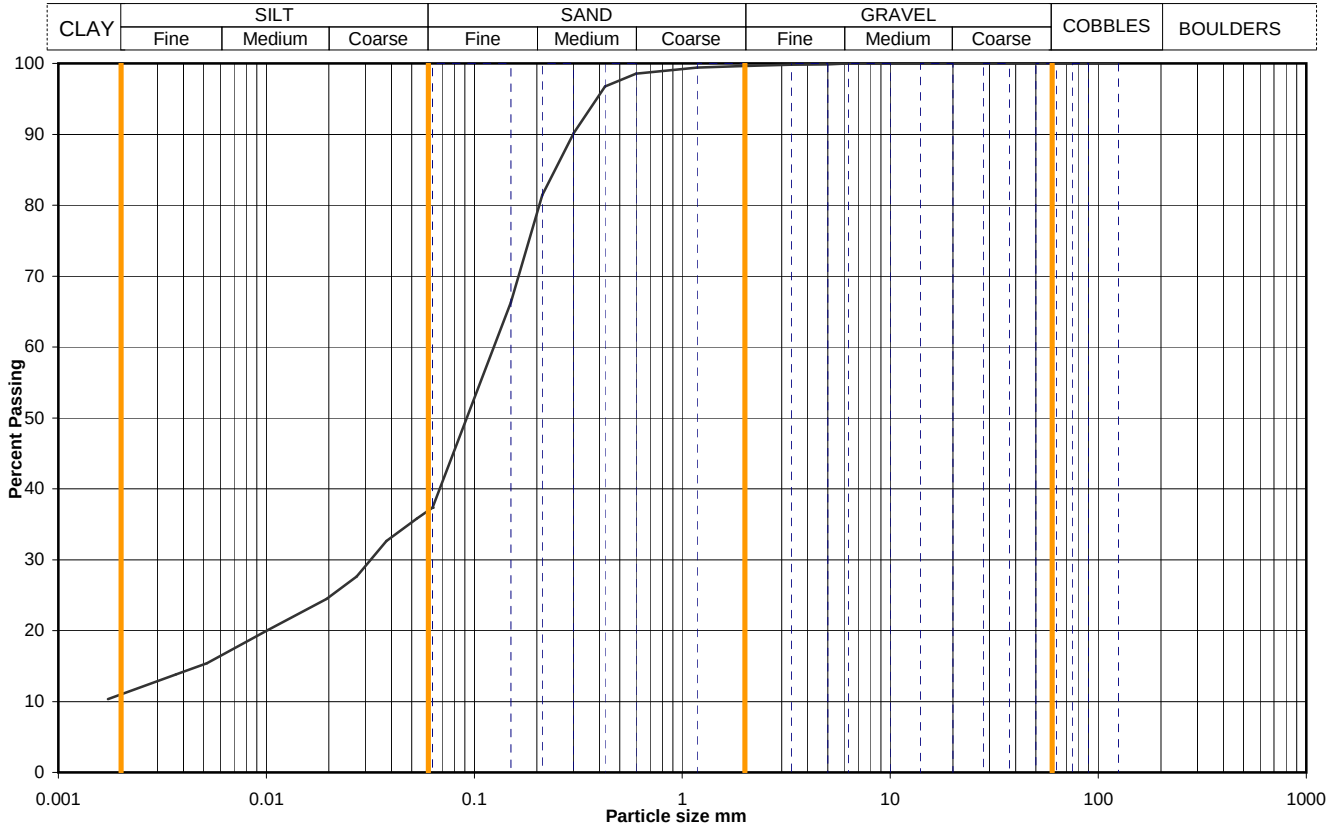
|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 21 |
|------------------------|-------------------|----|

|             |                         |               |
|-------------|-------------------------|---------------|
| Test Method | BS 1377 : Part 2 : 1990 |               |
|             | Sieving                 | 9.2 wet sieve |
|             | Sedimentation           | none          |

|                                        |                                                                                                    |                           |                         |
|----------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------|-------------------------|
| QA Ref<br>SLR 2,9<br>Rev 84<br>Sept 08 |  Soil Mechanics | Printed: 07/04/2011 14:01 | Figure<br><b>PSD 32</b> |
|----------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------|-------------------------|

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |        |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|--------|
| Project No   | A1008-11                                      | Sample Details: | Hole No       | WS602                     |        |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) | 0.70                      |        |
|              |                                               |                 | Samp No       | 5                         | Type B |
|              |                                               |                 | ID            | ESGA1008-1120110304558991 |        |
|              |                                               |                 | Spec Ref      |                           |        |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 37        |
| 90               | 100       | 0.0529                                  | 36        |
| 75               | 100       | 0.0378                                  | 33        |
| 63               | 100       | 0.0272                                  | 28        |
| 50               | 100       | 0.0194                                  | 24        |
| 37.5             | 100       | 0.0102                                  | 20        |
| 28               | 100       | 0.0052                                  | 15        |
| 20               | 100       | 0.0037                                  | 14        |
| 14               | 100       | 0.0017                                  | 10        |
| 10               | 100       |                                         |           |
| 6.3              | 100       |                                         |           |
| 5.0              | 100       |                                         |           |
| 3.35             | 100       |                                         |           |
| 2.00             | 100       |                                         |           |
| 1.18             | 99        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.600            | 99        |                                         |           |
| 0.425            | 97        | Dry mass of sample, kg<br>2.8           |           |
| 0.300            | 90        |                                         |           |
| 0.212            | 81        |                                         |           |
| 0.150            | 66        |                                         |           |
| 0.063            | 37        |                                         |           |

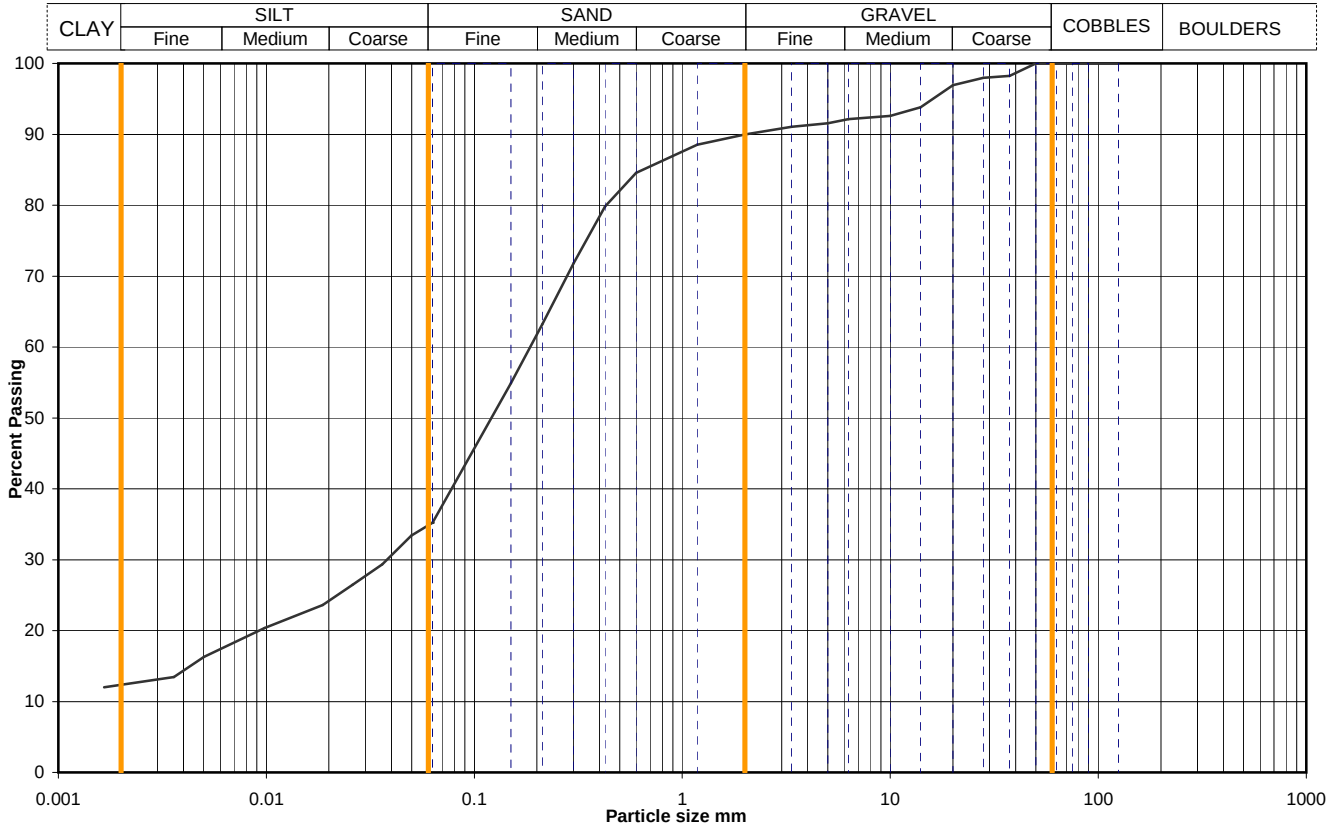
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown sandy CLAY.                           |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 0     | 0       |
|                                                                  | Silt                                        | 63    | 63      |
|                                                                  | Clay                                        | 26    | 26      |
|                                                                  |                                             | 11    | 11      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS602 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.20  |   |
|              |                                               |                 | Samp No       | 7                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304431318 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 35        |
| 90               | 100       | 0.0498                                              | 33        |
| 75               | 100       | 0.0361                                              | 29        |
| 63               | 100       | 0.0260                                              | 26        |
| 50               | 100       | 0.0187                                              | 24        |
| 37.5             | 98        | 0.0098                                              | 20        |
| 28               | 98        | 0.0050                                              | 16        |
| 20               | 97        | 0.0036                                              | 13        |
| 14               | 94        | 0.0017                                              | 12        |
| 10               | 93        |                                                     |           |
| 6.3              | 92        |                                                     |           |
| 5.0              | 92        |                                                     |           |
| 3.35             | 91        |                                                     |           |
| 2.00             | 90        |                                                     |           |
| 1.18             | 89        |                                                     |           |
| 0.600            | 85        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 80        |                                                     |           |
| 0.300            | 72        | Dry mass of sample, kg<br>8.2                       |           |
| 0.212            | 63        |                                                     |           |
| 0.150            | 55        |                                                     |           |
| 0.063            | 35        |                                                     |           |

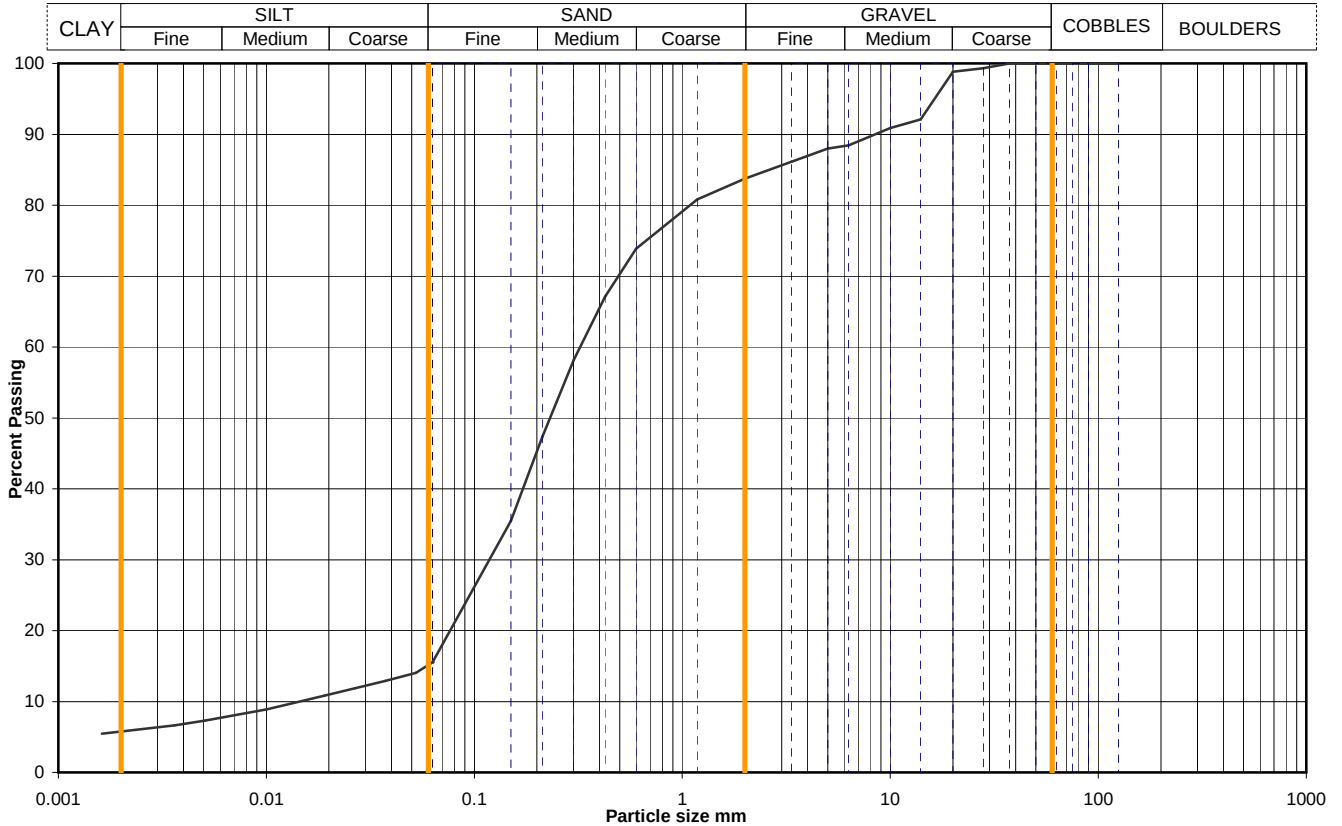
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Light brown slightly gravelly sandy CLAY.   |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <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 | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS602 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 2.00  |   |
|              |                                               |                 | Samp No       | 9                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304819279 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 16        |
| 90               | 100       | 0.0523                                              | 14        |
| 75               | 100       | 0.0374                                              | 13        |
| 63               | 100       | 0.0267                                              | 12        |
| 50               | 100       | 0.0191                                              | 11        |
| 37.5             | 100       | 0.0100                                              | 9         |
| 28               | 99        | 0.0051                                              | 7         |
| 20               | 99        | 0.0036                                              | 7         |
| 14               | 92        | 0.0016                                              | 5         |
| 10               | 91        |                                                     |           |
| 6.3              | 88        |                                                     |           |
| 5.0              | 88        |                                                     |           |
| 3.35             | 86        |                                                     |           |
| 2.00             | 84        |                                                     |           |
| 1.18             | 81        |                                                     |           |
| 0.600            | 74        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 67        |                                                     |           |
| 0.300            | 58        | Dry mass of sample, kg<br>6.0                       |           |
| 0.212            | 47        |                                                     |           |
| 0.150            | 35        |                                                     |           |
| 0.063            | 16        |                                                     |           |

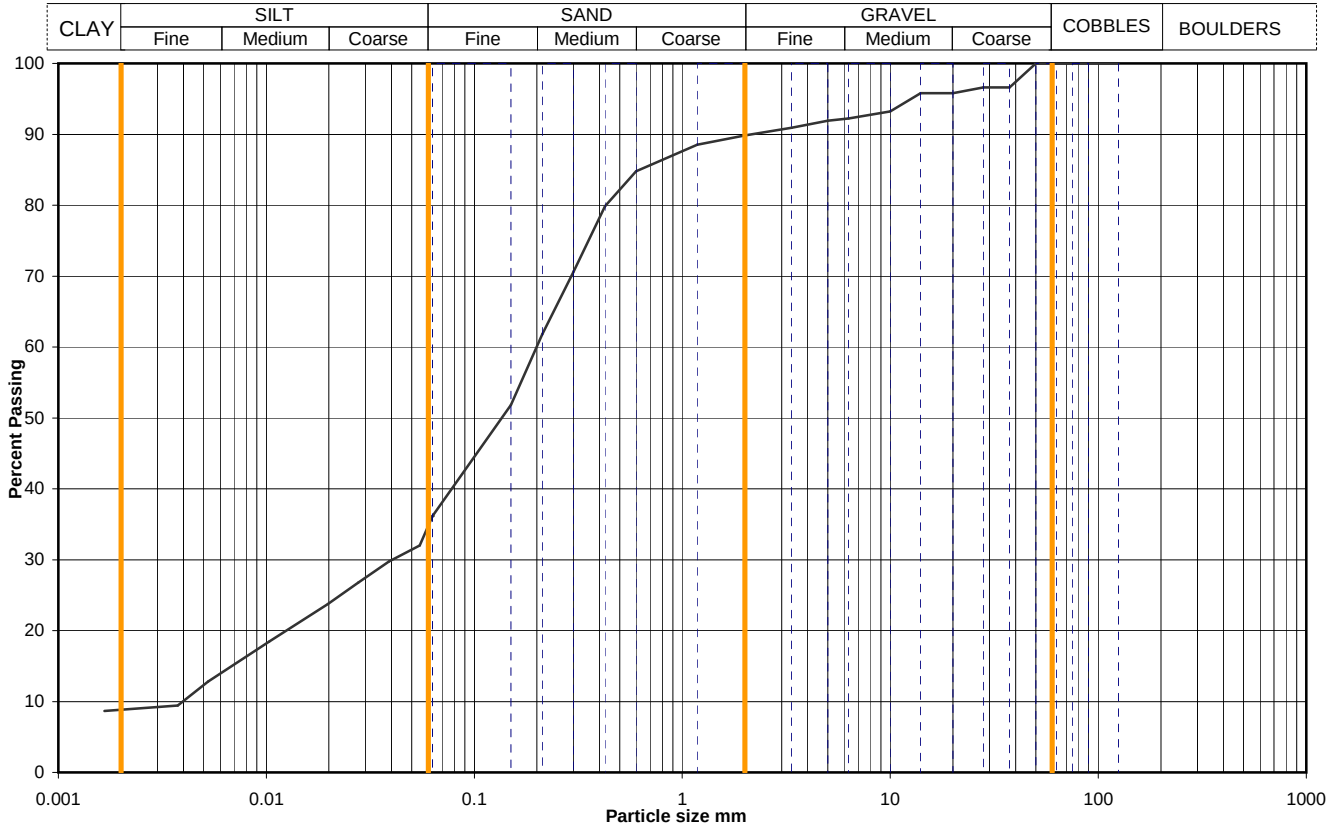
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown clayey gravelly SAND.                 |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 16    | 16      |
|                                                                  | Silt                                        | 69    | 69      |
|                                                                  | Clay                                        | 9     | 9       |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 22 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS602 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 3.00  |   |
|              |                                               |                 | Samp No       | 11                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304162852 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving             |              | Sedimentation           |              |
|---------------------|--------------|-------------------------|--------------|
| Particle Size<br>mm | %<br>Passing | Particle Size<br>mm     | %<br>Passing |
| 125                 | 100          | 0.0630                  | 36           |
| 90                  | 100          | 0.0546                  | 32           |
| 75                  | 100          | 0.0389                  | 30           |
| 63                  | 100          | 0.0277                  | 27           |
| 50                  | 100          | 0.0198                  | 24           |
| 37.5                | 97           | 0.0103                  | 18           |
| 28                  | 97           | 0.0052                  | 13           |
| 20                  | 96           | 0.0037                  | 9            |
| 14                  | 96           | 0.0017                  | 9            |
| 10                  | 93           |                         |              |
| 6.3                 | 92           |                         |              |
| 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               | 71           | Dry mass of sample, kg  |              |
| 0.212               | 62           | 4.3                     |              |
| 0.150               | 52           |                         |              |
| 0.063               | 36           |                         |              |

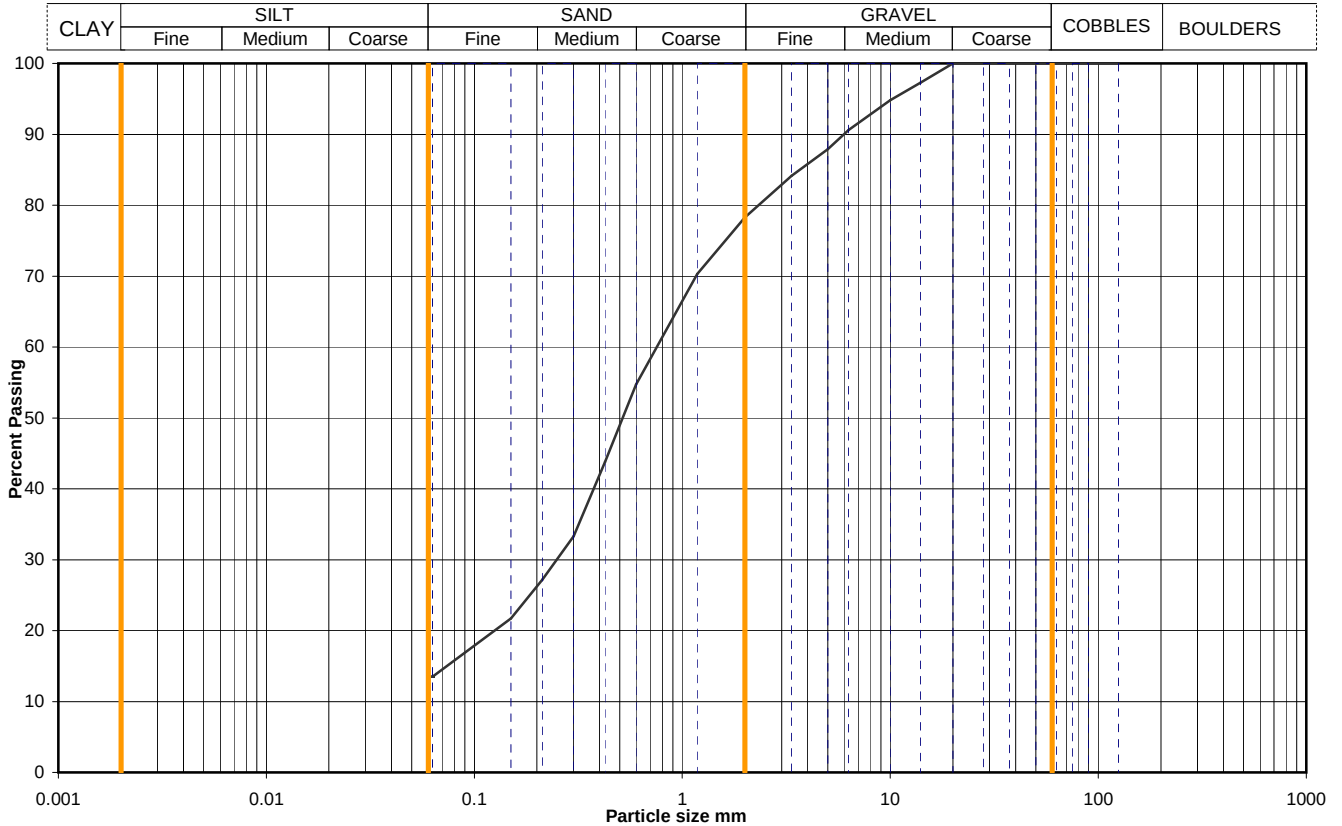
|                                                                  |                                                   |       |         |
|------------------------------------------------------------------|---------------------------------------------------|-------|---------|
| Soil description                                                 | Brownish grey slightly gravelly sandy silty CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377       |       |         |
| Remarks                                                          |                                                   |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                | Whole | * <60mm |
|                                                                  | Gravel                                            | 0     | 0       |
|                                                                  | Sand                                              | 10    | 10      |
|                                                                  | Silt                                              | 55    | 55      |
|                                                                  | Clay                                              | 26    | 26      |
|                                                                  |                                                   | 9     | 9       |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 50 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS602 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 4.00  |   |
|              |                                               |                 | Samp No       | 13                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304471660 |       |   |
|              |                                               |                 | 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               | 97        |                  |           |
| 10               | 95        |                  |           |
| 6.3              | 91        |                  |           |
| 5.0              | 88        |                  |           |
| 3.35             | 84        |                  |           |
| 2.00             | 78        |                  |           |
| 1.18             | 70        |                  |           |
| 0.600            | 55        |                  |           |
| 0.425            | 44        |                  |           |
| 0.300            | 33        |                  |           |
| 0.212            | 27        |                  |           |
| 0.150            | 22        |                  |           |
| 0.063            | 14        |                  |           |

|                                                                   |                                  |             |          |
|-------------------------------------------------------------------|----------------------------------|-------------|----------|
| Soil description                                                  | Brown clayey very gravelly SAND. |             |          |
| Preparation / Pretreatment                                        | Sieve: natural material          |             |          |
| Remarks                                                           |                                  |             |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders               | Whole       | * < 60mm |
|                                                                   | Gravel                           | 0           | 0        |
|                                                                   | Sand                             | 22          | 22       |
|                                                                   | Silt                             | 65          | 65       |
|                                                                   | Clay                             | silt+clay = |          |

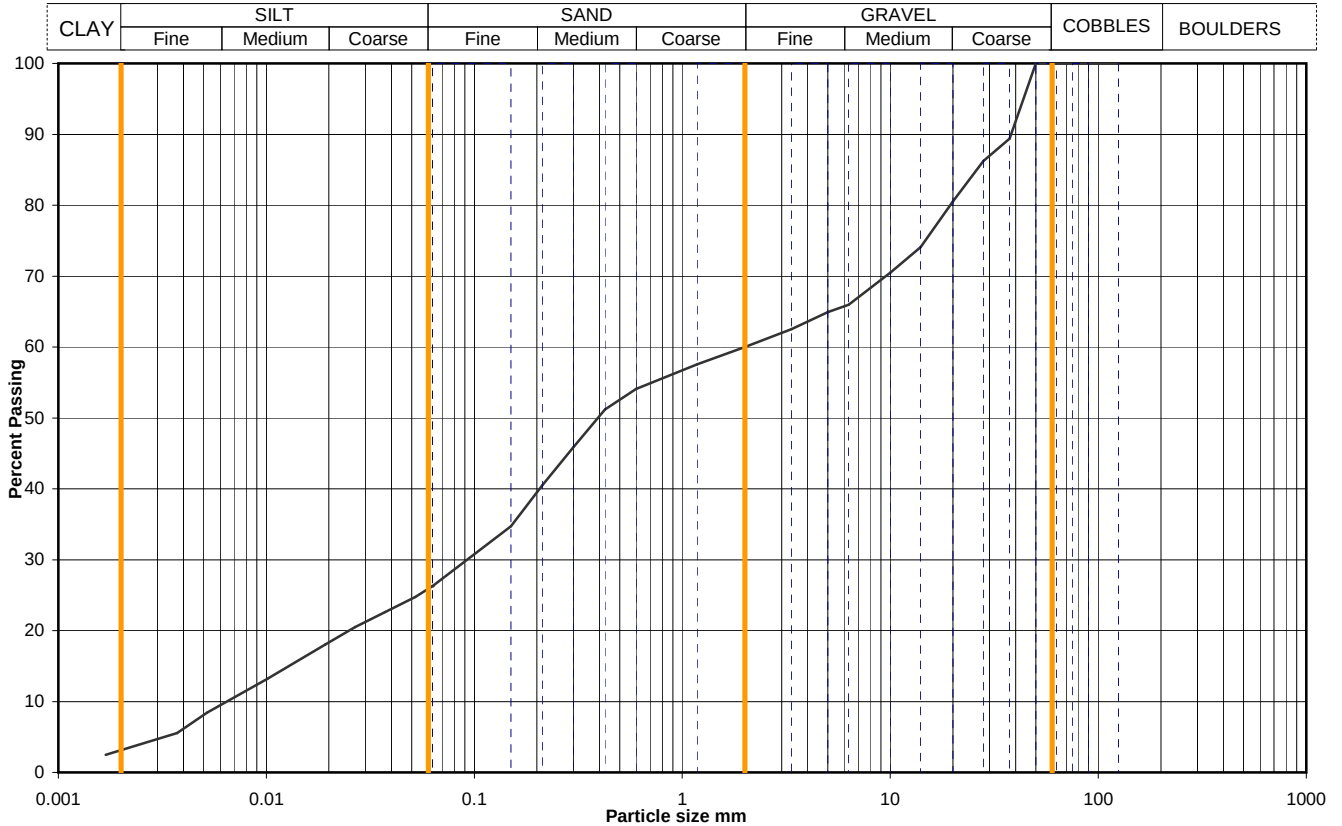
|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |               |
|-------------|-------------------------|---------------|
| Test Method | BS 1377 : Part 2 : 1990 |               |
|             | Sieving                 | 9.2 wet sieve |
|             | Sedimentation           | none          |

|                              |                                                                                                           |                           |                         |
|------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------|-------------------------|
| QA Ref                       |  <b>Soil Mechanics</b> | Printed: 07/04/2011 14:01 | Figure<br><b>PSD 37</b> |
| SLR 2,9<br>Rev 84<br>Sept 08 |                                                                                                           |                           |                         |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS603 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.30  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304660382 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 26        |
| 90               | 100       | 0.0520                                  | 25        |
| 75               | 100       | 0.0372                                  | 23        |
| 63               | 100       | 0.0267                                  | 21        |
| 50               | 100       | 0.0191                                  | 18        |
| 37.5             | 89        | 0.0101                                  | 13        |
| 28               | 86        | 0.0052                                  | 8         |
| 20               | 81        | 0.0037                                  | 6         |
| 14               | 74        | 0.0017                                  | 2         |
| 10               | 70        |                                         |           |
| 6.3              | 66        |                                         |           |
| 5.0              | 65        |                                         |           |
| 3.35             | 63        |                                         |           |
| 2.00             | 60        |                                         |           |
| 1.18             | 58        |                                         |           |
| 0.600            | 54        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 51        |                                         |           |
| 0.300            | 46        | Dry mass of sample, kg<br>3.4           |           |
| 0.212            | 40        |                                         |           |
| 0.150            | 35        |                                         |           |
| 0.063            | 26        |                                         |           |

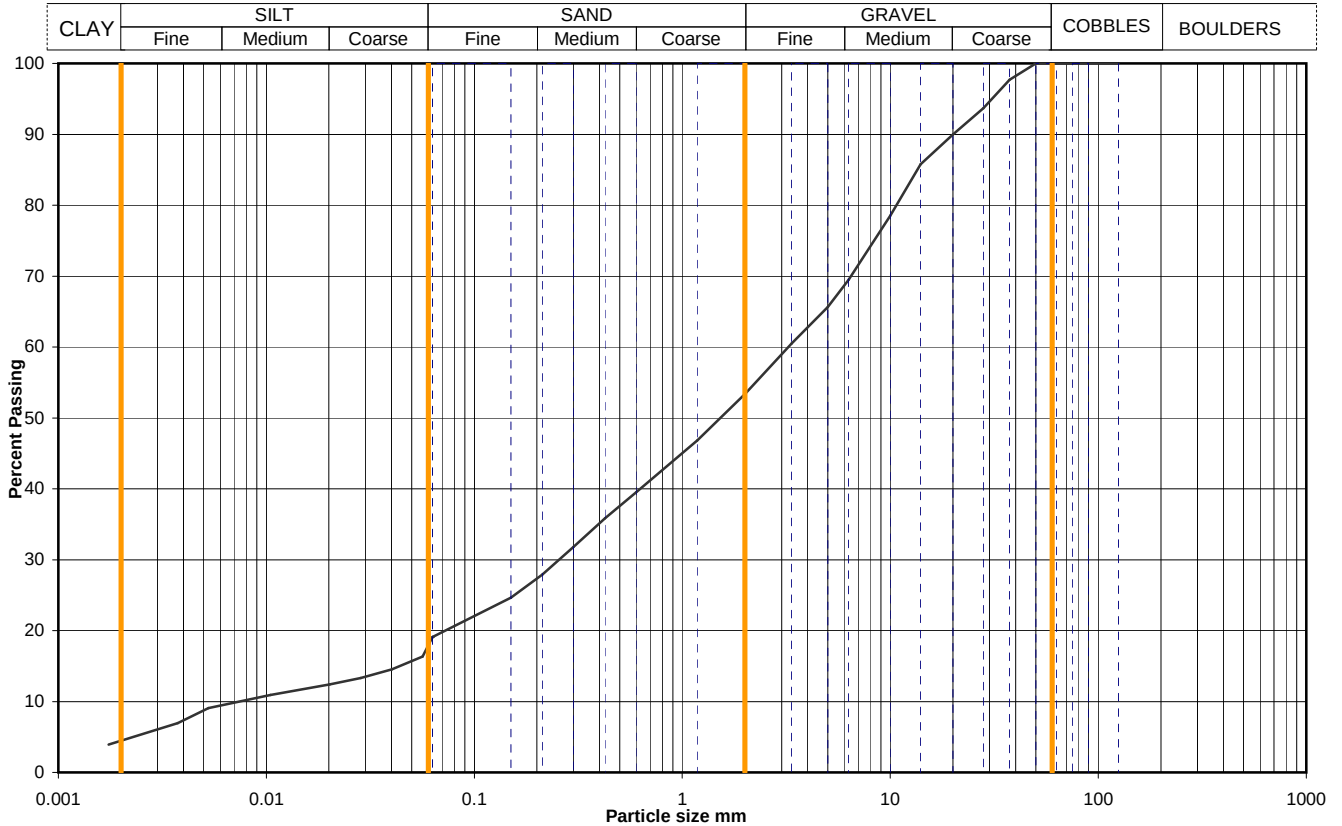
|                                                                  |                                                              |       |         |
|------------------------------------------------------------------|--------------------------------------------------------------|-------|---------|
| Soil description                                                 | Light brown slightly sandy gravelly SILT with rare rootlets. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                  |       |         |
| Remarks                                                          |                                                              |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                           | Whole | * <60mm |
|                                                                  | Gravel                                                       | 0     | 0       |
|                                                                  | Sand                                                         | 40    | 40      |
|                                                                  | Silt                                                         | 34    | 34      |
|                                                                  | Clay                                                         | 23    | 23      |
|                                                                  |                                                              | 3     | 3       |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 309 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS603 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.70  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304361807 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       | 0.0630           | 19        |
| 90               | 100       | 0.0563           | 16        |
| 75               | 100       | 0.0401           | 15        |
| 63               | 100       | 0.0284           | 13        |
| 50               | 100       | 0.0202           | 12        |
| 37.5             | 98        | 0.0105           | 11        |
| 28               | 94        | 0.0053           | 9         |
| 20               | 90        | 0.0037           | 7         |
| 14               | 86        | 0.0017           | 4         |
| 10               | 79        |                  |           |
| 6.3              | 69        |                  |           |
| 5.0              | 66        |                  |           |
| 3.35             | 61        |                  |           |
| 2.00             | 53        |                  |           |
| 1.18             | 47        |                  |           |
| 0.600            | 40        |                  |           |
| 0.425            | 36        |                  |           |
| 0.300            | 32        |                  |           |
| 0.212            | 28        |                  |           |
| 0.150            | 25        |                  |           |
| 0.063            | 19        |                  |           |

|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown clayey very sandy GRAVEL.             |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 47    | 47      |
|                                                                  | Silt                                        | 35    | 35      |
|                                                                  | Clay                                        | 13    | 13      |

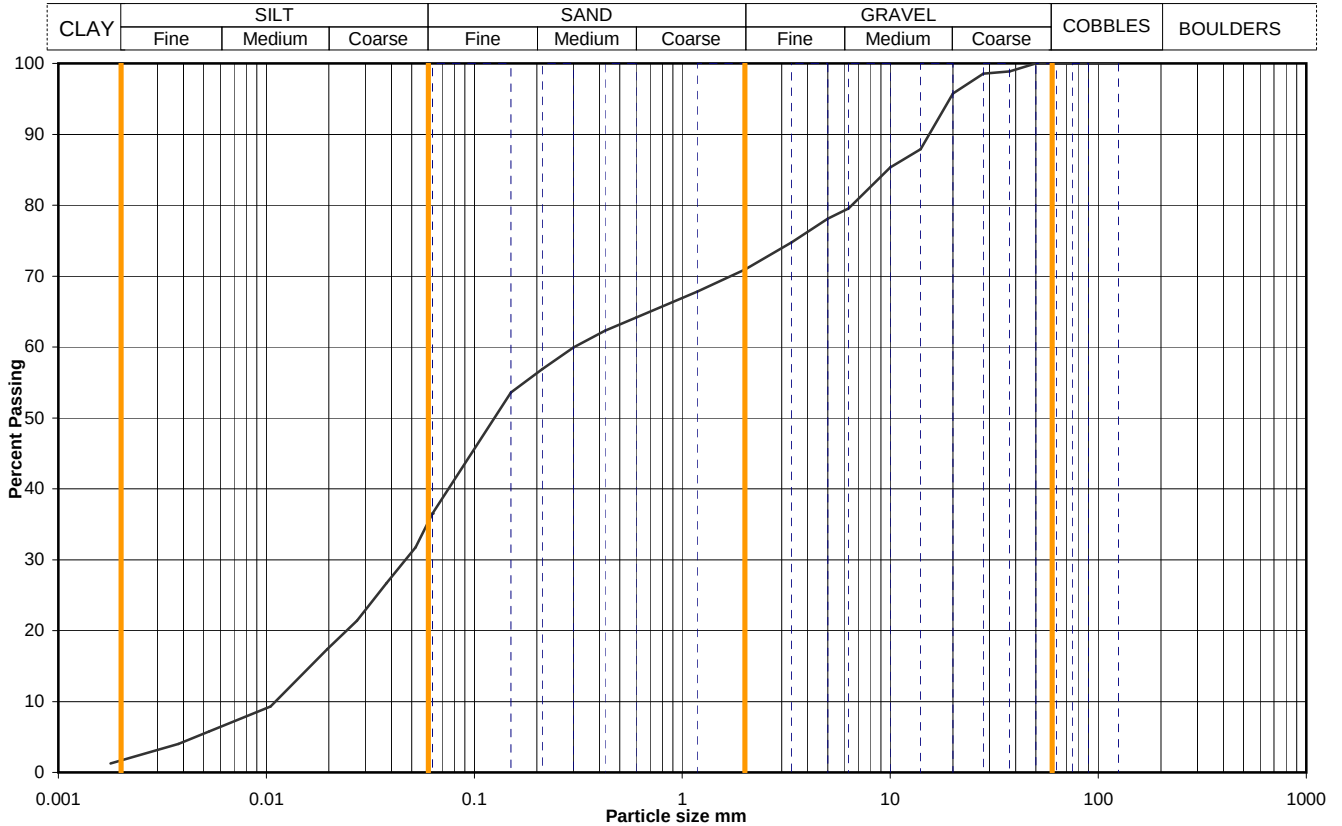
|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 434 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |



## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS603 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.20  |   |
|              |                                               |                 | Samp No       | 7                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304035875 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 37        |
| 90               | 100       | 0.0522                                              | 32        |
| 75               | 100       | 0.0377                                              | 27        |
| 63               | 100       | 0.0273                                              | 21        |
| 50               | 100       | 0.0196                                              | 17        |
| 37.5             | 99        | 0.0105                                              | 9         |
| 28               | 99        | 0.0053                                              | 6         |
| 20               | 96        | 0.0038                                              | 4         |
| 14               | 88        | 0.0018                                              | 1         |
| 10               | 85        |                                                     |           |
| 6.3              | 80        |                                                     |           |
| 5.0              | 78        |                                                     |           |
| 3.35             | 75        |                                                     |           |
| 2.00             | 71        |                                                     |           |
| 1.18             | 68        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.600            | 64        |                                                     |           |
| 0.425            | 62        | Dry mass of sample, kg<br>7.3                       |           |
| 0.300            | 60        |                                                     |           |
| 0.212            | 57        |                                                     |           |
| 0.150            | 54        |                                                     |           |
| 0.063            | 37        |                                                     |           |

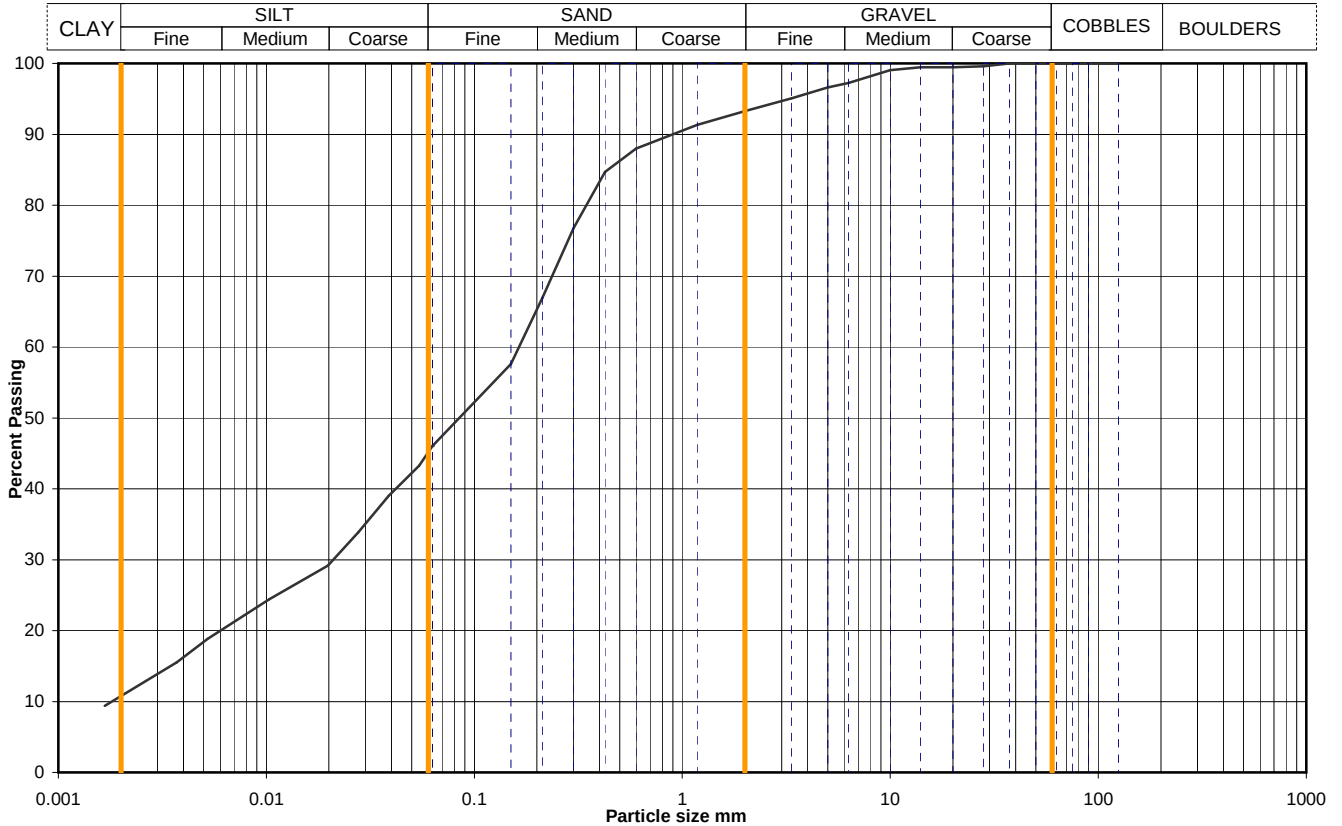
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Light brown slightly gravelly sandy SILT.   |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 29    | 29      |
|                                                                  | Silt                                        | 36    | 36      |
|                                                                  | Clay                                        | 33    | 33      |
|                                                                  |                                             | 2     | 2       |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 27 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS603 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 2.00  |   |
|              |                                               |                 | Samp No       | 10                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304395498 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 46        |
| 90               | 100       | 0.0542                                  | 43        |
| 75               | 100       | 0.0387                                  | 39        |
| 63               | 100       | 0.0277                                  | 34        |
| 50               | 100       | 0.0198                                  | 29        |
| 37.5             | 100       | 0.0103                                  | 24        |
| 28               | 100       | 0.0052                                  | 19        |
| 20               | 99        | 0.0037                                  | 16        |
| 14               | 99        | 0.0017                                  | 9         |
| 10               | 99        |                                         |           |
| 6.3              | 97        |                                         |           |
| 5.0              | 97        |                                         |           |
| 3.35             | 95        |                                         |           |
| 2.00             | 93        |                                         |           |
| 1.18             | 91        |                                         |           |
| 0.600            | 88        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 85        |                                         |           |
| 0.300            | 77        | Dry mass of sample, kg<br>8.0           |           |
| 0.212            | 67        |                                         |           |
| 0.150            | 58        |                                         |           |
| 0.063            | 46        |                                         |           |

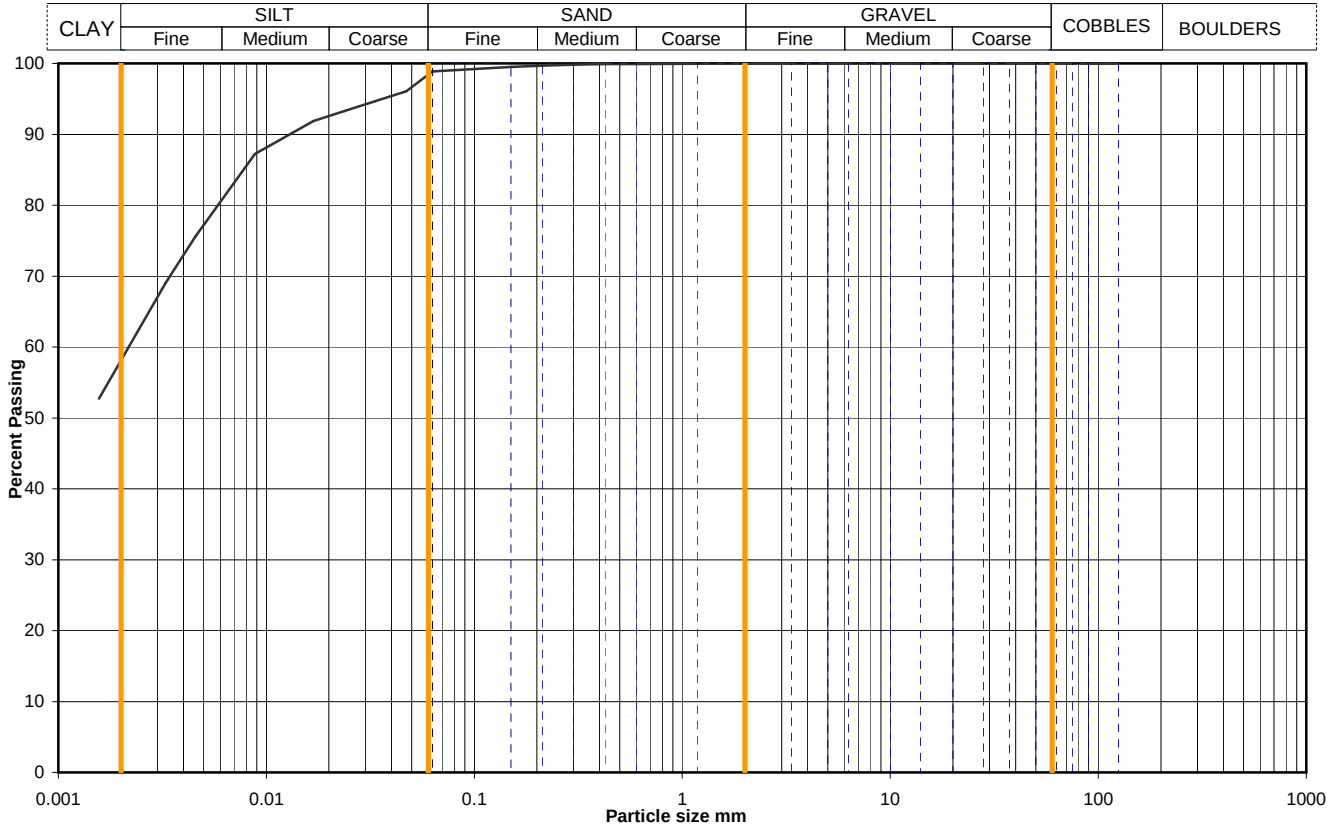
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Greyish brown slightly gravelly sandy CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 7     | 7       |
|                                                                  | Silt                                        | 48    | 48      |
|                                                                  | Clay                                        | 34    | 34      |
|                                                                  |                                             | 11    | 11      |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 91 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |        |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|--------|
| Project No   | A1008-11                                      | Sample Details: | Hole No       | WS603                     |        |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) | 3.00                      |        |
|              |                                               |                 | Samp No       | 12                        | Type B |
|              |                                               |                 | ID            | ESGA1008-1120110304140972 |        |
|              |                                               |                 | Spec Ref      |                           |        |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 99        |
| 90               | 100       | 0.0470                                  | 96        |
| 75               | 100       | 0.0334                                  | 95        |
| 63               | 100       | 0.0237                                  | 93        |
| 50               | 100       | 0.0168                                  | 92        |
| 37.5             | 100       | 0.0088                                  | 87        |
| 28               | 100       | 0.0046                                  | 76        |
| 20               | 100       | 0.0033                                  | 69        |
| 14               | 100       | 0.0016                                  | 53        |
| 10               | 100       |                                         |           |
| 6.3              | 100       |                                         |           |
| 5.0              | 100       |                                         |           |
| 3.35             | 100       |                                         |           |
| 2.00             | 100       |                                         |           |
| 1.18             | 100       |                                         |           |
| 0.600            | 100       | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 100       |                                         |           |
| 0.300            | 100       | Dry mass of sample, kg<br>2.4           |           |
| 0.212            | 100       |                                         |           |
| 0.150            | 100       |                                         |           |
| 0.063            | 99        |                                         |           |

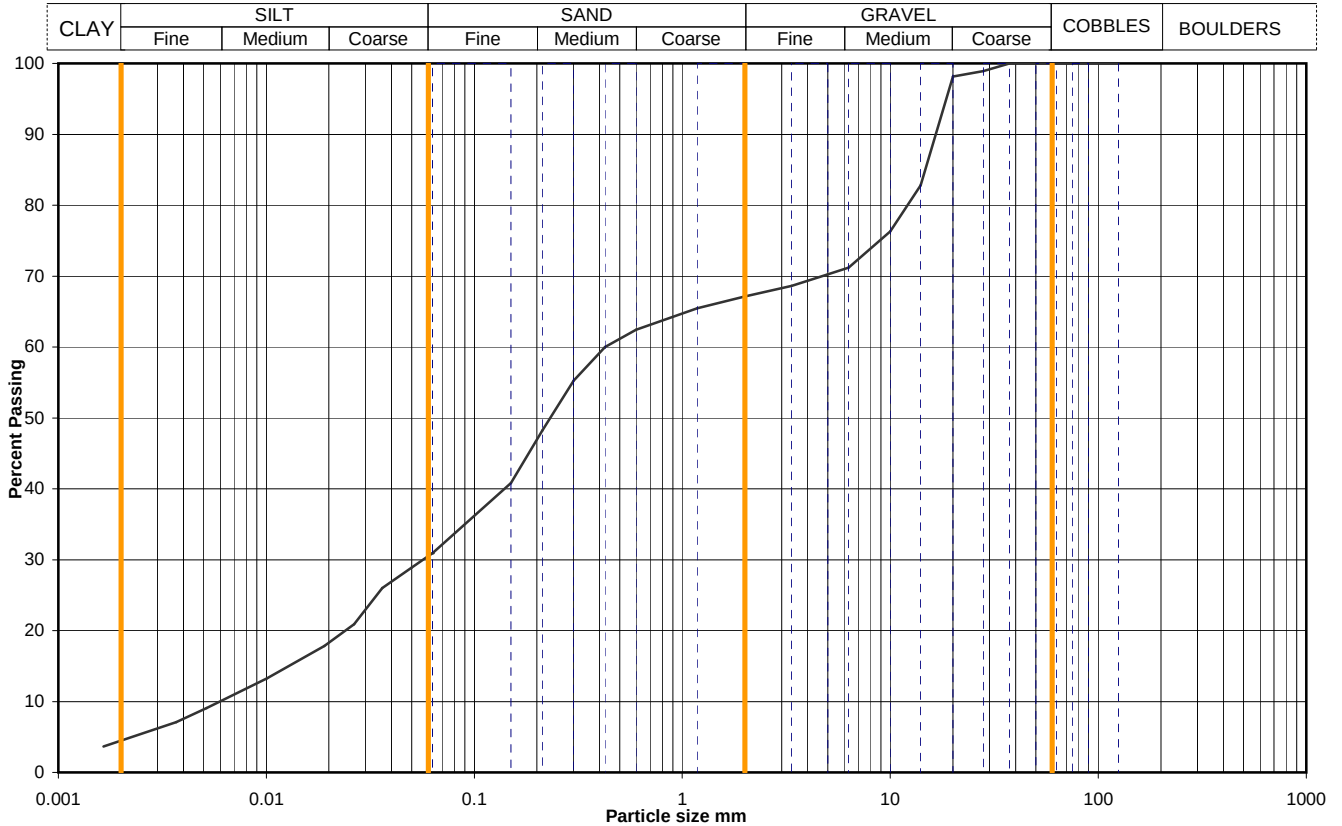
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly sandy CLAY.                  |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 0     | 0       |
|                                                                  | Silt                                        | 2     | 2       |
|                                                                  | Clay                                        | 40    | 40      |
|                                                                  |                                             | 58    | 58      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS605 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.70  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304819099 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 31        |
| 90               | 100       | 0.0501                                  | 29        |
| 75               | 100       | 0.0361                                  | 26        |
| 63               | 100       | 0.0264                                  | 21        |
| 50               | 100       | 0.0190                                  | 18        |
| 37.5             | 100       | 0.0101                                  | 13        |
| 28               | 99        | 0.0052                                  | 9         |
| 20               | 98        | 0.0037                                  | 7         |
| 14               | 83        | 0.0017                                  | 4         |
| 10               | 76        |                                         |           |
| 6.3              | 71        |                                         |           |
| 5.0              | 70        |                                         |           |
| 3.35             | 69        |                                         |           |
| 2.00             | 67        |                                         |           |
| 1.18             | 65        |                                         |           |
| 0.600            | 62        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 60        |                                         |           |
| 0.300            | 55        | Dry mass of sample, kg<br>4.7           |           |
| 0.212            | 48        |                                         |           |
| 0.150            | 41        |                                         |           |
| 0.063            | 31        |                                         |           |

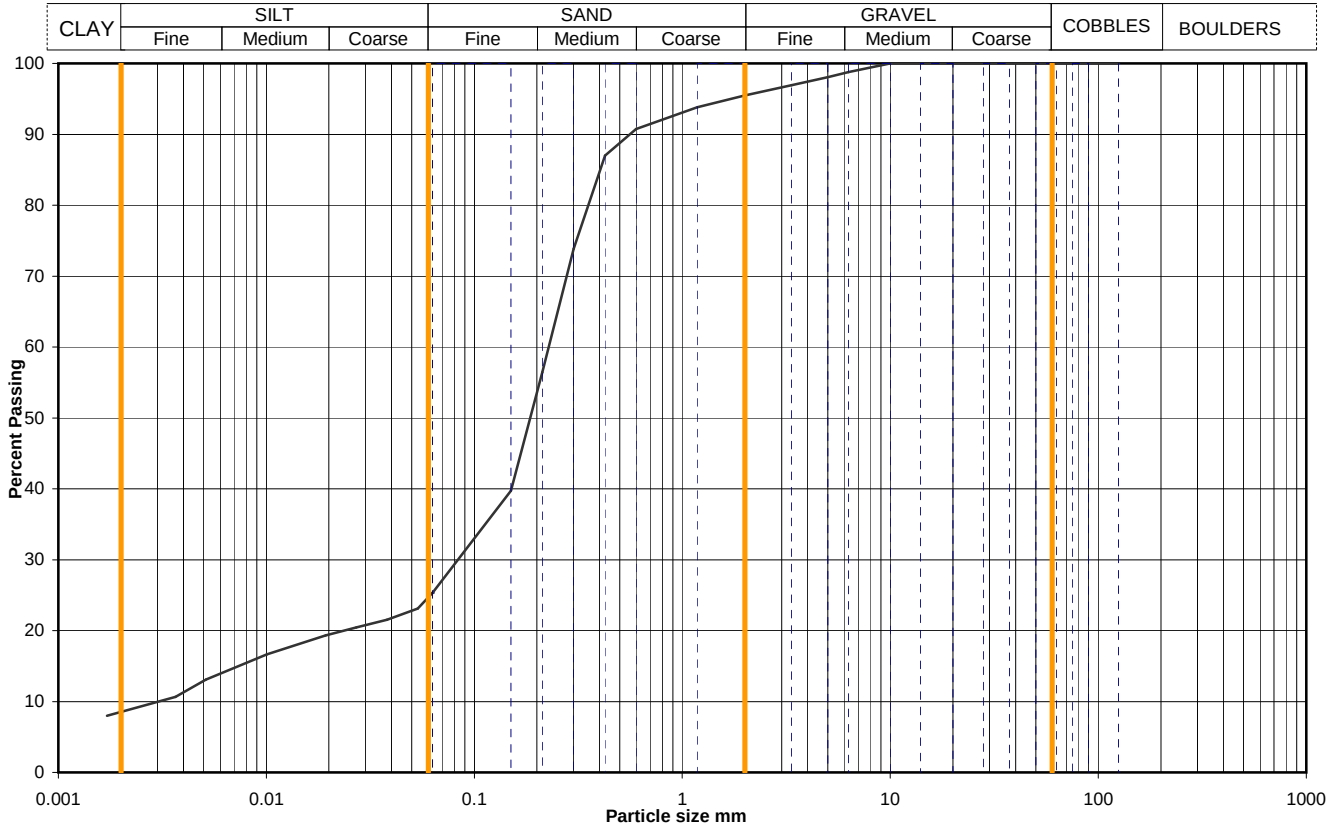
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Dark grey slightly gravelly sandy SILT.     |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 33    | 33      |
|                                                                  | Silt                                        | 37    | 37      |
|                                                                  | Clay                                        | 26    | 26      |
|                                                                  |                                             | 4     | 4       |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 71 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS605 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.40  |   |
|              |                                               |                 | Samp No       | 8                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304503579 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 25        |
| 90               | 100       | 0.0535                                              | 23        |
| 75               | 100       | 0.0381                                              | 22        |
| 63               | 100       | 0.0271                                              | 20        |
| 50               | 100       | 0.0193                                              | 19        |
| 37.5             | 100       | 0.0101                                              | 17        |
| 28               | 100       | 0.0051                                              | 13        |
| 20               | 100       | 0.0037                                              | 11        |
| 14               | 100       | 0.0017                                              | 8         |
| 10               | 100       |                                                     |           |
| 6.3              | 99        |                                                     |           |
| 5.0              | 98        |                                                     |           |
| 3.35             | 97        |                                                     |           |
| 2.00             | 95        |                                                     |           |
| 1.18             | 94        |                                                     |           |
| 0.600            | 91        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 87        |                                                     |           |
| 0.300            | 74        | Dry mass of sample, kg<br>7.1                       |           |
| 0.212            | 56        |                                                     |           |
| 0.150            | 40        |                                                     |           |
| 0.063            | 25        |                                                     |           |

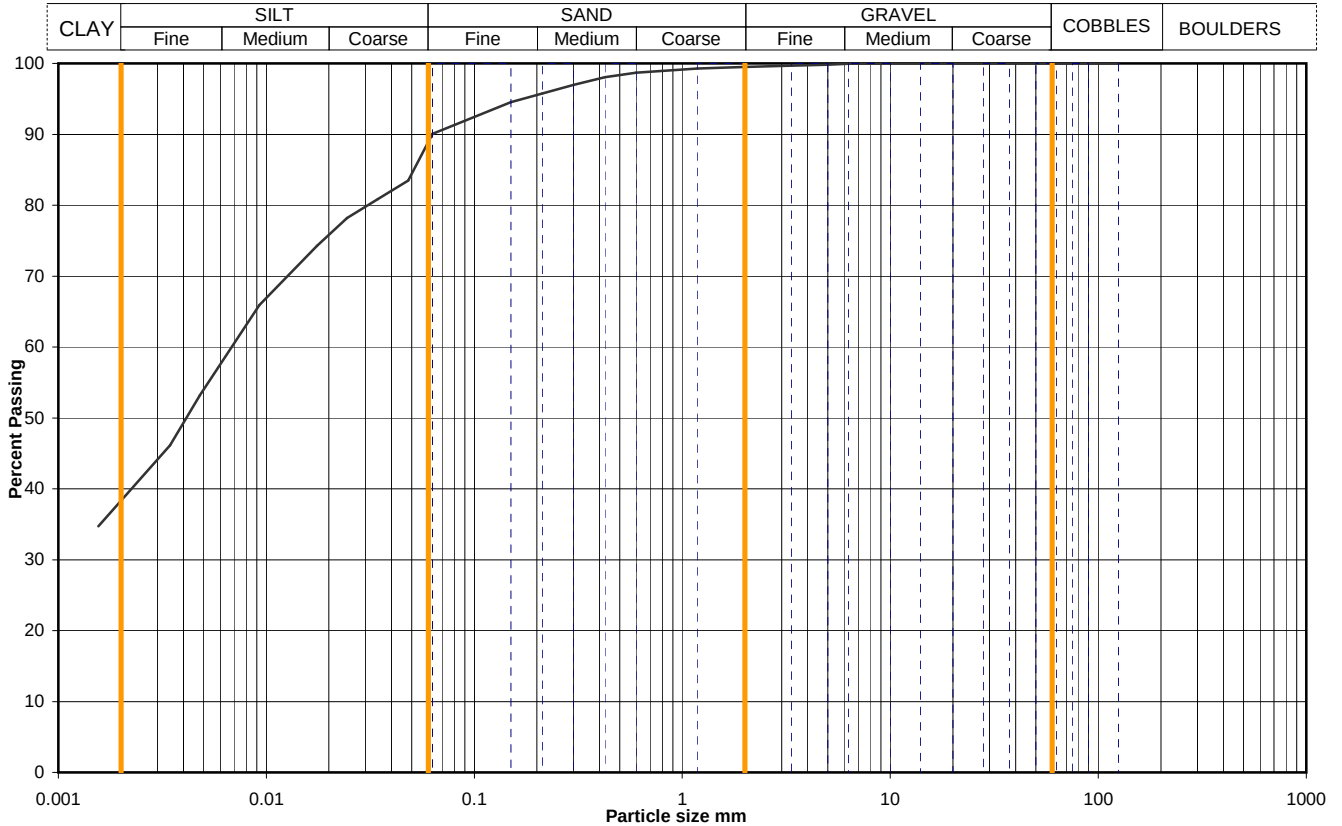
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly very sandy CLAY.    |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 5     | 5       |
|                                                                  | Silt                                        | 71    | 71      |
|                                                                  | Clay                                        | 16    | 16      |
|                                                                  |                                             | 8     | 8       |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 75 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS605 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 3.00  |   |
|              |                                               |                 | Samp No       | 12                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304054854 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 90        |
| 90               | 100       | 0.0481                                              | 83        |
| 75               | 100       | 0.0343                                              | 81        |
| 63               | 100       | 0.0245                                              | 78        |
| 50               | 100       | 0.0175                                              | 74        |
| 37.5             | 100       | 0.0093                                              | 66        |
| 28               | 100       | 0.0048                                              | 53        |
| 20               | 100       | 0.0034                                              | 46        |
| 14               | 100       | 0.0016                                              | 35        |
| 10               | 100       |                                                     |           |
| 6.3              | 100       |                                                     |           |
| 5.0              | 100       |                                                     |           |
| 3.35             | 100       |                                                     |           |
| 2.00             | 100       |                                                     |           |
| 1.18             | 99        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.600            | 99        |                                                     |           |
| 0.425            | 98        | Dry mass of sample, kg<br>4.0                       |           |
| 0.300            | 97        |                                                     |           |
| 0.212            | 96        |                                                     |           |
| 0.150            | 95        |                                                     |           |
| 0.063            | 90        |                                                     |           |

|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly sandy CLAY.                  |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 0     | 0       |
|                                                                  | Silt                                        | 11    | 11      |
|                                                                  | Clay                                        | 51    | 51      |
|                                                                  |                                             | 38    | 38      |

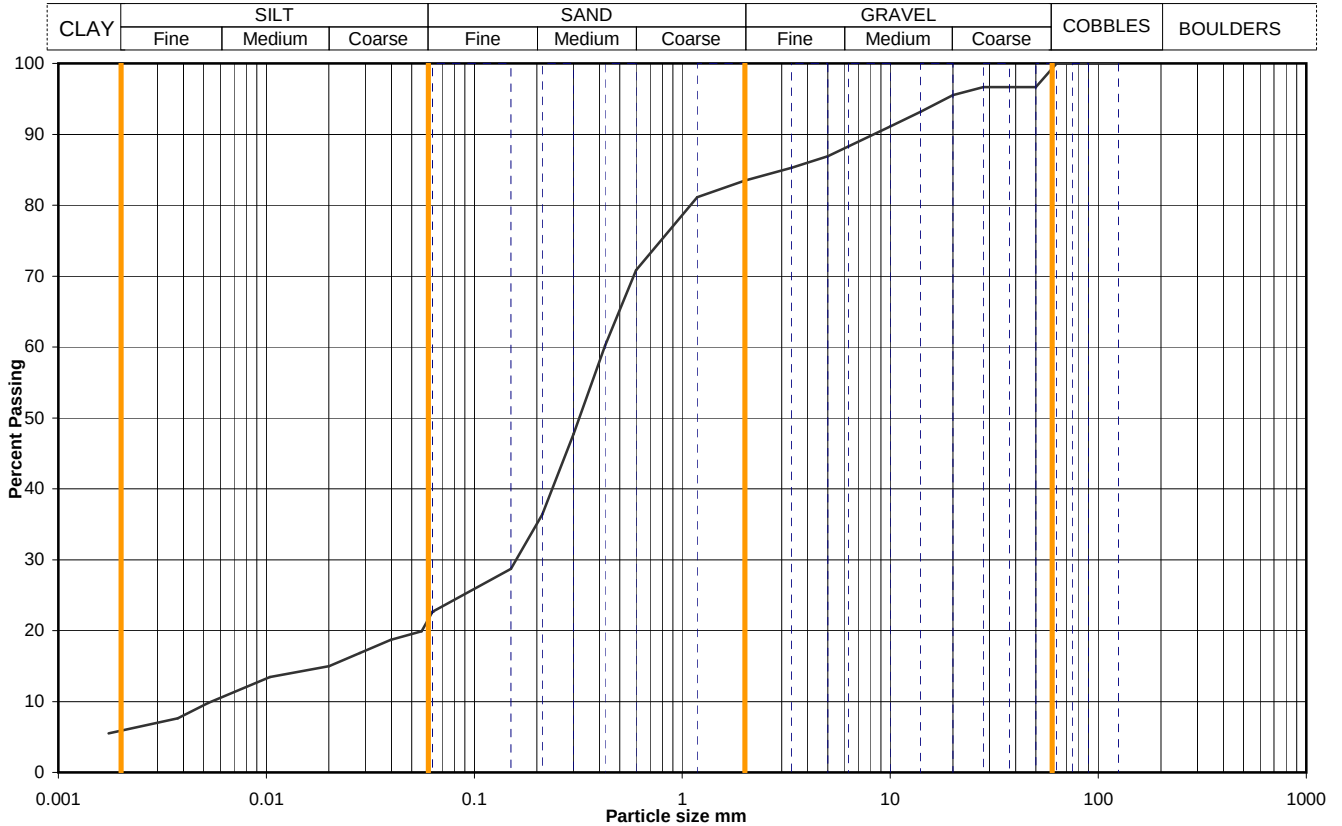
|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

|                                        |                                                                                                           |                           |                         |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------|-------------------------|
| QA Ref<br>SLR 2,9<br>Rev 84<br>Sept 08 |  <b>Soil Mechanics</b> | Printed: 07/04/2011 14:01 | Figure<br><b>PSD 45</b> |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------|-------------------------|

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS605 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 4.00  |   |
|              |                                               |                 | Samp No       | 15                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304978314 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                       |           |
|------------------|-----------|-------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                    | % Passing |
| 125              | 100       | 0.0630                              | 23        |
| 90               | 100       | 0.0558                              | 20        |
| 75               | 100       | 0.0396                              | 19        |
| 63               | 100       | 0.0282                              | 17        |
| 50               | 97        | 0.0200                              | 15        |
| 37.5             | 97        | 0.0104                              | 13        |
| 28               | 97        | 0.0053                              | 10        |
| 20               | 96        | 0.0037                              | 8         |
| 14               | 93        | 0.0017                              | 6         |
| 10               | 91        |                                     |           |
| 6.3              | 88        |                                     |           |
| 5.0              | 87        |                                     |           |
| 3.35             | 85        |                                     |           |
| 2.00             | 83        |                                     |           |
| 1.18             | 81        |                                     |           |
| 0.600            | 71        | Particle density, Mg/m <sup>3</sup> |           |
| 0.425            | 60        | 2.65 assumed                        |           |
| 0.300            | 48        | Dry mass of sample, kg              |           |
| 0.212            | 36        | 6.5                                 |           |
| 0.150            | 29        |                                     |           |
| 0.063            | 23        |                                     |           |

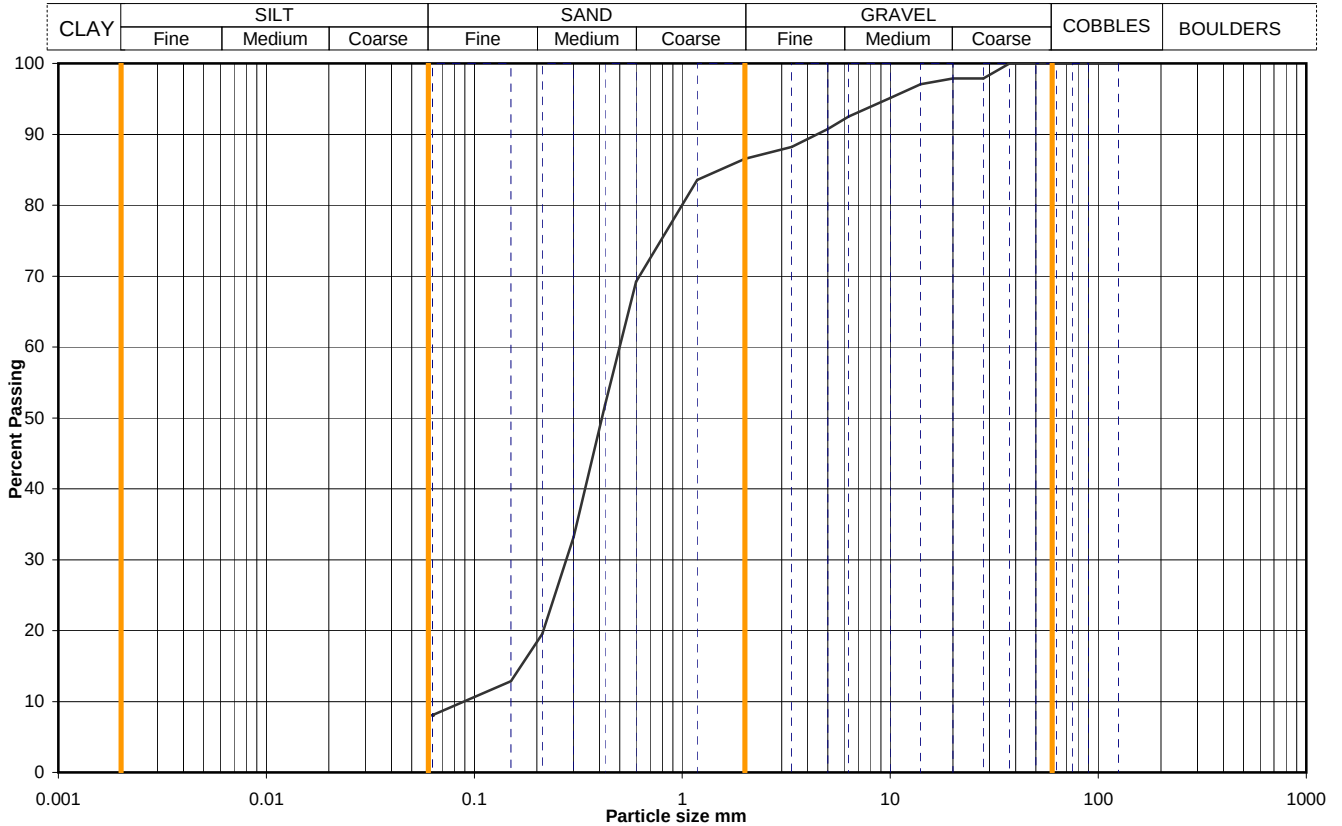
|                                                                  |                                                                   |       |         |
|------------------------------------------------------------------|-------------------------------------------------------------------|-------|---------|
| Soil description                                                 | Brown gravelly SAND with occasional gravel sized pockets of clay. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                       |       |         |
| Remarks                                                          |                                                                   |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders<br>Gravel<br>Sand<br>Silt<br>Clay              | Whole | * <60mm |
|                                                                  |                                                                   | 1     | 0       |
|                                                                  |                                                                   | 16    | 16      |
|                                                                  |                                                                   | 62    | 63      |
|                                                                  |                                                                   | 15    | 15      |
|                                                                  |                                                                   | 6     | 6       |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 77 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS605 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 5.00  |   |
|              |                                               |                 | Samp No       | 17                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304594289 |       |   |
|              |                                               |                 | 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               | 98        |                  |           |
| 14               | 97        |                  |           |
| 10               | 95        |                  |           |
| 6.3              | 93        |                  |           |
| 5.0              | 91        |                  |           |
| 3.35             | 88        |                  |           |
| 2.00             | 87        |                  |           |
| 1.18             | 84        |                  |           |
| 0.600            | 69        |                  |           |
| 0.425            | 52        |                  |           |
| 0.300            | 33        |                  |           |
| 0.212            | 20        |                  |           |
| 0.150            | 13        |                  |           |
| 0.063            | 8         |                  |           |

|                        |  |
|------------------------|--|
| Dry mass of sample, kg |  |
| 3.9                    |  |

|                                                                  |                             |             |         |
|------------------------------------------------------------------|-----------------------------|-------------|---------|
| Soil description                                                 | Brown clayey gravelly SAND. |             |         |
| Preparation / Pretreatment                                       | Sieve: natural material     |             |         |
| Remarks                                                          |                             |             |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders          | Whole       | * <60mm |
|                                                                  | Gravel                      | 0           | 0       |
|                                                                  | Sand                        | 13          | 13      |
|                                                                  | Silt                        | 78          | 78      |
|                                                                  | Clay                        | silt+clay = |         |
|                                                                  |                             | 9           | 9       |

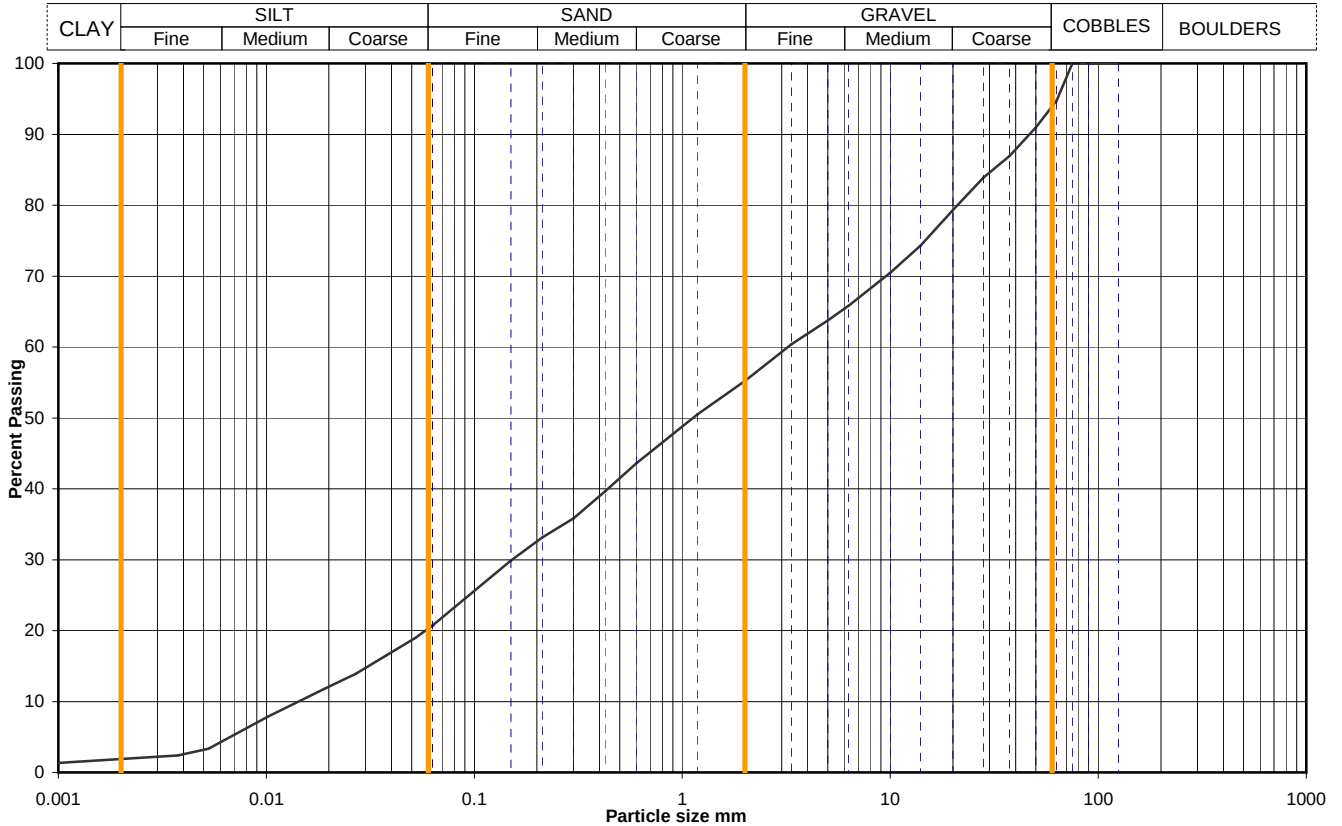
|                        |                   |   |
|------------------------|-------------------|---|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 6 |
|------------------------|-------------------|---|

|             |                         |               |
|-------------|-------------------------|---------------|
| Test Method | BS 1377 : Part 2 : 1990 |               |
|             | Sieving                 | 9.2 wet sieve |
|             | Sedimentation           | none          |



## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS606 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.70  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304146886 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 21        |
| 90               | 100       | 0.0519                                  | 19        |
| 75               | 100       | 0.0374                                  | 16        |
| 63               | 95        | 0.0269                                  | 14        |
| 50               | 91        | 0.0193                                  | 12        |
| 37.5             | 87        | 0.0102                                  | 8         |
| 28               | 84        | 0.0053                                  | 3         |
| 20               | 79        | 0.0037                                  | 2         |
| 14               | 74        | 0.0009                                  | 1         |
| 10               | 70        |                                         |           |
| 6.3              | 66        |                                         |           |
| 5.0              | 64        |                                         |           |
| 3.35             | 60        |                                         |           |
| 2.00             | 55        |                                         |           |
| 1.18             | 50        |                                         |           |
| 0.600            | 44        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 40        |                                         |           |
| 0.300            | 36        | Dry mass of sample, kg<br>6.2           |           |
| 0.212            | 33        |                                         |           |
| 0.150            | 30        |                                         |           |
| 0.063            | 21        |                                         |           |

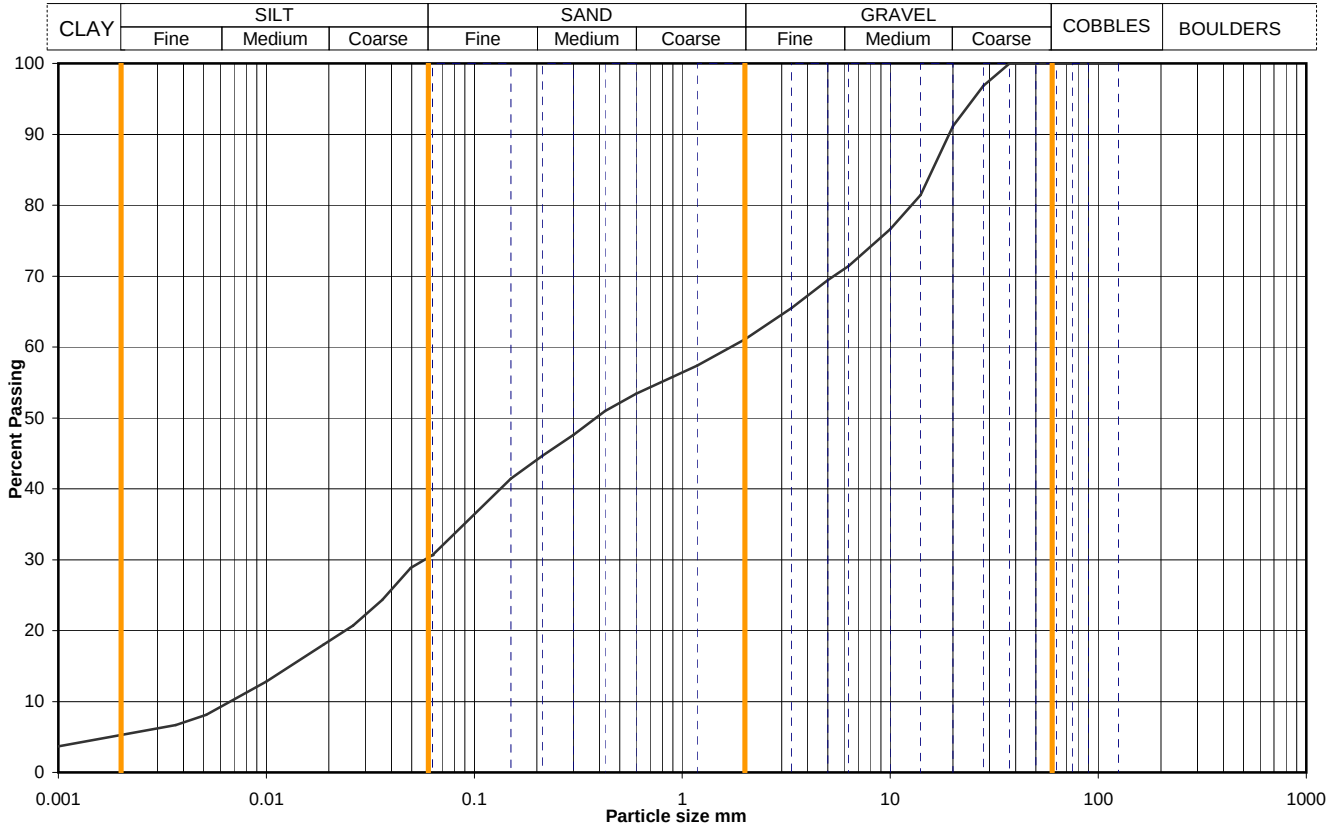
|                                                                  |                                                    |       |         |
|------------------------------------------------------------------|----------------------------------------------------|-------|---------|
| Soil description                                                 | Brownish grey sandy gravelly SILT with one cobble. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377        |       |         |
| Remarks                                                          |                                                    |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                 | Whole | * <60mm |
|                                                                  | Gravel                                             | 6     | 0       |
|                                                                  | Sand                                               | 39    | 41      |
|                                                                  | Silt                                               | 35    | 37      |
|                                                                  | Clay                                               | 18    | 19      |
|                                                                  |                                                    | 2     | 2       |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 224 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS606 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.10  |   |
|              |                                               |                 | Samp No       | 7                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304352105 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 31        |
| 90               | 100       | 0.0494                                  | 29        |
| 75               | 100       | 0.0361                                  | 24        |
| 63               | 100       | 0.0261                                  | 21        |
| 50               | 100       | 0.0188                                  | 18        |
| 37.5             | 100       | 0.0100                                  | 13        |
| 28               | 97        | 0.0051                                  | 8         |
| 20               | 91        | 0.0037                                  | 7         |
| 14               | 81        | 0.0009                                  | 3         |
| 10               | 77        |                                         |           |
| 6.3              | 71        |                                         |           |
| 5.0              | 69        |                                         |           |
| 3.35             | 66        |                                         |           |
| 2.00             | 61        |                                         |           |
| 1.18             | 57        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.600            | 53        |                                         |           |
| 0.425            | 51        | Dry mass of sample, kg<br>4.6           |           |
| 0.300            | 48        |                                         |           |
| 0.212            | 45        |                                         |           |
| 0.150            | 41        |                                         |           |
| 0.063            | 31        |                                         |           |

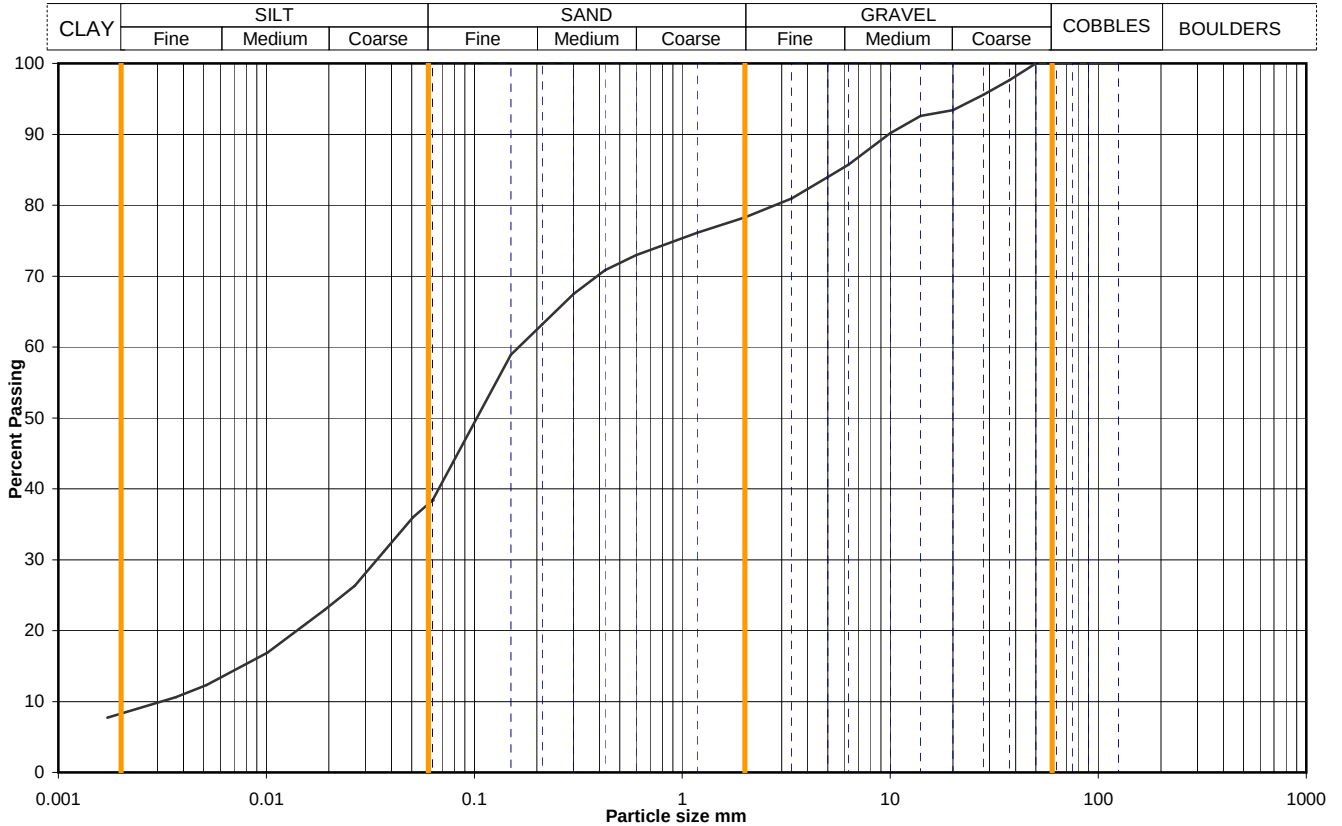
|                                                                  |                                                          |       |         |
|------------------------------------------------------------------|----------------------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly sandy gravelly SILT with pockets of clay. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377              |       |         |
| Remarks                                                          |                                                          |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                       | Whole | * <60mm |
|                                                                  | Gravel                                                   | 0     | 0       |
|                                                                  | Sand                                                     | 39    | 39      |
|                                                                  | Silt                                                     | 31    | 31      |
|                                                                  | Clay                                                     | 25    | 25      |
|                                                                  |                                                          | 5     | 5       |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 255 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS606 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 2.00  |   |
|              |                                               |                 | Samp No       | 10                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304471995 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 38        |
| 90               | 100       | 0.0507                                  | 36        |
| 75               | 100       | 0.0367                                  | 31        |
| 63               | 100       | 0.0266                                  | 26        |
| 50               | 100       | 0.0191                                  | 23        |
| 37.5             | 98        | 0.0101                                  | 17        |
| 28               | 96        | 0.0052                                  | 12        |
| 20               | 93        | 0.0037                                  | 11        |
| 14               | 93        | 0.0017                                  | 8         |
| 10               | 90        |                                         |           |
| 6.3              | 86        |                                         |           |
| 5.0              | 84        |                                         |           |
| 3.35             | 81        |                                         |           |
| 2.00             | 78        |                                         |           |
| 1.18             | 76        |                                         |           |
| 0.600            | 73        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 71        |                                         |           |
| 0.300            | 68        | Dry mass of sample, kg<br>6.6           |           |
| 0.212            | 63        |                                         |           |
| 0.150            | 59        |                                         |           |
| 0.063            | 38        |                                         |           |

|                                                                   |                                                 |       |          |
|-------------------------------------------------------------------|-------------------------------------------------|-------|----------|
| Soil description                                                  | Light brown slightly gravelly sandy silty CLAY. |       |          |
| Preparation / Pretreatment                                        | Sieve: natural material    Hydro: as BS1377     |       |          |
| Remarks                                                           |                                                 |       |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders                              | Whole | * < 60mm |
|                                                                   | Gravel                                          | 0     | 0        |
|                                                                   | Sand                                            | 22    | 22       |
|                                                                   | Silt                                            | 40    | 40       |
|                                                                   | Clay                                            | 30    | 30       |
|                                                                   |                                                 | 8     | 8        |

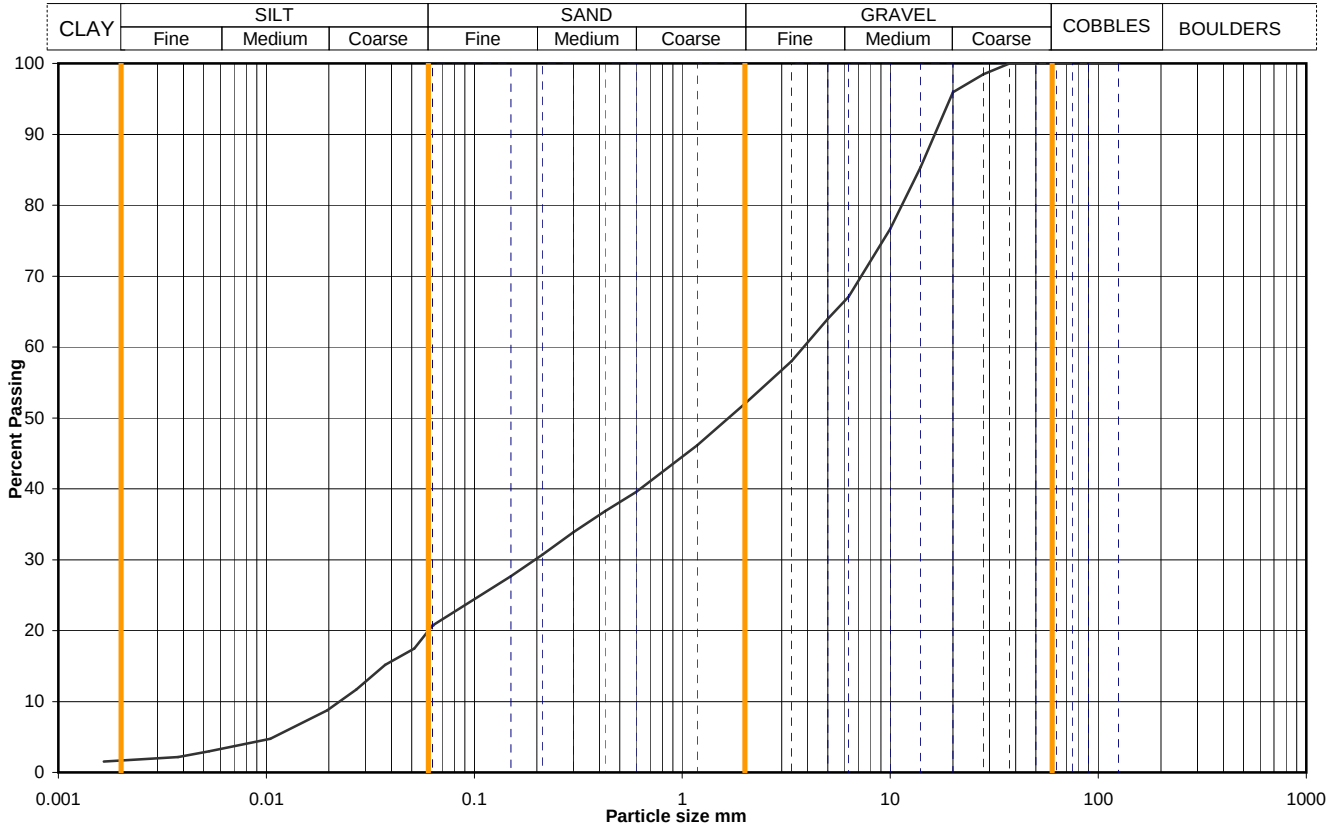
|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 52 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

|                                        |                                                                                                           |                           |                         |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------|-------------------------|
| QA Ref<br>SLR 2,9<br>Rev 84<br>Sept 08 |  <b>Soil Mechanics</b> | Printed: 07/04/2011 14:02 | Figure<br><b>PSD 50</b> |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------|-------------------------|

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS606 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 3.50  |   |
|              |                                               |                 | Samp No       | 13                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304115018 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       | 0.0630           | 21        |
| 90               | 100       | 0.0515           | 17        |
| 75               | 100       | 0.0372           | 15        |
| 63               | 100       | 0.0271           | 12        |
| 50               | 100       | 0.0196           | 9         |
| 37.5             | 100       | 0.0105           | 5         |
| 28               | 98        | 0.0053           | 3         |
| 20               | 96        | 0.0038           | 2         |
| 14               | 85        | 0.0017           | 2         |
| 10               | 77        |                  |           |
| 6.3              | 67        |                  |           |
| 5.0              | 64        |                  |           |
| 3.35             | 58        |                  |           |
| 2.00             | 52        |                  |           |
| 1.18             | 46        |                  |           |
| 0.600            | 40        |                  |           |
| 0.425            | 37        |                  |           |
| 0.300            | 34        |                  |           |
| 0.212            | 31        |                  |           |
| 0.150            | 28        |                  |           |
| 0.063            | 21        |                  |           |

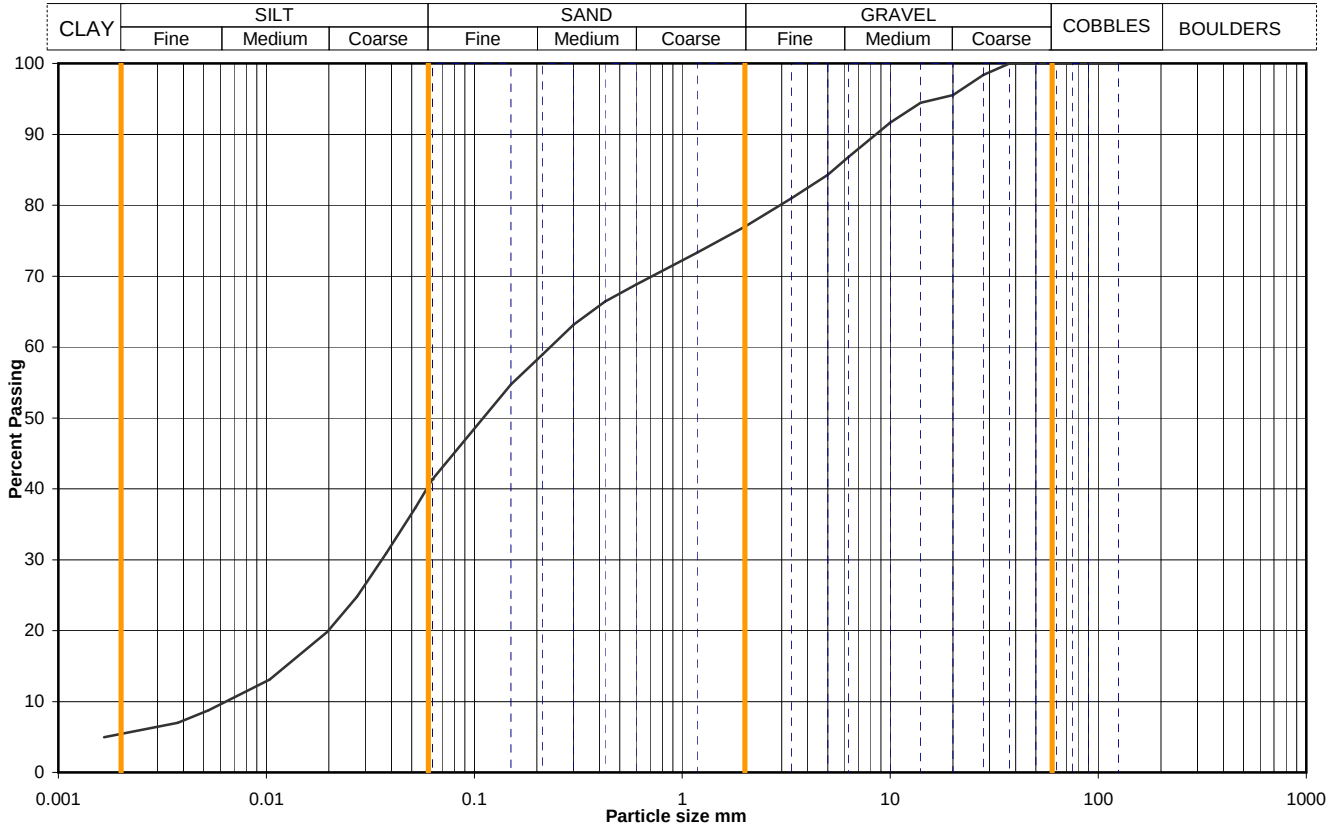
|                                                                   |                                             |       |          |
|-------------------------------------------------------------------|---------------------------------------------|-------|----------|
| Soil description                                                  | Light brown slightly sandy gravelly SILT.   |       |          |
| Preparation / Pretreatment                                        | Sieve: natural material    Hydro: as BS1377 |       |          |
| Remarks                                                           |                                             |       |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders                          | Whole | * < 60mm |
|                                                                   | Gravel                                      | 0     | 0        |
|                                                                   | Sand                                        | 48    | 48       |
|                                                                   | Silt                                        | 32    | 32       |
|                                                                   | Clay                                        | 18    | 18       |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 170 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS606 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 4.00  |   |
|              |                                               |                 | Samp No       | 15                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304098203 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                       |           |
|------------------|-----------|-------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                    | % Passing |
| 125              | 100       | 0.0630                              | 41        |
| 90               | 100       | 0.0520                              | 37        |
| 75               | 100       | 0.0377                              | 31        |
| 63               | 100       | 0.0273                              | 25        |
| 50               | 100       | 0.0196                              | 20        |
| 37.5             | 100       | 0.0104                              | 13        |
| 28               | 98        | 0.0053                              | 9         |
| 20               | 96        | 0.0037                              | 7         |
| 14               | 94        | 0.0017                              | 5         |
| 10               | 92        |                                     |           |
| 6.3              | 87        |                                     |           |
| 5.0              | 84        |                                     |           |
| 3.35             | 81        |                                     |           |
| 2.00             | 77        |                                     |           |
| 1.18             | 73        |                                     |           |
| 0.600            | 69        | Particle density, Mg/m <sup>3</sup> |           |
| 0.425            | 66        | 2.65 assumed                        |           |
| 0.300            | 63        | Dry mass of sample, kg              |           |
| 0.212            | 59        | 5.7                                 |           |
| 0.150            | 55        |                                     |           |
| 0.063            | 41        |                                     |           |

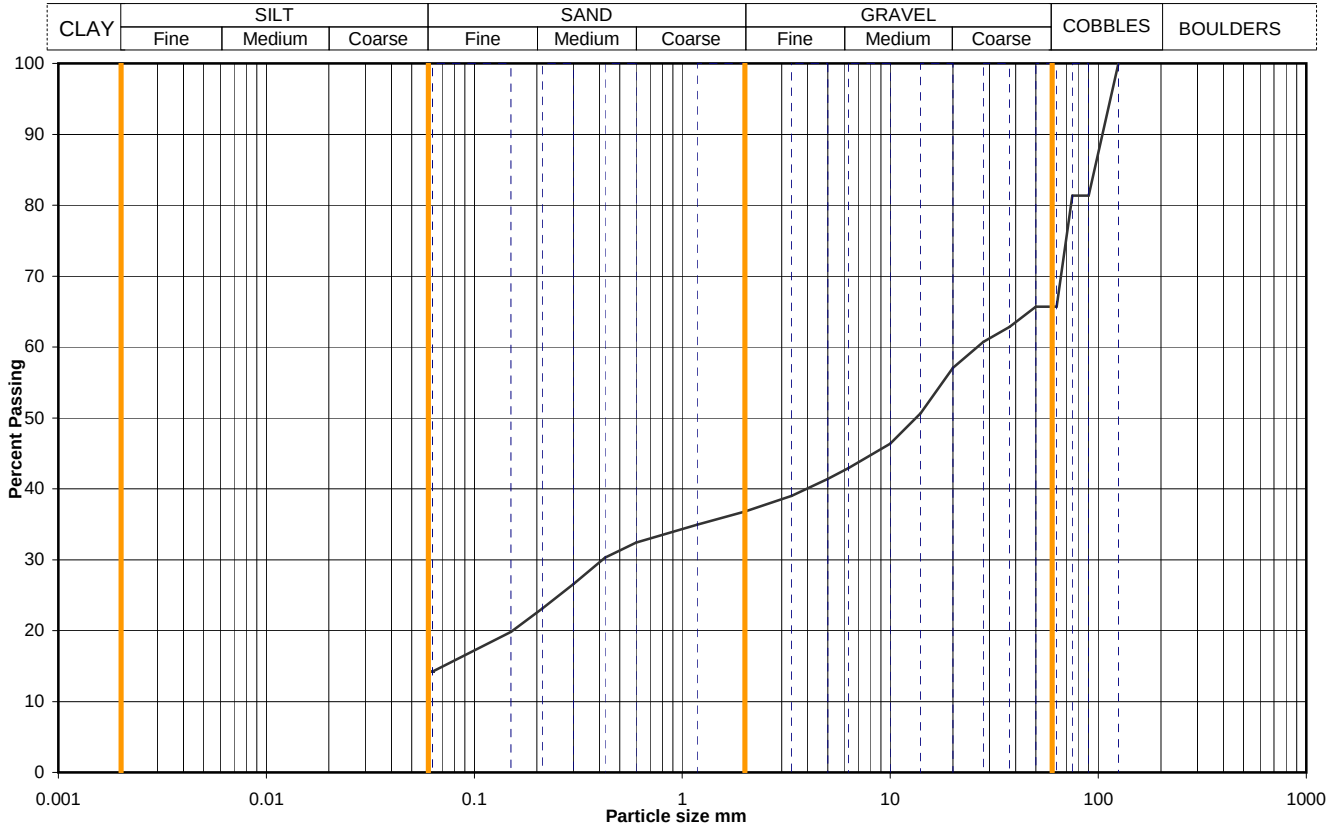
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Light brown slightly gravelly sandy SILT.   |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 23    | 23      |
|                                                                  | Silt                                        | 37    | 37      |
|                                                                  | Clay                                        | 35    | 35      |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 36 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS607 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.70  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304556440 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 81        |                  |           |
| 75               | 81        |                  |           |
| 63               | 66        |                  |           |
| 50               | 66        |                  |           |
| 37.5             | 63        |                  |           |
| 28               | 61        |                  |           |
| 20               | 57        |                  |           |
| 14               | 51        |                  |           |
| 10               | 46        |                  |           |
| 6.3              | 43        |                  |           |
| 5.0              | 41        |                  |           |
| 3.35             | 39        |                  |           |
| 2.00             | 37        |                  |           |
| 1.18             | 35        |                  |           |
| 0.600            | 32        |                  |           |
| 0.425            | 30        |                  |           |
| 0.300            | 27        |                  |           |
| 0.212            | 23        |                  |           |
| 0.150            | 20        |                  |           |
| 0.063            | 14        |                  |           |

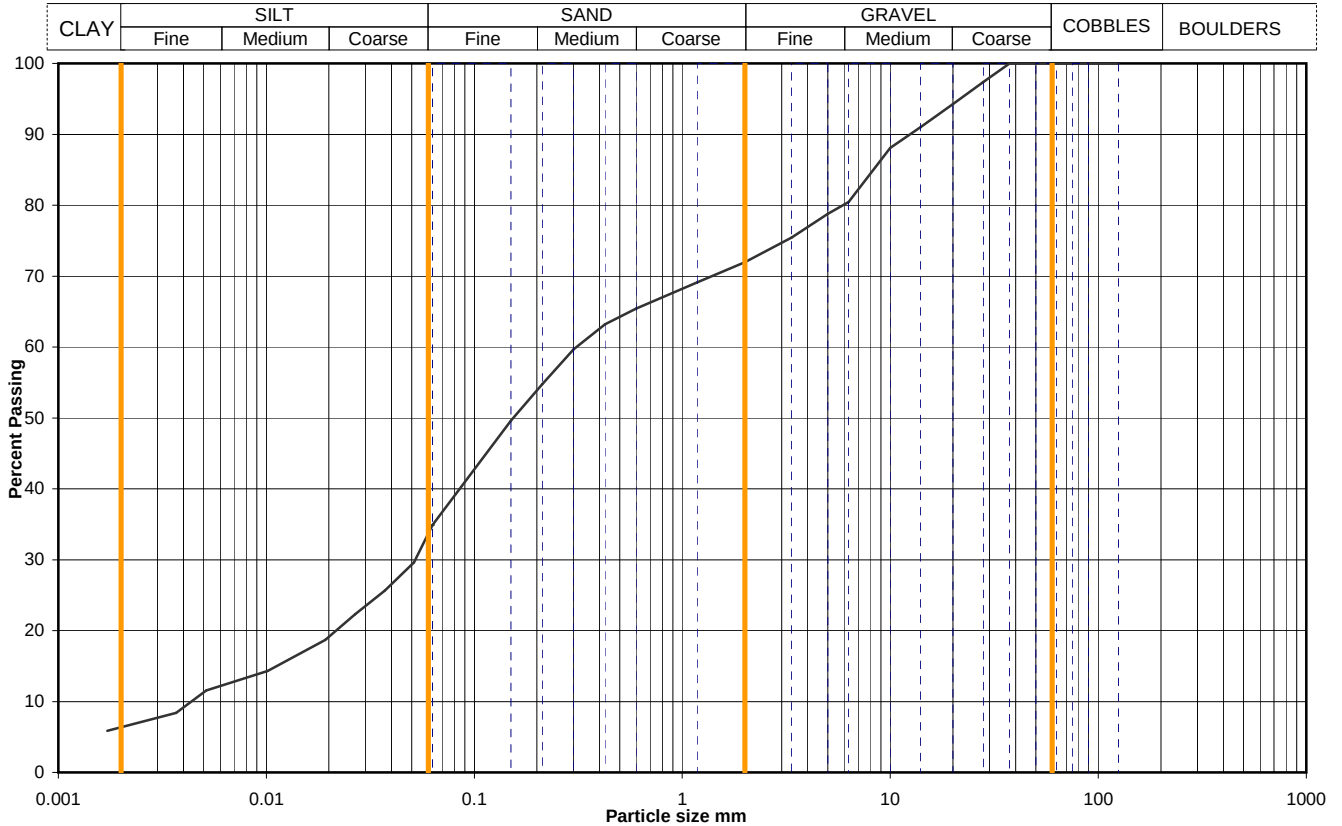
|                                                                   |                                               |                |          |
|-------------------------------------------------------------------|-----------------------------------------------|----------------|----------|
| Soil description                                                  | Brown sandy gravelly CLAY with three cobbles. |                |          |
| Preparation / Pretreatment                                        | Sieve: natural material                       |                |          |
| Remarks                                                           |                                               |                |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders                            | Whole          | * < 60mm |
|                                                                   | Gravel                                        | 34             | 0        |
|                                                                   | Sand                                          | 29             | 44       |
|                                                                   | Silt                                          | 23             | 35       |
|                                                                   | Clay                                          | silt+clay = 14 | 21       |

|                        |                   |                |
|------------------------|-------------------|----------------|
| 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   | A1008-11                                      | Sample Details: | Hole No       |                           | WS607 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.20  |   |
|              |                                               |                 | Samp No       | 7                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304918337 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 35        |
| 90               | 100       | 0.0513                  | 30        |
| 75               | 100       | 0.0371                  | 26        |
| 63               | 100       | 0.0267                  | 22        |
| 50               | 100       | 0.0192                  | 19        |
| 37.5             | 100       | 0.0101                  | 14        |
| 28               | 97        | 0.0051                  | 12        |
| 20               | 94        | 0.0037                  | 8         |
| 14               | 91        | 0.0017                  | 6         |
| 10               | 88        |                         |           |
| 6.3              | 80        |                         |           |
| 5.0              | 79        |                         |           |
| 3.35             | 75        |                         |           |
| 2.00             | 72        |                         |           |
| 1.18             | 69        |                         |           |
| 0.600            | 65        | Particle density, Mg/m3 |           |
| 0.425            | 63        | 2.65 assumed            |           |
| 0.300            | 60        | Dry mass of sample, kg  |           |
| 0.212            | 55        | 7.6                     |           |
| 0.150            | 50        |                         |           |
| 0.063            | 35        |                         |           |

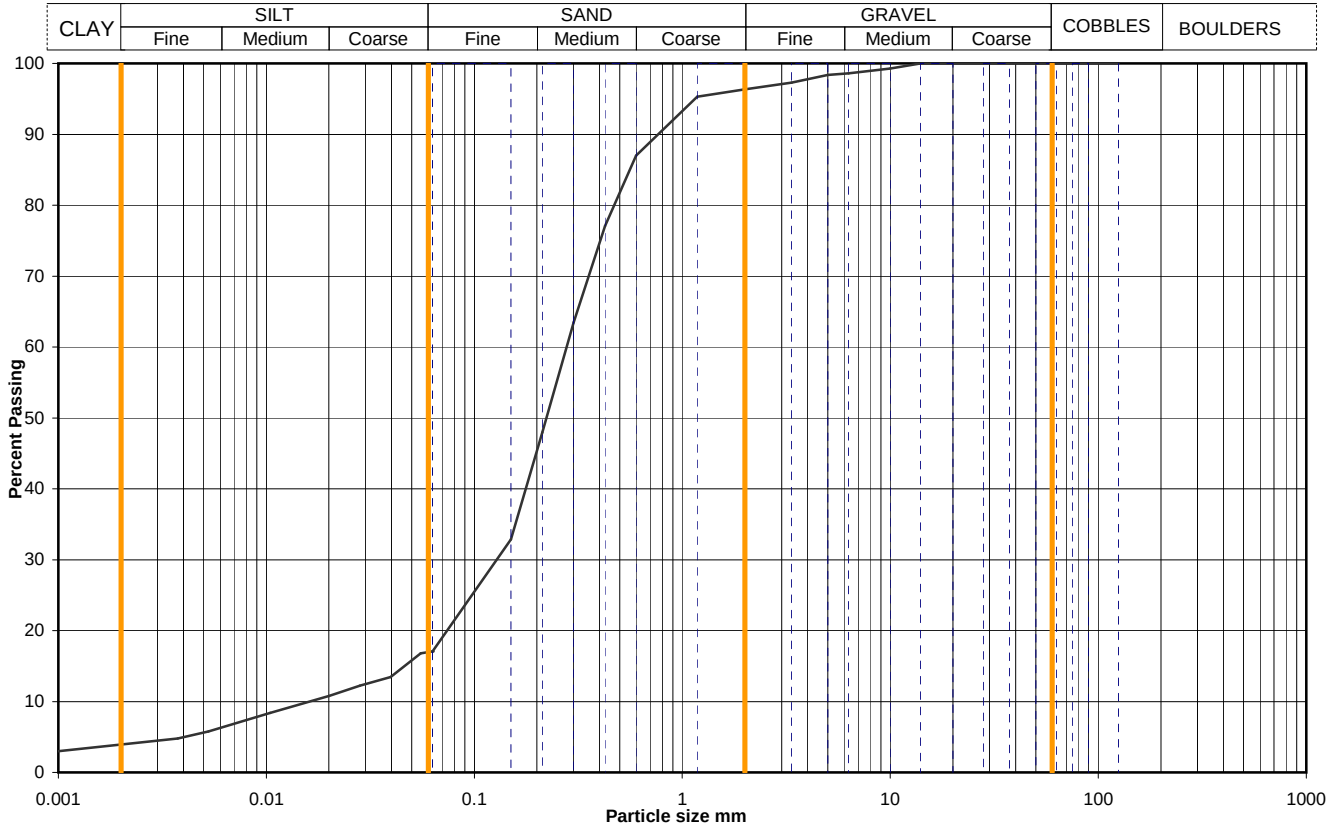
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Light grey slightly gravelly sandy CLAY.    |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 28    | 28      |
|                                                                  | Silt                                        | 38    | 38      |
|                                                                  | Clay                                        | 27    | 27      |
|                                                                  |                                             | 7     | 7       |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 71 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

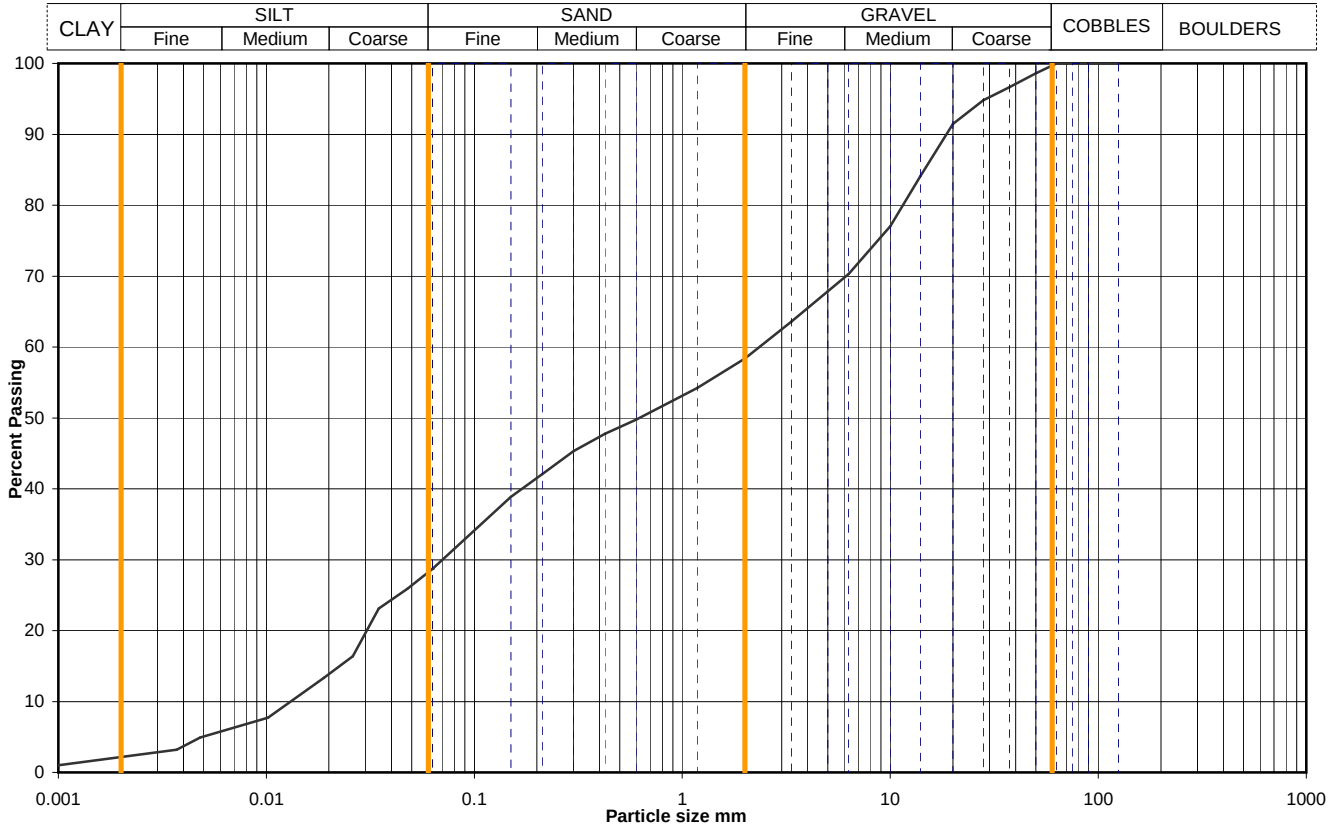
|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS607 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 2.50  |   |
|              |                                               |                 | Samp No       | 10                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304520241 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |





## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS608 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.30  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304489203 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 29        |
| 90               | 100       | 0.0478                  | 26        |
| 75               | 100       | 0.0347                  | 23        |
| 63               | 100       | 0.0261                  | 16        |
| 50               | 99        | 0.0189                  | 13        |
| 37.5             | 97        | 0.0102                  | 8         |
| 28               | 95        | 0.0048                  | 5         |
| 20               | 91        | 0.0037                  | 3         |
| 14               | 84        | 0.0009                  | 1         |
| 10               | 77        |                         |           |
| 6.3              | 70        |                         |           |
| 5.0              | 68        |                         |           |
| 3.35             | 64        |                         |           |
| 2.00             | 58        |                         |           |
| 1.18             | 54        |                         |           |
| 0.600            | 50        | Particle density, Mg/m3 |           |
| 0.425            | 48        | 2.65 assumed            |           |
| 0.300            | 45        | Dry mass of sample, kg  |           |
| 0.212            | 42        | 15.4                    |           |
| 0.150            | 39        |                         |           |
| 0.063            | 29        |                         |           |

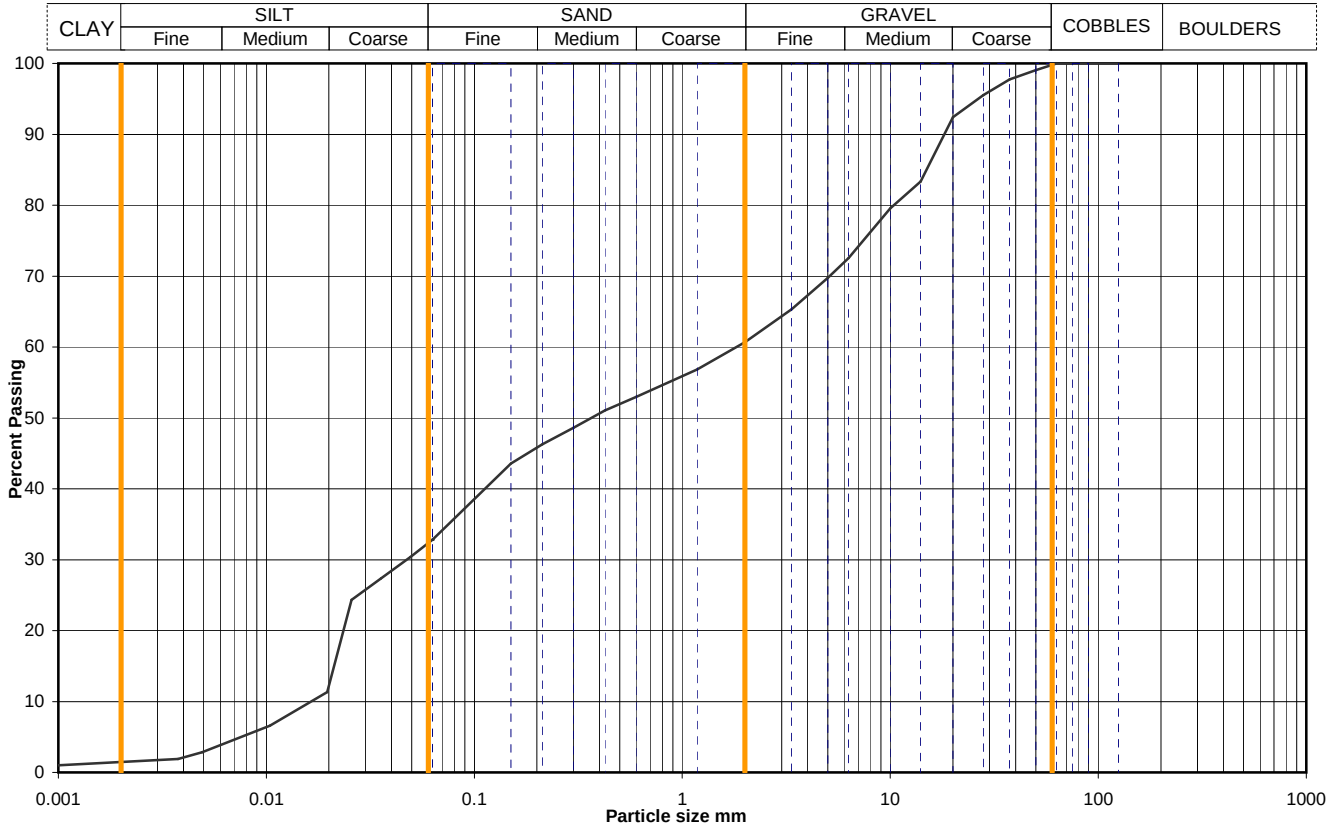
|                                                                  |                                                                                     |       |         |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly sandy gravelly SILT with rare pockets of clay and frequent rootlets. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                                         |       |         |
| Remarks                                                          |                                                                                     |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                                                  | Whole | * <60mm |
|                                                                  | Gravel                                                                              | 0     | 0       |
|                                                                  | Sand                                                                                | 42    | 42      |
|                                                                  | Silt                                                                                | 30    | 30      |
|                                                                  | Clay                                                                                | 26    | 26      |
|                                                                  |                                                                                     | 2     | 2       |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 179 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS608 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.70  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304832646 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 33        |
| 90               | 100       | 0.0494                  | 30        |
| 75               | 100       | 0.0356                  | 27        |
| 63               | 100       | 0.0257                  | 24        |
| 50               | 99        | 0.0196                  | 11        |
| 37.5             | 98        | 0.0104                  | 7         |
| 28               | 96        | 0.0049                  | 3         |
| 20               | 92        | 0.0038                  | 2         |
| 14               | 83        | 0.0009                  | 1         |
| 10               | 80        |                         |           |
| 6.3              | 73        |                         |           |
| 5.0              | 70        |                         |           |
| 3.35             | 65        |                         |           |
| 2.00             | 61        |                         |           |
| 1.18             | 57        |                         |           |
| 0.600            | 53        | Particle density, Mg/m3 |           |
| 0.425            | 51        | 2.65 assumed            |           |
| 0.300            | 49        | Dry mass of sample, kg  |           |
| 0.212            | 46        | 10.3                    |           |
| 0.150            | 44        |                         |           |
| 0.063            | 33        |                         |           |

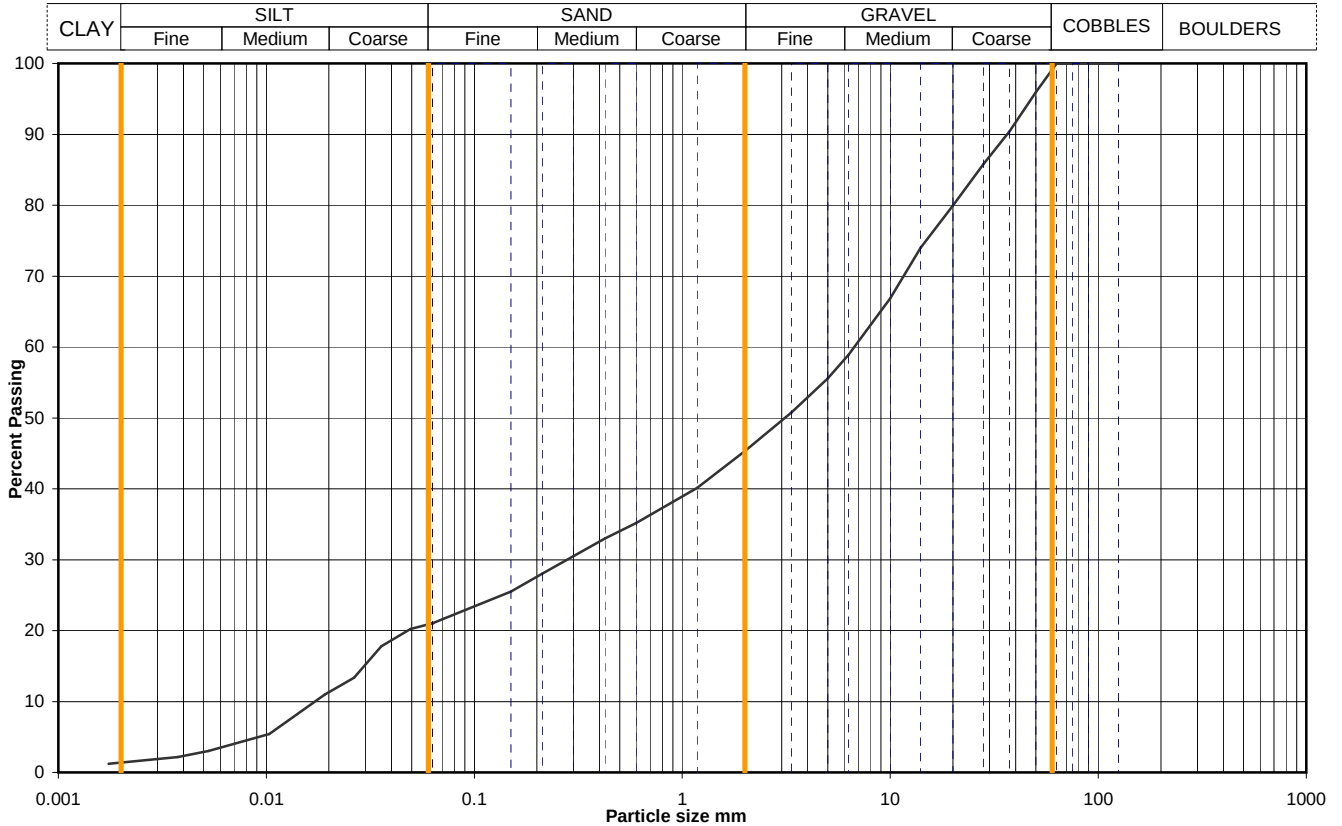
|                                                                   |                                                               |       |          |
|-------------------------------------------------------------------|---------------------------------------------------------------|-------|----------|
| Soil description                                                  | Brown slightly sandy gravelly SILT with rare pockets of clay. |       |          |
| Preparation / Pretreatment                                        | Sieve: natural material    Hydro: as BS1377                   |       |          |
| Remarks                                                           |                                                               |       |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders                                            | Whole | * < 60mm |
|                                                                   | Gravel                                                        | 0     | 0        |
|                                                                   | Sand                                                          | 39    | 39       |
|                                                                   | Silt                                                          | 28    | 28       |
|                                                                   | Clay                                                          | 31    | 31       |
|                                                                   |                                                               | 2     | 2        |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 111 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS609 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.70  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304574916 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                       |           |
|------------------|-----------|-------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                    | % Passing |
| 125              | 100       | 0.0630                              | 21        |
| 90               | 100       | 0.0492                              | 20        |
| 75               | 100       | 0.0357                              | 18        |
| 63               | 100       | 0.0264                              | 13        |
| 50               | 96        | 0.0191                              | 11        |
| 37.5             | 90        | 0.0103                              | 5         |
| 28               | 86        | 0.0053                              | 3         |
| 20               | 80        | 0.0038                              | 2         |
| 14               | 74        | 0.0017                              | 1         |
| 10               | 67        |                                     |           |
| 6.3              | 59        |                                     |           |
| 5.0              | 56        |                                     |           |
| 3.35             | 51        |                                     |           |
| 2.00             | 45        |                                     |           |
| 1.18             | 40        |                                     |           |
| 0.600            | 35        | Particle density, Mg/m <sup>3</sup> |           |
| 0.425            | 33        | 2.65 assumed                        |           |
| 0.300            | 30        | Dry mass of sample, kg              |           |
| 0.212            | 28        | 3.8                                 |           |
| 0.150            | 25        |                                     |           |
| 0.063            | 21        |                                     |           |

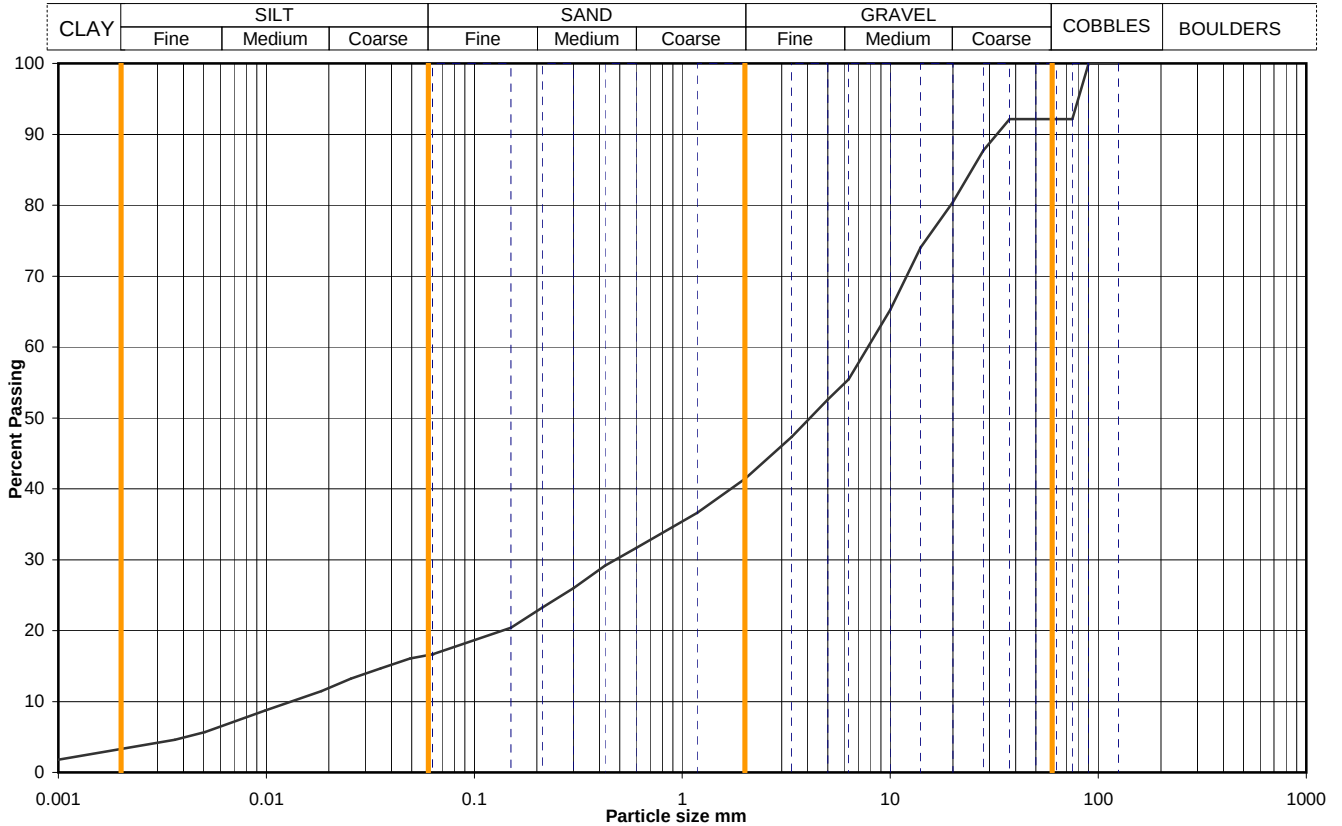
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Light brown slightly gravelly sandy SILT.   |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 1     | 0       |
|                                                                  | Sand                                        | 54    | 55      |
|                                                                  | Silt                                        | 24    | 24      |
|                                                                  | Clay                                        | 20    | 20      |
|                                                                  |                                             | 1     | 1       |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 391 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS610 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.30  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304236632 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 17        |
| 90               | 100       | 0.0492                                              | 16        |
| 75               | 92        | 0.0354                                              | 15        |
| 63               | 92        | 0.0255                                              | 13        |
| 50               | 92        | 0.0184                                              | 11        |
| 37.5             | 92        | 0.0098                                              | 9         |
| 28               | 88        | 0.0051                                              | 6         |
| 20               | 80        | 0.0036                                              | 5         |
| 14               | 74        | 0.0009                                              | 2         |
| 10               | 65        |                                                     |           |
| 6.3              | 55        |                                                     |           |
| 5.0              | 53        |                                                     |           |
| 3.35             | 47        |                                                     |           |
| 2.00             | 41        |                                                     |           |
| 1.18             | 37        |                                                     |           |
| 0.600            | 32        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 29        |                                                     |           |
| 0.300            | 26        | Dry mass of sample, kg<br>5.5                       |           |
| 0.212            | 23        |                                                     |           |
| 0.150            | 20        |                                                     |           |
| 0.063            | 17        |                                                     |           |

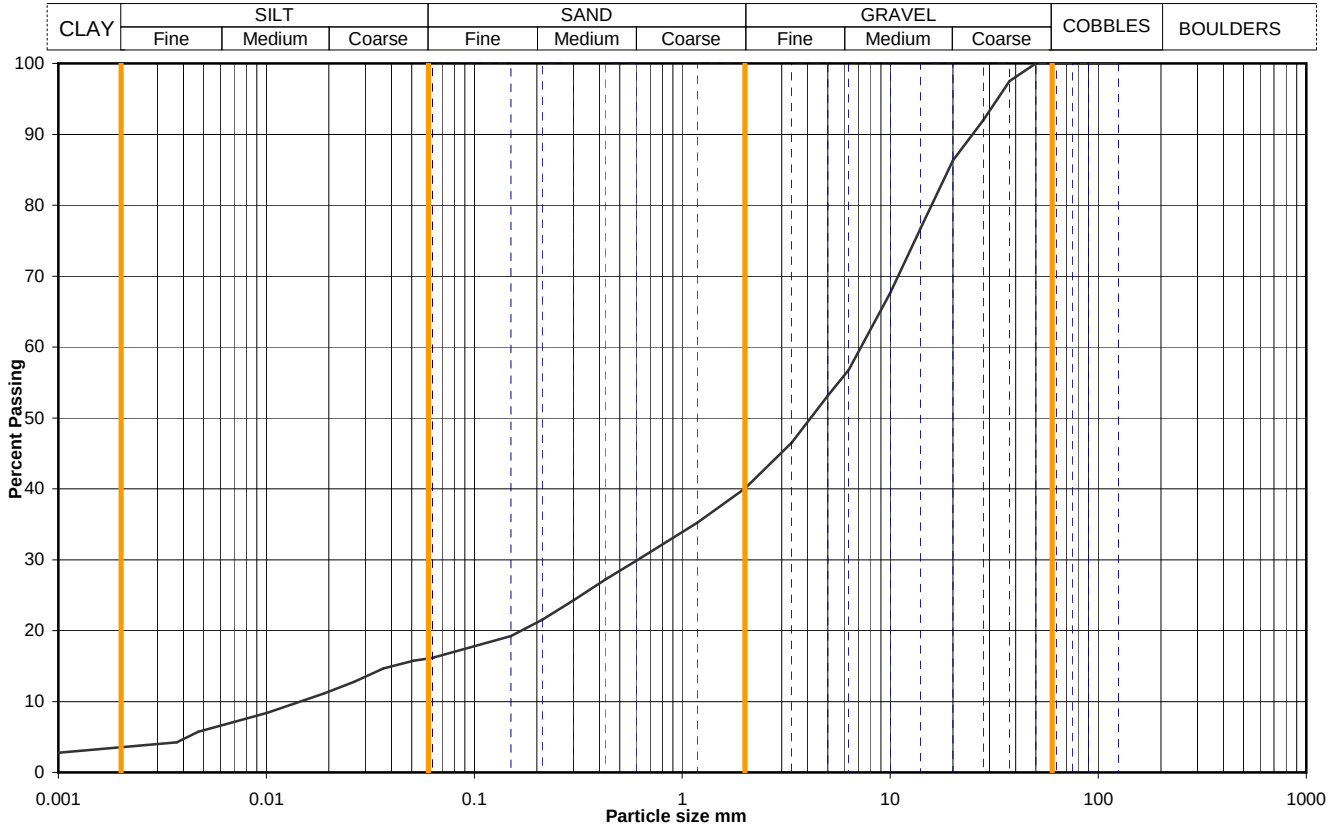
|                                                                   |                                                |       |          |
|-------------------------------------------------------------------|------------------------------------------------|-------|----------|
| Soil description                                                  | Brown silty very sandy GRAVEL with one cobble. |       |          |
| Preparation / Pretreatment                                        | Sieve: natural material    Hydro: as BS1377    |       |          |
| Remarks                                                           |                                                |       |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders                             | Whole | * < 60mm |
|                                                                   | Gravel                                         | 8     | 0        |
|                                                                   | Sand                                           | 51    | 55       |
|                                                                   | Silt                                           | 25    | 27       |
|                                                                   | Clay                                           | 13    | 14       |
|                                                                   |                                                | 3     | 3        |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 592 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS610 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.70  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304298446 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 16        |
| 90               | 100       | 0.0511                  | 16        |
| 75               | 100       | 0.0366                  | 15        |
| 63               | 100       | 0.0264                  | 13        |
| 50               | 100       | 0.0190                  | 11        |
| 37.5             | 98        | 0.0101                  | 8         |
| 28               | 92        | 0.0047                  | 6         |
| 20               | 86        | 0.0037                  | 4         |
| 14               | 77        | 0.0009                  | 3         |
| 10               | 68        |                         |           |
| 6.3              | 57        |                         |           |
| 5.0              | 53        |                         |           |
| 3.35             | 46        |                         |           |
| 2.00             | 40        |                         |           |
| 1.18             | 35        |                         |           |
| 0.600            | 30        | Particle density, Mg/m3 |           |
| 0.425            | 27        | 2.65 assumed            |           |
| 0.300            | 24        | Dry mass of sample, kg  |           |
| 0.212            | 22        | 4.2                     |           |
| 0.150            | 19        |                         |           |
| 0.063            | 16        |                         |           |

|                                                                  |                                               |       |         |
|------------------------------------------------------------------|-----------------------------------------------|-------|---------|
| Soil description                                                 | Dark brown slightly clayey very sandy GRAVEL. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material Hydro: as BS1377      |       |         |
| Remarks                                                          |                                               |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                            | Whole | * <60mm |
|                                                                  | Gravel                                        | 0     | 0       |
|                                                                  | Sand                                          | 60    | 60      |
|                                                                  | Silt                                          | 24    | 24      |
|                                                                  | Clay                                          | 12    | 12      |
|                                                                  |                                               | 4     | 4       |

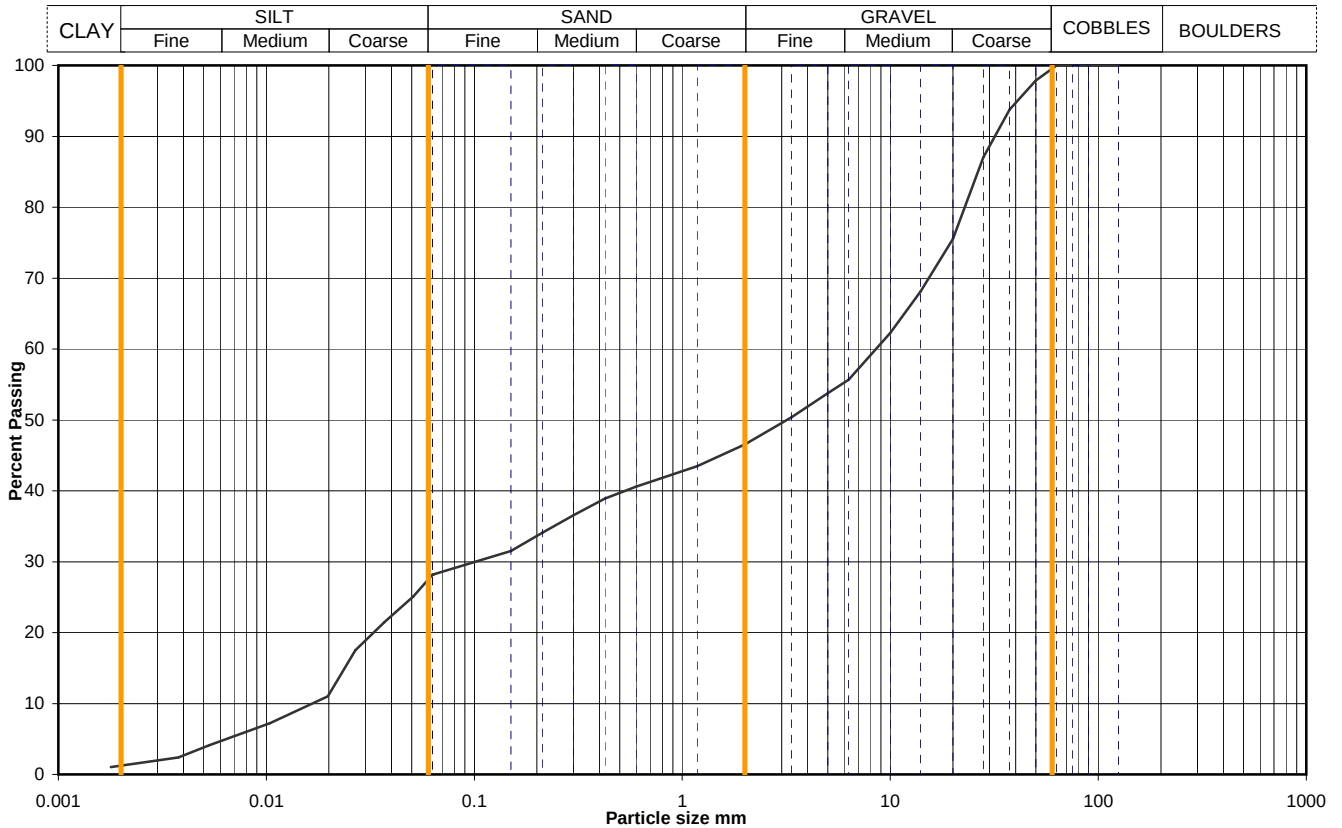
|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 498 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

|                              |                                                                                                           |                           |                         |
|------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------|-------------------------|
| QA Ref                       |  <b>Soil Mechanics</b> | Printed: 07/04/2011 14:02 | Figure<br><b>PSD 60</b> |
| SLR 2,9<br>Rev 84<br>Sept 08 |                                                                                                           |                           |                         |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS611 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.30  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304080009 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       | 0.0630           | 28        |
| 90               | 100       | 0.0509           | 25        |
| 75               | 100       | 0.0369           | 21        |
| 63               | 100       | 0.0268           | 18        |
| 50               | 98        | 0.0197           | 11        |
| 37.5             | 94        | 0.0104           | 7         |
| 28               | 87        | 0.0053           | 4         |
| 20               | 76        | 0.0038           | 2         |
| 14               | 68        | 0.0018           | 1         |
| 10               | 62        |                  |           |
| 6.3              | 56        |                  |           |
| 5.0              | 54        |                  |           |
| 3.35             | 50        |                  |           |
| 2.00             | 47        |                  |           |
| 1.18             | 43        |                  |           |
| 0.600            | 41        |                  |           |
| 0.425            | 39        |                  |           |
| 0.300            | 37        |                  |           |
| 0.212            | 34        |                  |           |
| 0.150            | 32        |                  |           |
| 0.063            | 28        |                  |           |

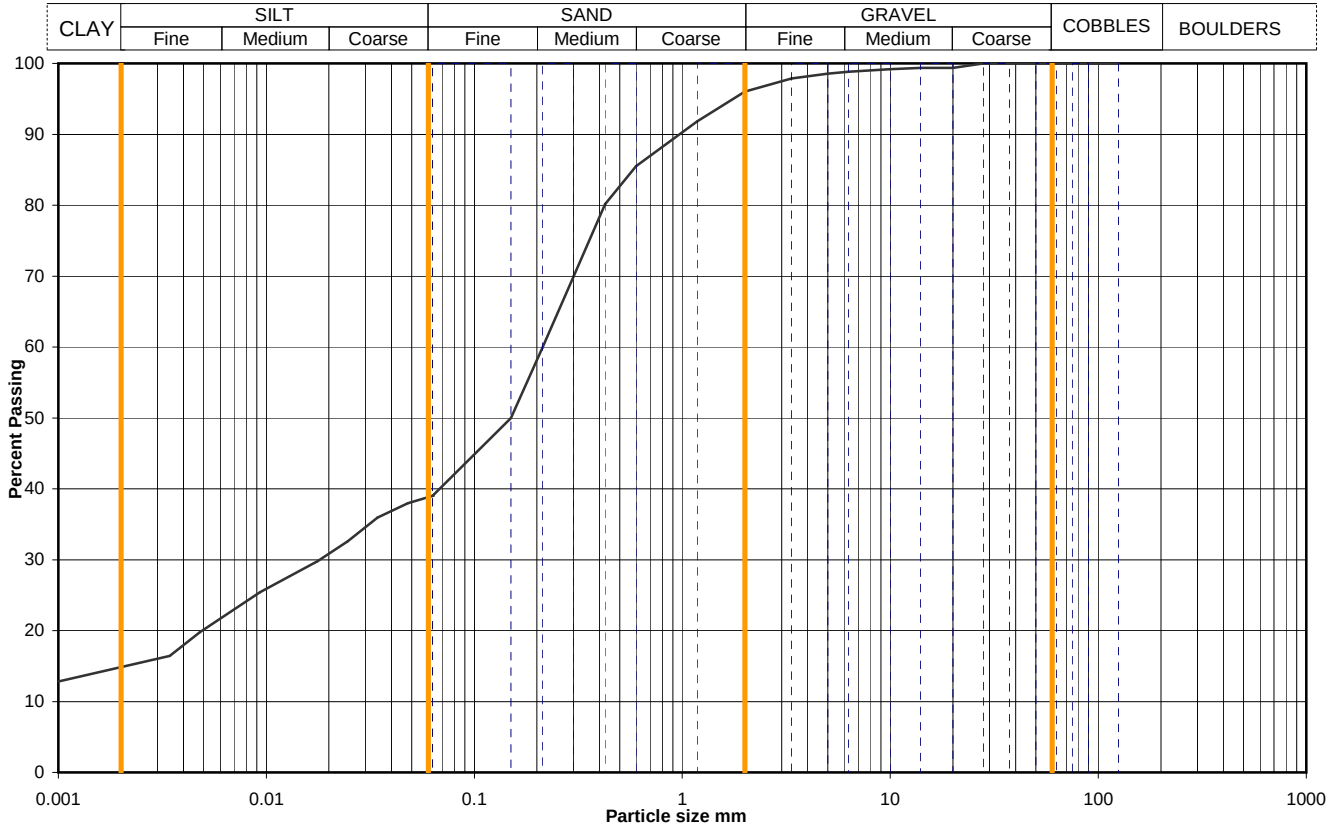
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Light brown slightly sandy gravelly SILT.   |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 53    | 53      |
|                                                                  | Silt                                        | 19    | 19      |
|                                                                  | Clay                                        | 26    | 26      |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 512 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS613 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.30  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304749282 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 39        |
| 90               | 100       | 0.0479                                  | 38        |
| 75               | 100       | 0.0342                                  | 36        |
| 63               | 100       | 0.0246                                  | 33        |
| 50               | 100       | 0.0177                                  | 30        |
| 37.5             | 100       | 0.0093                                  | 25        |
| 28               | 100       | 0.0048                                  | 20        |
| 20               | 99        | 0.0034                                  | 16        |
| 14               | 99        | 0.0008                                  | 12        |
| 10               | 99        |                                         |           |
| 6.3              | 99        |                                         |           |
| 5.0              | 99        |                                         |           |
| 3.35             | 98        |                                         |           |
| 2.00             | 96        |                                         |           |
| 1.18             | 92        |                                         |           |
| 0.600            | 85        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 80        |                                         |           |
| 0.300            | 70        | Dry mass of sample, kg<br>9.7           |           |
| 0.212            | 60        |                                         |           |
| 0.150            | 50        |                                         |           |
| 0.063            | 39        |                                         |           |

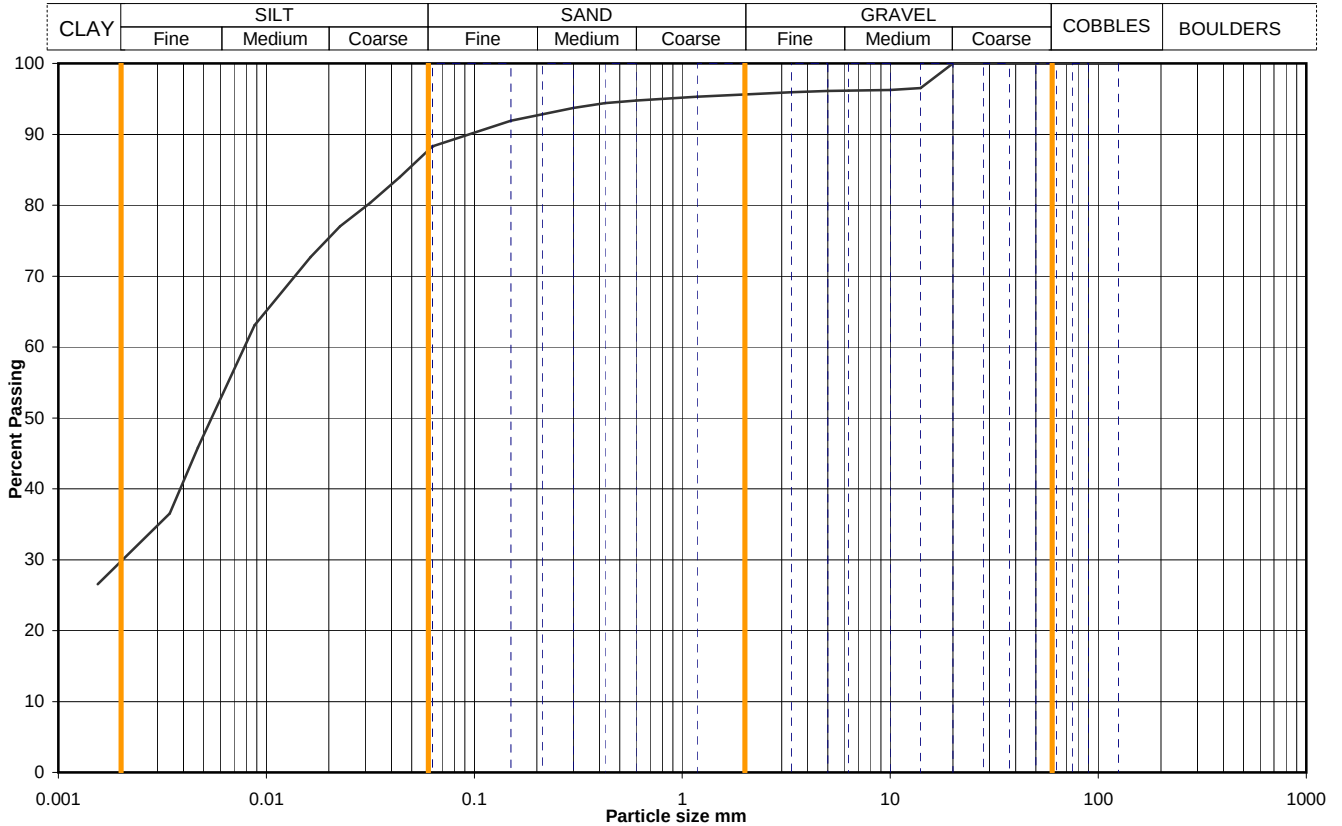
|                                                                  |                                                              |       |         |
|------------------------------------------------------------------|--------------------------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy CLAY with occasional rootlets. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                  |       |         |
| Remarks                                                          |                                                              |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                           | Whole | * <60mm |
|                                                                  | Gravel                                                       | 0     | 0       |
|                                                                  | Sand                                                         | 4     | 4       |
|                                                                  | Silt                                                         | 57    | 57      |
|                                                                  | Clay                                                         | 24    | 24      |
|                                                                  |                                                              | 15    | 15      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS613 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.70  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304621609 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 88        |
| 90               | 100       | 0.0438                                              | 84        |
| 75               | 100       | 0.0315                                              | 80        |
| 63               | 100       | 0.0226                                              | 77        |
| 50               | 100       | 0.0163                                              | 73        |
| 37.5             | 100       | 0.0088                                              | 63        |
| 28               | 100       | 0.0047                                              | 46        |
| 20               | 100       | 0.0034                                              | 37        |
| 14               | 97        | 0.0015                                              | 27        |
| 10               | 96        |                                                     |           |
| 6.3              | 96        |                                                     |           |
| 5.0              | 96        |                                                     |           |
| 3.35             | 96        |                                                     |           |
| 2.00             | 96        |                                                     |           |
| 1.18             | 95        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.600            | 95        |                                                     |           |
| 0.425            | 94        | Dry mass of sample, kg<br>4.5                       |           |
| 0.300            | 94        |                                                     |           |
| 0.212            | 93        |                                                     |           |
| 0.150            | 92        |                                                     |           |
| 0.063            | 88        |                                                     |           |

|                                                                  |                                                                  |       |         |
|------------------------------------------------------------------|------------------------------------------------------------------|-------|---------|
| Soil description                                                 | Light brown slightly sandy slightly gravelly CLAY with rootlets. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                      |       |         |
| Remarks                                                          |                                                                  |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                               | Whole | * <60mm |
|                                                                  | Gravel                                                           | 0     | 0       |
|                                                                  | Sand                                                             | 4     | 4       |
|                                                                  | Silt                                                             | 8     | 8       |
|                                                                  | Clay                                                             | 58    | 58      |
|                                                                  |                                                                  | 30    | 30      |

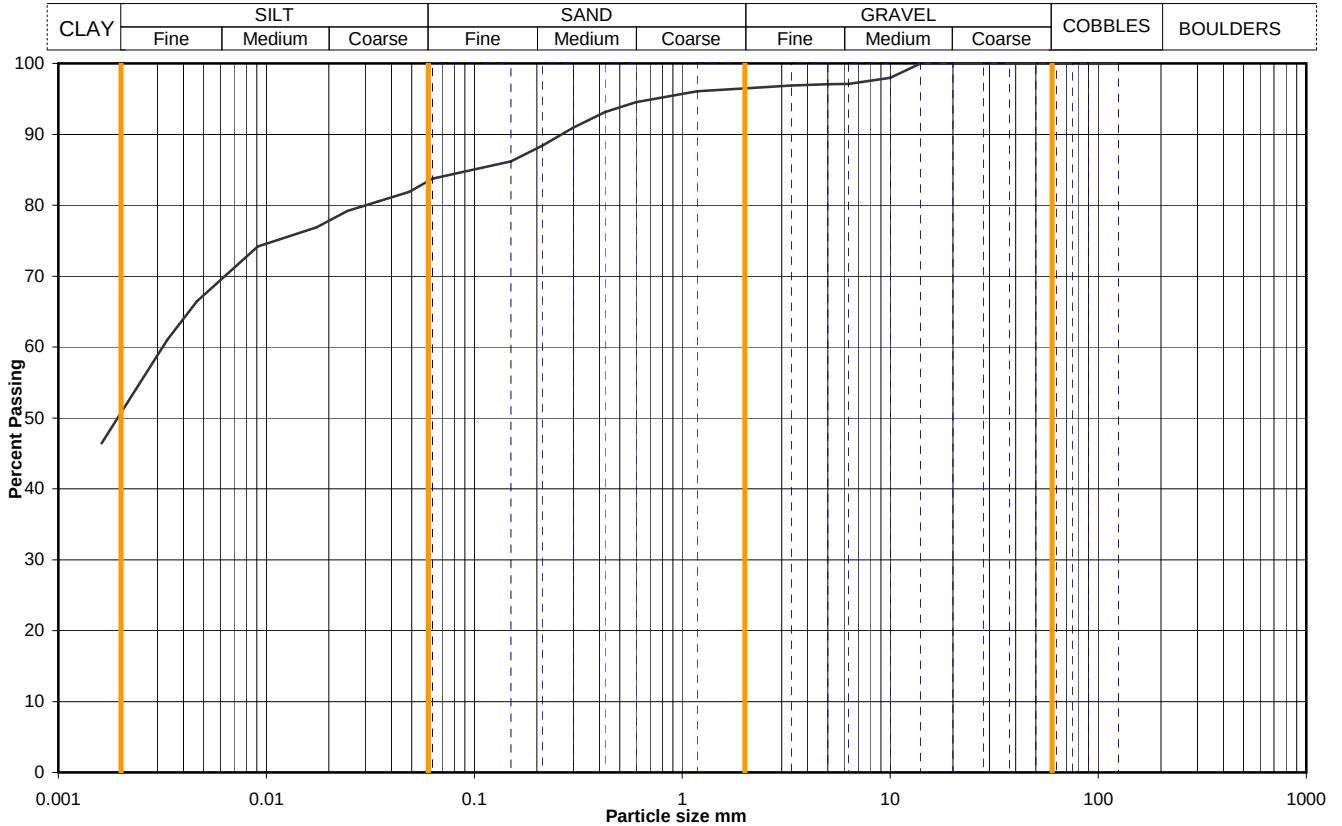
|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |



## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS614 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.50  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304850672 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 84        |
| 90               | 100       | 0.0487                  | 82        |
| 75               | 100       | 0.0346                  | 81        |
| 63               | 100       | 0.0246                  | 79        |
| 50               | 100       | 0.0175                  | 77        |
| 37.5             | 100       | 0.0091                  | 74        |
| 28               | 100       | 0.0046                  | 66        |
| 20               | 100       | 0.0033                  | 61        |
| 14               | 100       | 0.0016                  | 46        |
| 10               | 98        |                         |           |
| 6.3              | 97        |                         |           |
| 5.0              | 97        |                         |           |
| 3.35             | 97        |                         |           |
| 2.00             | 96        |                         |           |
| 1.18             | 96        |                         |           |
| 0.600            | 95        | Particle density, Mg/m3 |           |
| 0.425            | 93        | 2.65 assumed            |           |
| 0.300            | 91        | Dry mass of sample, kg  |           |
| 0.212            | 88        | 4.1                     |           |
| 0.150            | 86        |                         |           |
| 0.063            | 84        |                         |           |

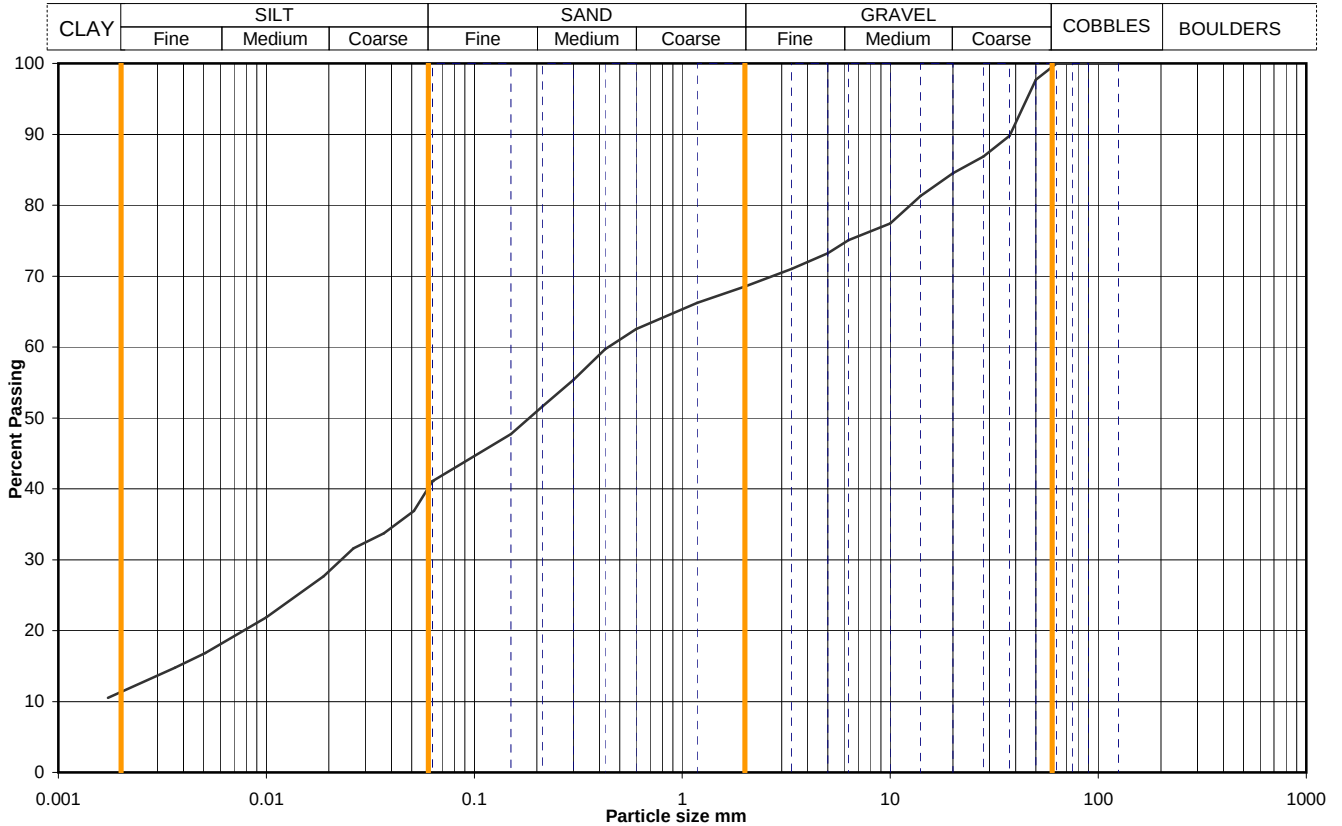
|                                                                  |                                              |       |         |
|------------------------------------------------------------------|----------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly sandy slightly gravelly CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377  |       |         |
| Remarks                                                          |                                              |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                           | Whole | * <60mm |
|                                                                  | Gravel                                       | 0     | 0       |
|                                                                  | Sand                                         | 4     | 4       |
|                                                                  | Silt                                         | 13    | 13      |
|                                                                  | Clay                                         | 32    | 32      |
|                                                                  |                                              | 51    | 51      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS614 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.20  |   |
|              |                                               |                 | Samp No       | 7                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304323745 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 41        |
| 90               | 100       | 0.0513                                              | 37        |
| 75               | 100       | 0.0368                                              | 34        |
| 63               | 100       | 0.0262                                              | 32        |
| 50               | 98        | 0.0189                                              | 28        |
| 37.5             | 90        | 0.0100                                              | 22        |
| 28               | 87        | 0.0051                                              | 17        |
| 20               | 84        | 0.0036                                              | 15        |
| 14               | 81        | 0.0017                                              | 11        |
| 10               | 77        |                                                     |           |
| 6.3              | 75        |                                                     |           |
| 5.0              | 73        |                                                     |           |
| 3.35             | 71        |                                                     |           |
| 2.00             | 69        |                                                     |           |
| 1.18             | 66        |                                                     |           |
| 0.600            | 63        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 60        |                                                     |           |
| 0.300            | 55        | Dry mass of sample, kg<br>6.1                       |           |
| 0.212            | 52        |                                                     |           |
| 0.150            | 48        |                                                     |           |
| 0.063            | 41        |                                                     |           |

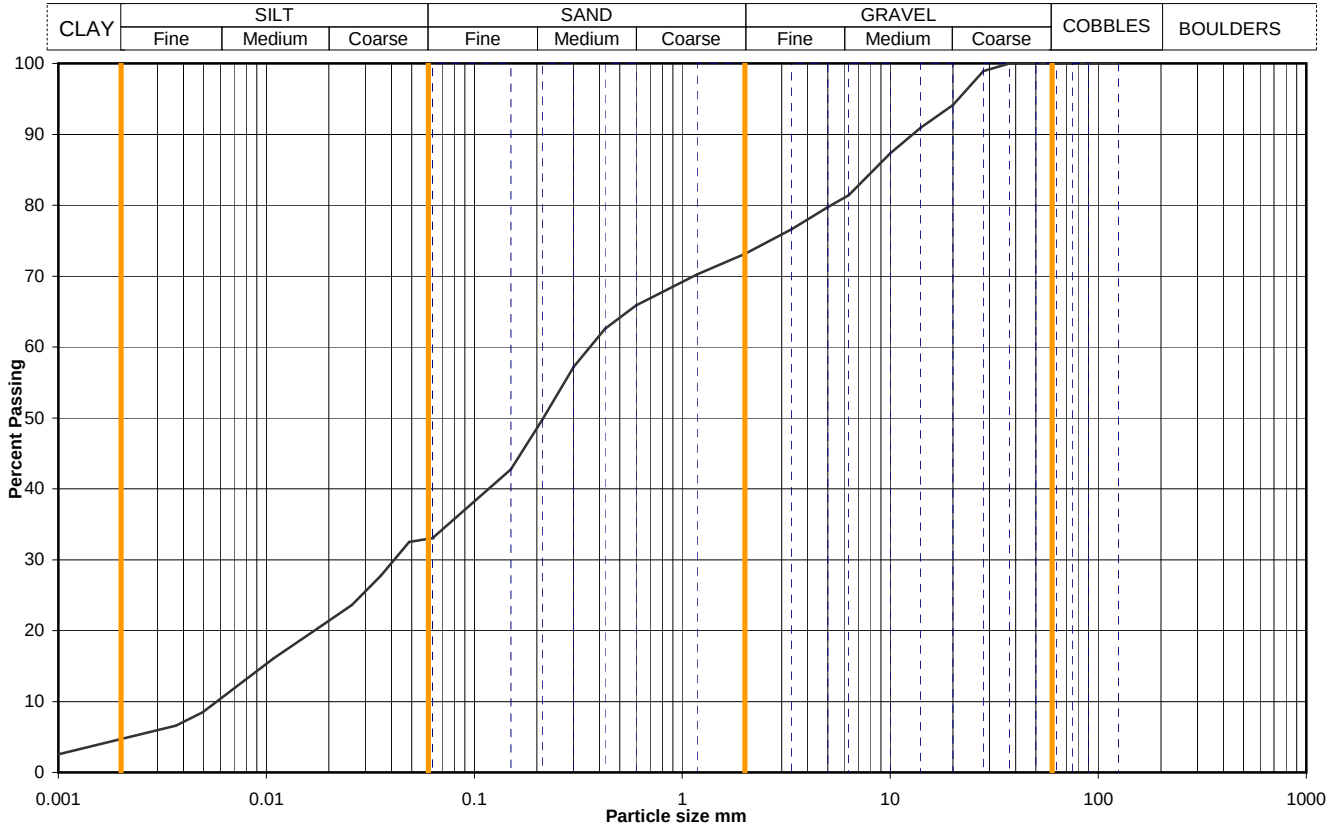
|                                                                  |                                                            |       |         |
|------------------------------------------------------------------|------------------------------------------------------------|-------|---------|
| Soil description                                                 | Brownish grey slightly sandy slightly gravelly silty CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                |       |         |
| Remarks                                                          |                                                            |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                         | Whole | * <60mm |
|                                                                  | Gravel                                                     | 0     | 0       |
|                                                                  | Sand                                                       | 31    | 31      |
|                                                                  | Silt                                                       | 28    | 28      |
|                                                                  | Clay                                                       | 29    | 29      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS615 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.30  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304546348 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                       |           |
|------------------|-----------|-------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                    | % Passing |
| 125              | 100       | 0.0630                              | 33        |
| 90               | 100       | 0.0486                              | 32        |
| 75               | 100       | 0.0355                              | 28        |
| 63               | 100       | 0.0258                              | 24        |
| 50               | 100       | 0.0186                              | 21        |
| 37.5             | 100       | 0.0108                              | 16        |
| 28               | 99        | 0.0049                              | 8         |
| 20               | 94        | 0.0037                              | 7         |
| 14               | 91        | 0.0009                              | 2         |
| 10               | 87        |                                     |           |
| 6.3              | 81        |                                     |           |
| 5.0              | 80        |                                     |           |
| 3.35             | 77        |                                     |           |
| 2.00             | 73        |                                     |           |
| 1.18             | 70        |                                     |           |
| 0.600            | 66        | Particle density, Mg/m <sup>3</sup> |           |
| 0.425            | 63        | 2.65 assumed                        |           |
| 0.300            | 57        | Dry mass of sample, kg              |           |
| 0.212            | 50        | 4.7                                 |           |
| 0.150            | 43        |                                     |           |
| 0.063            | 33        |                                     |           |

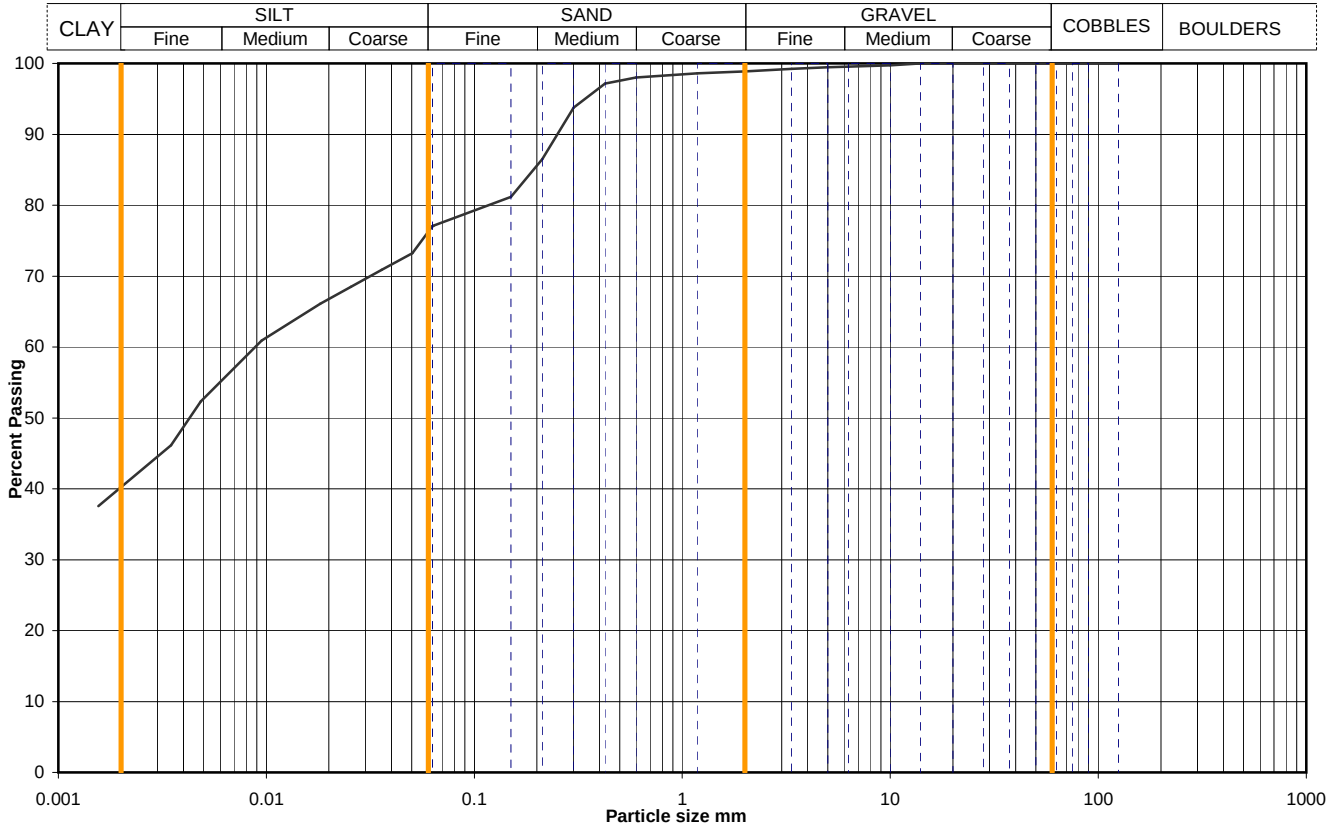
|                                                                  |                                                            |       |         |
|------------------------------------------------------------------|------------------------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy SILT with frequent rootlets. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                |       |         |
| Remarks                                                          |                                                            |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                         | Whole | * <60mm |
|                                                                  | Gravel                                                     | 0     | 0       |
|                                                                  | Sand                                                       | 27    | 27      |
|                                                                  | Silt                                                       | 40    | 40      |
|                                                                  | Clay                                                       | 28    | 28      |
|                                                                  |                                                            | 5     | 5       |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 62 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS615 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.20  |   |
|              |                                               |                 | Samp No       | 6                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304422589 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 77        |
| 90               | 100       | 0.0504                  | 73        |
| 75               | 100       | 0.0358                  | 71        |
| 63               | 100       | 0.0255                  | 68        |
| 50               | 100       | 0.0181                  | 66        |
| 37.5             | 100       | 0.0095                  | 61        |
| 28               | 100       | 0.0048                  | 52        |
| 20               | 100       | 0.0035                  | 46        |
| 14               | 100       | 0.0016                  | 38        |
| 10               | 100       |                         |           |
| 6.3              | 100       |                         |           |
| 5.0              | 99        |                         |           |
| 3.35             | 99        |                         |           |
| 2.00             | 99        |                         |           |
| 1.18             | 99        |                         |           |
| 0.600            | 98        | Particle density, Mg/m3 |           |
| 0.425            | 97        | 2.65 assumed            |           |
| 0.300            | 94        | Dry mass of sample, kg  |           |
| 0.212            | 86        | 3.2                     |           |
| 0.150            | 81        |                         |           |
| 0.063            | 77        |                         |           |

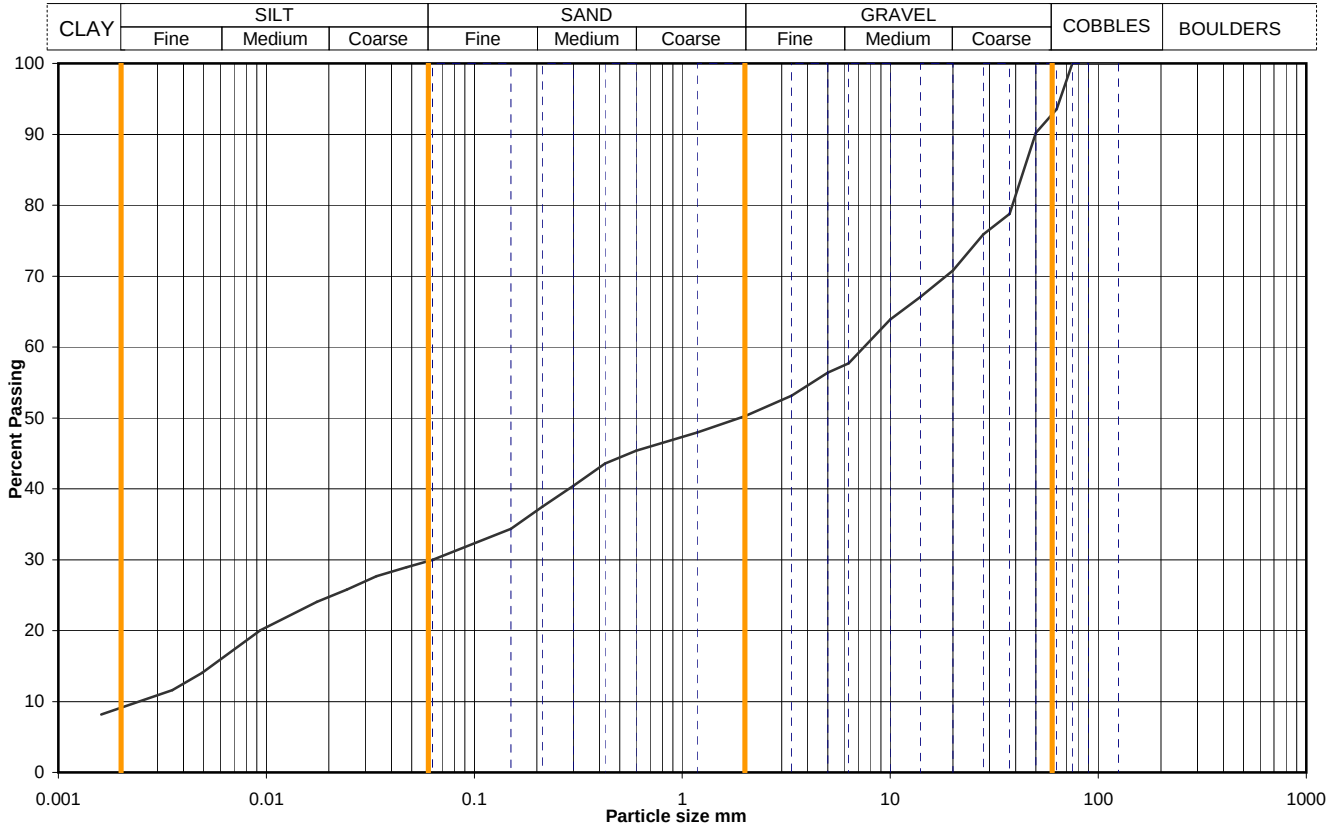
|                                                                  |                                              |       |         |
|------------------------------------------------------------------|----------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly slightly sandy CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material Hydro: as BS1377     |       |         |
| Remarks                                                          |                                              |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                           | Whole | * <60mm |
|                                                                  | Gravel                                       | 0     | 0       |
|                                                                  | Sand                                         | 1     | 1       |
|                                                                  | Silt                                         | 23    | 23      |
|                                                                  | Clay                                         | 36    | 36      |
|                                                                  |                                              | 40    | 40      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS618 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.30  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304232041 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       | 0.0630           | 30        |
| 90               | 100       | 0.0473           | 29        |
| 75               | 100       | 0.0338           | 28        |
| 63               | 94        | 0.0244           | 26        |
| 50               | 90        | 0.0175           | 24        |
| 37.5             | 79        | 0.0094           | 20        |
| 28               | 76        | 0.0049           | 14        |
| 20               | 71        | 0.0035           | 12        |
| 14               | 67        | 0.0016           | 8         |
| 10               | 64        |                  |           |
| 6.3              | 58        |                  |           |
| 5.0              | 56        |                  |           |
| 3.35             | 53        |                  |           |
| 2.00             | 50        |                  |           |
| 1.18             | 48        |                  |           |
| 0.600            | 45        |                  |           |
| 0.425            | 44        |                  |           |
| 0.300            | 40        |                  |           |
| 0.212            | 37        |                  |           |
| 0.150            | 34        |                  |           |
| 0.063            | 30        |                  |           |

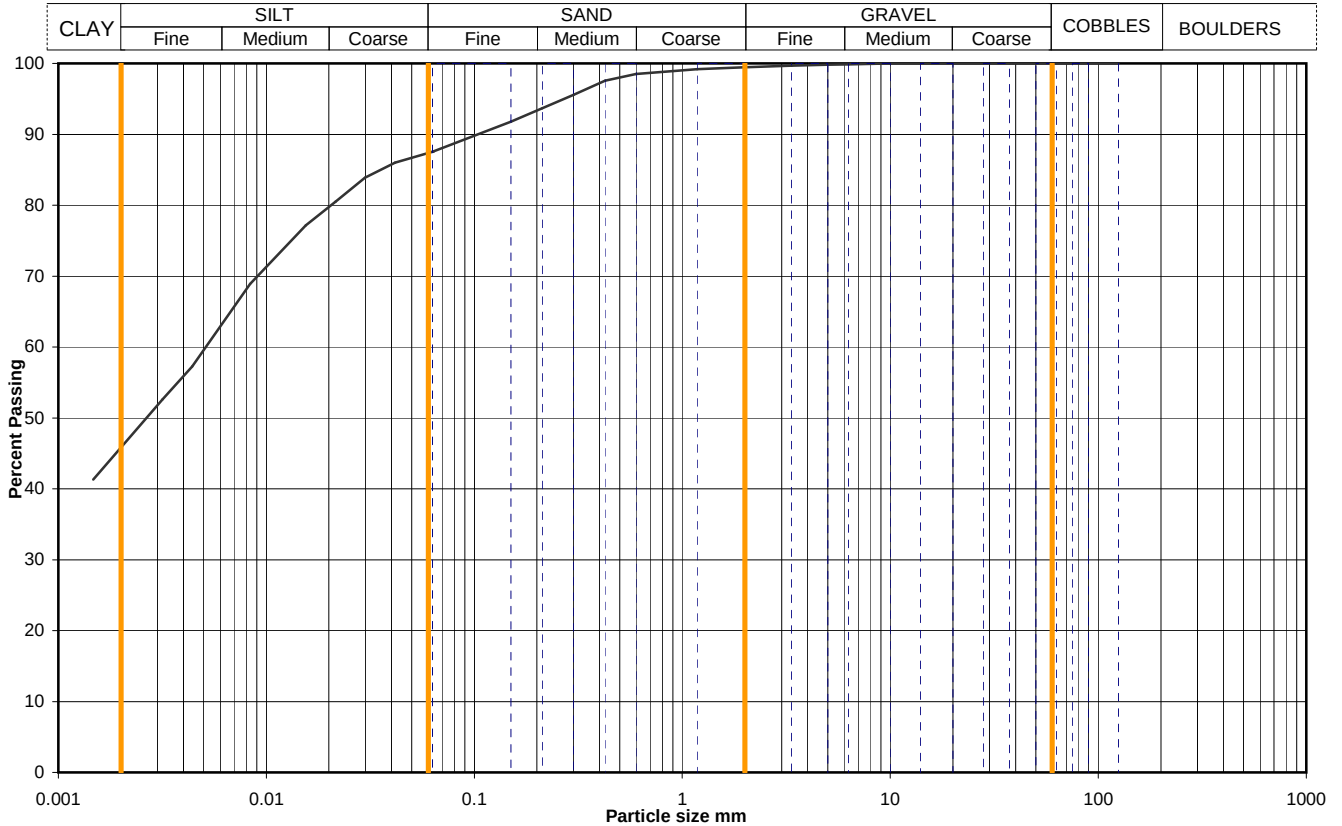
|                                                                  |                                                     |       |         |
|------------------------------------------------------------------|-----------------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly sandy gravelly CLAY with one cobble. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377         |       |         |
| Remarks                                                          |                                                     |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                  | Whole | * <60mm |
|                                                                  | Gravel                                              | 7     | 0       |
|                                                                  | Sand                                                | 43    | 46      |
|                                                                  | Silt                                                | 20    | 22      |
|                                                                  | Clay                                                | 21    | 23      |
|                                                                  |                                                     | 9     | 10      |

|                        |                   |      |
|------------------------|-------------------|------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 3060 |
|------------------------|-------------------|------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS619 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.30  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304443803 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 88        |
| 90               | 100       | 0.0416                  | 86        |
| 75               | 100       | 0.0298                  | 84        |
| 63               | 100       | 0.0215                  | 81        |
| 50               | 100       | 0.0155                  | 77        |
| 37.5             | 100       | 0.0083                  | 69        |
| 28               | 100       | 0.0044                  | 57        |
| 20               | 100       | 0.0032                  | 53        |
| 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            | 94        | 8.0                     |           |
| 0.150            | 92        |                         |           |
| 0.063            | 88        |                         |           |

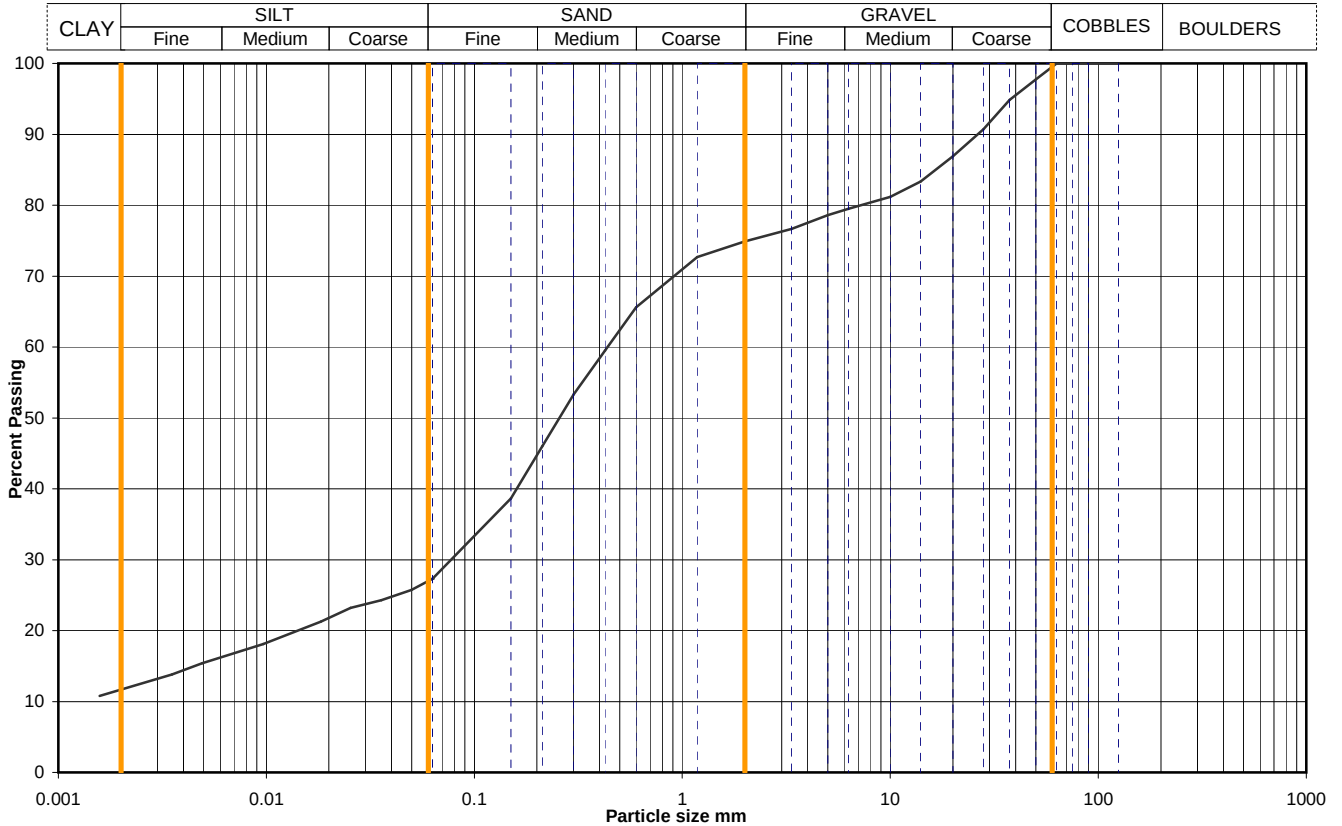
|                                                                  |                                              |       |         |
|------------------------------------------------------------------|----------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly slightly sandy CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377  |       |         |
| Remarks                                                          |                                              |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                           | Whole | * <60mm |
|                                                                  | Gravel                                       | 0     | 0       |
|                                                                  | Sand                                         | 1     | 1       |
|                                                                  | Silt                                         | 12    | 12      |
|                                                                  | Clay                                         | 41    | 41      |
|                                                                  |                                              | 46    | 46      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS620 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.30  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304727914 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 27        |
| 90               | 100       | 0.0499                                  | 26        |
| 75               | 100       | 0.0357                                  | 24        |
| 63               | 100       | 0.0254                                  | 23        |
| 50               | 98        | 0.0183                                  | 21        |
| 37.5             | 95        | 0.0096                                  | 18        |
| 28               | 91        | 0.0049                                  | 15        |
| 20               | 87        | 0.0035                                  | 14        |
| 14               | 83        | 0.0016                                  | 11        |
| 10               | 81        |                                         |           |
| 6.3              | 80        |                                         |           |
| 5.0              | 79        |                                         |           |
| 3.35             | 77        |                                         |           |
| 2.00             | 75        |                                         |           |
| 1.18             | 73        |                                         |           |
| 0.600            | 66        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 60        |                                         |           |
| 0.300            | 53        | Dry mass of sample, kg<br>9.5           |           |
| 0.212            | 46        |                                         |           |
| 0.150            | 39        |                                         |           |
| 0.063            | 27        |                                         |           |

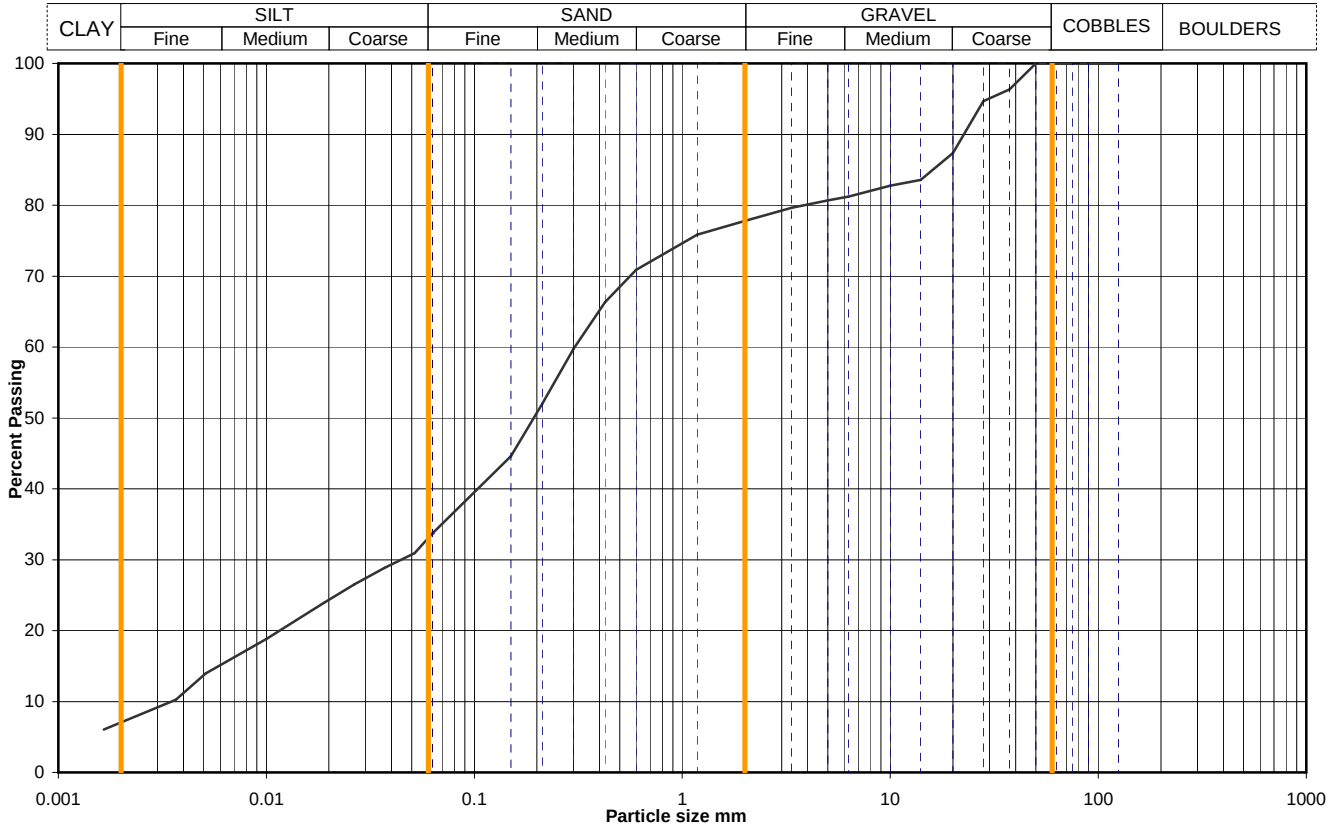
|                                                                  |                                                        |       |         |
|------------------------------------------------------------------|--------------------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy CLAY with rare rootlets. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377            |       |         |
| Remarks                                                          |                                                        |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                     | Whole | * <60mm |
|                                                                  | Gravel                                                 | 0     | 0       |
|                                                                  | Sand                                                   | 25    | 25      |
|                                                                  | Silt                                                   | 48    | 48      |
|                                                                  | Clay                                                   | 15    | 15      |
|                                                                  |                                                        | 12    | 12      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS621 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.00  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304086355 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 34        |
| 90               | 100       | 0.0517                                  | 31        |
| 75               | 100       | 0.0369                                  | 29        |
| 63               | 100       | 0.0264                                  | 27        |
| 50               | 100       | 0.0189                                  | 24        |
| 37.5             | 96        | 0.0100                                  | 19        |
| 28               | 95        | 0.0051                                  | 14        |
| 20               | 87        | 0.0037                                  | 10        |
| 14               | 84        | 0.0017                                  | 6         |
| 10               | 83        |                                         |           |
| 6.3              | 81        |                                         |           |
| 5.0              | 81        |                                         |           |
| 3.35             | 80        |                                         |           |
| 2.00             | 78        |                                         |           |
| 1.18             | 76        |                                         |           |
| 0.600            | 71        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 66        |                                         |           |
| 0.300            | 60        | Dry mass of sample, kg<br>7.1           |           |
| 0.212            | 52        |                                         |           |
| 0.150            | 45        |                                         |           |
| 0.063            | 34        |                                         |           |

|                                                                  |                                                                                |       |         |
|------------------------------------------------------------------|--------------------------------------------------------------------------------|-------|---------|
| Soil description                                                 | Dark greyish brown slightly gravelly sandy clayey SILT with frequent rootlets. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                                    |       |         |
| Remarks                                                          |                                                                                |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                                             | Whole | * <60mm |
|                                                                  | Gravel                                                                         | 0     | 0       |
|                                                                  | Sand                                                                           | 22    | 22      |
|                                                                  | Silt                                                                           | 45    | 45      |
|                                                                  | Clay                                                                           | 26    | 26      |
|                                                                  |                                                                                | 7     | 7       |

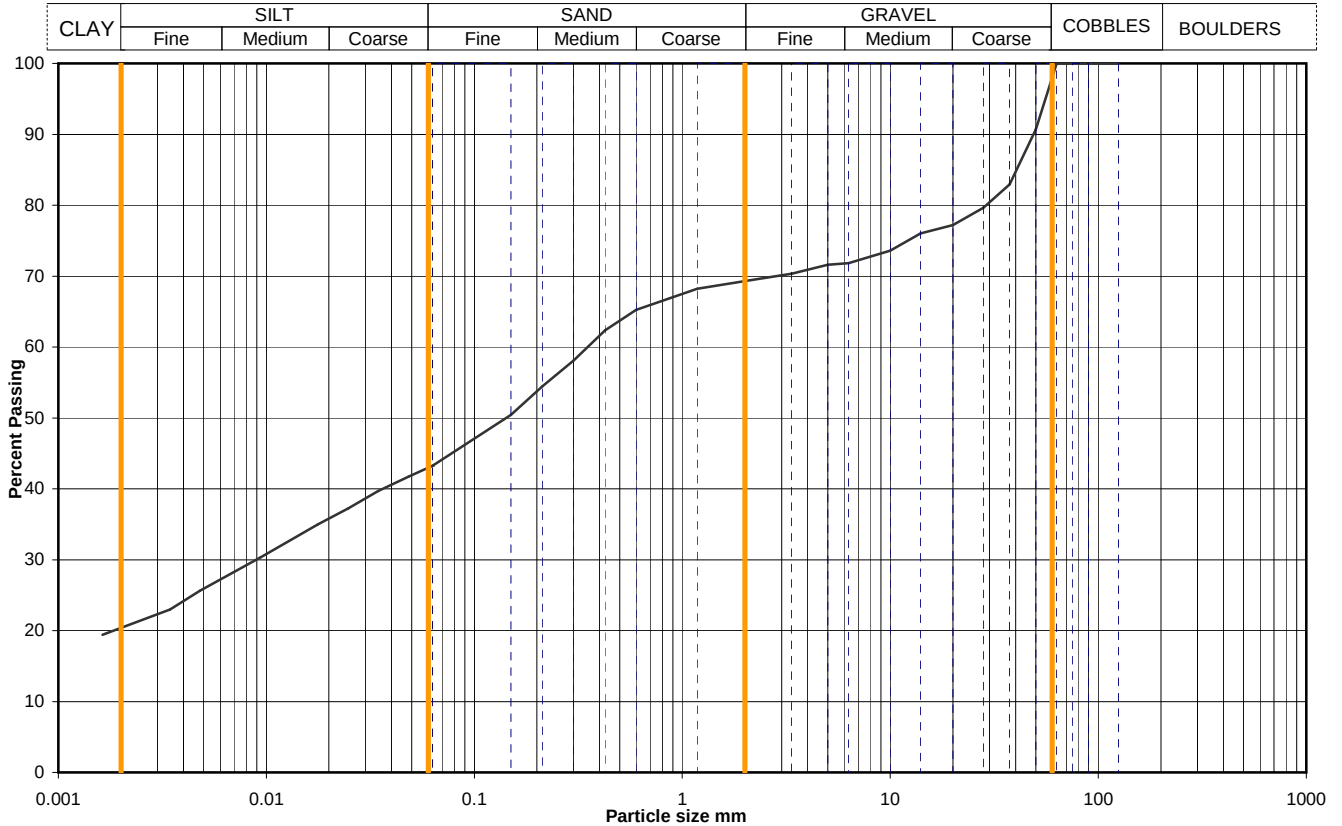
|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 86 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |



## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS621 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.50  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304104149 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 43        |
| 90               | 100       | 0.0482                                              | 42        |
| 75               | 100       | 0.0345                                              | 40        |
| 63               | 100       | 0.0247                                              | 37        |
| 50               | 91        | 0.0177                                              | 35        |
| 37.5             | 83        | 0.0094                                              | 30        |
| 28               | 80        | 0.0048                                              | 26        |
| 20               | 77        | 0.0034                                              | 23        |
| 14               | 76        | 0.0016                                              | 19        |
| 10               | 74        |                                                     |           |
| 6.3              | 72        |                                                     |           |
| 5.0              | 72        |                                                     |           |
| 3.35             | 70        |                                                     |           |
| 2.00             | 69        |                                                     |           |
| 1.18             | 68        |                                                     |           |
| 0.600            | 65        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 62        |                                                     |           |
| 0.300            | 58        | Dry mass of sample, kg<br>6.3                       |           |
| 0.212            | 54        |                                                     |           |
| 0.150            | 50        |                                                     |           |
| 0.063            | 43        |                                                     |           |

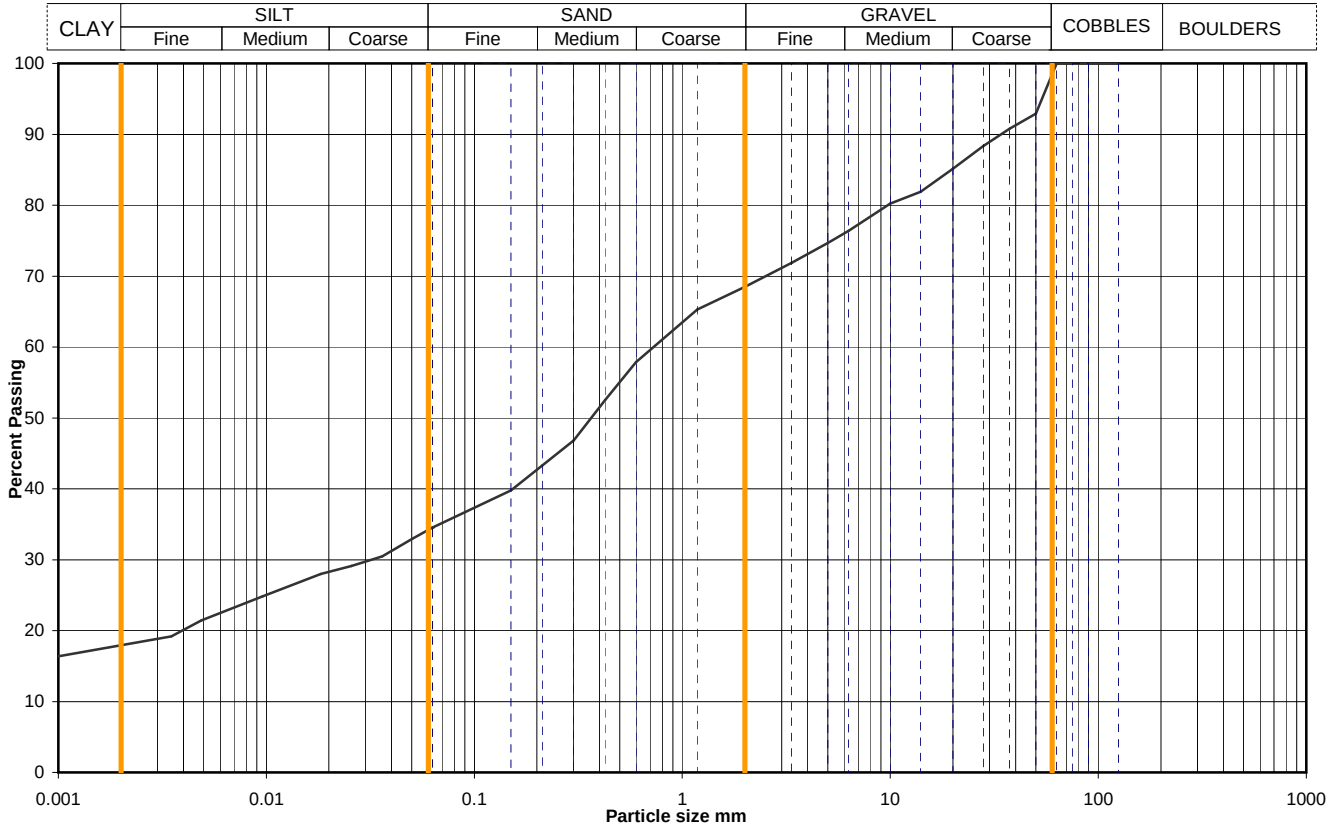
|                                                                  |                                              |       |         |
|------------------------------------------------------------------|----------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly sandy slightly gravelly CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377  |       |         |
| Remarks                                                          |                                              |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                           | Whole | * <60mm |
|                                                                  | Gravel                                       | 2     | 0       |
|                                                                  | Sand                                         | 29    | 30      |
|                                                                  | Silt                                         | 26    | 27      |
|                                                                  | Clay                                         | 23    | 23      |
|                                                                  |                                              | 20    | 20      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS621 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.20  |   |
|              |                                               |                 | Samp No       | 8                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304865618 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 35        |
| 90               | 100       | 0.0503                                              | 33        |
| 75               | 100       | 0.0361                                              | 30        |
| 63               | 100       | 0.0257                                              | 29        |
| 50               | 93        | 0.0183                                              | 28        |
| 37.5             | 91        | 0.0096                                              | 25        |
| 28               | 88        | 0.0049                                              | 21        |
| 20               | 85        | 0.0035                                              | 19        |
| 14               | 82        | 0.0009                                              | 16        |
| 10               | 80        |                                                     |           |
| 6.3              | 76        |                                                     |           |
| 5.0              | 75        |                                                     |           |
| 3.35             | 72        |                                                     |           |
| 2.00             | 68        |                                                     |           |
| 1.18             | 65        |                                                     |           |
| 0.600            | 58        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 53        |                                                     |           |
| 0.300            | 47        | Dry mass of sample, kg<br>7.4                       |           |
| 0.212            | 43        |                                                     |           |
| 0.150            | 40        |                                                     |           |
| 0.063            | 35        |                                                     |           |

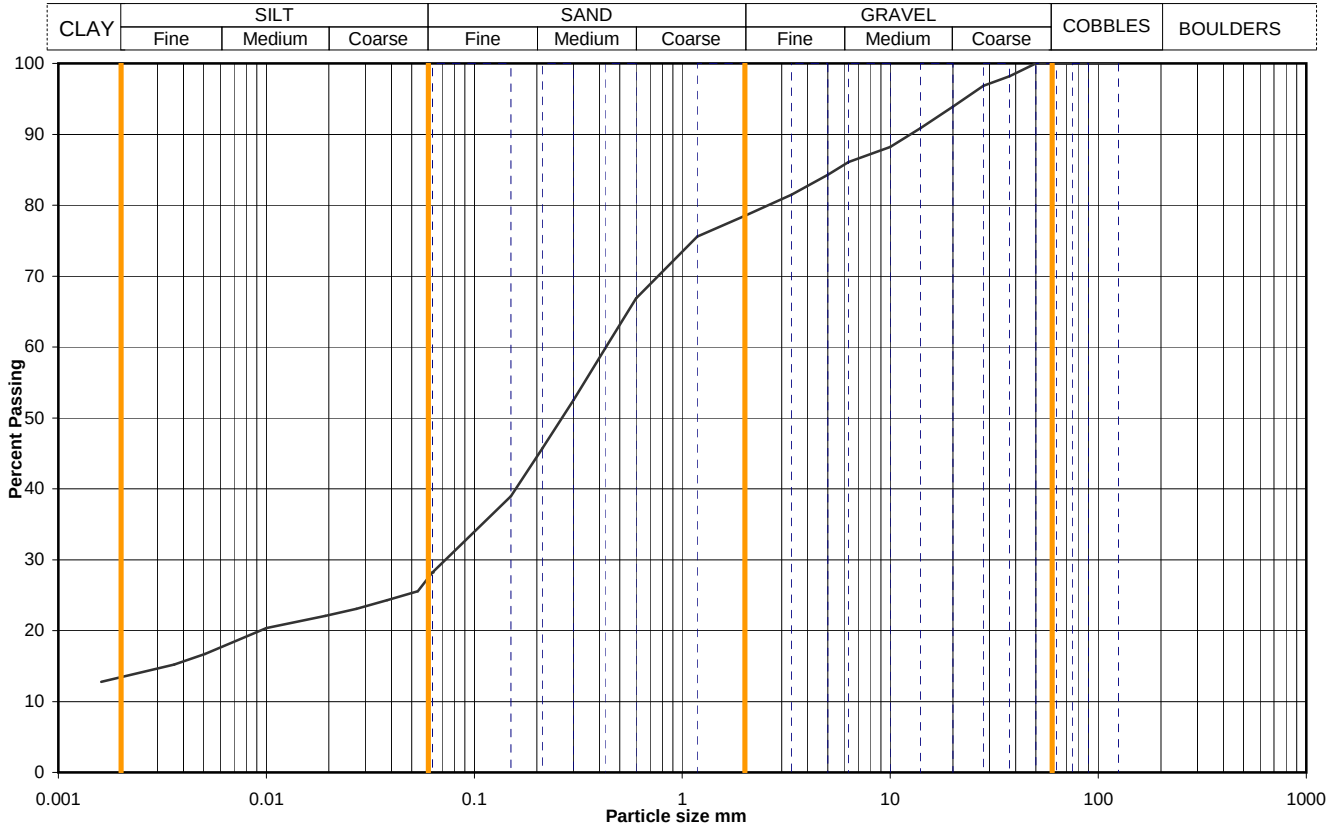
|                                                                  |                                              |       |         |
|------------------------------------------------------------------|----------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly sandy slightly gravelly CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377  |       |         |
| Remarks                                                          |                                              |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                           | Whole | * <60mm |
|                                                                  | Gravel                                       | 1     | 0       |
|                                                                  | Sand                                         | 31    | 31      |
|                                                                  | Silt                                         | 34    | 34      |
|                                                                  | Clay                                         | 16    | 16      |
|                                                                  |                                              | 18    | 18      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS622 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.70  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304013865 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 28        |
| 90               | 100       | 0.0535                                  | 26        |
| 75               | 100       | 0.0380                                  | 24        |
| 63               | 100       | 0.0270                                  | 23        |
| 50               | 100       | 0.0192                                  | 22        |
| 37.5             | 98        | 0.0100                                  | 20        |
| 28               | 97        | 0.0051                                  | 17        |
| 20               | 94        | 0.0036                                  | 15        |
| 14               | 91        | 0.0016                                  | 13        |
| 10               | 88        |                                         |           |
| 6.3              | 86        |                                         |           |
| 5.0              | 84        |                                         |           |
| 3.35             | 82        |                                         |           |
| 2.00             | 79        |                                         |           |
| 1.18             | 76        |                                         |           |
| 0.600            | 67        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 60        |                                         |           |
| 0.300            | 53        | Dry mass of sample, kg<br>9.1           |           |
| 0.212            | 46        |                                         |           |
| 0.150            | 39        |                                         |           |
| 0.063            | 28        |                                         |           |

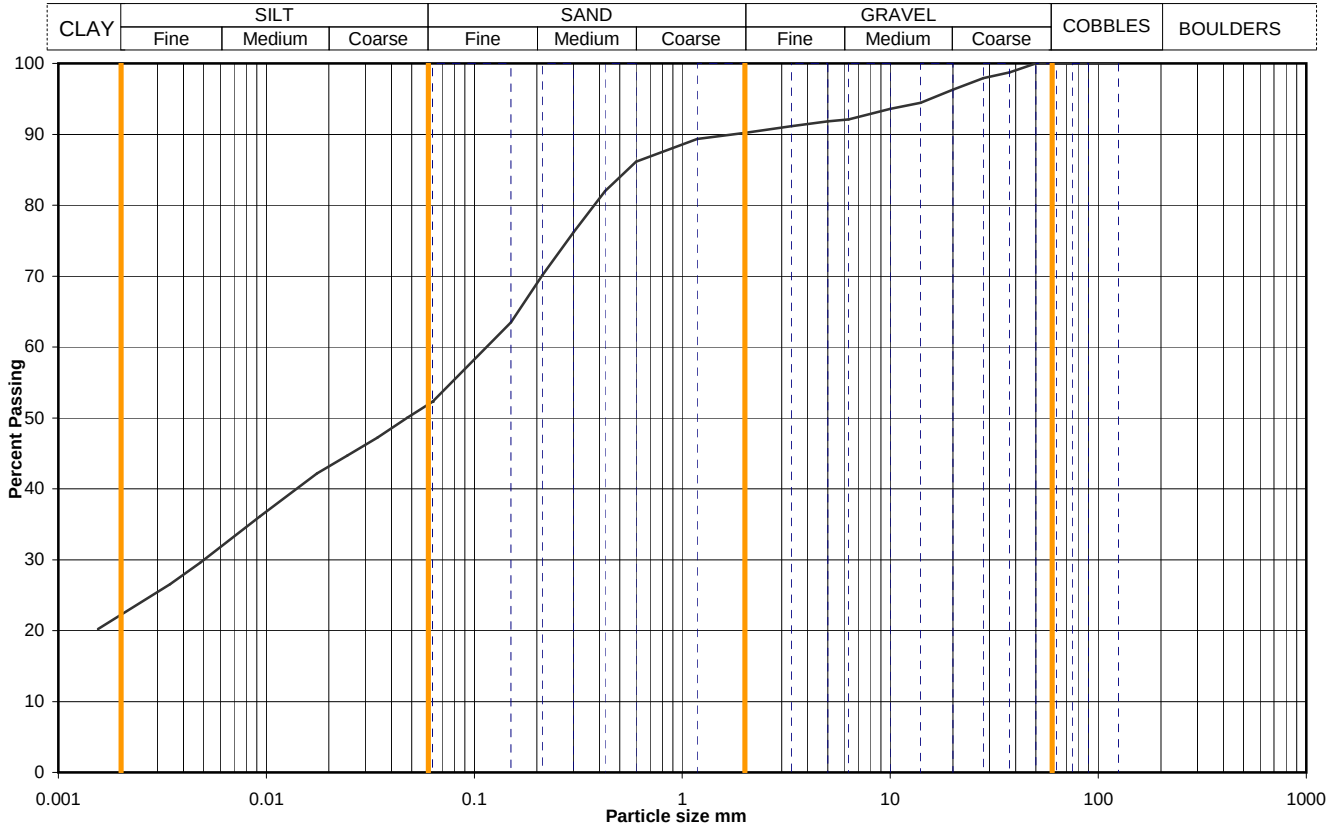
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy CLAY.         |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 21    | 21      |
|                                                                  | Silt                                        | 51    | 51      |
|                                                                  | Clay                                        | 14    | 14      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS622 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.20  |   |
|              |                                               |                 | Samp No       | 6                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304236402 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 52        |
| 90               | 100       | 0.0476                                              | 50        |
| 75               | 100       | 0.0342                                              | 47        |
| 63               | 100       | 0.0245                                              | 45        |
| 50               | 100       | 0.0175                                              | 42        |
| 37.5             | 99        | 0.0093                                              | 36        |
| 28               | 98        | 0.0048                                              | 30        |
| 20               | 96        | 0.0034                                              | 27        |
| 14               | 94        | 0.0016                                              | 20        |
| 10               | 94        |                                                     |           |
| 6.3              | 92        |                                                     |           |
| 5.0              | 92        |                                                     |           |
| 3.35             | 91        |                                                     |           |
| 2.00             | 90        |                                                     |           |
| 1.18             | 89        |                                                     |           |
| 0.600            | 86        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 82        |                                                     |           |
| 0.300            | 76        | Dry mass of sample, kg<br>8.9                       |           |
| 0.212            | 70        |                                                     |           |
| 0.150            | 63        |                                                     |           |
| 0.063            | 52        |                                                     |           |

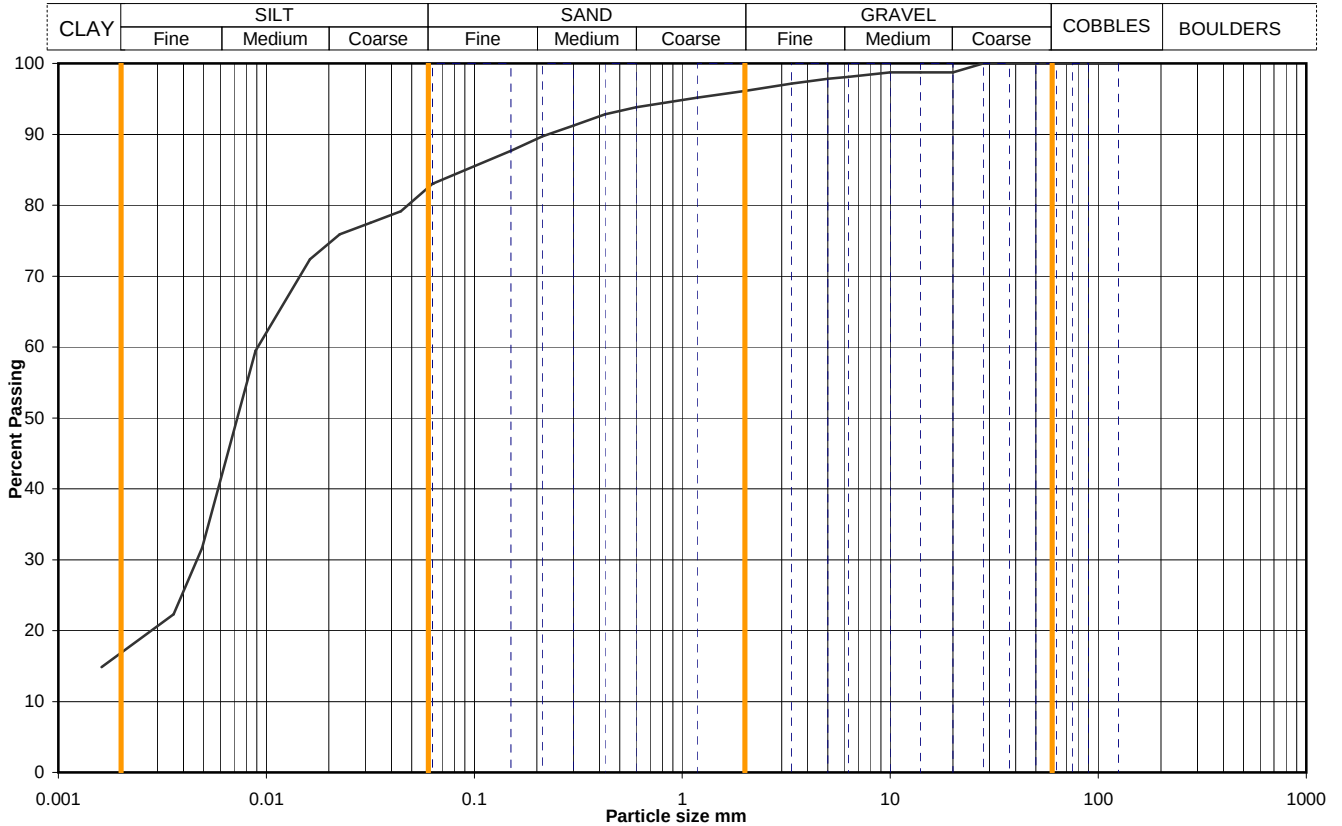
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy CLAY.         |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 10    | 10      |
|                                                                  | Silt                                        | 38    | 38      |
|                                                                  | Clay                                        | 30    | 30      |
|                                                                  |                                             | 22    | 22      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS622 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 3.00  |   |
|              |                                               |                 | Samp No       | 11                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304088076 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 83        |
| 90               | 100       | 0.0443                                  | 79        |
| 75               | 100       | 0.0316                                  | 78        |
| 63               | 100       | 0.0225                                  | 76        |
| 50               | 100       | 0.0162                                  | 72        |
| 37.5             | 100       | 0.0089                                  | 59        |
| 28               | 100       | 0.0049                                  | 32        |
| 20               | 99        | 0.0036                                  | 22        |
| 14               | 99        | 0.0016                                  | 15        |
| 10               | 99        |                                         |           |
| 6.3              | 98        |                                         |           |
| 5.0              | 98        |                                         |           |
| 3.35             | 97        |                                         |           |
| 2.00             | 96        |                                         |           |
| 1.18             | 95        |                                         |           |
| 0.600            | 94        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 93        |                                         |           |
| 0.300            | 91        | Dry mass of sample, kg<br>5.1           |           |
| 0.212            | 90        |                                         |           |
| 0.150            | 88        |                                         |           |
| 0.063            | 83        |                                         |           |

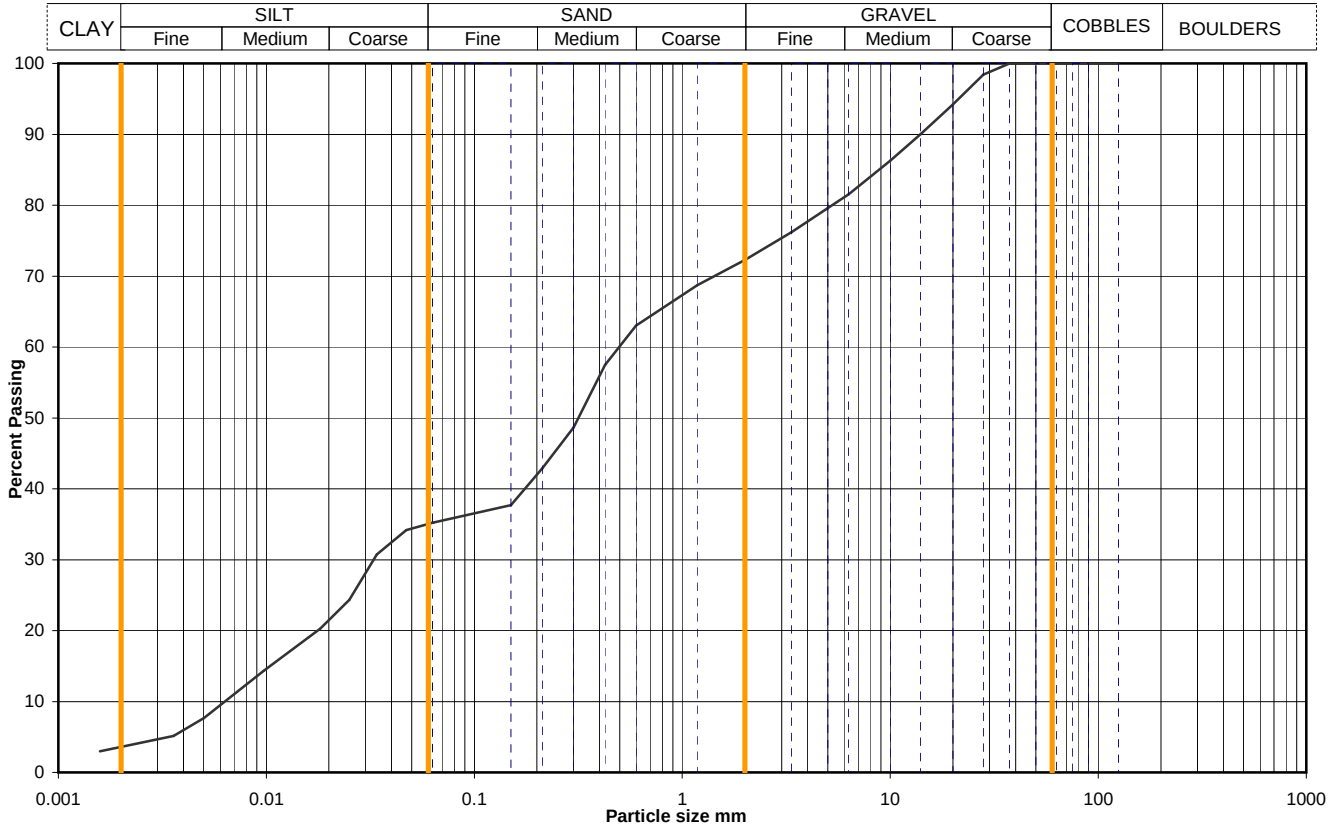
|                                                                  |                                                    |       |         |
|------------------------------------------------------------------|----------------------------------------------------|-------|---------|
| Soil description                                                 | Cream slightly sandy slightly gravelly silty CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377        |       |         |
| Remarks                                                          |                                                    |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                 | Whole | * <60mm |
|                                                                  | Gravel                                             | 0     | 0       |
|                                                                  | Sand                                               | 4     | 4       |
|                                                                  | Silt                                               | 14    | 14      |
|                                                                  | Clay                                               | 65    | 65      |
|                                                                  |                                                    | 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 |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS623 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.30  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304527334 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 35        |
| 90               | 100       | 0.0470                                  | 34        |
| 75               | 100       | 0.0340                                  | 31        |
| 63               | 100       | 0.0250                                  | 24        |
| 50               | 100       | 0.0181                                  | 20        |
| 37.5             | 100       | 0.0097                                  | 14        |
| 28               | 98        | 0.0050                                  | 8         |
| 20               | 94        | 0.0036                                  | 5         |
| 14               | 90        | 0.0016                                  | 3         |
| 10               | 86        |                                         |           |
| 6.3              | 82        |                                         |           |
| 5.0              | 80        |                                         |           |
| 3.35             | 76        |                                         |           |
| 2.00             | 72        |                                         |           |
| 1.18             | 69        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.600            | 63        |                                         |           |
| 0.425            | 57        | Dry mass of sample, kg<br>5.6           |           |
| 0.300            | 49        |                                         |           |
| 0.212            | 43        |                                         |           |
| 0.150            | 38        |                                         |           |
| 0.063            | 35        |                                         |           |

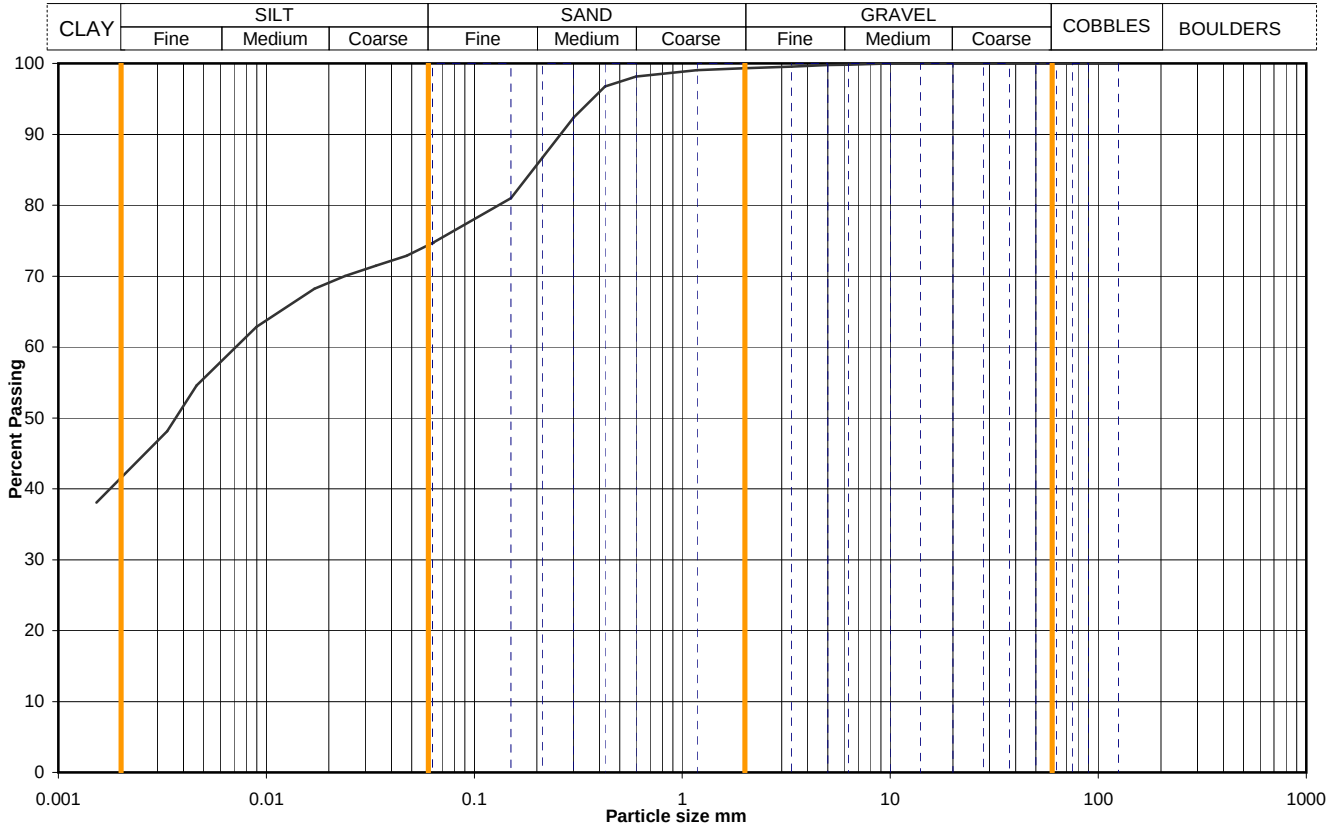
|                                                                  |                                                   |       |         |
|------------------------------------------------------------------|---------------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy SILT with rootlets. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377       |       |         |
| Remarks                                                          |                                                   |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                | Whole | * <60mm |
|                                                                  | Gravel                                            | 0     | 0       |
|                                                                  | Sand                                              | 28    | 28      |
|                                                                  | Silt                                              | 37    | 37      |
|                                                                  | Clay                                              | 31    | 31      |
|                                                                  |                                                   | 4     | 4       |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 79 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS623 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.70  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304924205 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 75        |
| 90               | 100       | 0.0473                  | 73        |
| 75               | 100       | 0.0336                  | 71        |
| 63               | 100       | 0.0239                  | 70        |
| 50               | 100       | 0.0170                  | 68        |
| 37.5             | 100       | 0.0090                  | 63        |
| 28               | 100       | 0.0046                  | 55        |
| 20               | 100       | 0.0033                  | 48        |
| 14               | 100       | 0.0015                  | 38        |
| 10               | 100       |                         |           |
| 6.3              | 100       |                         |           |
| 5.0              | 100       |                         |           |
| 3.35             | 100       |                         |           |
| 2.00             | 99        |                         |           |
| 1.18             | 99        |                         |           |
| 0.600            | 98        | Particle density, Mg/m3 |           |
| 0.425            | 97        | 2.65 assumed            |           |
| 0.300            | 92        | Dry mass of sample, kg  |           |
| 0.212            | 87        | 6.1                     |           |
| 0.150            | 81        |                         |           |
| 0.063            | 75        |                         |           |

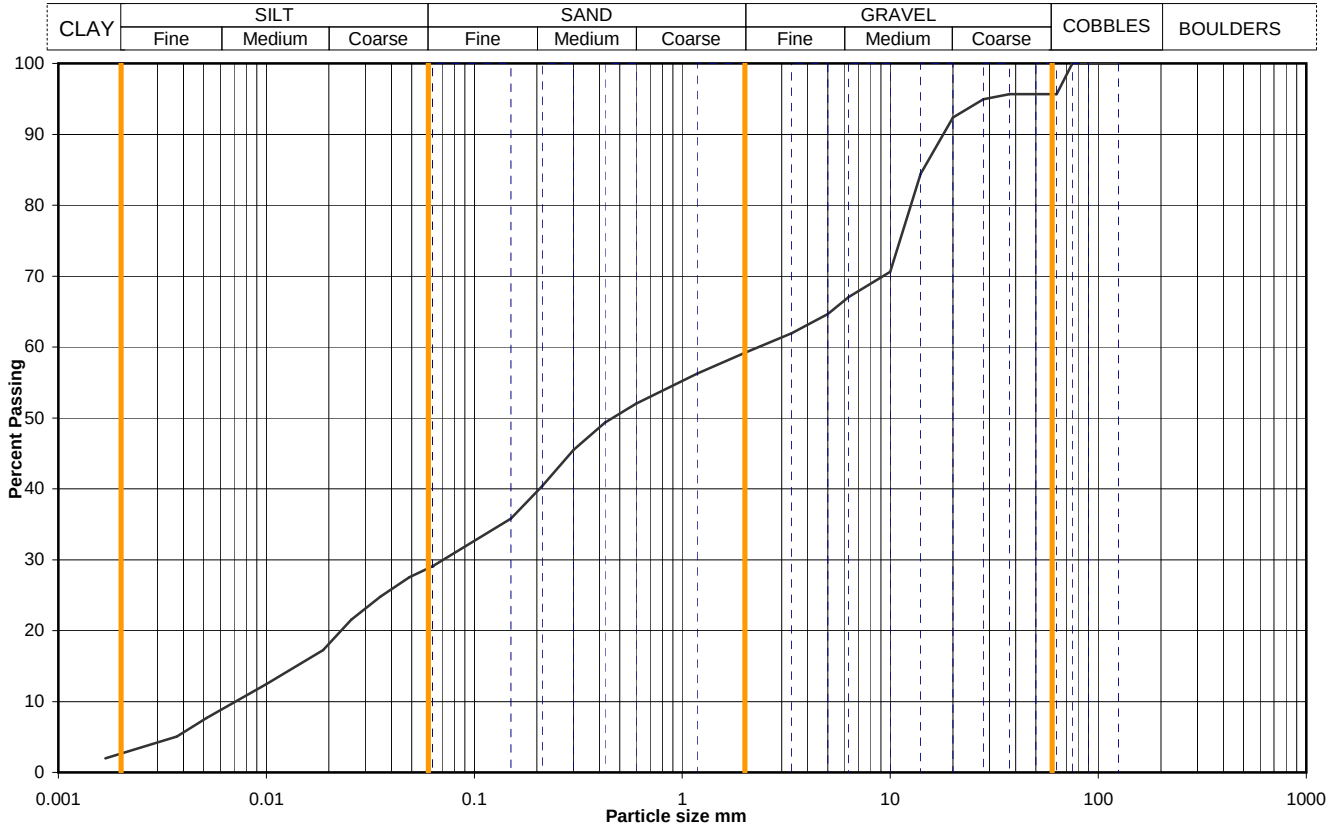
|                                                                  |                                              |       |         |
|------------------------------------------------------------------|----------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly slightly sandy CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377  |       |         |
| Remarks                                                          |                                              |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                           | Whole | * <60mm |
|                                                                  | Gravel                                       | 0     | 0       |
|                                                                  | Sand                                         | 1     | 1       |
|                                                                  | Silt                                         | 25    | 25      |
|                                                                  | Clay                                         | 33    | 33      |
|                                                                  |                                              | 41    | 41      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS624 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.30  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304529050 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       | 0.0630           | 29        |
| 90               | 100       | 0.0488           | 28        |
| 75               | 100       | 0.0353           | 25        |
| 63               | 96        | 0.0256           | 22        |
| 50               | 96        | 0.0187           | 17        |
| 37.5             | 96        | 0.0100           | 12        |
| 28               | 95        | 0.0052           | 8         |
| 20               | 92        | 0.0037           | 5         |
| 14               | 84        | 0.0017           | 2         |
| 10               | 71        |                  |           |
| 6.3              | 67        |                  |           |
| 5.0              | 65        |                  |           |
| 3.35             | 62        |                  |           |
| 2.00             | 59        |                  |           |
| 1.18             | 56        |                  |           |
| 0.600            | 52        |                  |           |
| 0.425            | 49        |                  |           |
| 0.300            | 46        |                  |           |
| 0.212            | 40        |                  |           |
| 0.150            | 36        |                  |           |
| 0.063            | 29        |                  |           |

|                                                                  |                                                             |       |         |
|------------------------------------------------------------------|-------------------------------------------------------------|-------|---------|
| Soil description                                                 | Brownish grey slightly sandy gravelly SILT with one cobble. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                 |       |         |
| Remarks                                                          |                                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                          | Whole | * <60mm |
|                                                                  | Gravel                                                      | 4     | 0       |
|                                                                  | Sand                                                        | 37    | 39      |
|                                                                  | Silt                                                        | 30    | 31      |
|                                                                  | Clay                                                        | 26    | 27      |
|                                                                  |                                                             | 3     | 3       |

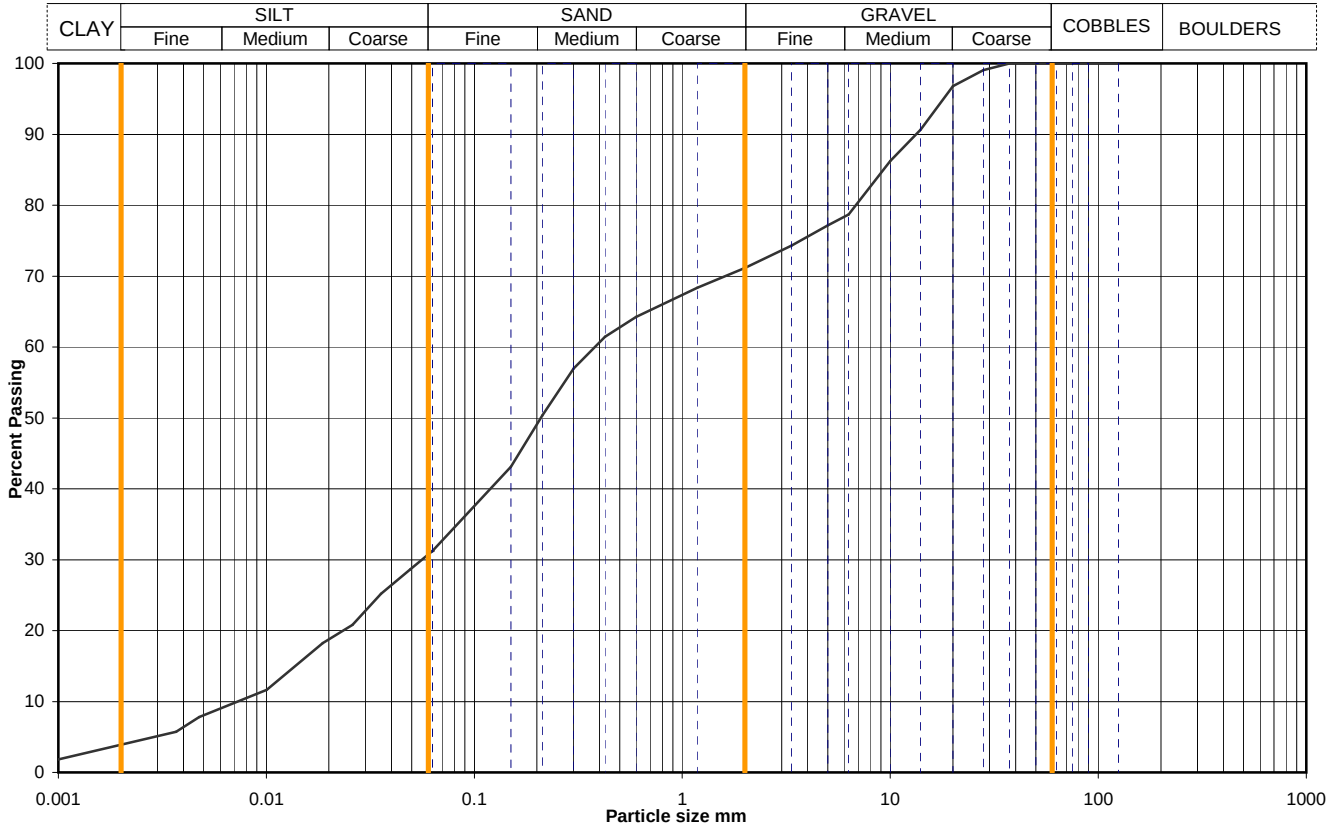
|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 328 |
|------------------------|-------------------|-----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |



## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS624 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.70  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304746110 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 31        |
| 90               | 100       | 0.0491                  | 29        |
| 75               | 100       | 0.0356                  | 25        |
| 63               | 100       | 0.0260                  | 21        |
| 50               | 100       | 0.0187                  | 18        |
| 37.5             | 100       | 0.0101                  | 12        |
| 28               | 99        | 0.0048                  | 8         |
| 20               | 97        | 0.0037                  | 6         |
| 14               | 91        | 0.0009                  | 2         |
| 10               | 86        |                         |           |
| 6.3              | 79        |                         |           |
| 5.0              | 77        |                         |           |
| 3.35             | 74        |                         |           |
| 2.00             | 71        |                         |           |
| 1.18             | 68        |                         |           |
| 0.600            | 64        | Particle density, Mg/m3 |           |
| 0.425            | 61        | 2.65 assumed            |           |
| 0.300            | 57        | Dry mass of sample, kg  |           |
| 0.212            | 50        | 5.1                     |           |
| 0.150            | 43        |                         |           |
| 0.063            | 31        |                         |           |

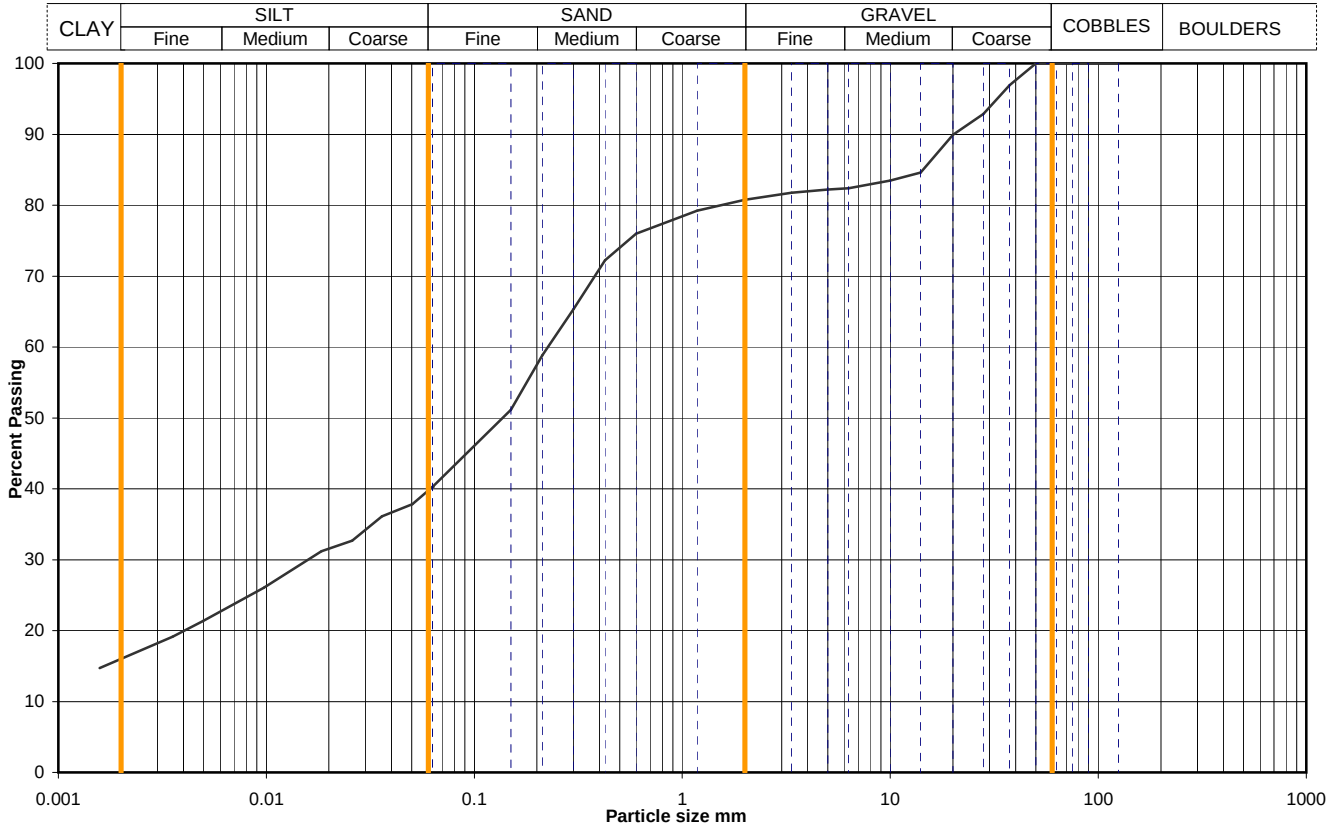
|                                                                  |                                              |       |         |
|------------------------------------------------------------------|----------------------------------------------|-------|---------|
| Soil description                                                 | Grey and brown slightly gravelly sandy SILT. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377  |       |         |
| Remarks                                                          |                                              |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                           | Whole | * <60mm |
|                                                                  | Gravel                                       | 0     | 0       |
|                                                                  | Sand                                         | 29    | 29      |
|                                                                  | Silt                                         | 40    | 40      |
|                                                                  | Clay                                         | 27    | 27      |
|                                                                  |                                              | 4     | 4       |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 52 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS625 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.20  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304345801 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 40        |
| 90               | 100       | 0.0504                                              | 38        |
| 75               | 100       | 0.0359                                              | 36        |
| 63               | 100       | 0.0258                                              | 33        |
| 50               | 100       | 0.0184                                              | 31        |
| 37.5             | 97        | 0.0097                                              | 26        |
| 28               | 93        | 0.0050                                              | 21        |
| 20               | 90        | 0.0035                                              | 19        |
| 14               | 85        | 0.0016                                              | 15        |
| 10               | 83        |                                                     |           |
| 6.3              | 82        |                                                     |           |
| 5.0              | 82        |                                                     |           |
| 3.35             | 82        |                                                     |           |
| 2.00             | 81        |                                                     |           |
| 1.18             | 79        |                                                     |           |
| 0.600            | 76        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 72        |                                                     |           |
| 0.300            | 65        | Dry mass of sample, kg<br>5.5                       |           |
| 0.212            | 59        |                                                     |           |
| 0.150            | 51        |                                                     |           |
| 0.063            | 40        |                                                     |           |

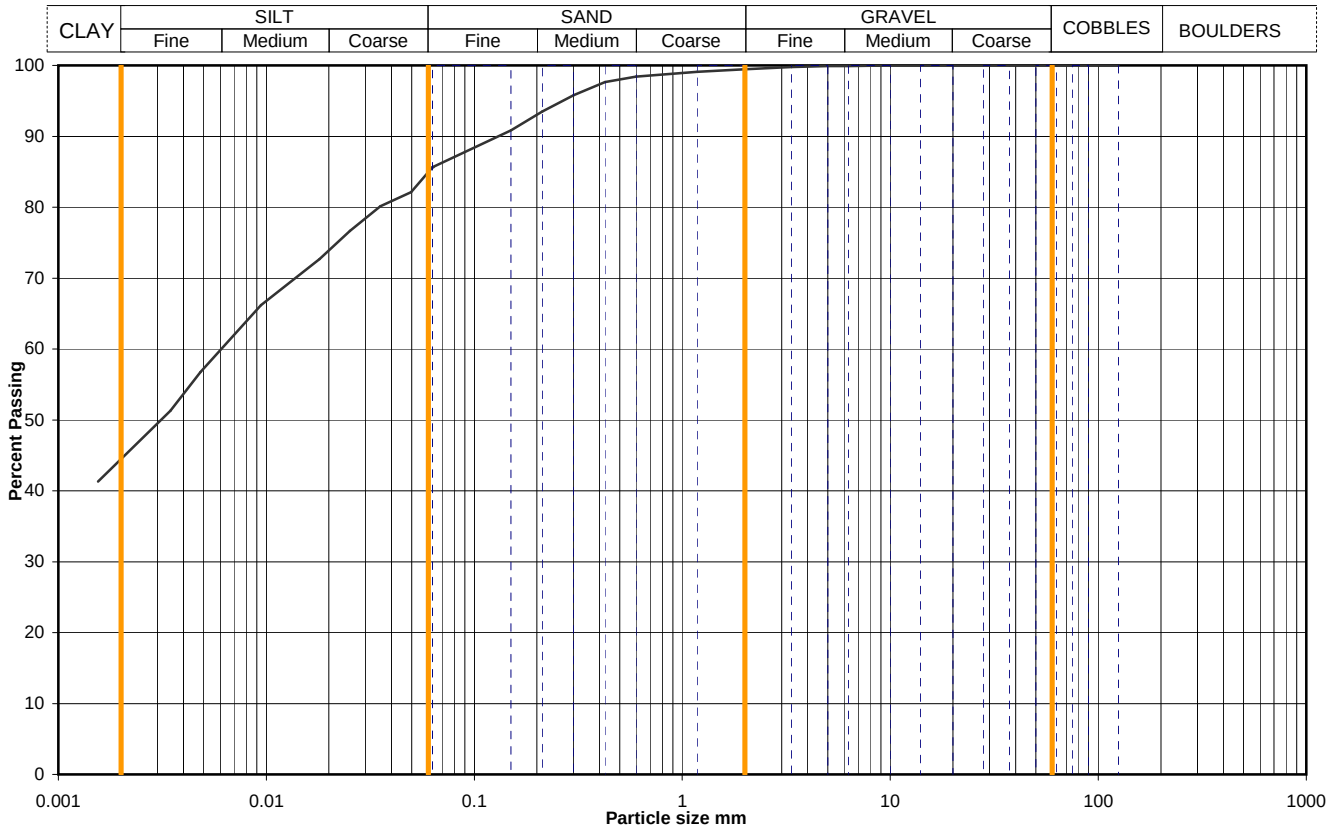
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy CLAY.         |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 19    | 19      |
|                                                                  | Silt                                        | 41    | 41      |
|                                                                  | Clay                                        | 24    | 24      |
|                                                                  |                                             | 16    | 16      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                            |                 |               |                           |        |
|--------------|--------------------------------------------|-----------------|---------------|---------------------------|--------|
| Project No   | A1008-11                                   | Sample Details: | Hole No       | WS625                     |        |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2 |                 | Depth (m BGL) | 0.60                      |        |
|              |                                            |                 | Samp No       | 5                         | Type B |
|              |                                            |                 | ID            | ESGA1008-1120110304793700 |        |
|              |                                            |                 | Spec Ref      |                           |        |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 86        |
| 90               | 100       | 0.0497                                  | 82        |
| 75               | 100       | 0.0353                                  | 80        |
| 63               | 100       | 0.0252                                  | 77        |
| 50               | 100       | 0.0180                                  | 73        |
| 37.5             | 100       | 0.0094                                  | 66        |
| 28               | 100       | 0.0048                                  | 57        |
| 20               | 100       | 0.0035                                  | 51        |
| 14               | 100       | 0.0016                                  | 41        |
| 10               | 100       |                                         |           |
| 6.3              | 100       |                                         |           |
| 5.0              | 100       |                                         |           |
| 3.35             | 100       |                                         |           |
| 2.00             | 99        |                                         |           |
| 1.18             | 99        |                                         |           |
| 0.600            | 98        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 98        |                                         |           |
| 0.300            | 96        | Dry mass of sample, kg<br>7.0           |           |
| 0.212            | 94        |                                         |           |
| 0.150            | 91        |                                         |           |
| 0.063            | 86        |                                         |           |

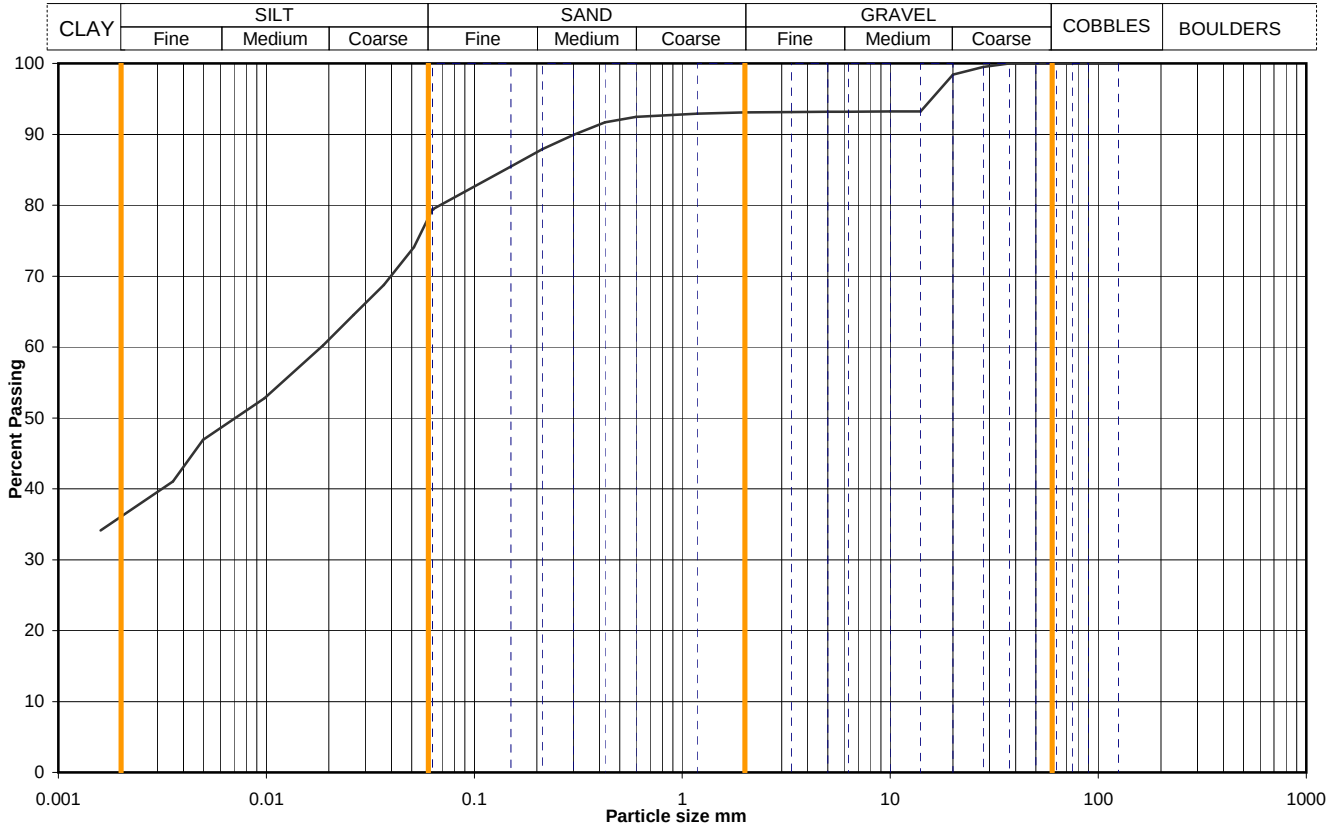
|                                                                  |                                              |       |         |
|------------------------------------------------------------------|----------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly slightly sandy CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material Hydro: as BS1377     |       |         |
| Remarks                                                          |                                              |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                           | Whole | * <60mm |
|                                                                  | Gravel                                       | 0     | 0       |
|                                                                  | Sand                                         | 1     | 1       |
|                                                                  | Silt                                         | 15    | 15      |
|                                                                  | Clay                                         | 40    | 40      |
|                                                                  |                                              | 44    | 44      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS625 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.20  |   |
|              |                                               |                 | Samp No       | 7                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304871563 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                                       |           |
|------------------|-----------|-----------------------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                                    | % Passing |
| 125              | 100       | 0.0630                                              | 79        |
| 90               | 100       | 0.0513                                              | 74        |
| 75               | 100       | 0.0367                                              | 69        |
| 63               | 100       | 0.0262                                              | 65        |
| 50               | 100       | 0.0187                                              | 60        |
| 37.5             | 100       | 0.0098                                              | 53        |
| 28               | 100       | 0.0050                                              | 47        |
| 20               | 98        | 0.0036                                              | 41        |
| 14               | 93        | 0.0016                                              | 34        |
| 10               | 93        |                                                     |           |
| 6.3              | 93        |                                                     |           |
| 5.0              | 93        |                                                     |           |
| 3.35             | 93        |                                                     |           |
| 2.00             | 93        |                                                     |           |
| 1.18             | 93        |                                                     |           |
| 0.600            | 92        | Particle density, Mg/m <sup>3</sup><br>2.65 assumed |           |
| 0.425            | 92        |                                                     |           |
| 0.300            | 90        | Dry mass of sample, kg<br>8.4                       |           |
| 0.212            | 88        |                                                     |           |
| 0.150            | 85        |                                                     |           |
| 0.063            | 79        |                                                     |           |

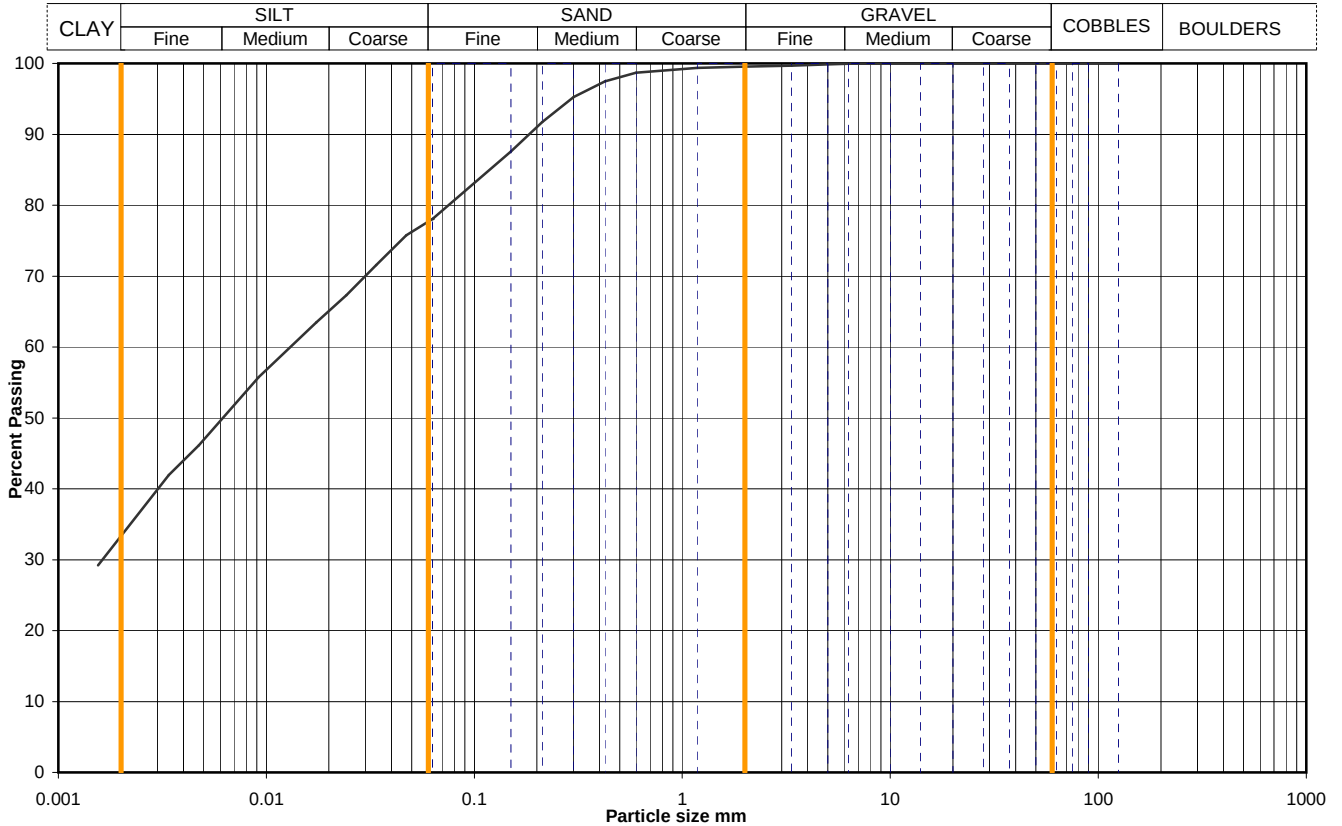
|                                                                  |                                                      |       |         |
|------------------------------------------------------------------|------------------------------------------------------|-------|---------|
| Soil description                                                 | Reddish brown slightly sandy slightly gravelly CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377          |       |         |
| Remarks                                                          |                                                      |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                   | Whole | * <60mm |
|                                                                  | Gravel                                               | 0     | 0       |
|                                                                  | Sand                                                 | 7     | 7       |
|                                                                  | Silt                                                 | 15    | 15      |
|                                                                  | Clay                                                 | 42    | 42      |
|                                                                  |                                                      | 36    | 36      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS625 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 2.00  |   |
|              |                                               |                 | Samp No       | 9                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304716208 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 78        |
| 90               | 100       | 0.0470                                  | 76        |
| 75               | 100       | 0.0337                                  | 72        |
| 63               | 100       | 0.0242                                  | 67        |
| 50               | 100       | 0.0174                                  | 63        |
| 37.5             | 100       | 0.0092                                  | 56        |
| 28               | 100       | 0.0047                                  | 46        |
| 20               | 100       | 0.0034                                  | 42        |
| 14               | 100       | 0.0016                                  | 29        |
| 10               | 100       |                                         |           |
| 6.3              | 100       |                                         |           |
| 5.0              | 100       |                                         |           |
| 3.35             | 100       |                                         |           |
| 2.00             | 100       |                                         |           |
| 1.18             | 99        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.600            | 99        |                                         |           |
| 0.425            | 97        | Dry mass of sample, kg<br>5.6           |           |
| 0.300            | 95        |                                         |           |
| 0.212            | 92        |                                         |           |
| 0.150            | 88        |                                         |           |
| 0.063            | 78        |                                         |           |

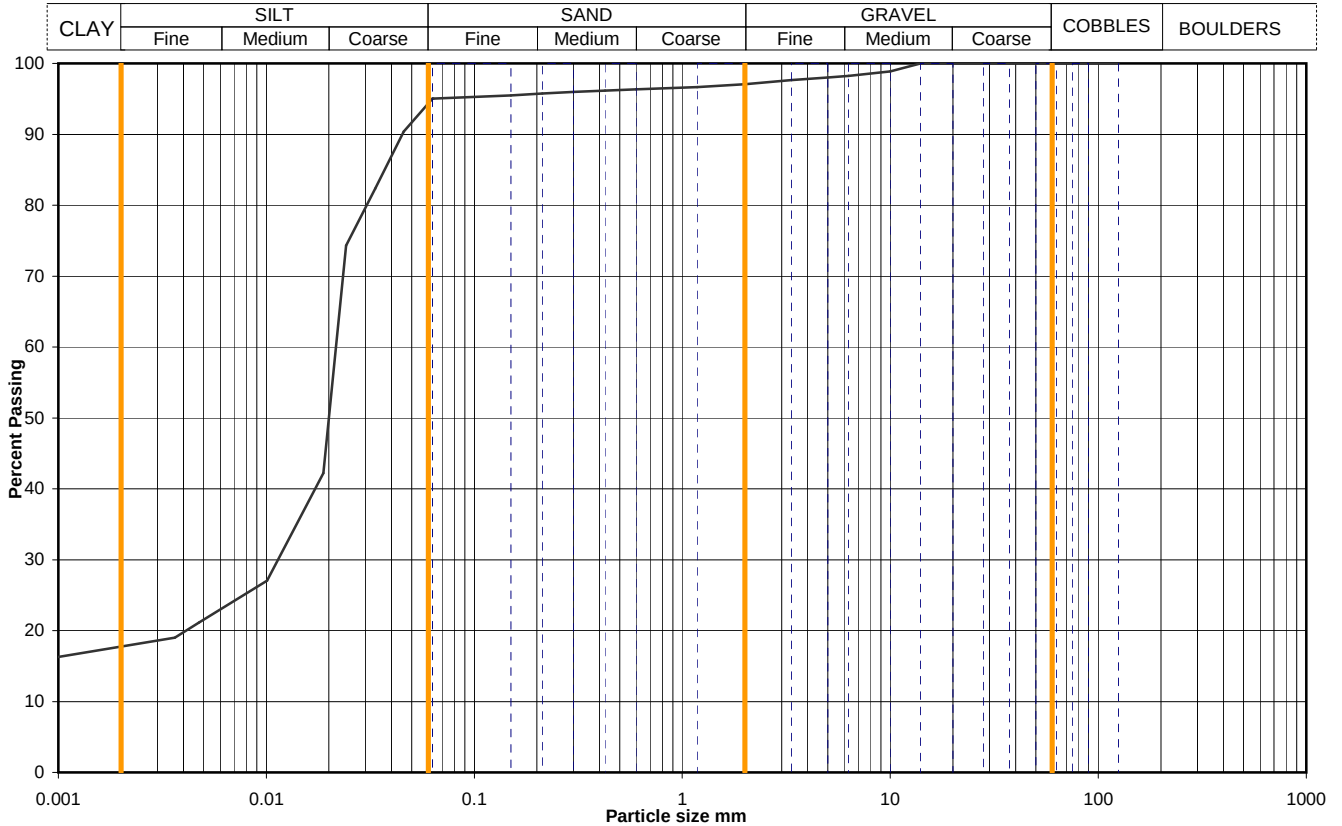
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly sandy CLAY.                  |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 0     | 0       |
|                                                                  | Silt                                        | 22    | 22      |
|                                                                  | Clay                                        | 45    | 45      |
|                                                                  |                                             | 33    | 33      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS625 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 3.00  |   |
|              |                                               |                 | Samp No       | 12                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304031456 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                       |           |
|------------------|-----------|-------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                    | % Passing |
| 125              | 100       | 0.0630                              | 95        |
| 90               | 100       | 0.0458                              | 90        |
| 75               | 100       | 0.0333                              | 82        |
| 63               | 100       | 0.0242                              | 74        |
| 50               | 100       | 0.0188                              | 42        |
| 37.5             | 100       | 0.0101                              | 27        |
| 28               | 100       | 0.0047                              | 21        |
| 20               | 100       | 0.0036                              | 19        |
| 14               | 100       | 0.0009                              | 16        |
| 10               | 99        |                                     |           |
| 6.3              | 98        |                                     |           |
| 5.0              | 98        |                                     |           |
| 3.35             | 98        |                                     |           |
| 2.00             | 97        |                                     |           |
| 1.18             | 97        |                                     |           |
| 0.600            | 96        | Particle density, Mg/m <sup>3</sup> |           |
| 0.425            | 96        | 2.65 assumed                        |           |
| 0.300            | 96        | Dry mass of sample, kg              |           |
| 0.212            | 96        | 3.4                                 |           |
| 0.150            | 96        |                                     |           |
| 0.063            | 95        |                                     |           |

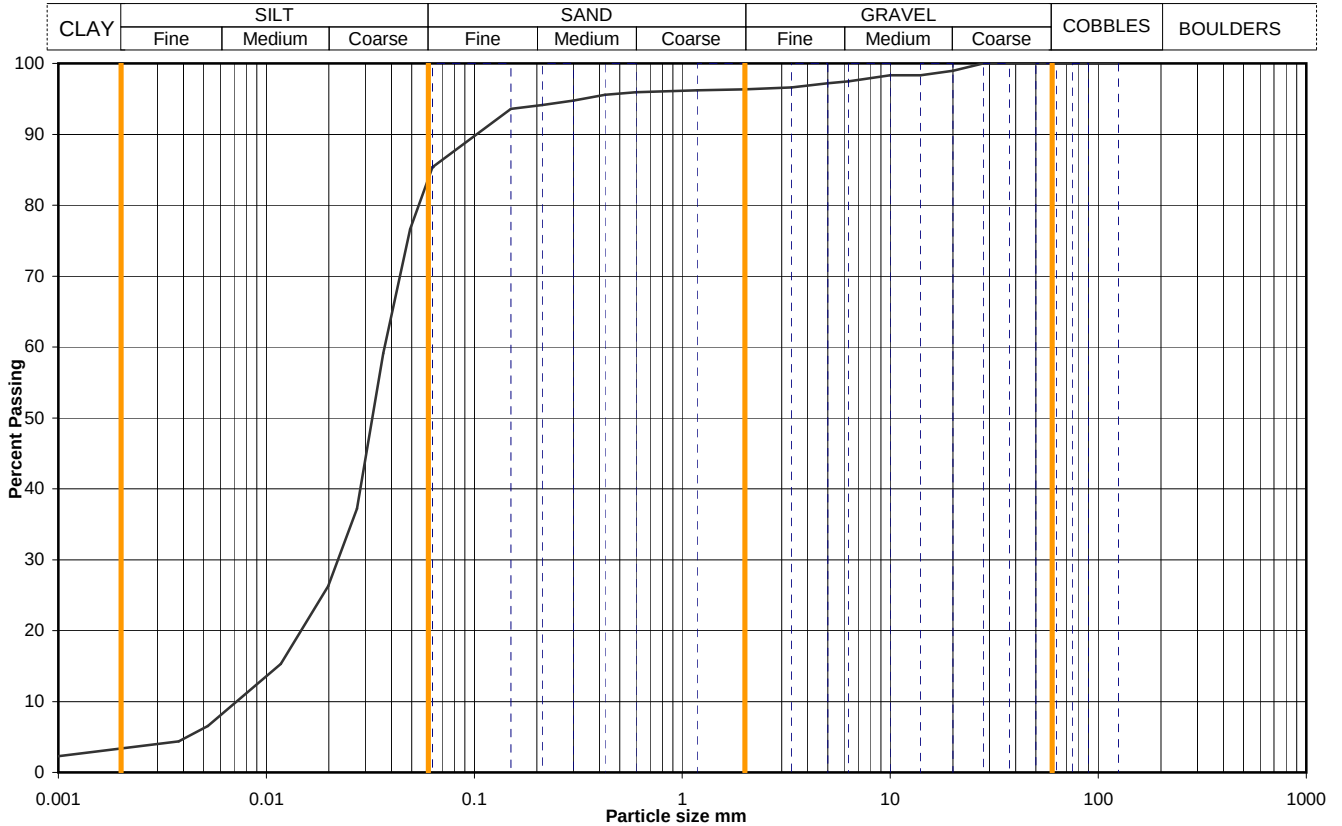
|                                                                   |                                                          |       |          |
|-------------------------------------------------------------------|----------------------------------------------------------|-------|----------|
| Soil description                                                  | Light brown slightly sandy slightly gravelly silty CLAY. |       |          |
| Preparation / Pretreatment                                        | Sieve: natural material    Hydro: as BS1377              |       |          |
| Remarks                                                           |                                                          |       |          |
| Sample Proportions<br><br>* < 60mm values to aid description only | Cobbles / boulders                                       | Whole | * < 60mm |
|                                                                   | Gravel                                                   | 0     | 0        |
|                                                                   | Sand                                                     | 3     | 3        |
|                                                                   | Silt                                                     | 3     | 3        |
|                                                                   | Clay                                                     | 76    | 76       |
|                                                                   |                                                          | 18    | 18       |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS625 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 4.00  |   |
|              |                                               |                 | Samp No       | 14                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304732882 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 85        |
| 90               | 100       | 0.0491                  | 77        |
| 75               | 100       | 0.0365                  | 59        |
| 63               | 100       | 0.0273                  | 37        |
| 50               | 100       | 0.0198                  | 26        |
| 37.5             | 100       | 0.0117                  | 15        |
| 28               | 100       | 0.0052                  | 7         |
| 20               | 99        | 0.0038                  | 4         |
| 14               | 98        | 0.0009                  | 2         |
| 10               | 98        |                         |           |
| 6.3              | 97        |                         |           |
| 5.0              | 97        |                         |           |
| 3.35             | 97        |                         |           |
| 2.00             | 96        |                         |           |
| 1.18             | 96        |                         |           |
| 0.600            | 96        | Particle density, Mg/m3 |           |
| 0.425            | 96        | 2.65 assumed            |           |
| 0.300            | 95        | Dry mass of sample, kg  |           |
| 0.212            | 94        | 1.7                     |           |
| 0.150            | 94        |                         |           |
| 0.063            | 85        |                         |           |

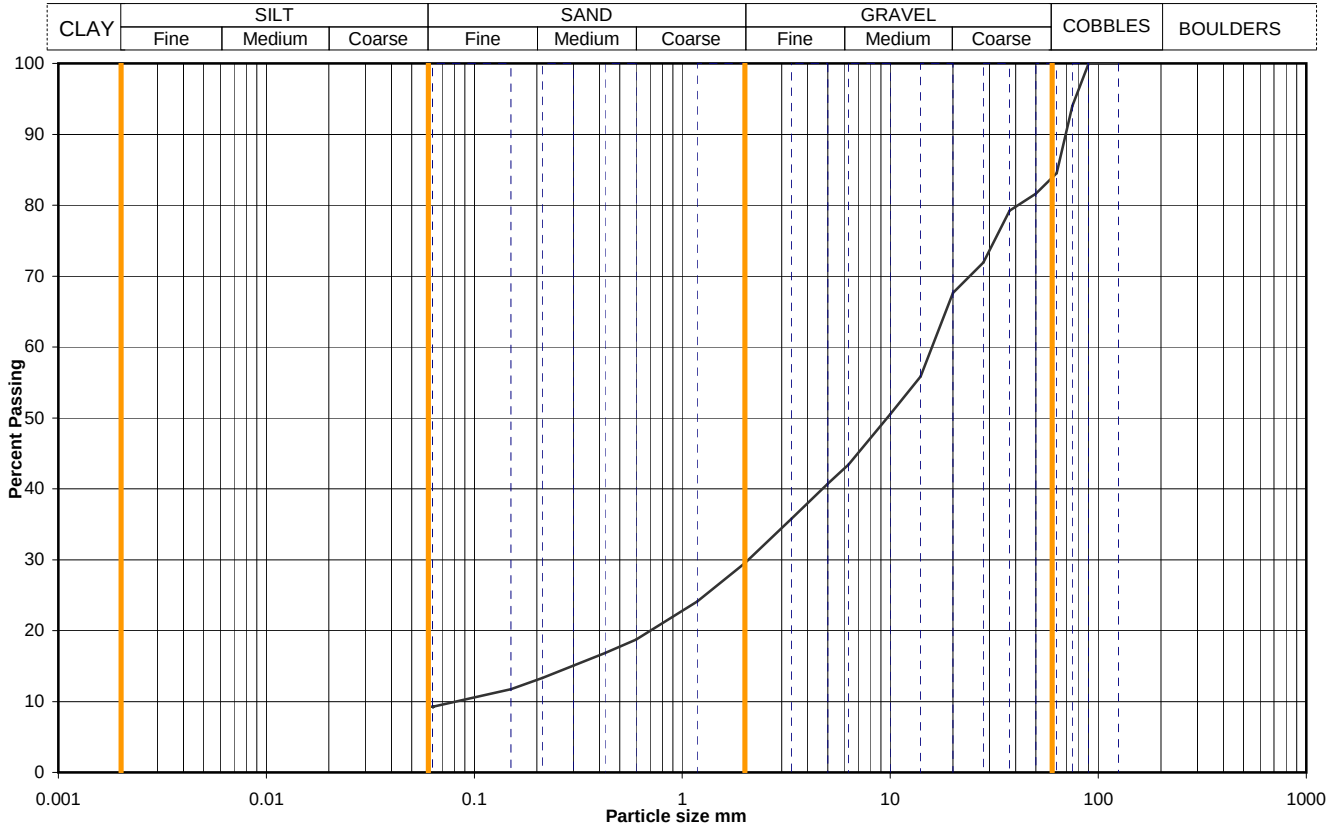
|                                                                  |                                                        |       |         |
|------------------------------------------------------------------|--------------------------------------------------------|-------|---------|
| Soil description                                                 | Yellowish cream slightly sandy slightly gravelly SILT. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377            |       |         |
| Remarks                                                          |                                                        |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                     | Whole | * <60mm |
|                                                                  | Gravel                                                 | 0     | 0       |
|                                                                  | Sand                                                   | 4     | 4       |
|                                                                  | Silt                                                   | 13    | 13      |
|                                                                  | Clay                                                   | 80    | 80      |
|                                                                  |                                                        | 3     | 3       |

|                        |                   |   |
|------------------------|-------------------|---|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 5 |
|------------------------|-------------------|---|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |        |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|--------|
| Project No   | A1008-11                                      | Sample Details: | Hole No       | WS626                     |        |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) | 0.20                      |        |
|              |                                               |                 | Samp No       | 4                         | Type B |
|              |                                               |                 | ID            | ESGA1008-1120110304526116 |        |
|              |                                               |                 | Spec Ref      |                           |        |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 94        |                  |           |
| 63               | 85        |                  |           |
| 50               | 82        |                  |           |
| 37.5             | 79        |                  |           |
| 28               | 72        |                  |           |
| 20               | 68        |                  |           |
| 14               | 56        |                  |           |
| 10               | 51        |                  |           |
| 6.3              | 43        |                  |           |
| 5.0              | 41        |                  |           |
| 3.35             | 36        |                  |           |
| 2.00             | 30        |                  |           |
| 1.18             | 24        |                  |           |
| 0.600            | 19        |                  |           |
| 0.425            | 17        |                  |           |
| 0.300            | 15        |                  |           |
| 0.212            | 13        |                  |           |
| 0.150            | 12        |                  |           |
| 0.063            | 9         |                  |           |

|                                                                  |                                                           |                |         |
|------------------------------------------------------------------|-----------------------------------------------------------|----------------|---------|
| Soil description                                                 | Reddish brown clayey very sandy GRAVEL with four cobbles. |                |         |
| Preparation / Pretreatment                                       | Sieve: natural material                                   |                |         |
| Remarks                                                          |                                                           |                |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                        | Whole          | * <60mm |
|                                                                  | Gravel                                                    | 16             | 0       |
|                                                                  | Sand                                                      | 54             | 64      |
|                                                                  | Silt                                                      | 20             | 24      |
|                                                                  | Clay                                                      | silt+clay = 10 | 12      |

|                        |                   |     |
|------------------------|-------------------|-----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 195 |
|------------------------|-------------------|-----|

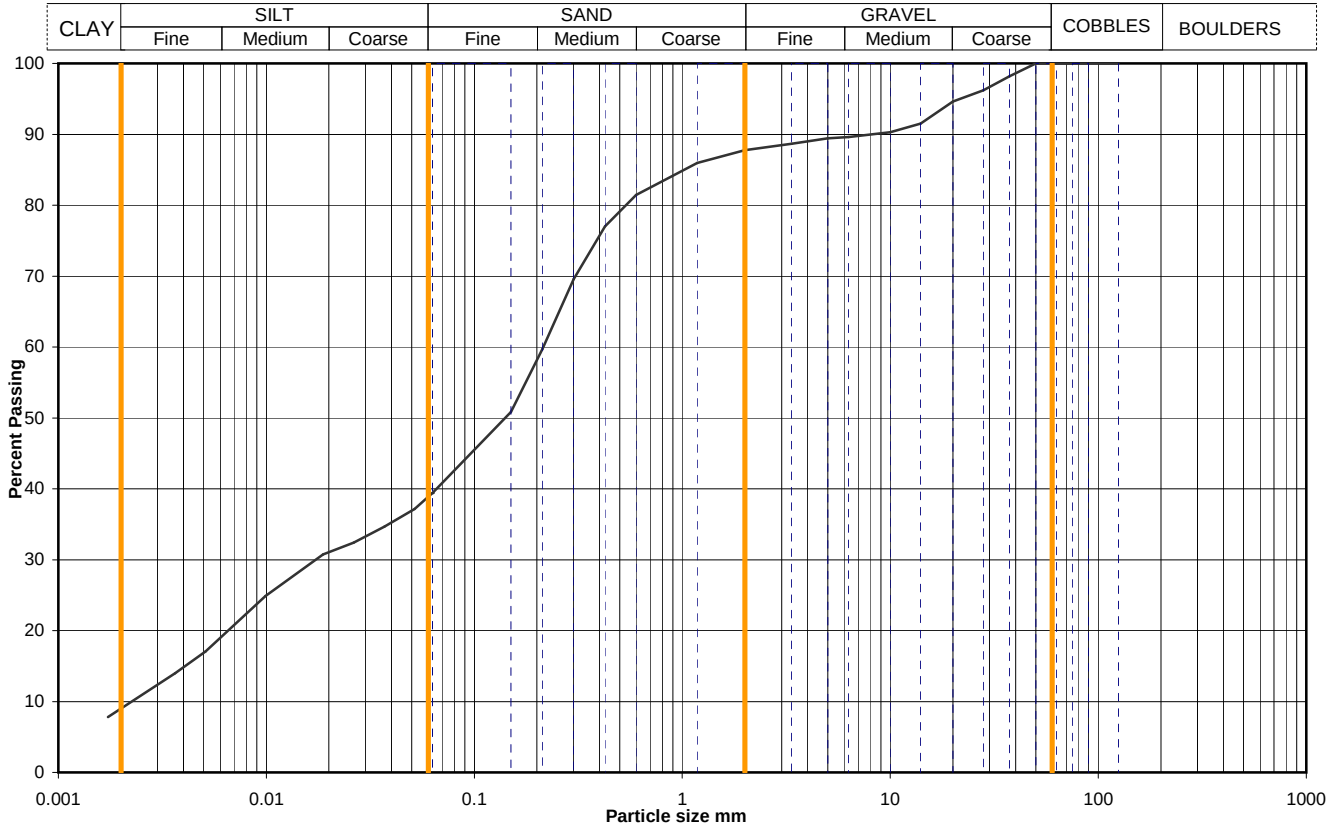
|             |                         |               |
|-------------|-------------------------|---------------|
| Test Method | BS 1377 : Part 2 : 1990 |               |
|             | Sieving                 | 9.2 wet sieve |
|             | Sedimentation           | none          |

|                                        |                                                                                                    |                           |                         |
|----------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------|-------------------------|
| QA Ref<br>SLR 2,9<br>Rev 84<br>Sept 08 |  Soil Mechanics | Printed: 07/04/2011 14:03 | Figure<br><b>PSD 87</b> |
|----------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------|-------------------------|



## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS626 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.50  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304284976 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 39        |
| 90               | 100       | 0.0517                                  | 37        |
| 75               | 100       | 0.0369                                  | 35        |
| 63               | 100       | 0.0264                                  | 32        |
| 50               | 100       | 0.0188                                  | 31        |
| 37.5             | 98        | 0.0099                                  | 25        |
| 28               | 96        | 0.0051                                  | 17        |
| 20               | 95        | 0.0037                                  | 14        |
| 14               | 91        | 0.0017                                  | 8         |
| 10               | 90        |                                         |           |
| 6.3              | 90        |                                         |           |
| 5.0              | 89        |                                         |           |
| 3.35             | 89        |                                         |           |
| 2.00             | 88        |                                         |           |
| 1.18             | 86        |                                         |           |
| 0.600            | 81        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 77        |                                         |           |
| 0.300            | 70        | Dry mass of sample, kg<br>8.6           |           |
| 0.212            | 60        |                                         |           |
| 0.150            | 51        |                                         |           |
| 0.063            | 39        |                                         |           |

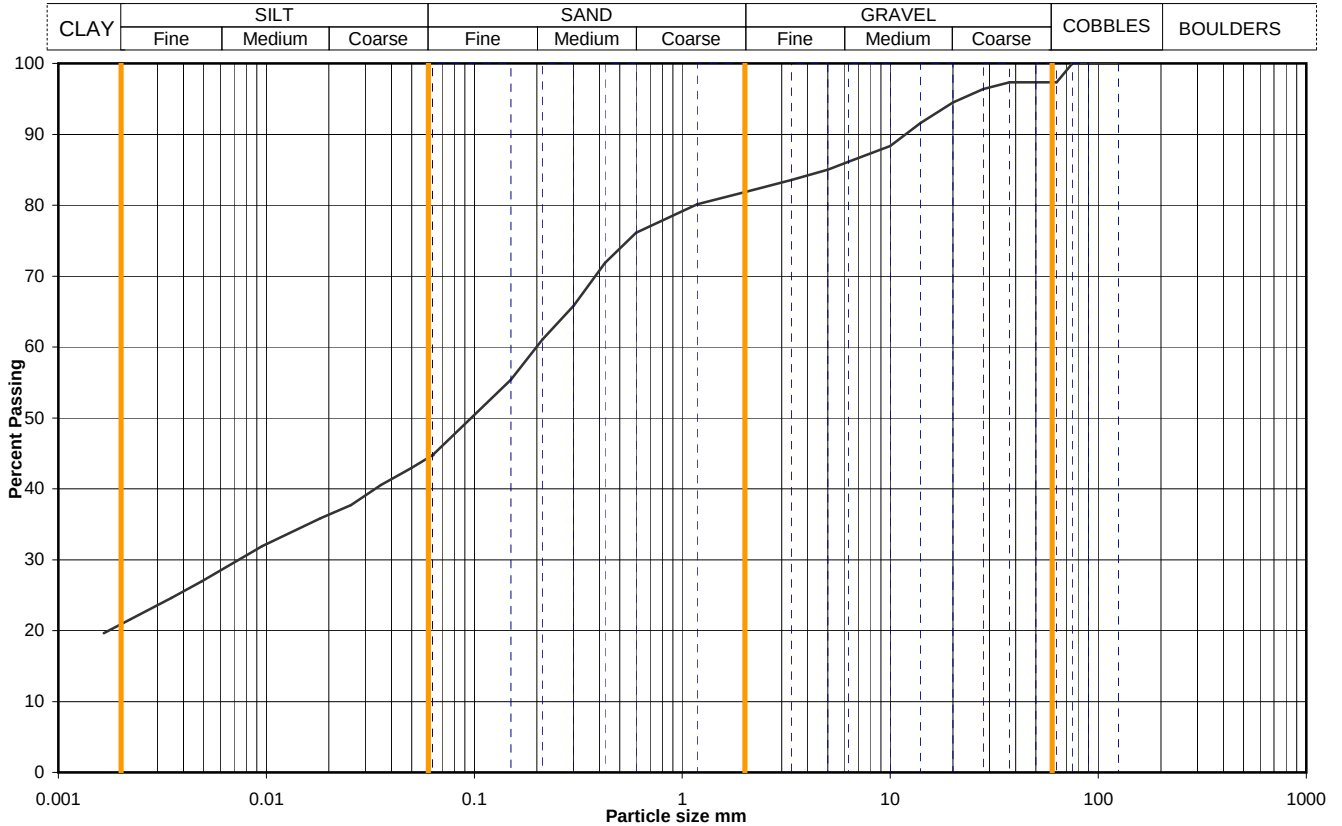
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy silty CLAY.   |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 0     | 0       |
|                                                                  | Sand                                        | 12    | 12      |
|                                                                  | Silt                                        | 49    | 49      |
|                                                                  | Clay                                        | 30    | 30      |
|                                                                  |                                             | 9     | 9       |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 95 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS627 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.50  |   |
|              |                                               |                 | Samp No       | 5                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304500877 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 45        |
| 90               | 100       | 0.0497                  | 43        |
| 75               | 100       | 0.0356                  | 41        |
| 63               | 97        | 0.0255                  | 38        |
| 50               | 97        | 0.0182                  | 36        |
| 37.5             | 97        | 0.0096                  | 32        |
| 28               | 96        | 0.0049                  | 27        |
| 20               | 94        | 0.0035                  | 25        |
| 14               | 92        | 0.0017                  | 20        |
| 10               | 88        |                         |           |
| 6.3              | 86        |                         |           |
| 5.0              | 85        |                         |           |
| 3.35             | 84        |                         |           |
| 2.00             | 82        |                         |           |
| 1.18             | 80        |                         |           |
| 0.600            | 76        | Particle density, Mg/m3 |           |
| 0.425            | 72        | 2.65 assumed            |           |
| 0.300            | 66        | Dry mass of sample, kg  |           |
| 0.212            | 61        | 13.6                    |           |
| 0.150            | 55        |                         |           |
| 0.063            | 45        |                         |           |

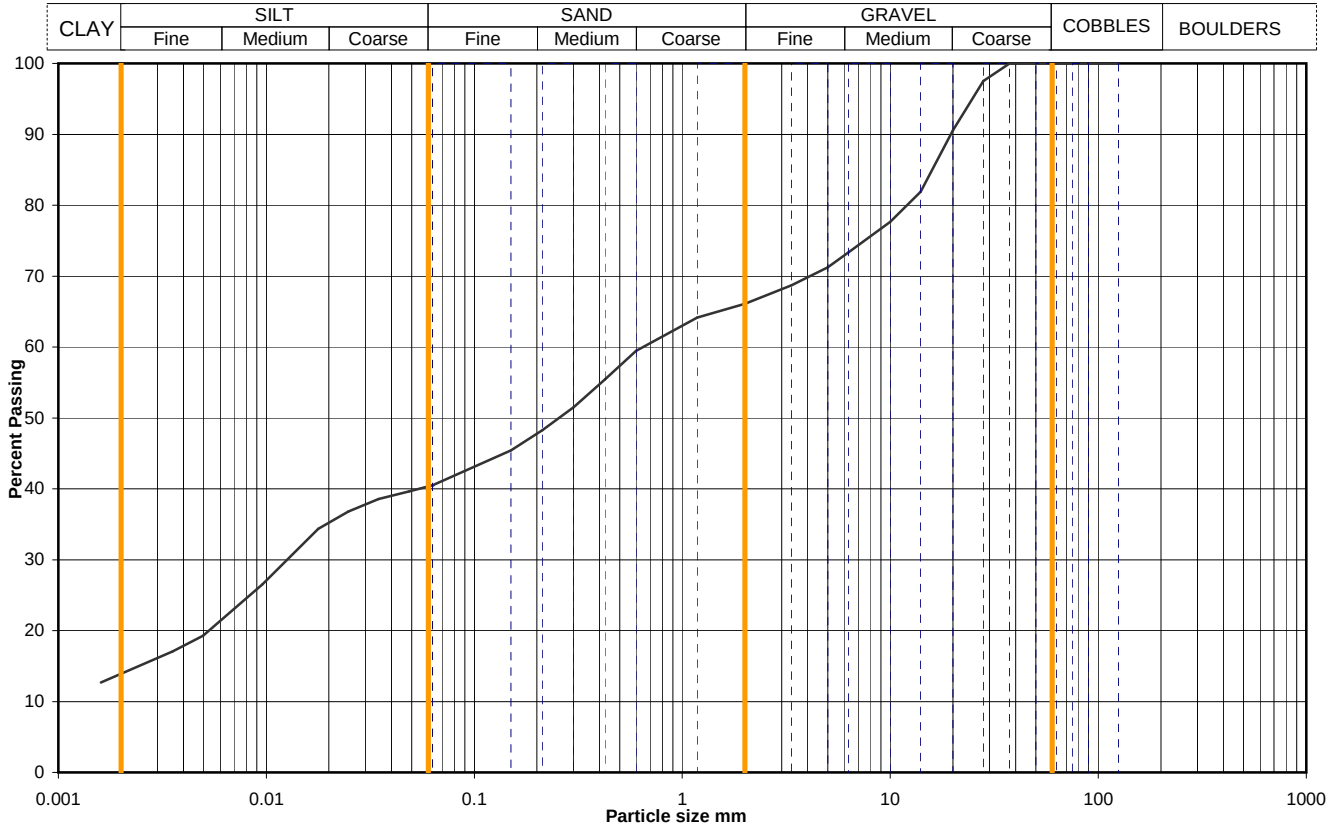
|                                                                  |                                                     |       |         |
|------------------------------------------------------------------|-----------------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy CLAY with one cobble. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377         |       |         |
| Remarks                                                          |                                                     |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                  | Whole | * <60mm |
|                                                                  | Gravel                                              | 3     | 0       |
|                                                                  | Sand                                                | 15    | 15      |
|                                                                  | Silt                                                | 37    | 38      |
|                                                                  | Clay                                                | 24    | 25      |
|                                                                  |                                                     | 21    | 22      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS627 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.00  |   |
|              |                                               |                 | Samp No       | 6                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304945951 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 41        |
| 90               | 100       | 0.0486                                  | 40        |
| 75               | 100       | 0.0346                                  | 39        |
| 63               | 100       | 0.0247                                  | 37        |
| 50               | 100       | 0.0177                                  | 34        |
| 37.5             | 100       | 0.0096                                  | 26        |
| 28               | 98        | 0.0050                                  | 19        |
| 20               | 91        | 0.0035                                  | 17        |
| 14               | 82        | 0.0016                                  | 13        |
| 10               | 78        |                                         |           |
| 6.3              | 73        |                                         |           |
| 5.0              | 71        |                                         |           |
| 3.35             | 69        |                                         |           |
| 2.00             | 66        |                                         |           |
| 1.18             | 64        |                                         |           |
| 0.600            | 59        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 55        |                                         |           |
| 0.300            | 52        | Dry mass of sample, kg<br>3.4           |           |
| 0.212            | 48        |                                         |           |
| 0.150            | 45        |                                         |           |
| 0.063            | 41        |                                         |           |

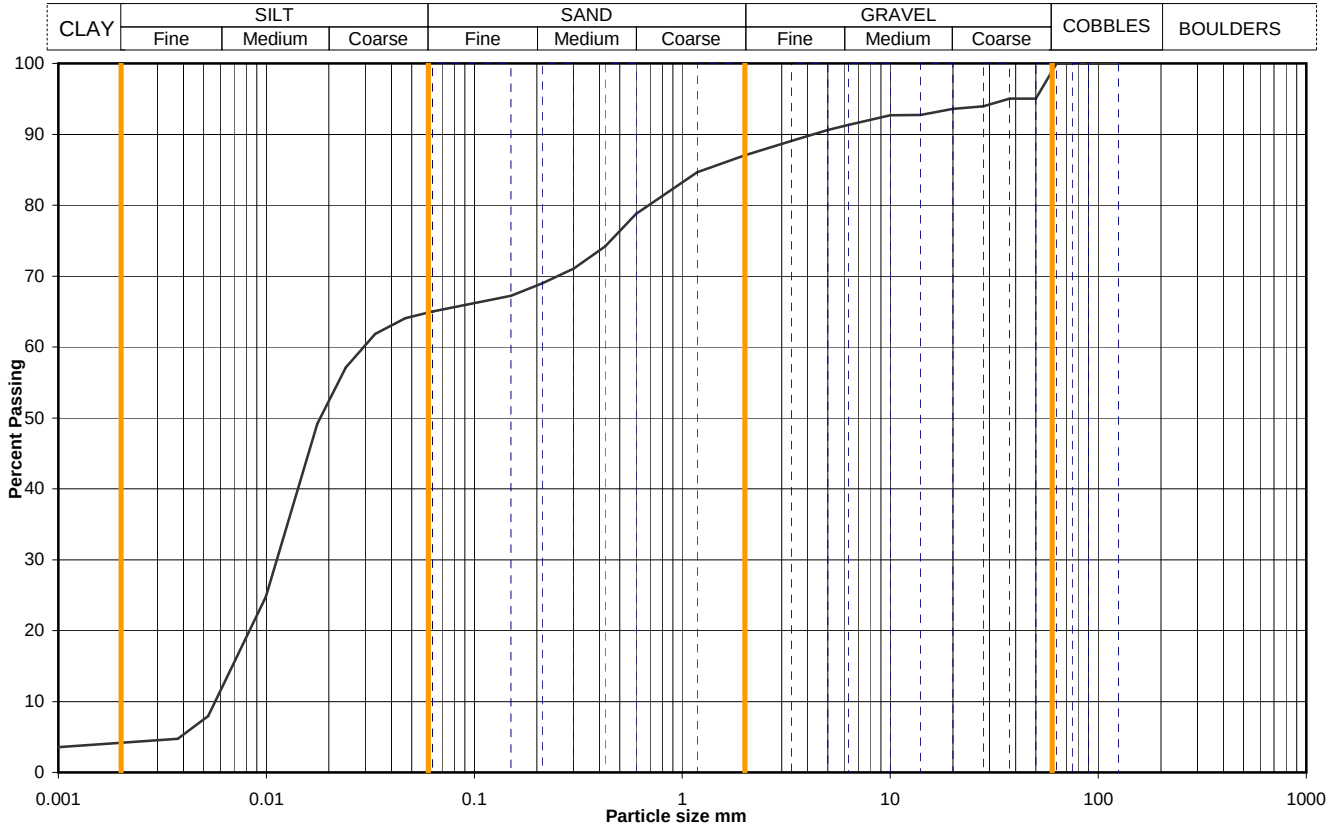
|                                                                  |                                                    |       |         |
|------------------------------------------------------------------|----------------------------------------------------|-------|---------|
| Soil description                                                 | Light brown slightly sandy slightly gravelly CLAY. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377        |       |         |
| Remarks                                                          |                                                    |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                 | Whole | * <60mm |
|                                                                  | Gravel                                             | 0     | 0       |
|                                                                  | Sand                                               | 34    | 34      |
|                                                                  | Silt                                               | 26    | 26      |
|                                                                  | Clay                                               | 26    | 26      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS627 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.20  |   |
|              |                                               |                 | Samp No       | 7                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304690922 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 65        |
| 90               | 100       | 0.0467                  | 64        |
| 75               | 100       | 0.0333                  | 62        |
| 63               | 100       | 0.0241                  | 57        |
| 50               | 95        | 0.0176                  | 49        |
| 37.5             | 95        | 0.0099                  | 25        |
| 28               | 94        | 0.0052                  | 8         |
| 20               | 94        | 0.0037                  | 5         |
| 14               | 93        | 0.0009                  | 3         |
| 10               | 93        |                         |           |
| 6.3              | 91        |                         |           |
| 5.0              | 91        |                         |           |
| 3.35             | 89        |                         |           |
| 2.00             | 87        |                         |           |
| 1.18             | 85        |                         |           |
| 0.600            | 79        | Particle density, Mg/m3 |           |
| 0.425            | 74        | 2.65 assumed            |           |
| 0.300            | 71        | Dry mass of sample, kg  |           |
| 0.212            | 69        | 4.8                     |           |
| 0.150            | 67        |                         |           |
| 0.063            | 65        |                         |           |

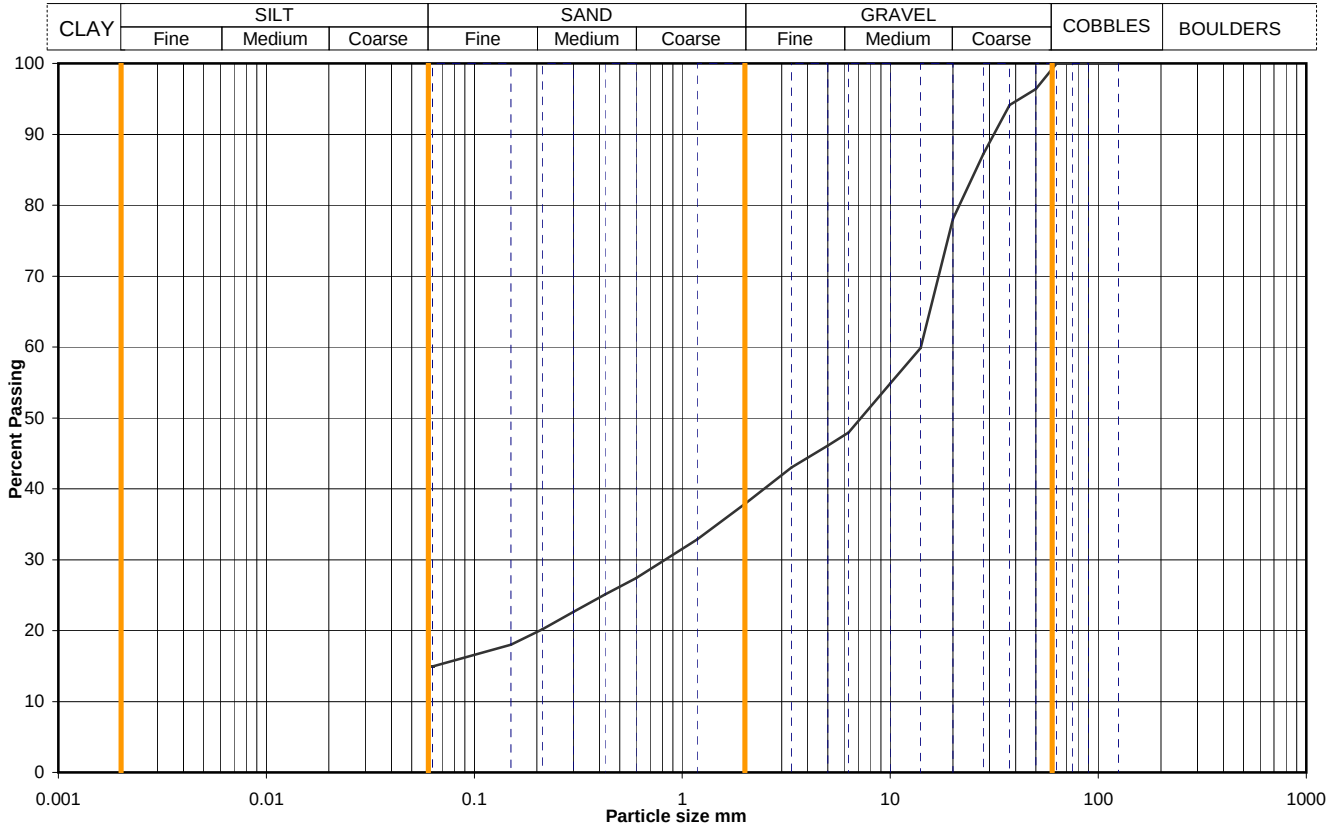
|                                                                  |                                                                      |       |         |
|------------------------------------------------------------------|----------------------------------------------------------------------|-------|---------|
| Soil description                                                 | Light brown and brownish grey slightly sandy slightly gravelly SILT. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377                          |       |         |
| Remarks                                                          |                                                                      |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                                   | Whole | * <60mm |
|                                                                  | Gravel                                                               | 1     | 0       |
|                                                                  | Sand                                                                 | 12    | 12      |
|                                                                  | Silt                                                                 | 22    | 22      |
|                                                                  | Clay                                                                 | 61    | 62      |
|                                                                  |                                                                      | 4     | 4       |

|                        |                   |   |
|------------------------|-------------------|---|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 5 |
|------------------------|-------------------|---|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS628 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.00  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304955140 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 100       |                  |           |
| 63               | 100       |                  |           |
| 50               | 96        |                  |           |
| 37.5             | 94        |                  |           |
| 28               | 87        |                  |           |
| 20               | 78        |                  |           |
| 14               | 60        |                  |           |
| 10               | 55        |                  |           |
| 6.3              | 48        |                  |           |
| 5.0              | 46        |                  |           |
| 3.35             | 43        |                  |           |
| 2.00             | 38        |                  |           |
| 1.18             | 33        |                  |           |
| 0.600            | 27        |                  |           |
| 0.425            | 25        |                  |           |
| 0.300            | 23        |                  |           |
| 0.212            | 20        |                  |           |
| 0.150            | 18        |                  |           |
| 0.063            | 15        |                  |           |

|                                                                  |                                         |       |         |
|------------------------------------------------------------------|-----------------------------------------|-------|---------|
| Soil description                                                 | Greyish brown clayey very sandy GRAVEL. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material                 |       |         |
| Remarks                                                          |                                         |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                      | Whole | * <60mm |
|                                                                  | Gravel                                  | 1     | 0       |
|                                                                  | Sand                                    | 61    | 62      |
|                                                                  | Silt                                    | 23    | 23      |
|                                                                  | Clay                                    | 15    | 15      |

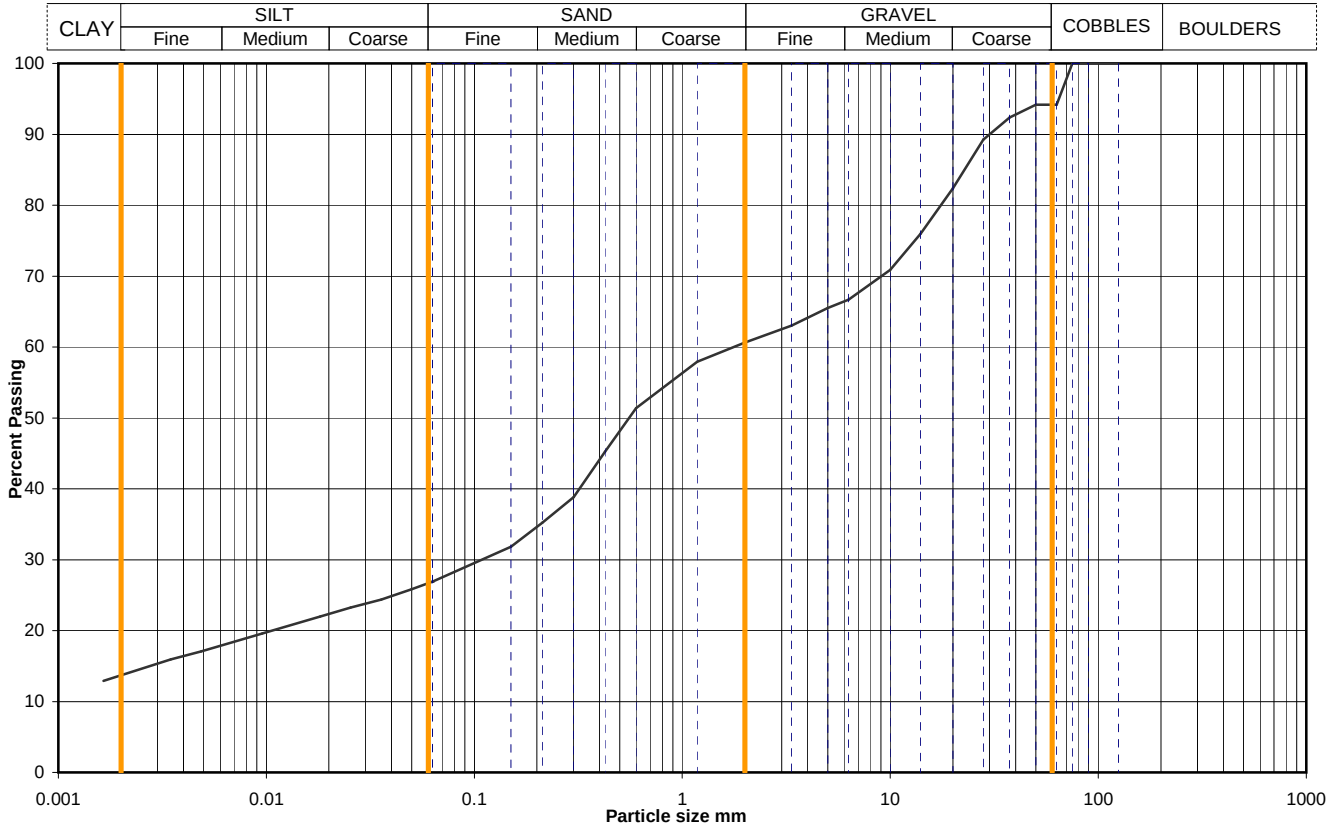
|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |               |
|-------------|-------------------------|---------------|
| Test Method | BS 1377 : Part 2 : 1990 |               |
|             | Sieving                 | 9.2 wet sieve |
|             | Sedimentation           | none          |

|                              |                                                                                                           |                           |                         |
|------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------|-------------------------|
| QA Ref                       |  <b>Soil Mechanics</b> | Printed: 07/04/2011 14:03 | Figure<br><b>PSD 92</b> |
| SLR 2,9<br>Rev 84<br>Sept 08 |                                                                                                           |                           |                         |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS628 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.20  |   |
|              |                                               |                 | Samp No       | 7                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304738851 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 27        |
| 90               | 100       | 0.0499                                  | 26        |
| 75               | 100       | 0.0357                                  | 24        |
| 63               | 94        | 0.0254                                  | 23        |
| 50               | 94        | 0.0182                                  | 22        |
| 37.5             | 92        | 0.0095                                  | 20        |
| 28               | 89        | 0.0049                                  | 17        |
| 20               | 82        | 0.0035                                  | 16        |
| 14               | 76        | 0.0016                                  | 13        |
| 10               | 71        |                                         |           |
| 6.3              | 67        |                                         |           |
| 5.0              | 66        |                                         |           |
| 3.35             | 63        |                                         |           |
| 2.00             | 61        |                                         |           |
| 1.18             | 58        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.600            | 51        |                                         |           |
| 0.425            | 45        | Dry mass of sample, kg<br>5.5           |           |
| 0.300            | 39        |                                         |           |
| 0.212            | 35        |                                         |           |
| 0.150            | 32        |                                         |           |
| 0.063            | 27        |                                         |           |

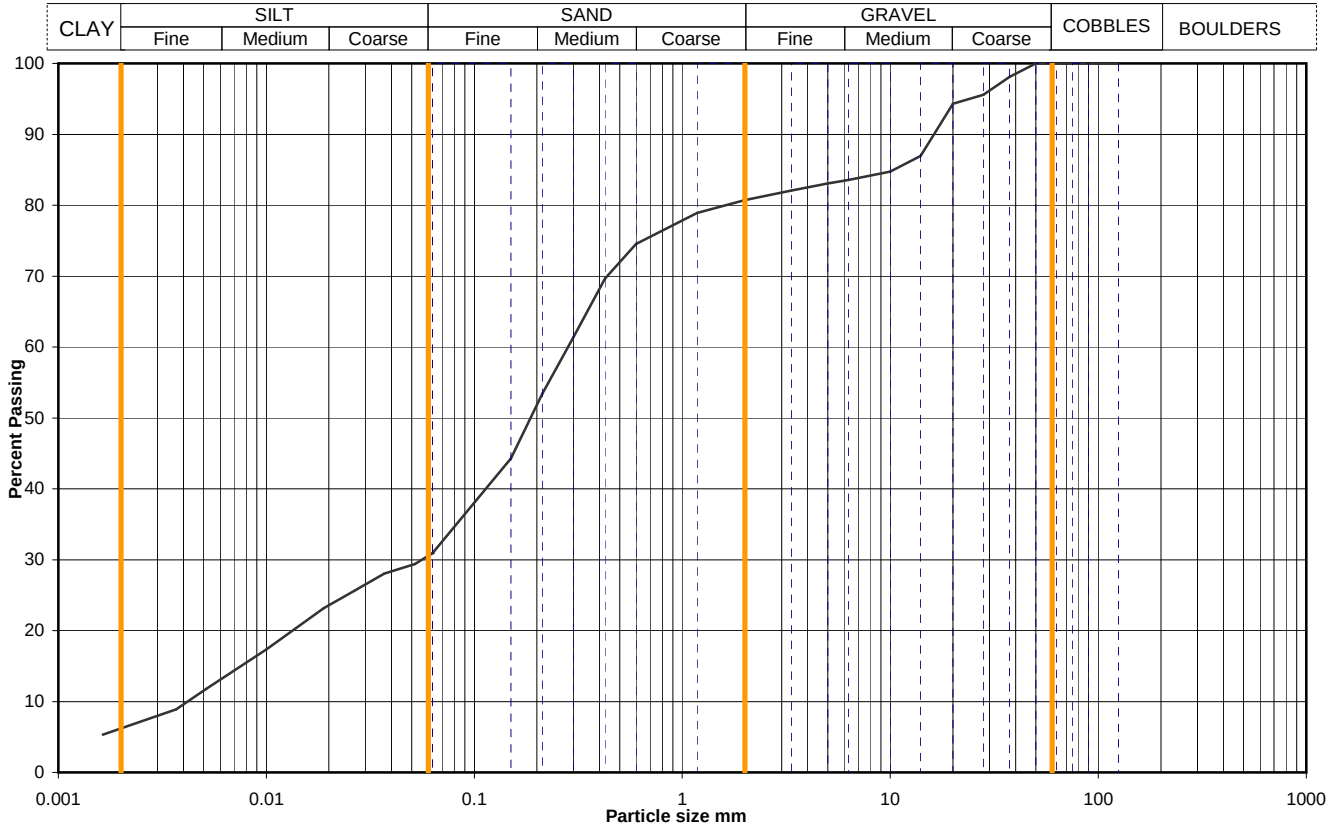
|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown sandy gravelly CLAY with one cobble.  |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 6     | 0       |
|                                                                  | Sand                                        | 33    | 35      |
|                                                                  | Silt                                        | 34    | 36      |
|                                                                  | Clay                                        | 13    | 14      |
|                                                                  |                                             | 14    | 15      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS629 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 0.00  |   |
|              |                                               |                 | Samp No       | 4                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304086531 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation                           |           |
|------------------|-----------|-----------------------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm                        | % Passing |
| 125              | 100       | 0.0630                                  | 31        |
| 90               | 100       | 0.0517                                  | 29        |
| 75               | 100       | 0.0368                                  | 28        |
| 63               | 100       | 0.0264                                  | 26        |
| 50               | 100       | 0.0189                                  | 23        |
| 37.5             | 98        | 0.0100                                  | 17        |
| 28               | 96        | 0.0051                                  | 12        |
| 20               | 94        | 0.0037                                  | 9         |
| 14               | 87        | 0.0016                                  | 5         |
| 10               | 85        |                                         |           |
| 6.3              | 84        |                                         |           |
| 5.0              | 83        |                                         |           |
| 3.35             | 82        |                                         |           |
| 2.00             | 81        |                                         |           |
| 1.18             | 79        |                                         |           |
| 0.600            | 75        | Particle density, Mg/m3<br>2.65 assumed |           |
| 0.425            | 70        |                                         |           |
| 0.300            | 61        | Dry mass of sample, kg<br>9.0           |           |
| 0.212            | 53        |                                         |           |
| 0.150            | 44        |                                         |           |
| 0.063            | 31        |                                         |           |

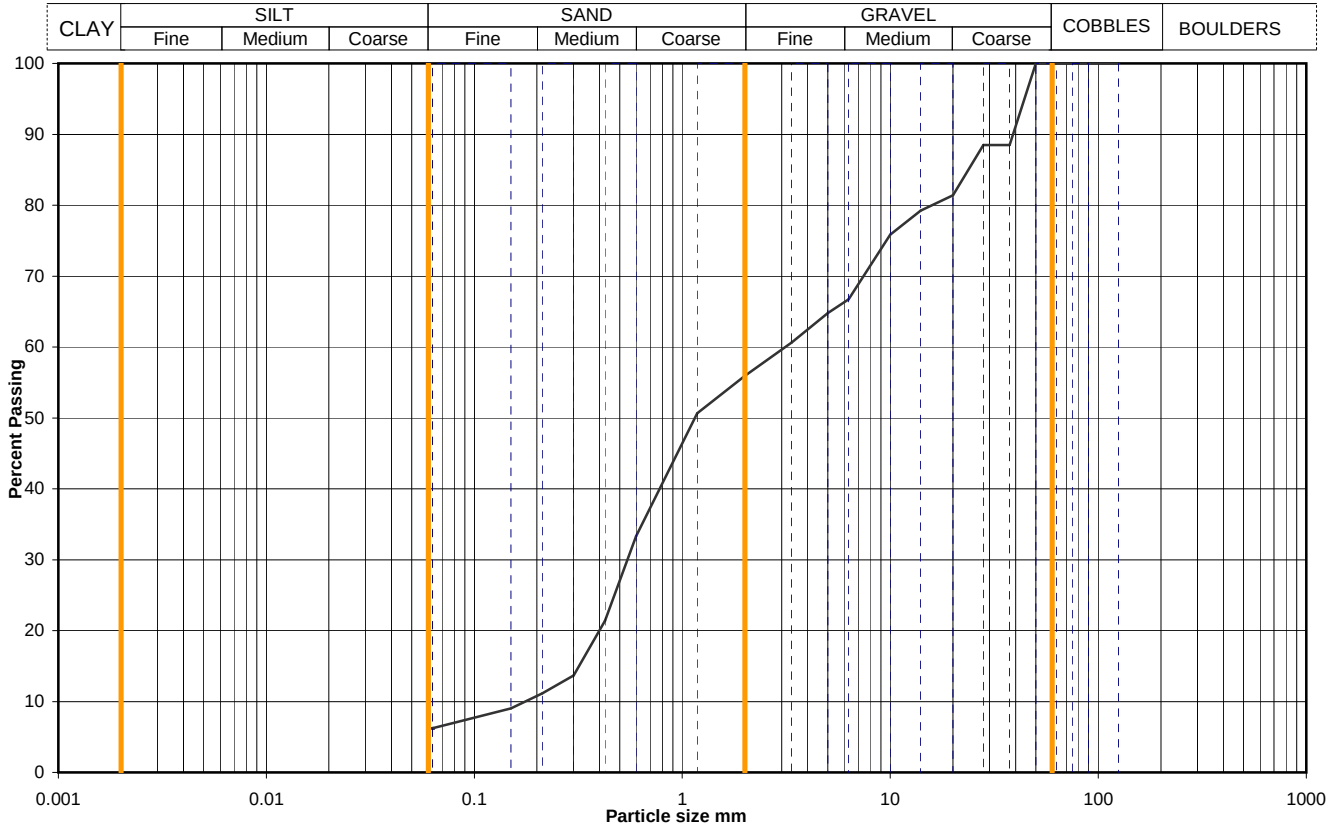
|                                                                  |                                                    |       |         |
|------------------------------------------------------------------|----------------------------------------------------|-------|---------|
| Soil description                                                 | Greyish brown slightly gravelly sandy clayey SILT. |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377        |       |         |
| Remarks                                                          |                                                    |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                                 | Whole | * <60mm |
|                                                                  | Gravel                                             | 0     | 0       |
|                                                                  | Sand                                               | 19    | 19      |
|                                                                  | Silt                                               | 50    | 50      |
|                                                                  | Clay                                               | 25    | 25      |
|                                                                  |                                                    | 6     | 6       |

|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 67 |
|------------------------|-------------------|----|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS629 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.20  |   |
|              |                                               |                 | Samp No       | 6                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304341925 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 100       |                  |           |
| 63               | 100       |                  |           |
| 50               | 100       |                  |           |
| 37.5             | 88        |                  |           |
| 28               | 88        |                  |           |
| 20               | 81        |                  |           |
| 14               | 79        |                  |           |
| 10               | 76        |                  |           |
| 6.3              | 67        |                  |           |
| 5.0              | 65        |                  |           |
| 3.35             | 61        |                  |           |
| 2.00             | 56        |                  |           |
| 1.18             | 51        |                  |           |
| 0.600            | 33        |                  |           |
| 0.425            | 21        |                  |           |
| 0.300            | 14        |                  |           |
| 0.212            | 11        |                  |           |
| 0.150            | 9         |                  |           |
| 0.063            | 6         |                  |           |

|                                   |  |
|-----------------------------------|--|
| Dry mass of sample, kg<br><br>1.2 |  |
|                                   |  |
|                                   |  |
|                                   |  |

|                                                                  |                                                      |             |         |
|------------------------------------------------------------------|------------------------------------------------------|-------------|---------|
| Soil description                                                 | Brown silty very gravelly SAND.                      |             |         |
| Preparation / Pretreatment                                       | Sieve: pre dried,                                    |             |         |
| Remarks                                                          |                                                      |             |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders<br>Gravel<br>Sand<br>Silt<br>Clay | Whole       | * <60mm |
|                                                                  |                                                      | 0           | 0       |
|                                                                  |                                                      | 44          | 44      |
|                                                                  |                                                      | 50          | 50      |
|                                                                  |                                                      | silt+clay = |         |
|                                                                  |                                                      | 6           | 6       |

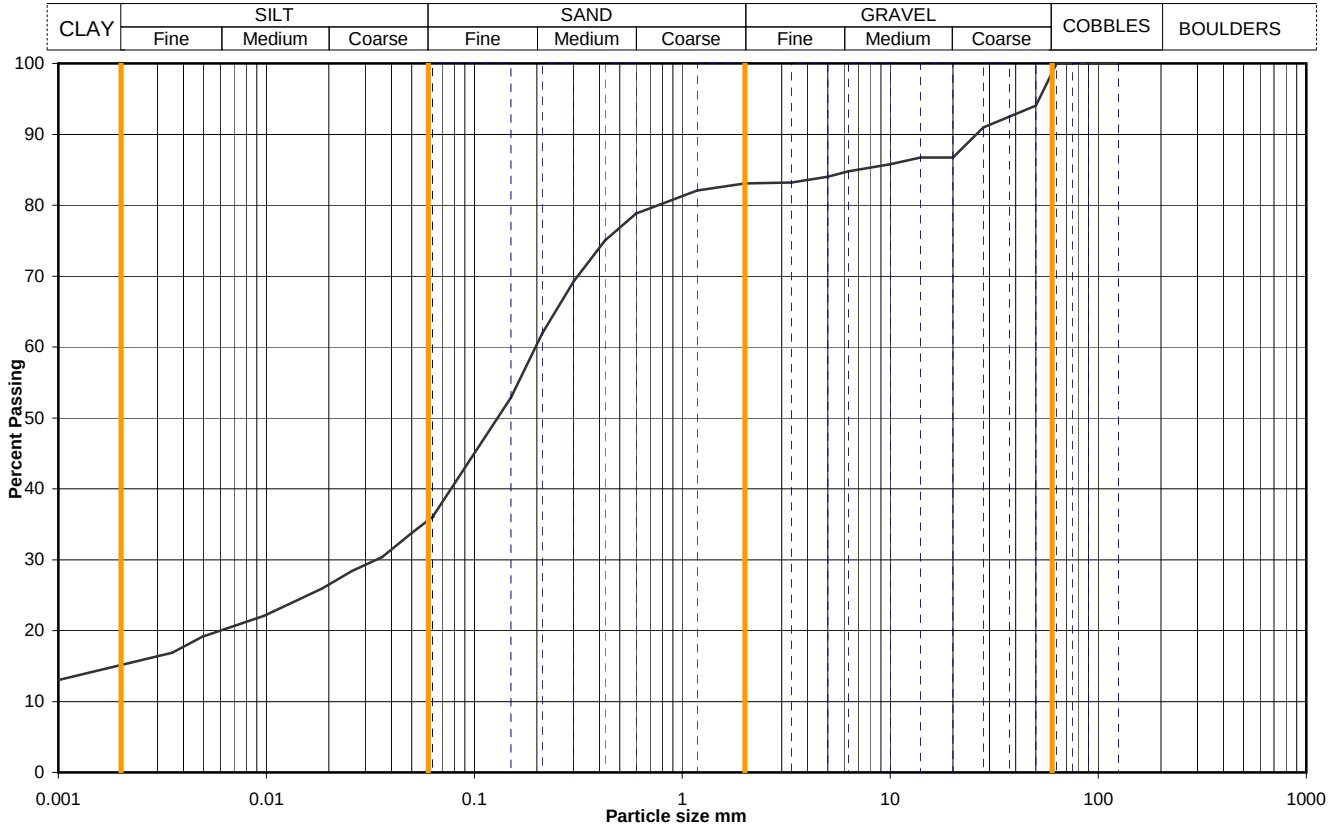
|                        |                   |    |
|------------------------|-------------------|----|
| Uniformity Coefficient | $D_{60} / D_{10}$ | 18 |
|------------------------|-------------------|----|

|             |                         |               |
|-------------|-------------------------|---------------|
| Test Method | BS 1377 : Part 2 : 1990 |               |
|             | Sieving                 | 9.2 wet sieve |
|             | Sedimentation           | none          |



## Particle Size Distribution Analysis

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS629 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 1.50  |   |
|              |                                               |                 | Samp No       | 7                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304272972 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



| Sieving          |           | Sedimentation           |           |
|------------------|-----------|-------------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm        | % Passing |
| 125              | 100       | 0.0630                  | 36        |
| 90               | 100       | 0.0501                  | 34        |
| 75               | 100       | 0.0361                  | 30        |
| 63               | 100       | 0.0258                  | 28        |
| 50               | 94        | 0.0185                  | 26        |
| 37.5             | 92        | 0.0097                  | 22        |
| 28               | 91        | 0.0049                  | 19        |
| 20               | 87        | 0.0035                  | 17        |
| 14               | 87        | 0.0009                  | 13        |
| 10               | 86        |                         |           |
| 6.3              | 85        |                         |           |
| 5.0              | 84        |                         |           |
| 3.35             | 83        |                         |           |
| 2.00             | 83        |                         |           |
| 1.18             | 82        |                         |           |
| 0.600            | 79        | Particle density, Mg/m3 |           |
| 0.425            | 75        | 2.65 assumed            |           |
| 0.300            | 69        | Dry mass of sample, kg  |           |
| 0.212            | 62        | 5.7                     |           |
| 0.150            | 53        |                         |           |
| 0.063            | 36        |                         |           |

|                                                                  |                                             |       |         |
|------------------------------------------------------------------|---------------------------------------------|-------|---------|
| Soil description                                                 | Brown slightly gravelly sandy CLAY.         |       |         |
| Preparation / Pretreatment                                       | Sieve: natural material    Hydro: as BS1377 |       |         |
| Remarks                                                          |                                             |       |         |
| Sample Proportions<br><br>* <60mm values to aid description only | Cobbles / boulders                          | Whole | * <60mm |
|                                                                  | Gravel                                      | 1     | 0       |
|                                                                  | Sand                                        | 16    | 16      |
|                                                                  | Silt                                        | 47    | 47      |
|                                                                  | Clay                                        | 21    | 21      |
|                                                                  |                                             | 15    | 15      |

|                        |                   |                |
|------------------------|-------------------|----------------|
| Uniformity Coefficient | $D_{60} / D_{10}$ | Not applicable |
|------------------------|-------------------|----------------|

|             |                         |                |
|-------------|-------------------------|----------------|
| Test Method | BS 1377 : Part 2 : 1990 |                |
|             | Sieving                 | 9.2 wet sieve  |
|             | Sedimentation           | 9.5 hydrometer |

**UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TESTS WITHOUT MEASUREMENT OF PORE PRESSURE - SUMMARY OF RESULTS**

| Project No | Project Name                               |
|------------|--------------------------------------------|
| A1008-11   | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2 |

| Hole No. | Sample |           |      |      | Soil Description                                    | Density              |                      | w              | Test type      | Dia.                    | σ <sub>3</sub>   | At failure / end of stage |                                 |                   |             | Remarks |
|----------|--------|-----------|------|------|-----------------------------------------------------|----------------------|----------------------|----------------|----------------|-------------------------|------------------|---------------------------|---------------------------------|-------------------|-------------|---------|
|          | No.    | Depth (m) |      | type |                                                     | bulk                 | dry                  |                |                |                         |                  | Axial strain              | σ <sub>1</sub> - σ <sub>3</sub> | C <sub>u</sub>    | M O D E     |         |
|          |        | from      | to   |      |                                                     |                      |                      |                |                |                         |                  |                           |                                 |                   |             |         |
| BH602    | 7      | 2.10      | 2.55 | U    | Firm to stiff brown slightly sandy gravelly CLAY.   | 2.12                 | 1.93                 | 9              | UUM            | 103.7<br>103.7<br>103.7 | 50<br>100<br>200 | 4.0<br>5.5<br>17.6        | 234<br>293<br>454               | 117<br>147<br>227 | C           |         |
| BH604    | 8      | 2.20      | 2.65 | U    | Firm brown CLAY.                                    | 2.00<br>1.96<br>1.96 | 1.55<br>1.52<br>1.52 | 30<br>29<br>29 | UU<br>UU<br>UU | 38.1<br>38.1<br>37.9    | 50<br>100<br>200 | 9.5<br>8.4<br>7.0         | 241<br>236<br>222               | 120<br>118<br>111 | B<br>B<br>B |         |
| BH604    | 12     | 3.85      | 4.30 | U    | Light brown slightly gravelly SILT.                 | 2.06                 | 1.68                 | 22             | UUM            | 102.8<br>102.8<br>102.8 | 50<br>100<br>200 | 3.0<br>4.0<br>5.5         | 495<br>635<br>1,003             | 247<br>317<br>502 | C           |         |
| BH606    | 7      | 2.10      | 2.55 | U    | Firm brown slightly gravelly very sandy CLAY.       | 1.93<br>2.11<br>2.17 | 1.68<br>1.86<br>1.94 | 15<br>13<br>12 | UU<br>UU<br>UU | 38.1<br>37.7<br>38.4    | 50<br>100<br>200 | 9.5<br>16.9<br>15.3       | 149<br>214<br>472               | 75<br>107<br>236  | C<br>C<br>C |         |
| BH611    | 10     | 3.10      | 3.55 | U    | Firm thinly laminated brown slightly gravelly CLAY. | 1.96<br>1.99<br>1.94 | 1.49<br>1.56<br>1.50 | 32<br>28<br>30 | UU<br>UU<br>UU | 37.7<br>38.1<br>38.1    | 50<br>100<br>200 | 13.4<br>9.5<br>9.4        | 166<br>167<br>187               | 83<br>83<br>94    | B<br>B<br>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 )                                                                                                                                                                                                                                       | $\sigma_3$            | cell pressure            | Mode of failure | P plastic |
|                | UUM - multistage test on a single specimen                                                                                                                                                                                                                                                   | $\sigma_1 - \sigma_3$ | deviator stress          | B               | brittle   |
|                | suffix R - remoulded or recompacted                                                                                                                                                                                                                                                          | $C_u$                 | undrained shear strength | C               | compound  |

| ONE DIMENSIONAL CONSOLIDATION TEST                                                                                                                                                                                  |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                          |                               |        |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------|--------|---|
| BS 1377 : Part 5 : 1990 : clause 3                                                                                                                                                                                  |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                          |                               |        |   |
| Project No                                                                                                                                                                                                          | A1008-11                                   | Sample Details:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Hole No                  | BH602                         |        |   |
| Project Name                                                                                                                                                                                                        | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Depth (m BGL)            | 2.10                          |        |   |
|                                                                                                                                                                                                                     |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Samp No                  | 7                             | Type   | U |
|                                                                                                                                                                                                                     |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ID                       | ESGA1008-11201102240000000068 |        |   |
|                                                                                                                                                                                                                     |                                            | Spec Ref                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                          |                               |        |   |
| <div><div><div>Voids ratio</div><div>Applied pressure kPa</div><div>Log pressure / voids ratio</div></div><div><div>Cv m²/year (log t)</div><div>Applied pressure kPa</div><div>Log pressure / Cv</div></div></div> |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                          |                               |        |   |
| Soil description                                                                                                                                                                                                    |                                            | Firm to stiff brown slightly sandy gravelly CLAY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                          |                               |        |   |
| Preparation                                                                                                                                                                                                         |                                            | Undisturbed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                          |                               |        |   |
| Index properties<br>( if available )                                                                                                                                                                                |                                            | Liquid limit % <div></div> Plastic limit % <div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                          |                               |        |   |
| Specimen details                                                                                                                                                                                                    |                                            | <div><div><div>Initial</div><div>Final</div></div><div><div>2.65</div><div>assumed</div></div><div>Mg/m³</div></div> <div><div><div>74.95</div><div></div></div><div>mm</div></div> <div><div><div>18.96</div><div>17.21</div></div><div>mm</div></div> <div><div><div>0.630</div><div>0.480</div></div><div></div></div> <div><div><div>23</div><div>19</div></div><div>%</div></div> <div><div><div>2.00</div><div>2.13</div></div><div>Mg/m³</div></div> <div><div><div>1.63</div><div>1.79</div></div><div>Mg/m³</div></div> <div><div><div>98</div><div>105</div></div><div>%</div></div> <div><div><div>22</div><div></div></div><div>°C</div></div> |                          |                               |        |   |
| Swelling pressure                                                                                                                                                                                                   |                                            | not measured kPa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                          |                               |        |   |
| Notes :                                                                                                                                                                                                             |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                          |                               |        |   |
| Specimen taken                                                                                                                                                                                                      |                                            | 290 mm from base of sample                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                          |                               |        |   |
| QA Ref                                                                                                                                                                                                              |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Printed:30/03/2011 15:58 |                               | Figure |   |
| SLR 5.3<br>Rev 118<br>June 09                                                                                                                                                                                       |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Soil Mechanics           |                               | OED 1  |   |

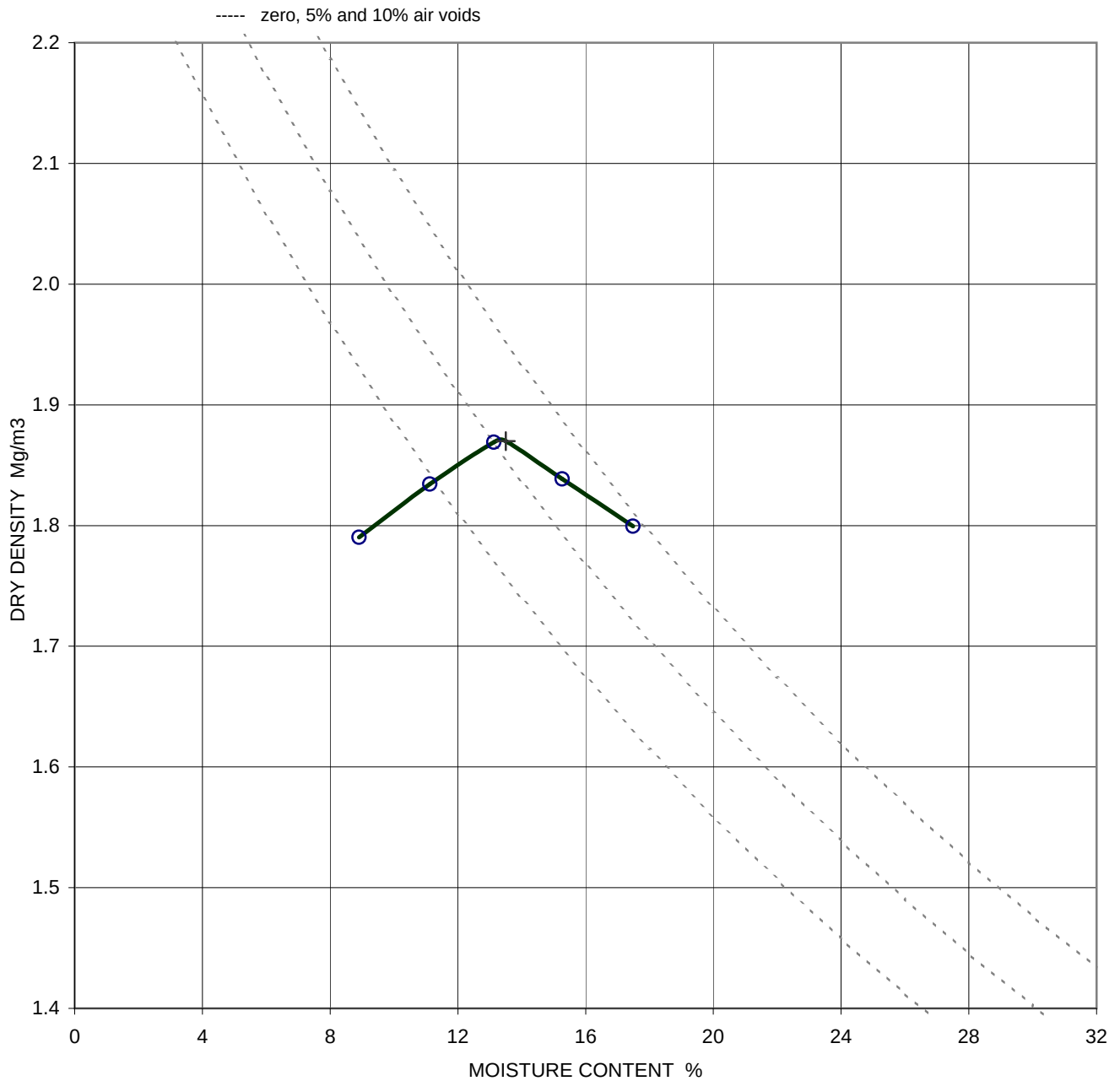
| ONE DIMENSIONAL CONSOLIDATION TEST                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                            |         |                 |                          |                               |                 |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------|-----------------|--------------------------|-------------------------------|-----------------|---|
| BS 1377 : Part 5 : 1990 : clause 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                            |         |                 |                          |                               |                 |   |
| Project No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | A1008-11                                   |         | Sample Details: | Hole No                  |                               | BH604           |   |
| Project Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2 |         |                 | Depth (m BGL)            |                               | 2.20            |   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |         |                 | Samp No                  | 8                             | Type            | U |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |         |                 | ID                       | ESGA1008-11201102220000000016 |                 |   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |         | Spec Ref        |                          |                               |                 |   |
| <div><div><div><div><div>0.820</div><div>0.790</div><div>0.760</div><div>0.730</div><div>0.700</div><div>0.670</div><div>0.640</div><div>0.610</div><div>0.580</div><div>0.550</div><div>0.520</div></div><div>Voids ratio</div></div><div><div>Applied pressure kPa</div><div>Log pressure / voids ratio</div></div><div><div><div>0.795</div><div>0.765</div><div>0.728</div><div>0.675</div><div>0.615</div></div></div></div><div><div><div>0.00</div><div>0.05</div><div>0.10</div><div>0.15</div><div>0.20</div><div>0.25</div></div><div>Cv m²/year (log t)</div></div><div><div>Log pressure / Cv</div></div><div><div><div>1</div><div>10</div><div>100</div><div>1000</div><div>10000</div></div><div>Applied pressure kPa</div></div></div> |                                            |         |                 |                          |                               |                 |   |
| Soil description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Firm brown CLAY.                           |         |                 |                          |                               |                 |   |
| Preparation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Undisturbed                                |         |                 |                          |                               |                 |   |
| Index properties<br>( if available )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Liquid limit %                             |         | Plastic limit % |                          |                               |                 |   |
| Specimen details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Initial                                    | Final   |                 |                          |                               |                 |   |
| Particle density                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2.65                                       | assumed | Mg/m³           |                          |                               |                 |   |
| Diameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 74.96                                      |         | mm              |                          |                               |                 |   |
| Height                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 19.00                                      | 16.96   | mm              |                          |                               |                 |   |
| Voids ratio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.811                                      | 0.617   |                 |                          |                               |                 |   |
| Moisture content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 31                                         | 24      | %               |                          |                               |                 |   |
| Bulk density                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.92                                       | 2.04    | Mg/m³           |                          |                               |                 |   |
| Dry density                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.46                                       | 1.64    | Mg/m³           |                          |                               |                 |   |
| Saturation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 103                                        | 105     | %               |                          |                               |                 |   |
| Average temperature for test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 22                                         |         | °C              |                          |                               |                 |   |
| Swelling pressure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | not measured kPa                           |         |                 |                          |                               |                 |   |
| Notes :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                            |         |                 |                          |                               |                 |   |
| Specimen taken                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 10 mm from base of sample                  |         |                 |                          |                               |                 |   |
| QA Ref                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | SLR 5.3<br>Rev 118<br>June 09              |         |                 | Printed:30/03/2011 15:59 |                               | Figure<br>OED 2 |   |

| ONE DIMENSIONAL CONSOLIDATION TEST                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                               |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------|-----------------|-------------------------------|------|-----------------|----------------------|-------------|----|-------|----|-------|-----|-------|-----|-------|-----|-------|----------------------|--------------------|----|-----|----|-----|-----|------|-----|------|-----|------|
| BS 1377 : Part 5 : 1990 : clause 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                               |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Project No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | A1008-11                                      | Sample Details: | Hole No         | BH606                         |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Project Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2    |                 | Depth (m BGL)   | 2.10                          |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                               |                 | Samp No         | 7                             | Type | U               |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                               |                 | ID              | ESGA1008-11201102240000000084 |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                               |                 | Spec Ref        |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| <div><div><div>Voids ratio</div><div>Applied pressure kPa</div><div>Log pressure / voids ratio</div><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>25</td><td>0.324</td></tr><tr><td>50</td><td>0.319</td></tr><tr><td>100</td><td>0.313</td></tr><tr><td>200</td><td>0.304</td></tr><tr><td>400</td><td>0.292</td></tr></tbody></table></div><div><div>Cv m²/year (log t)</div><div>Applied pressure kPa</div><div>Log pressure / Cv</div><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>25</td><td>3.0</td></tr><tr><td>50</td><td>9.5</td></tr><tr><td>100</td><td>10.5</td></tr><tr><td>200</td><td>16.5</td></tr><tr><td>400</td><td>16.5</td></tr></tbody></table></div></div> |                                               |                 |                 |                               |      |                 | Applied pressure kPa | Voids ratio | 25 | 0.324 | 50 | 0.319 | 100 | 0.313 | 200 | 0.304 | 400 | 0.292 | Applied pressure kPa | Cv m²/year (log t) | 25 | 3.0 | 50 | 9.5 | 100 | 10.5 | 200 | 16.5 | 400 | 16.5 |
| Applied pressure kPa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Voids ratio                                   |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| 25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.324                                         |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| 50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.319                                         |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.313                                         |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| 200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.304                                         |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| 400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.292                                         |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Applied pressure kPa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Cv m²/year (log t)                            |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| 25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3.0                                           |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| 50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 9.5                                           |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 10.5                                          |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| 200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 16.5                                          |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| 400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 16.5                                          |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Soil description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Firm brown slightly gravelly very sandy CLAY. |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Preparation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Undisturbed                                   |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Index properties<br>( if available )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Liquid limit %                                |                 | Plastic limit % |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Specimen details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Initial                                       | Final           |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Particle density                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2.65                                          | assumed         | Mg/m³           |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Diameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 74.94                                         |                 | mm              |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Height                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 19.07                                         | 18.40           | mm              |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Voids ratio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.338                                         | 0.292           |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Moisture content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 13                                            | 12              | %               |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Bulk density                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2.24                                          | 2.29            | Mg/m³           |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Dry density                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.98                                          | 2.05            | Mg/m³           |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Saturation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 101                                           | 105             | %               |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Average temperature for test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 22                                            |                 | °C              |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Swelling pressure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | not measured                                  |                 | kPa             |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Notes :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                               |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| Specimen taken                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 10 mm from base of sample                     |                 |                 |                               |      |                 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |
| QA Ref                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | SLR 5.3<br>Rev 118<br>June 09                 |                 |                 | Printed:30/03/2011 15:59      |      | Figure<br>OED 3 |                      |             |    |       |    |       |     |       |     |       |     |       |                      |                    |    |     |    |     |     |      |     |      |     |      |

| ONE DIMENSIONAL CONSOLIDATION TEST                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                     |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------|-----------------|-------------------------------|------|-----------------|------------------------|-------------|----|--------|----|--------|-----|--------|-----|--------|-----|--------|-----|--------|------------------------|--------------|----|----|----|---|-----|---|-----|-----|-----|-----|-----|-----|
| BS 1377 : Part 5 : 1990 : clause 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                     |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Project No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | A1008-11                                            | Sample Details: | Hole No         | BH611                         |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Project Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2          |                 | Depth (m BGL)   | 3.10                          |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                     |                 | Samp No         | 10                            | Type | U               |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                     |                 | ID              | ESGA1008-11201102220000000038 |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                     | Spec Ref        |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| <div><div><div>Voids ratio</div><div>Applied pressure kPa</div><div>Log pressure / voids ratio</div><table border="1"><caption>e-log p Data</caption><thead><tr><th>Applied pressure (kPa)</th><th>Voids ratio</th></tr></thead><tbody><tr><td>25</td><td>0.7410</td></tr><tr><td>50</td><td>0.7355</td></tr><tr><td>100</td><td>0.7159</td></tr><tr><td>200</td><td>0.6884</td></tr><tr><td>400</td><td>0.6515</td></tr><tr><td>800</td><td>0.6006</td></tr></tbody></table></div><div><div>Cv m²/year (log t)</div><div>Applied pressure kPa</div><div>Log pressure / Cv</div><table border="1"><caption>p-log t Data</caption><thead><tr><th>Applied pressure (kPa)</th><th>Cv (m²/year)</th></tr></thead><tbody><tr><td>25</td><td>10</td></tr><tr><td>50</td><td>5</td></tr><tr><td>100</td><td>3</td></tr><tr><td>200</td><td>2.6</td></tr><tr><td>400</td><td>2.7</td></tr><tr><td>800</td><td>3.3</td></tr></tbody></table></div></div> |                                                     |                 |                 |                               |      |                 | Applied pressure (kPa) | Voids ratio | 25 | 0.7410 | 50 | 0.7355 | 100 | 0.7159 | 200 | 0.6884 | 400 | 0.6515 | 800 | 0.6006 | Applied pressure (kPa) | Cv (m²/year) | 25 | 10 | 50 | 5 | 100 | 3 | 200 | 2.6 | 400 | 2.7 | 800 | 3.3 |
| Applied pressure (kPa)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Voids ratio                                         |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| 25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0.7410                                              |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| 50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0.7355                                              |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.7159                                              |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| 200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.6884                                              |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| 400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.6515                                              |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| 800                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.6006                                              |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Applied pressure (kPa)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Cv (m²/year)                                        |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| 25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 10                                                  |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| 50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 5                                                   |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3                                                   |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| 200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2.6                                                 |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| 400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2.7                                                 |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| 800                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3.3                                                 |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Soil description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Firm thinly laminated brown slightly gravelly CLAY. |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Preparation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Undisturbed                                         |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Index properties<br>( if available )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Liquid limit %                                      |                 | Plastic limit % |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Specimen details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Initial                                             | Final           |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Particle density                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2.65                                                | assumed         | Mg/m³           |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Diameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 74.96                                               |                 | mm              |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Height                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 18.99                                               | 17.46           | mm              |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Voids ratio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.741                                               | 0.601           |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Moisture content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 29                                                  | 24              | %               |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Bulk density                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.96                                                | 2.05            | Mg/m³           |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Dry density                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.52                                                | 1.66            | Mg/m³           |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Saturation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 104                                                 | 105             | %               |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Average temperature for test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 22                                                  |                 | °C              |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Swelling pressure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | >25                                                 |                 | kPa             |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Notes :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Swelled under 25kPa, specimen reloaded.             |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| Specimen taken                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 20 mm from base of sample                           |                 |                 |                               |      |                 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |
| QA Ref                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SLR 5.3<br>Rev 118<br>June 09                       |                 |                 | Printed:30/03/2011 15:59      |      | Figure<br>OED 4 |                        |             |    |        |    |        |     |        |     |        |     |        |     |        |                        |              |    |    |    |   |     |   |     |     |     |     |     |     |

**DRY DENSITY / MOISTURE CONTENT RELATIONSHIP**  
**BS1377 : PART 4 : 1990 : LIGHT COMPACTION, 2.5 kg rammer**

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH607 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 0.60  |   |
|              |                                               |                 | Samp No       | 4                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102240000000092 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



Soil description      Reddish brown 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, composite specimens tested

Material > 37.5mm      0      %

Material < 37.5mm > 20mm      0      %

Particle density, Mg/m³      2.65      assumed

Remarks

Derived Parameters +

Maximum dry density, Mg/m³  
**1.87**

Optimum moisture content, %  
**14**

QA Ref

SLD 4, 3.3/4  
Rev 62  
Jul 07



**Soil Mechanics**

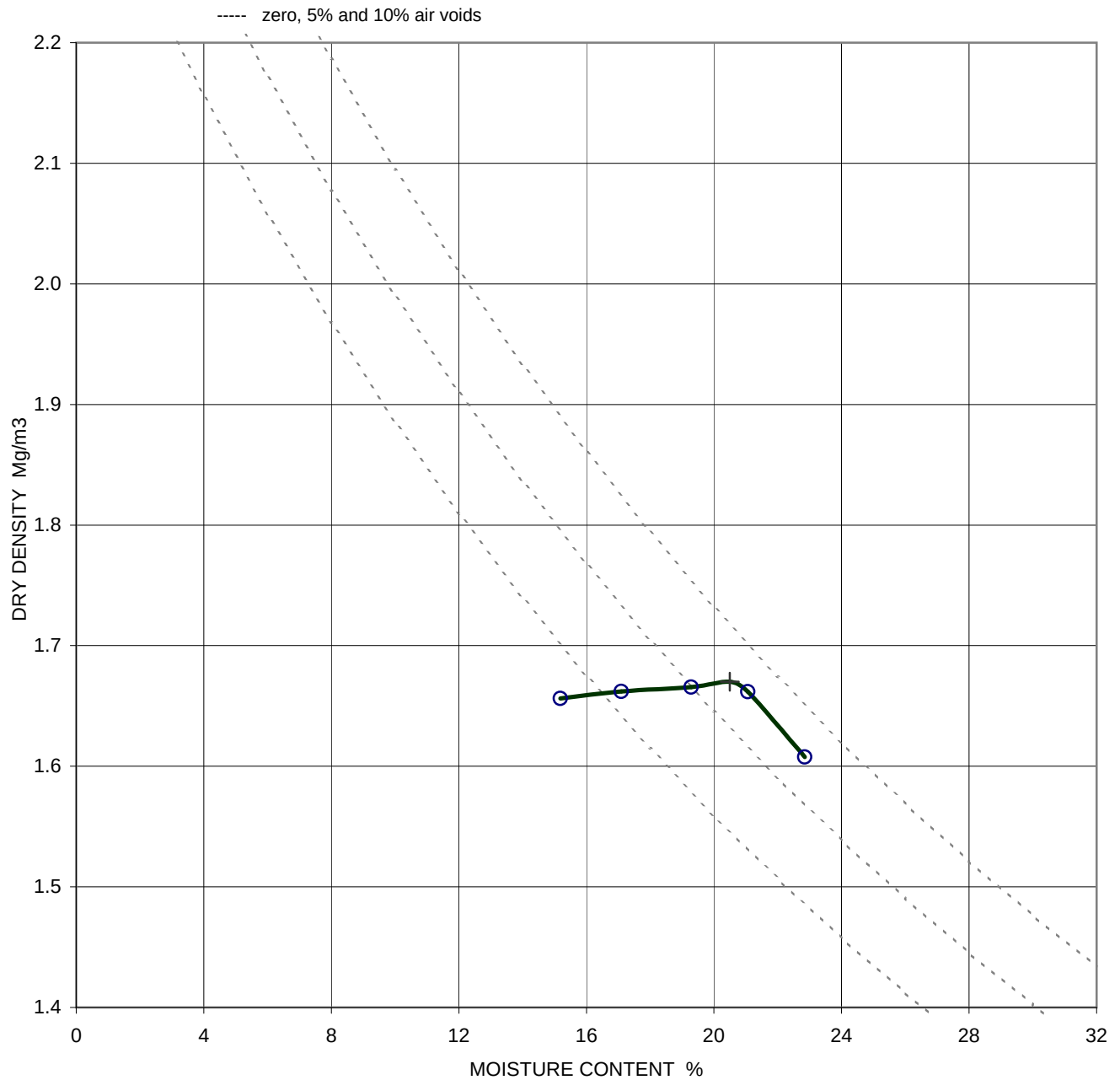
Printed:05/04/2011 16:57

Figure

**COMPL 1**

**DRY DENSITY / MOISTURE CONTENT RELATIONSHIP**  
**BS1377 : PART 4 : 1990 : LIGHT COMPACTION, 2.5 kg rammer**

|              |                                               |                 |               |                               |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|-------------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                               | BH611 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                               | 2.55  |   |
|              |                                               |                 | Samp No       | 9                             | Type  | B |
|              |                                               |                 | ID            | ESGA1008-11201102220000000037 |       |   |
|              |                                               |                 | Spec Ref      |                               |       |   |



Soil description      Light brown 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, composite specimens tested

Material > 37.5mm      0      %

Material < 37.5mm > 20mm      0      %

Particle density, Mg/m³      2.65      assumed

Remarks

Derived Parameters +

Maximum dry density, Mg/m³  
**1.67**

Optimum moisture content, %  
**21**

QA Ref

SLD 4, 3.3/4  
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**Soil Mechanics**

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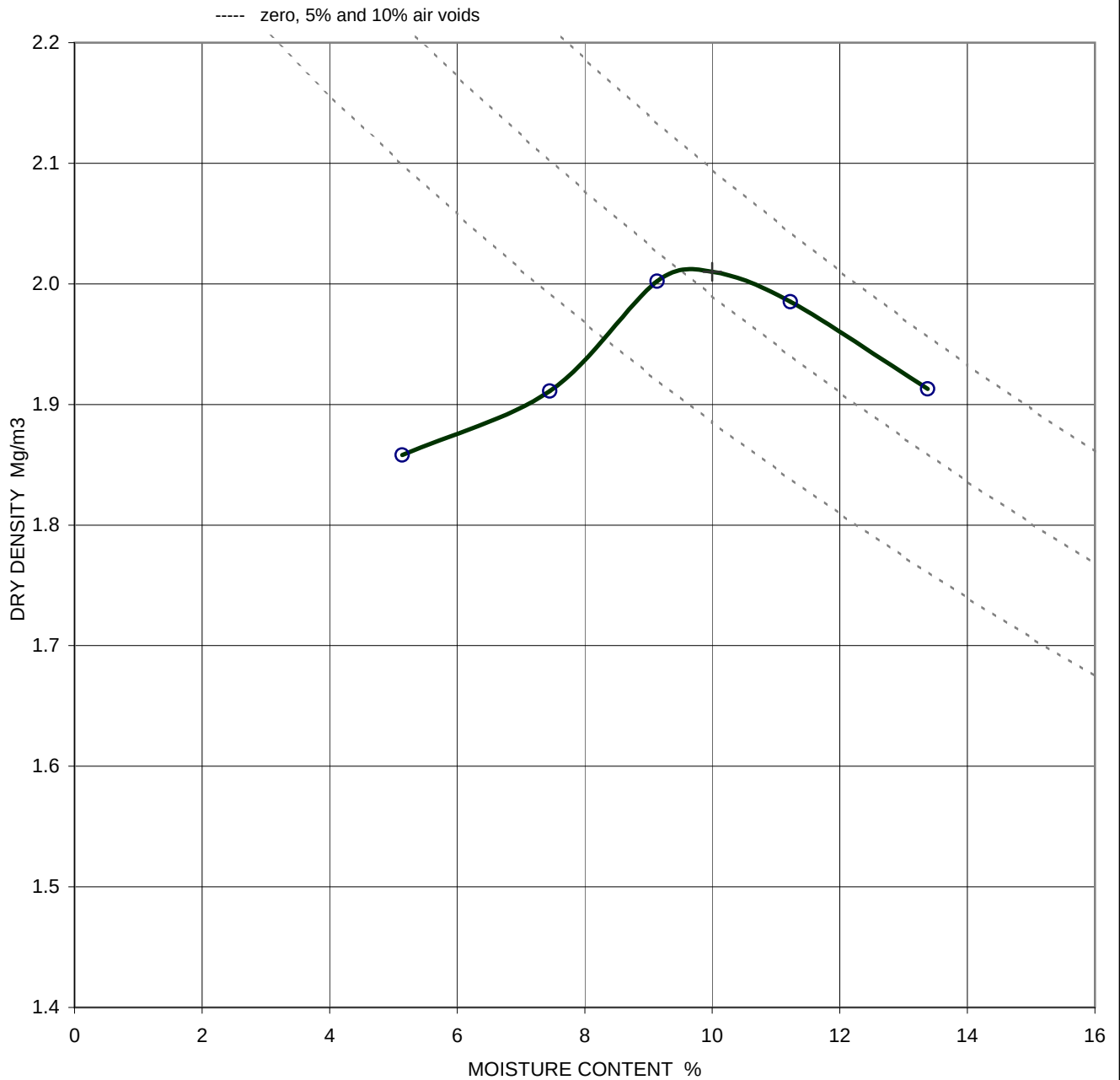
Figure

**COMPL 2**



**DRY DENSITY / MOISTURE CONTENT RELATIONSHIP**  
**BS1377 : PART 4 : 1990 : LIGHT COMPACTION, 2.5 kg rammer**

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS602 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 2.00  |   |
|              |                                               |                 | Samp No       | 9                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304819279 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



Soil description      Brown clayey gravelly SAND.

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/m<sup>3</sup>      2.65      assumed

Remarks

Derived Parameters +

Maximum dry density, Mg/m<sup>3</sup>      **2.01**

Optimum moisture content, %      **10**

QA Ref

SLD 4, 3.3/4  
Rev 62  
Jul 07



**Soil Mechanics**

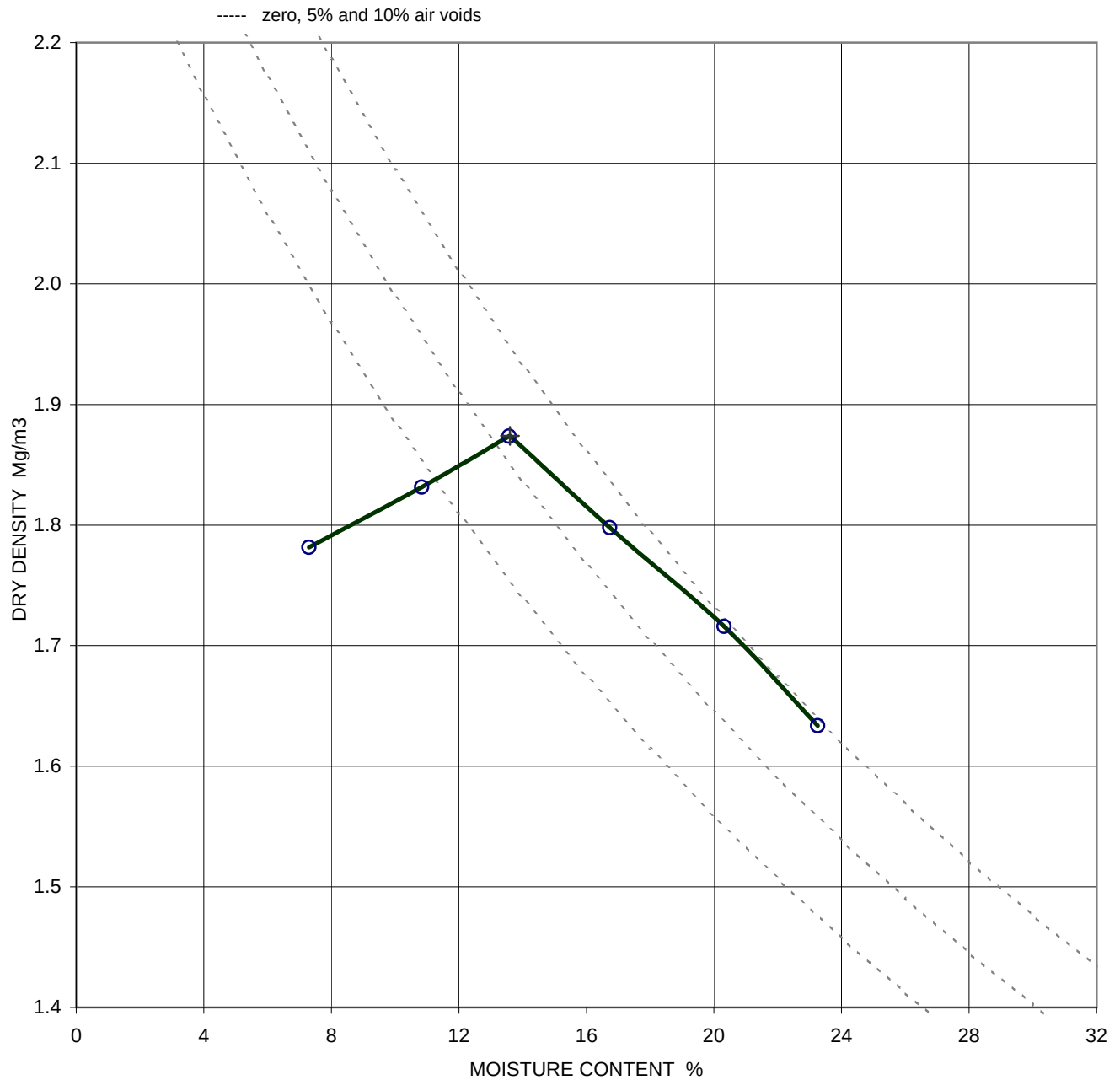
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Figure

**COMPL 3**

**DRY DENSITY / MOISTURE CONTENT RELATIONSHIP**  
**BS1377 : PART 4 : 1990 : LIGHT COMPACTION, 2.5 kg rammer**

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS603 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 2.00  |   |
|              |                                               |                 | Samp No       | 10                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304395498 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



Soil description      Greyish 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  
**1.87**

Optimum moisture content, %  
**14**

QA Ref

SLD 4, 3.3/4  
Rev 62  
Jul 07



**Soil Mechanics**

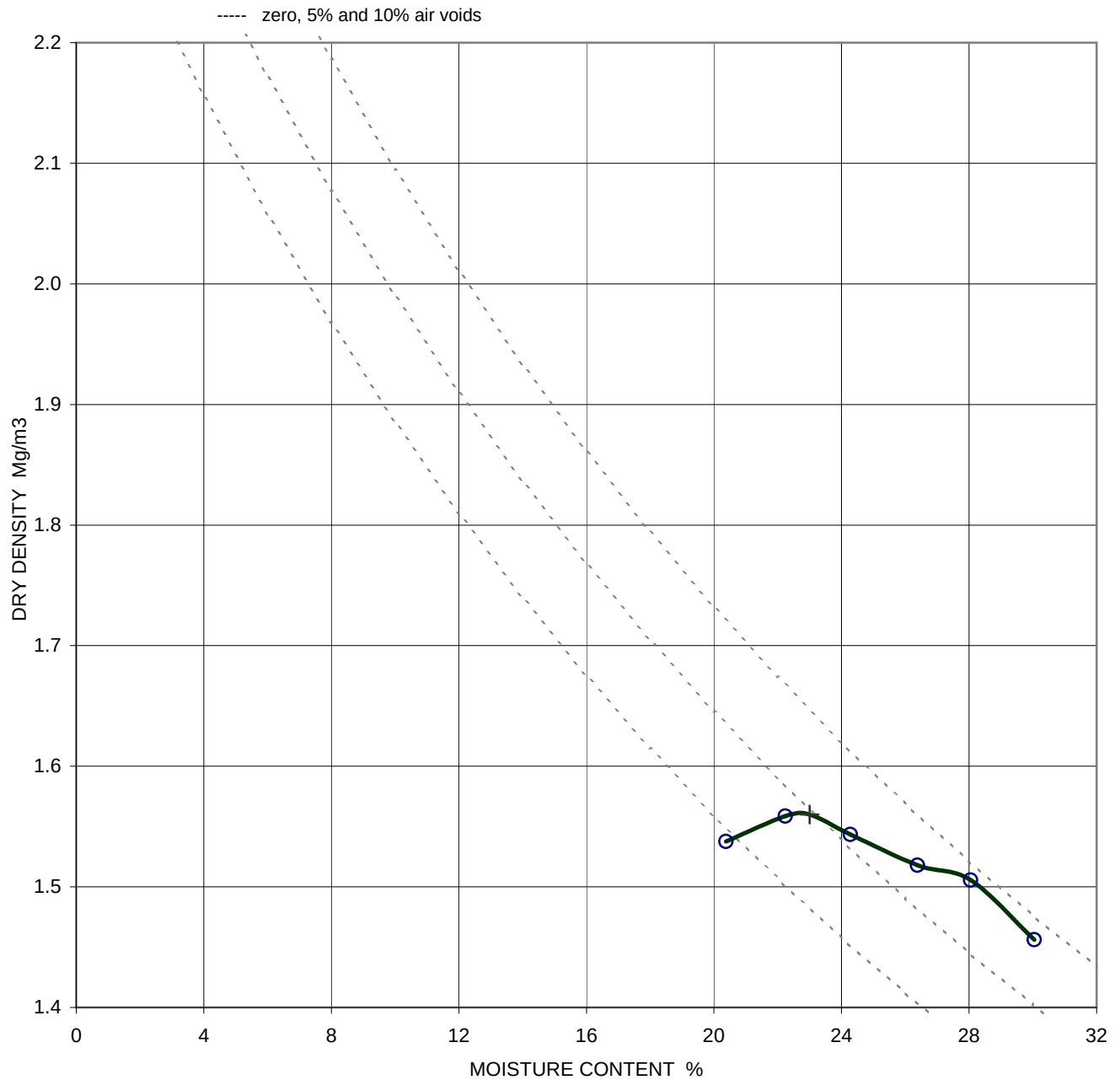
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Figure

**COMPL 4**

**DRY DENSITY / MOISTURE CONTENT RELATIONSHIP**  
**BS1377 : PART 4 : 1990 : LIGHT COMPACTION, 2.5 kg rammer**

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS605 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 2.00  |   |
|              |                                               |                 | Samp No       | 10                        | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304836472 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



Soil description      Brown CLAY with silt partings.

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      0      %

Particle density, Mg/m³      2.65      assumed

Remarks

Derived Parameters +

Maximum dry density, Mg/m³  
**1.56**

Optimum moisture content, %  
**23**

**QA Ref**  
SLD 4, 3.3/4  
Rev 62  
Jul 07



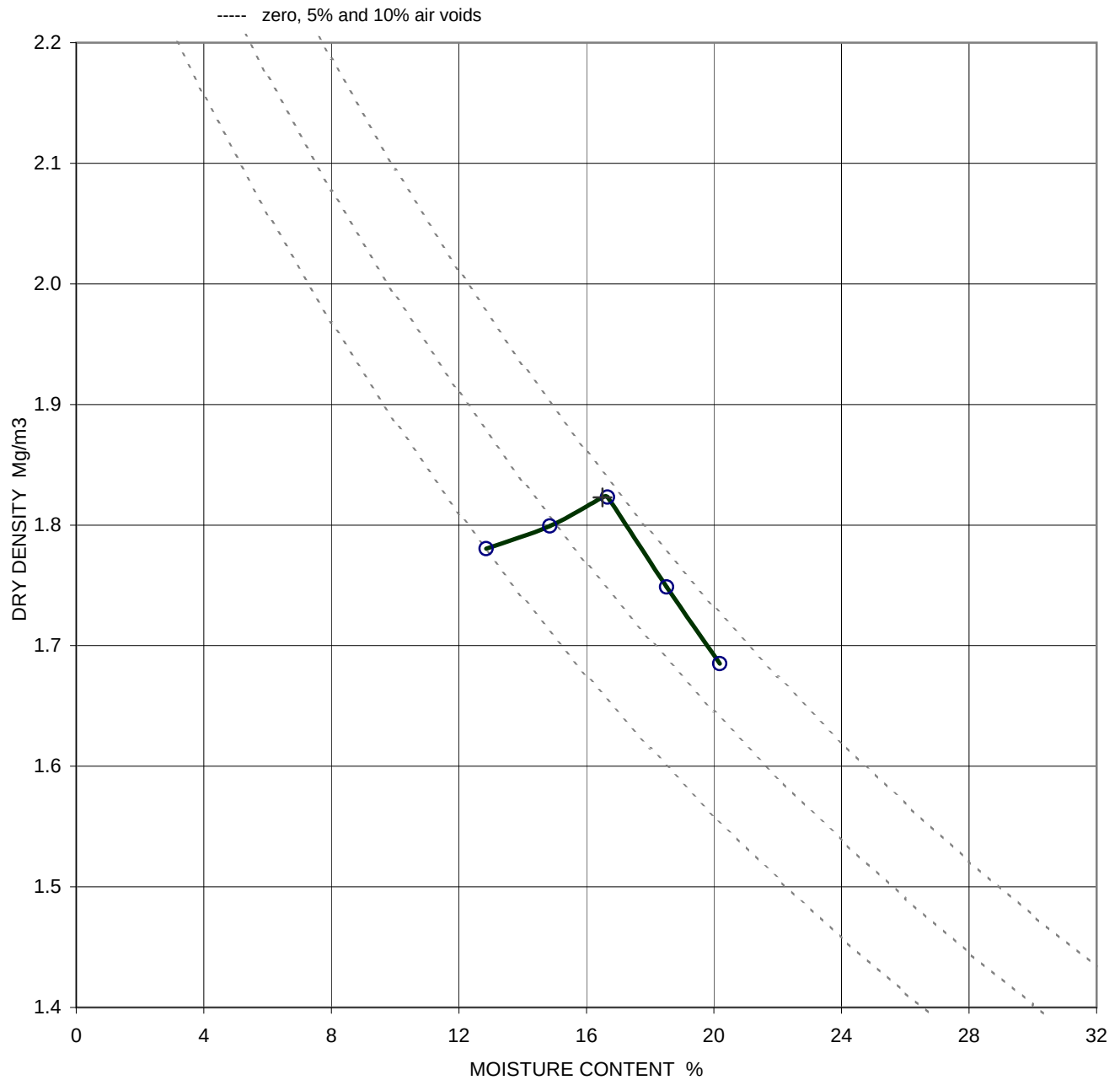
**Soil Mechanics**

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**Figure**  
**COMPL 5**

**DRY DENSITY / MOISTURE CONTENT RELATIONSHIP**  
**BS1377 : PART 4 : 1990 : LIGHT COMPACTION, 2.5 kg rammer**

|              |                                               |                 |               |                           |       |   |
|--------------|-----------------------------------------------|-----------------|---------------|---------------------------|-------|---|
| Project No   | A1008-11                                      | Sample Details: | Hole No       |                           | WS622 |   |
| Project Name | FERRYBRIDGE MULTIFUEL POWERSTATION<br>PHASE 2 |                 | Depth (m BGL) |                           | 2.00  |   |
|              |                                               |                 | Samp No       | 8                         | Type  | B |
|              |                                               |                 | ID            | ESGA1008-1120110304425124 |       |   |
|              |                                               |                 | Spec Ref      |                           |       |   |



Soil description      Brown slightly gravelly CLAY with silt pockets.

Test method          BS 1377:part 4:1990: clause 3.4, 2.5 kg rammer in a CBR mould

Preparation          Original material was natural, composite specimens tested

Material > 37.5mm      1      %

Material < 37.5mm > 20mm      5      %

Particle density, Mg/m³      2.65      assumed

Remarks          WS622 B8 at 2.00m combined with WS622 B6 at 1.20m

Derived Parameters +

Maximum dry density, Mg/m³  
**1.82**

Optimum moisture content, %  
**17**

**QA Ref**  
SLD 4, 3.3/4  
Rev 62  
Jul 07



**Soil Mechanics**

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**Figure**  
**COMPL 6**

# CHEMICAL TESTS - SUMMARY OF RESULTS

|            |                                            |
|------------|--------------------------------------------|
| Project No | Project Name                               |
| A1008-11   | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2 |

| Hole No. | Sample |           |      |      | Soil Description                                                    | Org<br>% | LOI<br>% | pH  | Sulphate as SO <sub>4</sub> |                       |                     |                | SD1 options |                                            |                 | CO <sub>2</sub><br>% | Chloride, Cl   |    | <2<br>mm<br>% | Remarks |
|----------|--------|-----------|------|------|---------------------------------------------------------------------|----------|----------|-----|-----------------------------|-----------------------|---------------------|----------------|-------------|--------------------------------------------|-----------------|----------------------|----------------|----|---------------|---------|
|          | No.    | Depth (m) |      | type |                                                                     |          |          |     | Preparation/test *<br>g/L   | 2:1 water sol.<br>g/L | ground water<br>g/L | acid sol.<br>% | TS<br>%     | Mg NO <sub>3</sub> NH <sub>4</sub><br>mg/L | water sol.<br>% |                      | acid sol.<br>% |    |               |         |
|          |        | from      | to   |      |                                                                     |          |          |     |                             |                       |                     |                |             |                                            |                 |                      |                |    |               |         |
| BH601    | 2      | 0.20      | 0.50 | B    | Brownish grey clayey sandy GRAVEL.                                  |          |          | 7.9 | 1+3                         | 0.05                  |                     | 0.16           |             |                                            |                 | <0.01                |                | 28 |               |         |
| BH601    | 4      | 0.60      | 1.00 | B    | Brown slightly sandy slightly gravelly CLAY with one cobble.        |          |          | 7.4 | 1+3                         | 0.08                  |                     | 0.04           |             |                                            |                 | <0.01                |                | 66 |               |         |
| BH601    | 7      | 1.65      | 2.40 | B    | Cream slightly sandy slightly gravelly SILT.                        |          |          | 7.8 | 1+3                         | 0.11                  |                     | 0.56           |             |                                            |                 | <0.01                |                | 83 |               |         |
| BH602    | 2      | 0.30      | 0.60 | B    | Reddish brown clayey sandy GRAVEL with one cobble.                  |          |          | 7.8 | 1+3                         | 0.26                  |                     | 0.06           |             |                                            |                 | 0.03                 |                | 25 |               |         |
| BH602    | 6      | 1.65      | 2.00 | B    | Brown slightly gravelly sandy CLAY.                                 |          |          | 7.0 | 1+3                         | 0.04                  |                     | 0.04           |             |                                            |                 | <0.01                |                | 86 |               |         |
| BH602    | 10     | 2.75      | 3.80 | B    | Cream slightly sandy slightly gravelly CLAY.                        |          |          | 7.8 | 1+3                         | 0.12                  |                     | 0.43           |             |                                            |                 | <0.01                |                | 98 |               |         |
| BH603    | 2      | 0.20      | 0.35 | B    | Dark brownish grey gravelly sandy CLAY.                             |          |          | 7.5 | 1+3                         | 0.03                  |                     | 0.04           |             |                                            |                 | <0.01                |                | 55 |               |         |
| BH603    | 4      | 0.60      | 1.00 | B    | Brown slightly gravelly sandy clayey SILT with rare rootlets.       |          |          | 7.6 | 1+3                         | 0.04                  |                     | 0.37           |             |                                            |                 | <0.01                |                | 81 |               |         |
| BH603    | 7      | 1.60      | 2.30 | B    | Light brown slightly sandy slightly gravelly SILT.                  |          |          | 8.9 | 1+3                         | 0.08                  |                     | 0.25           |             |                                            |                 | 0.01                 |                | 87 |               |         |
| BH604    | 4      | 0.60      | 1.00 | B    | Reddish brown clayey sandy GRAVEL. Gravel contains brick fragments. |          |          | 7.7 | 1+3                         | 0.07                  |                     | 0.19           |             |                                            |                 | <0.01                |                | 23 |               |         |
| BH604    | 9      | 2.65      | 2.85 | D    | Brown slightly sandy CLAY.                                          |          |          |     |                             |                       |                     |                |             |                                            |                 | <0.01                |                |    |               |         |
| BH604    | 11     | 3.00      | 3.50 | B    | Brown slightly sandy slightly gravelly CLAY.                        |          |          | 7.5 | 1+3                         | 0.27                  |                     | 0.54           |             |                                            |                 |                      |                | 99 |               |         |
| BH604    | 12     | 3.85      | 4.30 | U    | Light brown slightly gravelly SILT.                                 |          |          | 7.7 | 1+3                         | 0.12                  |                     | 0.08           |             |                                            |                 | <0.01                |                | 95 |               |         |
| BH605    | 2      | 0.50      | 1.00 | B    | Cream slightly gravelly silty SAND.                                 |          |          | 7.9 | 1+3                         | 0.02                  |                     | 0.06           |             |                                            |                 | <0.01                |                | 97 |               |         |
| BH606    | 2      | 0.40      | 0.80 | B    | Brown slightly gravelly sandy CLAY with one cobble.                 |          |          | 7.1 | 1+3                         | 0.09                  |                     | 0.04           |             |                                            |                 | <0.01                |                | 80 |               |         |
| BH606    | 5      | 1.20      | 1.65 | D    | Brown slightly sandy slightly gravelly CLAY.                        |          |          | 6.9 | 1+3                         | 0.02                  |                     | 0.29           |             |                                            |                 |                      |                | 84 |               |         |
| BH606    | 6      | 1.50      | 2.10 | B    | Brown slightly gravelly sandy CLAY.                                 |          |          | 7.5 | 1+3                         | 0.02                  |                     | 0.04           |             |                                            |                 | <0.01                |                | 80 |               |         |
| BH606    | 10     | 3.10      | 4.30 | B    | Cream slightly sandy slightly gravelly CLAY.                        |          |          | 7.9 | 1+3                         | 0.03                  |                     | 0.97           |             |                                            |                 | <0.01                |                | 84 |               |         |
| BH607    | 2      | 0.40      | 0.60 | B    | Brown slightly sandy slightly gravelly CLAY.                        |          |          | 7.4 | 1+3                         | 0.01                  |                     | 0.08           |             |                                            |                 | <0.01                |                | 98 |               |         |

|                                             |                                                                   |                                               |                                      |                                             |                                          |
|---------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------|--------------------------------------|---------------------------------------------|------------------------------------------|
| BS 1377 : definitive method unless stated : |                                                                   | * Sulphate tests preparation / test methods : |                                      | BRE Special Digest SD1, dependent options : |                                          |
| Org                                         | Organic matter content<br>( 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 <sub>2</sub>                             | 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 <sub>4</sub>                             | qualitative                              |

|                           |                                                                                                    |                          |        |
|---------------------------|----------------------------------------------------------------------------------------------------|--------------------------|--------|
| QA Ref                    |  Soil Mechanics | Printed:05/04/2011 16:54 | Table  |
| SLR 3<br>Rev 91<br>Jan 09 |                                                                                                    |                          | CHEM 1 |

## CHEMICAL TESTS - SUMMARY OF RESULTS

| Project No | Project Name                               |
|------------|--------------------------------------------|
| A1008-11   | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2 |

| Hole No. | Sample |           |      |      | Soil Description                                                  | Org<br><br>% | LOI<br><br>% | pH  | Sulphate as SO <sub>4</sub> |                                 |                            |                       | SD1 options |                                                              | CO <sub>2</sub><br><br>% | Chloride, Cl           |                       | <2<br>mm<br>% | Remarks |
|----------|--------|-----------|------|------|-------------------------------------------------------------------|--------------|--------------|-----|-----------------------------|---------------------------------|----------------------------|-----------------------|-------------|--------------------------------------------------------------|--------------------------|------------------------|-----------------------|---------------|---------|
|          | No.    | Depth (m) |      | type |                                                                   |              |              |     | Preparation/test *          | 2:1<br>water<br>sol.<br><br>g/L | ground<br>water<br><br>g/L | acid<br>sol.<br><br>% | TS<br><br>% | Mg<br>NO <sub>3</sub><br>NH <sub>4</sub><br><br>mg/L<br>mg/L |                          | water<br>sol.<br><br>% | acid<br>sol.<br><br>% |               |         |
|          |        | from      | to   |      |                                                                   |              |              |     |                             |                                 |                            |                       |             |                                                              |                          |                        |                       |               |         |
| BH607    | 4      | 0.60      | 1.00 | B    | Reddish brown slightly sandy slightly gravelly CLAY.              |              |              | 7.7 | 1+3                         | 0.07                            |                            | 0.19                  |             |                                                              |                          | <0.01                  |                       | 97            |         |
| BH607    | 7      | 1.20      | 2.30 | B    | Cream slightly sandy slightly gravelly SILT.                      |              |              | 8.1 | 1+3                         | 0.07                            |                            | 0.14                  |             |                                                              |                          | <0.01                  |                       | 100           |         |
| BH608    | 4      | 0.75      | 1.00 | B    | Brown slightly sandy slightly gravelly CLAY with rare rootlets.   |              |              | 7.3 | 1+3                         | 0.02                            |                            | 0.19                  |             |                                                              |                          | <0.01                  |                       | 67            |         |
| BH608    | 7      | 1.30      | 1.85 | B    | Light brownish cream slightly clayey very sandy GRAVEL.           |              |              | 8.0 | 1+3                         | 0.07                            |                            | 0.14                  |             |                                                              |                          | 0.01                   |                       | 38            |         |
| BH609    | 4      | 0.50      | 0.80 | B    | Brown slightly gravelly sandy CLAY.                               |              |              | 7.4 | 1+3                         | 0.05                            |                            | 0.31                  |             |                                                              |                          | <0.01                  |                       | 98            |         |
| BH610    | 2      | 0.20      | 0.40 | B    | Brown silty very sandy GRAVEL.                                    |              |              | 7.5 | 1+3                         | 0.02                            |                            | 0.04                  |             |                                                              |                          | <0.01                  |                       | 39            |         |
| BH610    | 4      | 0.55      | 1.00 | B    | Cream slightly sandy slightly gravelly SILT. Silt is chalk.       |              |              | 8.9 | 1+3                         | 0.06                            |                            | 0.23                  |             |                                                              |                          | <0.01                  |                       | 93            |         |
| BH611    | 4      | 0.75      | 1.00 | B    | Cream slightly sandy gravelly SILT.                               |              |              | 8.2 | 1+3                         | 0.04                            |                            | 0.19                  |             |                                                              |                          | <0.01                  |                       | 55            |         |
| BH611    | 7      | 1.65      | 2.10 | B    | Light brown slightly sandy slightly gravelly SILT.                |              |              | 8.0 | 1+3                         | 0.02                            |                            | 0.08                  |             |                                                              |                          | <0.01                  |                       | 71            |         |
| BH611    | 9      | 2.55      | 3.00 | B    | Light brown slightly sandy slightly gravelly CLAY.                |              |              | 7.5 | 1+3                         | 0.02                            |                            | 0.39                  |             |                                                              |                          | <0.01                  |                       | 95            |         |
| BH611    | 13     | 4.20      | 4.75 | B    | Light brown slightly clayey gravelly SAND.                        |              |              | 7.6 | 1+3                         | 0.07                            |                            | 0.27                  |             |                                                              |                          | 0.02                   |                       | 85            |         |
| BH611    | 17     | 6.20      | 7.00 | B    | Light brown clayey very gravelly SAND.                            |              |              | 7.4 | 1+3                         | 0.05                            |                            | 0.25                  |             |                                                              |                          | <0.01                  |                       | 61            |         |
| BH612    | 2      | 0.30      | 1.00 | B    | Cream slightly silty SAND.                                        |              |              | 8.0 | 1+3                         | 0.05                            |                            | 0.14                  |             |                                                              |                          | 0.01                   |                       | 100           |         |
| BH613    | 4      | 0.30      | 1.00 | B    | Light brown slightly sandy gravelly CLAY with three cobbles.      |              |              | 7.8 | 1+3                         | 0.05                            |                            | 0.21                  |             |                                                              |                          | <0.01                  |                       | 43            |         |
| BH613    | 7      | 1.20      | 2.00 | B    | Brownish grey slightly gravelly sandy CLAY with one cobble.       |              |              | 7.7 | 1+3                         | 0.09                            |                            | 0.06                  |             |                                                              |                          | <0.01                  |                       | 70            |         |
| WS601    | 5      | 0.70      | 0.90 | B    | Dark brown slightly gravelly sandy SILT with occasional rootlets. |              |              | 7.1 | 1+3                         | 0.02                            |                            | 0.04                  |             |                                                              |                          | <0.01                  |                       | 83            |         |
| WS601    | 7      | 1.20      | 1.80 | B    | Light brown gravelly SAND with occasional pockets of clay.        |              |              | 7.1 | 1+3                         | 0.12                            |                            | 0.58                  |             |                                                              |                          | <0.01                  |                       | 94            |         |
| WS601    | 11     | 2.80      | 3.60 | B    | Greyish brown slightly gravelly sandy CLAY.                       |              |              | 6.3 | 1+3                         | 0.11                            |                            | 0.41                  |             |                                                              |                          | 0.01                   |                       | 82            |         |
| WS601    | 10     | 2.80      | 3.25 | D    | Brown slightly gravelly sandy CLAY.                               |              |              | 6.2 | 1+3                         | 0.08                            |                            | 0.16                  |             |                                                              |                          | 0.01                   |                       | 86            |         |

|                                             |                                                                   |                                               |                                      |                                             |                                          |
|---------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------|--------------------------------------|---------------------------------------------|------------------------------------------|
| BS 1377 : definitive method unless stated : |                                                                   | * Sulphate tests preparation / test methods : |                                      | BRE Special Digest SD1, dependent options : |                                          |
| Org                                         | Organic matter content<br>( 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 <sub>2</sub>                             | Carbonate content ( rapid titration )                             | 3. BS 1377:Part 3:1990:clause 5.5             | 6. BR279 - groundwater sulphate      | NO <sub>3</sub>                             | Soluble Nitrate to BR279, colorimetric   |
| Cl                                          | Chloride content                                                  | < 2mm material passing 2mm sieve              |                                      | NH <sub>4</sub>                             | qualitative                              |

|                                                |                                                                                                           |                          |                                   |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------|
| <b>QA Ref</b><br><br>SLR 3<br>Rev 91<br>Jan 09 |  <b>Soil Mechanics</b> | Printed:05/04/2011 16:54 | <b>Table</b><br><br><b>CHEM 2</b> |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------|

## CHEMICAL TESTS - SUMMARY OF RESULTS

| Project No | Project Name                               |
|------------|--------------------------------------------|
| A1008-11   | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2 |

| Hole No. | Sample |           |      |      | Soil Description                                              | Org<br><br>% | LOI<br><br>% | pH  | Sulphate as SO <sub>4</sub>   |                                 |                            |                       | SD1 options |                                                  | CO <sub>2</sub><br><br>% | Chloride, Cl           |                       | <2<br>mm<br>% | Remarks |
|----------|--------|-----------|------|------|---------------------------------------------------------------|--------------|--------------|-----|-------------------------------|---------------------------------|----------------------------|-----------------------|-------------|--------------------------------------------------|--------------------------|------------------------|-----------------------|---------------|---------|
|          | No.    | Depth (m) |      | type |                                                               |              |              |     | Preparation/test *<br><br>g/L | 2:1<br>water<br>sol.<br><br>g/L | ground<br>water<br><br>g/L | acid<br>sol.<br><br>% | TS<br><br>% | Mg<br>NO <sub>3</sub><br>mg/L<br>NH <sub>4</sub> |                          | water<br>sol.<br><br>% | acid<br>sol.<br><br>% |               |         |
|          |        | from      | to   |      |                                                               |              |              |     |                               |                                 |                            |                       |             |                                                  |                          |                        |                       |               |         |
| WS601    | 16     | 4.80      | 5.80 | B    | Brown clayey very gravelly SAND.                              |              |              | 7.2 | 1+3                           | 0.05                            |                            | 0.19                  |             |                                                  |                          | <0.01                  |                       | 59            |         |
| WS602    | 5      | 0.70      | 0.90 | B    | Brown sandy CLAY.                                             |              |              | 6.8 | 1+3                           | 0.03                            |                            | 0.12                  |             |                                                  |                          | <0.01                  |                       | 100           |         |
| WS602    | 9      | 2.00      | 3.00 | B    | Brown clayey gravelly SAND.                                   |              |              | 7.1 | 1+3                           | 0.13                            |                            | 0.29                  |             |                                                  |                          | 0.02                   |                       | 84            |         |
| WS602    | 11     | 3.00      | 4.00 | B    | Brownish grey slightly gravelly sandy silty CLAY.             | 0.9          |              | 7.3 | 1+3                           | 0.07                            |                            | 0.08                  |             |                                                  |                          | <0.01                  |                       | 90            |         |
| WS602    | 14     | 5.00      | 5.45 | D    | Brown silty very gravelly SAND.                               |              |              | 7.1 | 1+3                           | 0.05                            |                            | 0.29                  |             |                                                  |                          | <0.01                  |                       | 64            |         |
| WS603    | 5      | 0.70      | 0.90 | B    | Brown clayey very sandy GRAVEL.                               |              |              | 7.8 | 1+3                           | 0.05                            |                            | 0.08                  |             |                                                  |                          |                        |                       | 53            |         |
| WS603    | 7      | 1.20      | 1.80 | B    | Light brown slightly gravelly sandy SILT.                     |              |              | 7.7 | 1+3                           | 0.09                            |                            | 0.27                  |             |                                                  |                          | 0.02                   |                       | 71            |         |
| WS603    | 12     | 3.00      | 3.80 | B    | Brown slightly sandy CLAY.                                    |              |              | 7.4 | 1+3                           | 0.13                            |                            | 0.02                  |             |                                                  |                          | <0.01                  |                       | 100           |         |
| WS605    | 5      | 0.70      | 0.90 | B    | Dark grey slightly gravelly sandy SILT.                       |              |              | 7.6 | 1+3                           | 0.07                            |                            | 0.14                  |             |                                                  |                          | <0.01                  |                       | 67            |         |
| WS605    | 12     | 3.00      | 4.00 | B    | Brown slightly sandy CLAY.                                    |              |              | 7.3 | 1+3                           | 0.06                            |                            | 1.01                  |             |                                                  |                          | <0.01                  |                       | 100           |         |
| WS605    | 17     | 5.00      | 5.80 | B    | Brown clayey gravelly SAND.                                   |              |              | 7.8 | 1+3                           | 0.04                            |                            | 0.39                  |             |                                                  |                          |                        |                       | 87            |         |
| WS606    | 5      | 0.70      | 0.90 | B    | Brownish grey sandy gravelly SILT with one cobble.            |              |              | 7.7 | 1+3                           | 0.02                            |                            | 0.04                  |             |                                                  |                          |                        |                       | 55            |         |
| WS606    | 10     | 2.00      | 3.00 | B    | Light brown slightly gravelly sandy silty CLAY.               |              |              | 7.4 | 1+3                           | 0.03                            |                            | 0.04                  |             |                                                  |                          | <0.01                  |                       | 78            |         |
| WS606    | 13     | 3.50      | 4.00 | B    | Light brown slightly sandy gravelly SILT.                     |              |              | 7.7 | 1+3                           | 0.04                            |                            | 0.41                  |             |                                                  |                          | <0.01                  |                       | 52            |         |
| WS607    | 5      | 0.70      | 0.90 | B    | Brown sandy gravelly CLAY with three cobbles.                 |              |              | 7.5 | 1+3                           | 0.08                            |                            | 0.21                  |             |                                                  |                          | <0.01                  |                       | 37            |         |
| WS607    | 10     | 2.50      | 3.00 | B    | Brown slightly gravelly SAND with occasional pockets of clay. |              |              | 7.5 | 1+3                           | 0.04                            |                            | 0.43                  |             |                                                  |                          | <0.01                  |                       | 96            |         |
| WS608    | 5      | 0.70      | 1.00 | B    | Brown slightly sandy gravelly SILT with rare pockets of clay. |              |              | 7.5 | 1+3                           | 0.01                            |                            | 0.08                  |             |                                                  |                          | <0.01                  |                       | 61            |         |
| WS610    | 5      | 0.70      | 0.90 | B    | Dark brown slightly clayey very sandy GRAVEL.                 |              |              | 8.2 | 1+3                           | 0.18                            |                            | 0.25                  |             |                                                  |                          | <0.01                  |                       | 40            |         |
| WS614    | 7      | 1.20      | 2.00 | B    | Brownish grey slightly sandy slightly gravelly silty CLAY.    |              |              | 7.5 | 1+3                           | 0.11                            |                            | 0.08                  |             |                                                  |                          | <0.01                  |                       | 69            |         |

|                                             |                                                                   |                                               |                                      |                                             |                                          |
|---------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------|--------------------------------------|---------------------------------------------|------------------------------------------|
| BS 1377 : definitive method unless stated : |                                                                   | * Sulphate tests preparation / test methods : |                                      | BRE Special Digest SD1, dependent options : |                                          |
| Org                                         | Organic matter content<br>( 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 <sub>2</sub>                             | Carbonate content ( rapid titration )                             | 3. BS 1377:Part 3:1990:clause 5.5             | 6. BR279 - groundwater sulphate      | NO <sub>3</sub>                             | Soluble Nitrate to BR279, colorimetric   |
| Cl                                          | Chloride content                                                  | < 2mm material passing 2mm sieve              |                                      | NH <sub>4</sub>                             | qualitative                              |

|                                                |                                                                                                           |                          |                                   |
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| <b>QA Ref</b><br><br>SLR 3<br>Rev 91<br>Jan 09 |  <b>Soil Mechanics</b> | Printed:05/04/2011 16:54 | <b>Table</b><br><br><b>CHEM 3</b> |
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## CHEMICAL TESTS - SUMMARY OF RESULTS

| Project No | Project Name                               |
|------------|--------------------------------------------|
| A1008-11   | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2 |

| Hole No. | Sample |           |      |      | Soil Description                                                    | Org | LOI | pH  | Sulphate as SO <sub>4</sub> |                |              |           | SD1 options |                                         |            | CO <sub>2</sub> | Chloride, Cl |     | <2 mm | Remarks |
|----------|--------|-----------|------|------|---------------------------------------------------------------------|-----|-----|-----|-----------------------------|----------------|--------------|-----------|-------------|-----------------------------------------|------------|-----------------|--------------|-----|-------|---------|
|          | No.    | Depth (m) |      | type |                                                                     |     |     |     | Preparation/test *          | 2:1 water sol. | ground water | acid sol. | TS          | Mg NO <sub>3</sub> NH <sub>4</sub> mg/L | water sol. |                 | acid sol.    |     |       |         |
|          |        | from      | to   |      |                                                                     |     |     |     |                             |                |              |           |             |                                         |            |                 |              | %   |       |         |
| WS614    | 12     | 3.00      | 3.45 | D    | Dark brown slightly sandy slightly gravelly CLAY.                   |     |     | 7.4 | 1+3                         | 0.10           |              | 0.10      |             |                                         |            | 0.01            |              | 97  |       |         |
| WS615    | 6      | 1.20      | 1.80 | B    | Brown slightly gravelly slightly sandy CLAY.                        |     |     | 7.4 | 1+3                         | 0.13           |              | 0.39      |             |                                         |            | 0.01            |              | 99  |       |         |
| WS617    | 4      | 0.40      | 1.00 | B    | Cream slightly gravelly SILT.                                       |     |     | 8.2 | 1+3                         | 0.01           |              | 0.04      |             |                                         |            | <0.01           |              | 100 |       |         |
| WS618    | 5      | 1.00      | 1.20 | B    | Yellowish cream slightly gravelly silty SAND.                       |     |     | 7.9 | 1+3                         | 0.02           |              | 0.41      |             |                                         |            | <0.01           |              | 97  |       |         |
| WS619    | 5      | 0.80      | 1.20 | B    | Light brown slightly sandy silty CLAY.                              |     |     | 7.6 | 1+3                         | 0.04           |              | 0.33      |             |                                         |            | <0.01           |              | 100 |       |         |
| WS620    | 4      | 0.30      | 0.50 | B    | Brown slightly gravelly sandy CLAY with rare rootlets.              |     |     | 7.2 | 1+3                         | 0.02           |              | 0.33      |             |                                         |            | <0.01           |              | 75  |       |         |
| WS621    | 8      | 1.20      | 1.80 | B    | Brown slightly sandy slightly gravelly CLAY.                        |     |     | 7.0 | 1+3                         | 0.02           |              | 0.31      |             |                                         |            | <0.01           |              | 68  |       |         |
| WS621    | 13     | 3.00      | 4.00 | B    | Light grey slightly sandy slightly gravelly SILT.                   |     |     | 7.8 | 1+3                         | 0.03           |              | 0.56      |             |                                         |            |                 |              | 100 |       |         |
| WS622    | 6      | 1.20      | 2.00 | B    | Brown slightly gravelly sandy CLAY.                                 |     |     | 7.5 | 1+3                         | 0.08           |              | 0.35      |             |                                         |            | <0.01           |              | 90  |       |         |
| WS622    | 11     | 3.00      | 4.00 | B    | Cream slightly sandy slightly gravelly silty CLAY.                  |     |     | 7.7 | 1+3                         | 0.04           |              | 0.29      |             |                                         |            |                 |              | 96  |       |         |
| WS623    | 5      | 0.70      | 0.90 | B    | Brown slightly gravelly slightly sandy CLAY.                        |     |     | 7.1 | 1+3                         | 0.04           |              | 0.49      |             |                                         |            | <0.01           |              | 99  |       |         |
| WS624    | 5      | 0.70      | 1.00 | B    | Grey and brown slightly gravelly sandy SILT.                        |     |     | 7.7 | 1+3                         | 0.05           |              | 0.06      |             |                                         |            | <0.01           |              | 71  |       |         |
| WS625    | 7      | 1.20      | 2.00 | B    | Reddish brown slightly sandy slightly gravelly CLAY.                |     |     | 7.4 | 1+3                         | 0.08           |              | 0.08      |             |                                         |            | <0.01           |              | 93  |       |         |
| WS625    | 12     | 3.00      | 4.00 | B    | Light brown slightly sandy slightly gravelly silty CLAY.            |     |     | 7.6 | 1+3                         | 0.04           |              | 0.08      |             |                                         |            |                 |              | 97  |       |         |
| WS626    | 5      | 0.50      | 1.00 | B    | Brown slightly gravelly sandy silty CLAY.                           |     |     | 7.6 | 1+3                         | 0.07           |              | 0.06      |             |                                         |            | <0.01           |              | 88  |       |         |
| WS627    | 5      | 0.50      | 1.00 | B    | Brown slightly gravelly sandy CLAY with one cobble.                 |     |     | 6.8 | 1+3                         | 0.02           |              | 0.25      |             |                                         |            |                 |              | 82  |       |         |
| WS628    | 5      | 0.90      | 1.20 | B    | Greyish brown slightly sandy slightly gravelly CLAY with occasional |     |     | 7.5 | 1+3                         | 0.20           |              | 0.04      |             |                                         |            |                 |              | 71  |       |         |

|                                             |                                                                   |                                               |                                      |                                             |                                          |
|---------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------|--------------------------------------|---------------------------------------------|------------------------------------------|
| BS 1377 : definitive method unless stated : |                                                                   | * Sulphate tests preparation / test methods : |                                      | BRE Special Digest SD1, dependent options : |                                          |
| Org                                         | Organic matter content<br>( 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 <sub>2</sub>                             | Carbonate content ( rapid titration )                             | 3. BS 1377:Part 3:1990:clause 5.5             | 6. BR279 - groundwater sulphate      | NO <sub>3</sub>                             | Soluble Nitrate to BR279, colorimetric   |
| Cl                                          | Chloride content                                                  | < 2mm material passing 2mm sieve              |                                      | NH <sub>4</sub>                             | qualitative                              |

|                                                |                                                                                                           |                          |                                   |
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| <b>QA Ref</b><br><br>SLR 3<br>Rev 91<br>Jan 09 |  <b>Soil Mechanics</b> | Printed:05/04/2011 16:54 | <b>Table</b><br><br><b>CHEM 4</b> |
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# UNIAXIAL COMPRESSIVE STRENGTH OF ROCK - SUMMARY OF RESULTS

| Project No | Project Name                               |           |       |      |                    |                                  |        |     |                           |                            |                                   |                 |                 |       |                             |
|------------|--------------------------------------------|-----------|-------|------|--------------------|----------------------------------|--------|-----|---------------------------|----------------------------|-----------------------------------|-----------------|-----------------|-------|-----------------------------|
| A1008-11   | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2 |           |       |      |                    |                                  |        |     |                           |                            |                                   |                 |                 |       |                             |
| Hole No.   | Sample                                     |           |       |      | Rock Type          | Specimen Dimensions <sup>2</sup> |        |     | Bulk Density <sup>2</sup> | Water Content <sup>1</sup> | Uniaxial Compression <sup>3</sup> |                 |                 |       | Remarks                     |
|            | No.                                        | Depth (m) |       | type |                    | Dia.                             | Height | H/D |                           |                            | Load Rate                         | Time to failure | Mode of failure | UCS   |                             |
|            |                                            | from      | to    |      |                    |                                  |        |     | mm                        | mm                         |                                   |                 |                 |       |                             |
| BH603      | 14                                         | 15.02     | 15.24 | CS   | LIMESTONE          | 85.7                             | 186.1  | 2.2 | 2.19                      | 16.4                       | 10                                | 243             | MS              | 7.62  | Outside ISRM Specification. |
| BH603      | 16                                         | 20.07     | 20.40 | CS   | LIMESTONE          | 85.7                             | 246.0  | 2.9 | 2.24                      | 16.0                       | 10                                | 342             | S               | 10.8  |                             |
| BH603      | 18                                         | 22.70     | 22.97 | CS   | LIMESTONE          | 85.7                             | 229.8  | 2.7 | 2.36                      | 11.2                       | 20                                | 493             | S               | 29.4  |                             |
| BH603      | 19                                         | 22.80     | 23.24 | CS   | LIMESTONE          | 85.8                             | 251.8  | 2.9 | 2.37                      | 11.0                       | 20                                | 470             | MS              | 28.1  |                             |
| BH604      | 20                                         | 19.53     | 19.80 | CS   | LIMESTONE          | 86.0                             | 173.1  | 2.0 | 2.20                      | 16.7                       | 10                                | 304             | S               | 9.67  | Outside ISRM Specification. |
| BH604      | 24                                         | 22.83     | 23.17 | CS   | LIMESTONE          | 85.8                             | 245.0  | 2.9 | 2.39                      | 11.2                       | 20                                | 435             | S               | 25.7  |                             |
| BH605      | 10                                         | 14.59     | 14.88 | CS   | LIMESTONE          | 85.2                             | 249.2  | 2.9 | 2.19                      | 12.5                       | 10                                | 276             | S               | 8.95  |                             |
| BH605      | 11                                         | 18.20     | 18.50 | CS   | LIMESTONE          | 86.0                             | 244.9  | 2.8 | 2.30                      | 9.8                        | 20                                | 426             | S               | 25.7  |                             |
| BH608      | 9                                          | 3.40      | 3.64  | CS   | CLAY AND LIMESTONE | 86.2                             | 216.5  | 2.5 | 2.18                      | 16.0                       | 0.135                             | 567             | S               | 0.219 |                             |
| BH611      | 24                                         | 15.40     | 15.69 | CS   | LIMESTONE          | 86.1                             | 245.7  | 2.9 | 2.26                      | 13.2                       | 10                                | 357             | S               | 12.2  |                             |
| BH611      | 25                                         | 16.00     | 16.30 | CS   | LIMESTONE          | 85.6                             | 243.7  | 2.8 | 2.15                      | 17.5                       | 10                                | 154             | S               | 5.34  |                             |
| BH611      | 27                                         | 18.57     | 19.00 | CS   | LIMESTONE          | 86.0                             | 236.7  | 2.8 | 2.21                      | 17.5                       | 10                                | 136             | S               | 5.15  |                             |

## Notes :

Test Specification : International Society for Rock Mechanics, The complete ISRM suggested methods for Rock Characterization Testing and Monitoring, 2007

<sup>1</sup> ISRM p87 test 1, water content at 105 ± 3 °C, specimen as received at the laboratory

<sup>2</sup> ISRM p86 clause (vii), Caliper method used for determination of bulk volume and derivation of bulk density

<sup>3</sup> ISRM p153 part 1, determination of Uniaxial Compressive Strength ( UCS ) of Rock Materials

above notes apply unless annotated otherwise in the remarks

Mode of failure :

S - Single shear MS - multiple shear

AC - Axial cleavage F - Fragmented

|                                  |                                                                                                           |                          |                        |
|----------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|------------------------|
| Ref<br>RLR 2<br>Rev 12<br>Mar 09 |  <b>Soil Mechanics</b> | Printed:31/03/2011 11:56 | Table<br><b>RUCS 1</b> |
|----------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|------------------------|

| Point Load Index Test<br>ISRM:1985                                                                                                                                                                                                                                                                                                                                                                                                                            |               |                                                                                                    |             |              |                |           |                                      |                          |                     |                          |            |         |                     |                                  |                                                            |                    |         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------|-------------|--------------|----------------|-----------|--------------------------------------|--------------------------|---------------------|--------------------------|------------|---------|---------------------|----------------------------------|------------------------------------------------------------|--------------------|---------|
| Project No                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               | Project Name                                                                                       |             |              |                |           |                                      |                          |                     |                          |            |         |                     |                                  |                                                            |                    |         |
| A1008-11                                                                                                                                                                                                                                                                                                                                                                                                                                                      |               | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2                                                         |             |              |                |           |                                      |                          |                     |                          |            |         |                     |                                  |                                                            |                    |         |
| All specimens tested at <b>as received water content</b> unless shown otherwise                                                                                                                                                                                                                                                                                                                                                                               |               |                                                                                                    |             |              |                |           |                                      |                          |                     |                          |            |         |                     |                                  |                                                            |                    |         |
| <b>Test Type</b><br>D - Diametral, A - Axial, I - Irregular Lump, B - Block<br><b>Direction</b> ( U = unknown or random )<br>L - parallel to planes of weakness<br>P - perpendicular to planes of weakness<br><b>Dimensions</b><br>D <sub>ps</sub> - Distance between platens ( platen separation )<br>D <sub>ps'</sub> - at failure<br>L <sub>ne</sub> - Length from platens to nearest free end<br>W - Width of shortest dimension perpendicular to load, P |               |                                                                                                    |             |              |                |           |                                      |                          |                     |                          |            |         |                     |                                  |                                                            |                    |         |
| Borehole                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Depth, m      | Sample Ref                                                                                         | Sample Type | Specimen Ref | Specimen Depth | Rock type | Test Type<br>see ISRM<br>Fig 5 and 8 |                          | Failure Valid (Y/N) | Dimensions               |            |         | LOAD<br>P<br><br>kN | De<br>equivalent diameter,<br>mm | Point Load Index<br>MPa<br><br>F = (De/50) <sup>0.45</sup> |                    | Remarks |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |               |                                                                                                    |             |              |                |           | Type<br>(D, A, I, B)                 | Direction<br>(L, P or U) |                     | Lne<br>mm                | Dps'<br>mm | W<br>mm |                     |                                  | I <sub>s</sub>                                             | I <sub>s(50)</sub> |         |
| BH602                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 8.00 - 8.12   | 12                                                                                                 | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 50.0                     | 83.0       | 86.9    | 2.90                | 84.93                            | 0.40                                                       | 0.51               |         |
| BH602                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 8.00 - 8.12   | 12                                                                                                 | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |                          | 54.0       | 86.9    | 1.80                | 77.30                            | 0.30                                                       | 0.37               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3.77 - 3.89   | 9                                                                                                  | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 45.0                     | 82.0       | 85.9    | 3.70                | 83.93                            | 0.53                                                       | 0.66               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3.77 - 3.89   | 9                                                                                                  | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |                          | 35.0       | 85.9    | 1.70                | 61.87                            | 0.44                                                       | 0.49               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 7.37 - 7.49   | 10                                                                                                 | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 48.0                     | 83.0       | 85.7    | 0.60                | 84.34                            | 0.08                                                       | 0.11               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 7.37 - 7.49   | 10                                                                                                 | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |                          | 36.0       | 85.7    | 0.60                | 62.68                            | 0.15                                                       | 0.17               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 7.80 - 7.92   | 11                                                                                                 | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 49.0                     | 83.0       | 86.3    | 1.00                | 84.63                            | 0.14                                                       | 0.18               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 7.80 - 7.92   | 11                                                                                                 | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |                          | 32.0       | 86.3    | 0.60                | 59.30                            | 0.17                                                       | 0.18               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 10.00 - 10.18 | 12                                                                                                 | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 50.0                     | 83.0       | 85.9    | 1.00                | 84.44                            | 0.14                                                       | 0.18               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 10.00 - 10.18 | 12                                                                                                 | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |                          | 58.0       | 85.9    | 4.60                | 79.65                            | 0.73                                                       | 0.89               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 11.92 - 12.02 | 13                                                                                                 | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 49.0                     | 84.0       | 86.4    | 4.40                | 85.19                            | 0.61                                                       | 0.77               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 11.92 - 12.02 | 13                                                                                                 | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |                          | 38.0       | 86.4    | 0.80                | 64.66                            | 0.19                                                       | 0.21               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 19.94 - 20.05 | 15                                                                                                 | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 50.0                     | 79.0       | 85.8    | 4.00                | 82.33                            | 0.59                                                       | 0.74               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 19.94 - 20.05 | 15                                                                                                 | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |                          | 47.0       | 85.8    | 2.10                | 71.66                            | 0.41                                                       | 0.48               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 21.56 - 21.68 | 17                                                                                                 | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 47.0                     | 81.0       | 85.7    | 8.00                | 83.32                            | 1.15                                                       | 1.45               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 21.56 - 21.68 | 17                                                                                                 | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |                          | 42.0       | 85.7    | 8.00                | 67.70                            | 1.75                                                       | 2.00               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 24.60 - 24.85 | 20                                                                                                 | CS          |              |                | LIMESTONE | I                                    | U                        | Y                   | 50.0                     | 51.0       | 85.9    | 4.50                | 74.69                            | 0.81                                                       | 0.97               |         |
| BH603                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 24.60 - 24.85 | 20                                                                                                 | CS          | 1            |                | LIMESTONE | I                                    | U                        | Y                   | 50.0                     | 64.0       | 85.8    | 3.60                | 83.62                            | 0.51                                                       | 0.65               |         |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 9.01 - 9.14   | 15                                                                                                 | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 45.0                     | 82.0       | 85.8    | 3.80                | 83.88                            | 0.54                                                       | 0.68               |         |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 9.01 - 9.14   | 15                                                                                                 | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |                          | 54.0       | 85.8    | 2.80                | 76.81                            | 0.47                                                       | 0.58               |         |
| QA Ref<br>ISRM 85<br>Rev 55<br>Nov 08                                                                                                                                                                                                                                                                                                                                                                                                                         |               |  Soil Mechanics |             |              |                |           |                                      |                          |                     | Printed:31/03/2011 12:00 |            |         |                     |                                  | Figure<br><br><b>PLT 1</b>                                 |                    |         |

| Point Load Index Test<br>ISRM:1985                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |               |                                            |             |              |                |           |                                      |                          |                     |            |            |         |                     |                                  |                                                     |                    |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|-------------|--------------|----------------|-----------|--------------------------------------|--------------------------|---------------------|------------|------------|---------|---------------------|----------------------------------|-----------------------------------------------------|--------------------|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Project No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               | Project Name                               |             |              |                |           |                                      |                          |                     |            |            |         |                     |                                  |                                                     |                    |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| A1008-11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2 |             |              |                |           |                                      |                          |                     |            |            |         |                     |                                  |                                                     |                    |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All specimens tested at <b>as received water content</b> unless shown otherwise<br><b>Test Type</b><br>D - Diametral, A - Axial, I - Irregular Lump, B - Block<br><b>Direction</b> ( U = unknown or random )<br>L - parallel to planes of weakness<br>P - perpendicular to planes of weakness<br><b>Dimensions</b><br>D <sub>ps</sub> - Distance between platens ( platen separation )<br>D <sub>ps'</sub> - at failure<br>L <sub>ne</sub> - Length from platens to nearest free end<br>W - Width of shortest dimension perpendicular to load, P |               |                                            |             |              |                |           |                                      |                          |                     |            |            |         |                     |                                  |                                                     |                    |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <div> <div>  </div> <div>  </div> <div>  </div> </div>                                                                                                                                                                                                                                     |               |                                            |             |              |                |           |                                      |                          |                     |            |            |         |                     |                                  |                                                     |                    |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Borehole                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Depth, m      | Sample Ref                                 | Sample Type | Specimen Ref | Specimen Depth | Rock type | Test Type<br>see ISRM<br>Fig 5 and 8 |                          | Failure Valid (Y/N) | Dimensions |            |         | LOAD<br>P<br><br>kN | De<br>equivalent diameter,<br>mm | Point Load Index<br>MPa<br><br>$F = (De/50)^{0.45}$ |                    | Remarks |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |               |                                            |             |              |                |           | Type<br>(D, A, I, B)                 | Direction<br>(L, P or U) |                     | Lne<br>mm  | Dps'<br>mm | W<br>mm |                     |                                  | I <sub>s</sub>                                      | I <sub>s(50)</sub> |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |               |                                            |             |              |                |           |                                      |                          |                     |            |            |         |                     |                                  |                                                     |                    |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 10.43 - 10.53 | 16                                         | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 47.0       | 81.0       | 84.8    | 0.40                | 82.88                            | 0.06                                                | 0.07               |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 10.43 - 10.53 | 16                                         | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |            | 41.0       | 84.8    | 0.30                | 66.53                            | 0.07                                                | 0.08               |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 12.11 - 12.22 | 17                                         | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 49.0       | 86.0       | 86.8    | 0.20                | 86.40                            | 0.03                                                | 0.03               |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 12.11 - 12.22 | 17                                         | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |            | 54.0       | 86.8    | 1.20                | 77.25                            | 0.20                                                | 0.24               |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 14.85 - 15.01 | 18                                         | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 48.0       | 81.0       | 84.5    | 0.60                | 82.73                            | 0.09                                                | 0.11               |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 14.85 - 15.01 | 18                                         | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |            | 40.0       | 84.5    | 0.40                | 65.60                            | 0.09                                                | 0.11               |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 18.16 - 18.27 | 19                                         | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 50.0       | 83.0       | 86.3    | 2.30                | 84.63                            | 0.32                                                | 0.41               |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 18.16 - 18.27 | 19                                         | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |            | 43.0       | 86.3    | 2.00                | 68.74                            | 0.42                                                | 0.49               |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 19.83 - 20.00 | 21                                         | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 49.0       | 81.0       | 86.2    | 2.60                | 83.56                            | 0.37                                                | 0.47               |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 19.83 - 20.00 | 21                                         | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |            | 43.0       | 86.2    | 2.20                | 68.70                            | 0.47                                                | 0.54               |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 20.90 - 21.07 | 22                                         | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 49.0       | 81.0       | 83.9    | 1.20                | 82.44                            | 0.18                                                | 0.22               |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 20.90 - 21.07 | 22                                         | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |            | 46.0       | 83.9    | 1.00                | 70.10                            | 0.20                                                | 0.24               |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 22.50 - 22.65 | 23                                         | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 47.0       | 83.0       | 85.1    | 3.40                | 84.04                            | 0.48                                                | 0.61               |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 22.50 - 22.65 | 23                                         | CS          | 1            |                | LIMESTONE | A                                    | U                        | Y                   |            | 32.0       | 85.1    | 2.30                | 58.88                            | 0.66                                                | 0.71               |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH605                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2.15 - 2.29   | 6                                          | CS          |              |                | LIMESTONE | D                                    | U                        | Y                   | 46.0       | 80.0       | 86.5    | 5.00                | 83.1                             |                                                     |                    |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| Point Load Index Test<br>ISRM:1985                                                                                                                                                                                                                                                                                                                                                                                                                             |               |                                            |             |              |                |           |                                                                                   |                          |                     |                                                                                    |            |                                                                                     |                     |                                  |                                                     |                    |                     |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|-------------|--------------|----------------|-----------|-----------------------------------------------------------------------------------|--------------------------|---------------------|------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------|---------------------|----------------------------------|-----------------------------------------------------|--------------------|---------------------|--|
| Project No                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               | Project Name                               |             |              |                |           |                                                                                   |                          |                     |                                                                                    |            |                                                                                     |                     |                                  |                                                     |                    |                     |  |
| A1008-11                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2 |             |              |                |           |                                                                                   |                          |                     |                                                                                    |            |                                                                                     |                     |                                  |                                                     |                    |                     |  |
| All specimens tested at <b>as received water content</b> unless shown otherwise                                                                                                                                                                                                                                                                                                                                                                                |               |                                            |             |              |                |           |                                                                                   |                          |                     |                                                                                    |            |                                                                                     |                     |                                  |                                                     |                    |                     |  |
| <b>Test Type</b><br>D - Diametral, A - Axial, I - Irregular Lump, B - Block<br><b>Direction</b> ( U = unknown or random )<br>L - parallel to planes of weakness<br>P - perpendicular to planes of weakness<br><b>Dimensions</b><br>D <sub>ps</sub> - Distance between platens ( platen separation )<br>D <sub>ps</sub> ' - at failure<br>L <sub>ne</sub> - Length from platens to nearest free end<br>W - Width of shortest dimension perpendicular to load, P |               |                                            |             |              |                |           |  |                          |                     |  |            |  |                     |                                  |                                                     |                    |                     |  |
| Borehole                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Depth, m      | Sample Ref                                 | Sample Type | Specimen Ref | Specimen Depth | Rock type | Test Type<br>see ISRM<br>Fig 5 and 8                                              |                          | Failure Valid (Y/N) | Dimensions                                                                         |            |                                                                                     | LOAD<br>P<br><br>kN | De<br>equivalent diameter,<br>mm | Point Load Index<br>MPa<br><br>$F = (De/50)^{0.45}$ |                    | Remarks             |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |                                            |             |              |                |           | Type<br>(D, A, I, B)                                                              | Direction<br>(L, P or U) |                     | Lne<br>mm                                                                          | Dps'<br>mm | W<br>mm                                                                             |                     |                                  | I <sub>s</sub>                                      | I <sub>s(50)</sub> |                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |                                            |             |              |                |           |                                                                                   |                          |                     |                                                                                    |            |                                                                                     |                     |                                  |                                                     |                    |                     |  |
| BH605                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 13.39 - 13.59 | 9                                          | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 50.0                                                                               | 85.0       | 86.1                                                                                | 1.10                | 85.55                            | 0.15                                                | 0.19               |                     |  |
| BH605                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 13.39 - 13.59 | 9                                          | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 48.0       | 86.1                                                                                | 1.40                | 72.54                            | 0.27                                                | 0.31               |                     |  |
| BH605                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 20.87 - 20.98 | 12                                         | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 50.0                                                                               | 74.0       | 86.3                                                                                | 9.00                | 79.91                            | 1.41                                                | 1.74               |                     |  |
| BH605                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 20.87 - 20.98 | 12                                         | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 51.0       | 86.3                                                                                | 6.00                | 74.86                            | 1.07                                                | 1.28               |                     |  |
| BH606                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 6.20 - 6.30   | 12                                         | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 49.0                                                                               | 82.0       | 85.8                                                                                | 9.00                | 83.88                            | 1.28                                                | 1.61               |                     |  |
| BH606                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 6.20 - 6.30   | 12                                         | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 47.0       | 85.8                                                                                | 6.00                | 71.66                            | 1.17                                                | 1.37               |                     |  |
| BH606                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 13.35 - 13.45 | 13                                         | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 47.0                                                                               | 81.0       | 85.8                                                                                | 0.60                | 83.37                            | 0.09                                                | 0.11               |                     |  |
| BH606                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 13.35 - 13.45 | 13                                         | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 45.0       | 85.8                                                                                | 0.40                | 70.11                            | 0.08                                                | 0.09               |                     |  |
| BH606                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 17.33 - 17.44 | 14                                         | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 48.0                                                                               | 82.0       | 86.0                                                                                | 4.30                | 83.98                            | 0.61                                                | 0.77               |                     |  |
| BH606                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 17.33 - 17.44 | 14                                         | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 41.0       | 86.0                                                                                | 3.70                | 67.00                            | 0.82                                                | 0.94               |                     |  |
| BH607                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5.61 - 5.77   | 9                                          | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 49.0                                                                               | 84.0       | 86.5                                                                                | 0.60                | 85.24                            | 0.08                                                | 0.10               |                     |  |
| BH607                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5.61 - 5.77   | 9                                          | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 27.0       | 86.5                                                                                | 1.90                | 54.53                            | 0.64                                                | 0.66               |                     |  |
| BH607                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 11.70 - 11.86 | 10                                         | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 50.0                                                                               | 83.0       | 86.0                                                                                | 1.50                | 84.49                            | 0.21                                                | 0.27               |                     |  |
| BH607                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 11.70 - 11.86 | 10                                         | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 40.0       | 86.0                                                                                | 1.50                | 66.18                            | 0.34                                                | 0.39               |                     |  |
| BH607                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 13.36 - 13.50 | 11                                         | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 45.0                                                                               | 83.0       | 85.9                                                                                | 1.00                | 84.44                            | 0.14                                                | 0.18               |                     |  |
| BH607                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 13.36 - 13.50 | 11                                         | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 48.0       | 85.9                                                                                | 1.10                | 72.46                            | 0.21                                                | 0.25               |                     |  |
| BH608                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 11.28 - 11.41 | 10                                         | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 50.0                                                                               | 83.0       | 85.4                                                                                | 0.80                | 84.19                            | 0.11                                                | 0.14               |                     |  |
| BH608                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 11.28 - 11.41 | 10                                         | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 63.0       | 85.4                                                                                | 0.40                | 82.77                            | 0.06                                                | 0.07               |                     |  |
| BH608                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 15.31 - 15.49 | 11                                         | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 47.0                                                                               | 84.0       | 86.0                                                                                | 0.40                | 84.99                            | 0.06                                                | 0.07               |                     |  |
| BH608                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 15.31 - 15.49 | 11                                         | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 50.0       | 8.0                                                                                 | 0.50                | 22.57                            | 0.98                                                | 0.69               |                     |  |
| QA Ref<br>ISRM 85<br>Rev 55<br>Nov 08                                                                                                                                                                                                                                                                                                                                                                                                                          |               |                                            |             |              |                |           |                                                                                   |                          | Soil Mechanics      |                                                                                    |            |                                                                                     |                     | Printed:31/03/2011 12:00         |                                                     |                    | Figure<br><br>PLT 3 |  |

| Point Load Index Test<br>ISRM:1985                                                                                                                                                                                                                                                                                                                                                                                                                             |               |                                            |             |              |                |           |                                                                                   |                          |                     |                                                                                    |            |                                                                                     |                     |                                  |                                                     |                    |         |                     |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|-------------|--------------|----------------|-----------|-----------------------------------------------------------------------------------|--------------------------|---------------------|------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------|---------------------|----------------------------------|-----------------------------------------------------|--------------------|---------|---------------------|--|
| Project No                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               | Project Name                               |             |              |                |           |                                                                                   |                          |                     |                                                                                    |            |                                                                                     |                     |                                  |                                                     |                    |         |                     |  |
| A1008-11                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               | FERRYBRIDGE MULTIFUEL POWERSTATION PHASE 2 |             |              |                |           |                                                                                   |                          |                     |                                                                                    |            |                                                                                     |                     |                                  |                                                     |                    |         |                     |  |
| All specimens tested at <b>as received water content</b> unless shown otherwise                                                                                                                                                                                                                                                                                                                                                                                |               |                                            |             |              |                |           |                                                                                   |                          |                     |                                                                                    |            |                                                                                     |                     |                                  |                                                     |                    |         |                     |  |
| <b>Test Type</b><br>D - Diametral, A - Axial, I - Irregular Lump, B - Block<br><b>Direction</b> ( U = unknown or random )<br>L - parallel to planes of weakness<br>P - perpendicular to planes of weakness<br><b>Dimensions</b><br>D <sub>ps</sub> - Distance between platens ( platen separation )<br>D <sub>ps</sub> ' - at failure<br>L <sub>ne</sub> - Length from platens to nearest free end<br>W - Width of shortest dimension perpendicular to load, P |               |                                            |             |              |                |           |  |                          |                     |  |            |  |                     |                                  |                                                     |                    |         |                     |  |
| Borehole                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Depth, m      | Sample Ref                                 | Sample Type | Specimen Ref | Specimen Depth | Rock type | Test Type<br>see ISRM<br>Fig 5 and 8                                              |                          | Failure Valid (Y/N) | Dimensions                                                                         |            |                                                                                     | LOAD<br>P<br><br>kN | De<br>equivalent diameter,<br>mm | Point Load Index<br>MPa<br><br>$F = (De/50)^{0.45}$ |                    | Remarks |                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |                                            |             |              |                |           | Type<br>(D, A, I, B)                                                              | Direction<br>(L, P or U) |                     | Lne<br>mm                                                                          | Dps'<br>mm | W<br>mm                                                                             |                     |                                  | I <sub>s</sub>                                      | I <sub>s(50)</sub> |         |                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |                                            |             |              |                |           |                                                                                   |                          |                     |                                                                                    |            |                                                                                     |                     |                                  |                                                     |                    |         |                     |  |
| BH609                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3.50 - 3.61   | 7                                          | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 51.0                                                                               | 84.0       | 86.0                                                                                | 0.30                | 84.99                            | 0.04                                                | 0.05               |         |                     |  |
| BH609                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3.50 - 3.61   | 7                                          | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 51.0       | 86.0                                                                                | 0.50                | 74.73                            | 0.09                                                | 0.11               |         |                     |  |
| BH609                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 13.80 - 13.93 | 8                                          | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 48.0                                                                               | 84.0       | 86.1                                                                                | 2.20                | 85.04                            | 0.30                                                | 0.39               |         |                     |  |
| BH609                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 13.80 - 13.93 | 8                                          | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 38.0       | 86.1                                                                                | 2.50                | 64.54                            | 0.60                                                | 0.67               |         |                     |  |
| BH609                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 16.13 - 16.31 | 9                                          | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 50.0                                                                               | 83.0       | 85.2                                                                                | 0.60                | 84.09                            | 0.08                                                | 0.11               |         |                     |  |
| BH609                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 16.13 - 16.31 | 9                                          | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 47.0       | 85.2                                                                                | 0.40                | 71.40                            | 0.08                                                | 0.09               |         |                     |  |
| BH610                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 4.05 - 4.16   | 5                                          | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 47.0                                                                               | 81.0       | 86.3                                                                                | 1.60                | 83.61                            | 0.23                                                | 0.29               |         |                     |  |
| BH610                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 4.05 - 4.16   | 5                                          | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 53.0       | 86.3                                                                                | 0.90                | 76.31                            | 0.15                                                | 0.19               |         |                     |  |
| BH610                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5.27 - 5.42   | 6                                          | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 45.0                                                                               | 81.0       | 86.2                                                                                | 2.50                | 83.56                            | 0.36                                                | 0.45               |         |                     |  |
| BH610                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5.27 - 5.42   | 6                                          | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 30.0       | 86.2                                                                                | 0.80                | 57.38                            | 0.24                                                | 0.26               |         |                     |  |
| BH610                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 8.78 - 8.91   | 7                                          | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 47.0                                                                               | 83.0       | 86.5                                                                                | 1.60                | 84.73                            | 0.22                                                | 0.28               |         |                     |  |
| BH610                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 8.78 - 8.91   | 7                                          | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 42.0       | 86.5                                                                                | 1.00                | 68.01                            | 0.22                                                | 0.25               |         |                     |  |
| BH610                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 11.64 - 11.71 | 8                                          | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 47.0                                                                               | 83.0       | 86.2                                                                                | 1.20                | 84.58                            | 0.17                                                | 0.21               |         |                     |  |
| BH610                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 11.64 - 11.71 | 8                                          | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 41.0       | 86.2                                                                                | 0.40                | 67.08                            | 0.09                                                | 0.10               |         |                     |  |
| BH610                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 15.37 - 15.50 | 9                                          | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 50.0                                                                               | 83.0       | 86.3                                                                                | 1.50                | 84.63                            | 0.21                                                | 0.27               |         |                     |  |
| BH610                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 15.37 - 15.50 | 9                                          | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 45.0       | 86.3                                                                                | 1.20                | 70.32                            | 0.24                                                | 0.28               |         |                     |  |
| BH611                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 10.62 - 10.72 | 21                                         | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 44.0                                                                               | 83.0       | 84.4                                                                                | 0.30                | 83.70                            | 0.04                                                | 0.05               |         |                     |  |
| BH611                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 10.62 - 10.72 | 21                                         | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 43.0       | 84.4                                                                                | 1.10                | 67.98                            | 0.24                                                | 0.27               |         |                     |  |
| BH611                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 12.50 - 12.60 | 22                                         | CS          |              |                | LIMESTONE | D                                                                                 | U                        | Y                   | 47.0                                                                               | 83.0       | 86.4                                                                                | 6.00                | 84.68                            | 0.84                                                | 1.06               |         |                     |  |
| BH611                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 12.50 - 12.60 | 22                                         | CS          | 1            |                | LIMESTONE | A                                                                                 | U                        | Y                   |                                                                                    | 50.0       | 86.4                                                                                | 6.00                | 74.16                            | 1.09                                                | 1.30               |         |                     |  |
| QA Ref                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               | ISRM 85<br>Rev 55<br>Nov 08                |             |              |                |           |                                                                                   |                          |                     | Soil Mechanics                                                                     |            |                                                                                     |                     |                                  | Printed:31/03/2011 12:00                            |                    |         | Figure<br><br>PLT 4 |  |

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**ENCLOSURE D**  
**GEOENVIRONMENTAL LABORATORY TEST RESULTS**

ESG Scientifics Report

EFS/111437M

EFS/111614M

EFS/111662

EFS/111699M

EFS/111807M

EFS/111808M

EFS/111809

EXR/118417

EXR/119715

# TEST REPORT

## SOIL SAMPLE ANALYSIS



Report No. EFS/111437M (Ver. 3)

Soil Mechanics  
Askern Road  
Carcroft  
Doncaster  
DN6 8DG

**Site: Ferrybridge Multifuel PowerStn**

The 6 samples described in this report were logged for analysis by Scientifics on 25-Feb-2011. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 06-Apr-2011

Tests where the accreditation is set to N or No, and any individual data items marked with a \* are not UKAS or MCERTS accredited. Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)  
Table of PAH (MS-SIM) (80) Results (Pages 4 to 9)  
Table of TPH (Si) banding (std) (Page 10)  
GC-FID Chromatograms (Pages 11 to 22)  
Asbestos Identification and Quantification (Pages 23 to 24)  
Table of Method Descriptions (Page 25)  
Table of Report Notes (Page 26)  
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of  
Scientifics :  
Andrew Timms

Operations Manager

Date of Issue: 06-Apr-2011

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)

Tests marked '\*' have been subcontracted to another laboratory.

(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.

All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)  
Scientifics accepts no responsibility for any sampling not carried out by our personnel.



[illegible]

[illegible]

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | BH603 ES 3 0.50                                | <b>Job Number:</b>     | S11_1437M  |
| <b>LIMS ID Number:</b>            | CL1106941                                      | <b>Date Booked in:</b> | 25-Feb-11  |
| <b>QC Batch Number:</b>           | 110410                                         | <b>Date Extracted:</b> | 01-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 02-Mar-11  |
| <b>Directory:</b>                 | 0111PAH.MS5\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.42                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 124    |
| Acenaphthene-d10       | 122    |
| Phenanthrene-d10       | 139    |
| Chrysene-d12           | 131    |
| Perylene-d12           | 120    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 91    |
| Terphenyl-d14    | 98    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | BH604 ES 1 0.30                                | <b>Job Number:</b>     | S11_1437M  |
| <b>LIMS ID Number:</b>            | CL1106942                                      | <b>Date Booked in:</b> | 25-Feb-11  |
| <b>QC Batch Number:</b>           | 110410                                         | <b>Date Extracted:</b> | 01-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 02-Mar-11  |
| <b>Directory:</b>                 | 0111PAH.MS5\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.45                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 130    |
| Acenaphthene-d10       | 129    |
| Phenanthrene-d10       | 141    |
| Chrysene-d12           | 116    |
| Perylene-d12           | 103    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 89    |
| Terphenyl-d14    | 91    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | BH604 ES 7 2.20                                | <b>Job Number:</b>     | S11_1437M  |
| <b>LIMS ID Number:</b>            | CL1106943                                      | <b>Date Booked in:</b> | 25-Feb-11  |
| <b>QC Batch Number:</b>           | 110410                                         | <b>Date Extracted:</b> | 01-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 02-Mar-11  |
| <b>Directory:</b>                 | 0111PAH.MS5\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.51                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 125    |
| Acenaphthene-d10       | 122    |
| Phenanthrene-d10       | 132    |
| Chrysene-d12           | 111    |
| Perylene-d12           | 92     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 93    |
| Terphenyl-d14    | 95    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | BH609 ES 3 0.50                                | <b>Job Number:</b>     | S11_1437M  |
| <b>LIMS ID Number:</b>            | CL1106944                                      | <b>Date Booked in:</b> | 25-Feb-11  |
| <b>QC Batch Number:</b>           | 110410                                         | <b>Date Extracted:</b> | 01-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 02-Mar-11  |
| <b>Directory:</b>                 | 0111PAH.MS5\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.45                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 133    |
| Acenaphthene-d10       | 132    |
| Phenanthrene-d10       | 153    |
| Chrysene-d12           | 136    |
| Perylene-d12           | 120    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 88    |
| Terphenyl-d14    | 93    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | BH611 ES 1 0.30                                | <b>Job Number:</b>     | S11_1437M  |
| <b>LIMS ID Number:</b>            | CL1106945                                      | <b>Date Booked in:</b> | 25-Feb-11  |
| <b>QC Batch Number:</b>           | 110410                                         | <b>Date Extracted:</b> | 01-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 02-Mar-11  |
| <b>Directory:</b>                 | 0111PAH.MS5\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.10                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.10                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.10                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.10                 | -     | UM            |
| Phenanthrene           | 85-01-8  | 5.90          | 0.16                   | 100   | UM            |
| Anthracene             | 120-12-7 | -             | < 0.10                 | -     | U             |
| Fluoranthene           | 206-44-0 | 7.28          | 0.29                   | 99    | UM            |
| Pyrene                 | 129-00-0 | 7.58          | 0.26                   | 84    | UM            |
| Benzo[a]anthracene     | 56-55-3  | 9.29          | 0.21                   | 98    | UM            |
| Chrysene               | 218-01-9 | 9.34          | 0.16                   | 89    | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | 10.83         | 0.20                   | 75    | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.10                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | 11.26         | 0.18                   | 94    | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.66         | 0.13                   | 93    | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.10                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.99         | 0.10                   | 83    | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 2.00                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 125    |
| Acenaphthene-d10       | 123    |
| Phenanthrene-d10       | 137    |
| Chrysene-d12           | 129    |
| Perylene-d12           | 118    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 90    |
| Terphenyl-d14    | 95    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | BH611 ES 5 1.00                                | <b>Job Number:</b>     | S11_1437M  |
| <b>LIMS ID Number:</b>            | CL1106946                                      | <b>Date Booked in:</b> | 25-Feb-11  |
| <b>QC Batch Number:</b>           | 110410                                         | <b>Date Extracted:</b> | 01-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 02-Mar-11  |
| <b>Directory:</b>                 | 0111PAH.MS5\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.50                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 125    |
| Acenaphthene-d10       | 122    |
| Phenanthrene-d10       | 138    |
| Chrysene-d12           | 130    |
| Perylene-d12           | 116    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 90    |
| Terphenyl-d14    | 96    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.



## ALIPHATIC / AROMATIC FRACTION BY GC/FID

|                                   |                                                 |
|-----------------------------------|-------------------------------------------------|
| <b>Customer and Site Details:</b> | Soil Mechanics : Ferrybridge Multifuel PowerStn |
| <b>Job Number:</b>                | S11_1437                                        |
| <b>QC Batch Number:</b>           | 110410                                          |
| <b>Directory:</b>                 | D:\TES\DATA\Y2011\0302TPH_GC14\030211B          |
| <b>Method:</b>                    | Ultra Sonic                                     |

**Separation:** Silica gel  
**Eluents:** Hexane, DCM

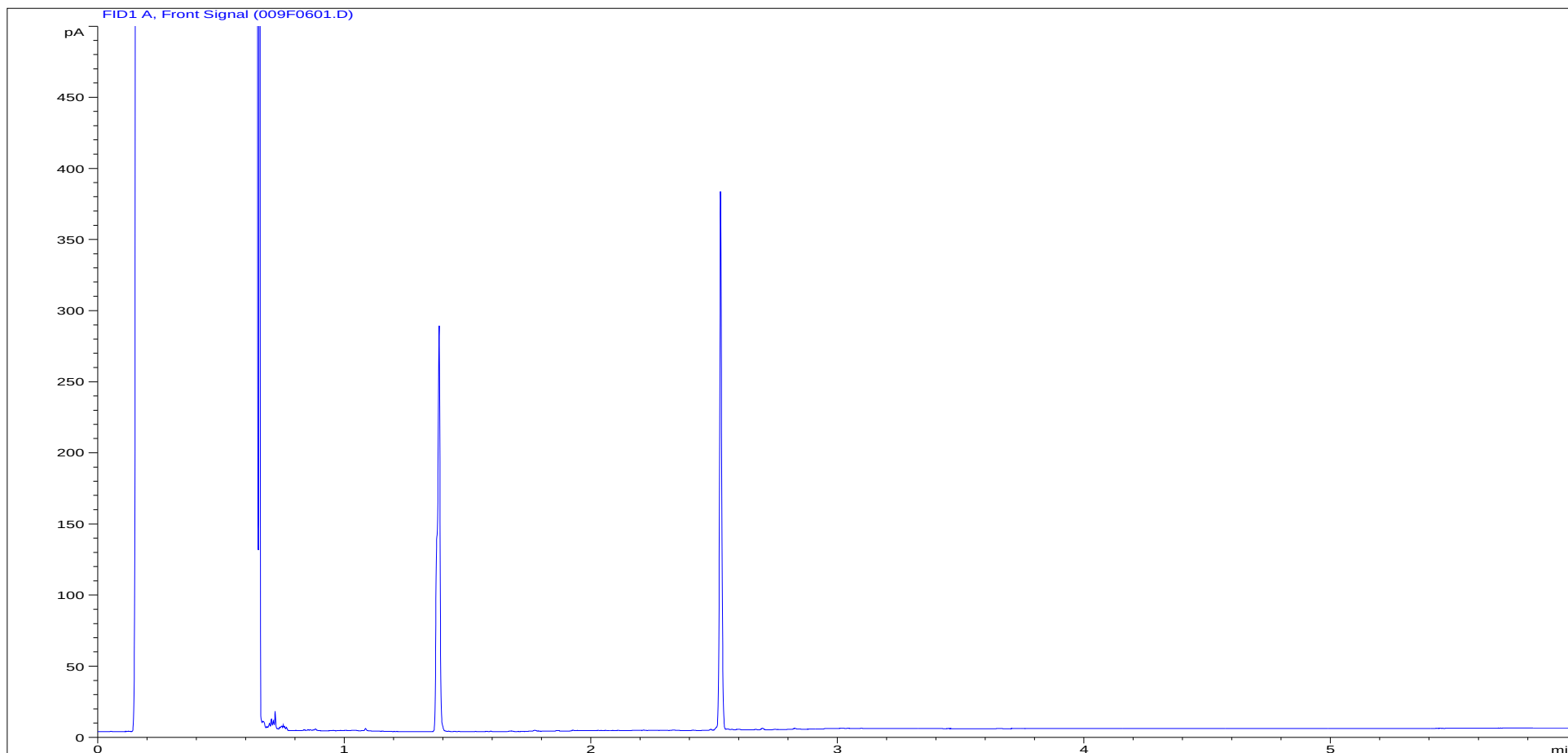
**Matrix:** Soil  
**Date Booked in:** 25-Feb-11  
**Date Extracted:** 01-Mar-11  
**Date Analysed:** 02-Mar-11, 19:48:27

This sample data is not MCERTS accredited.

**\* This sample data is not ISO17025 accredited.**

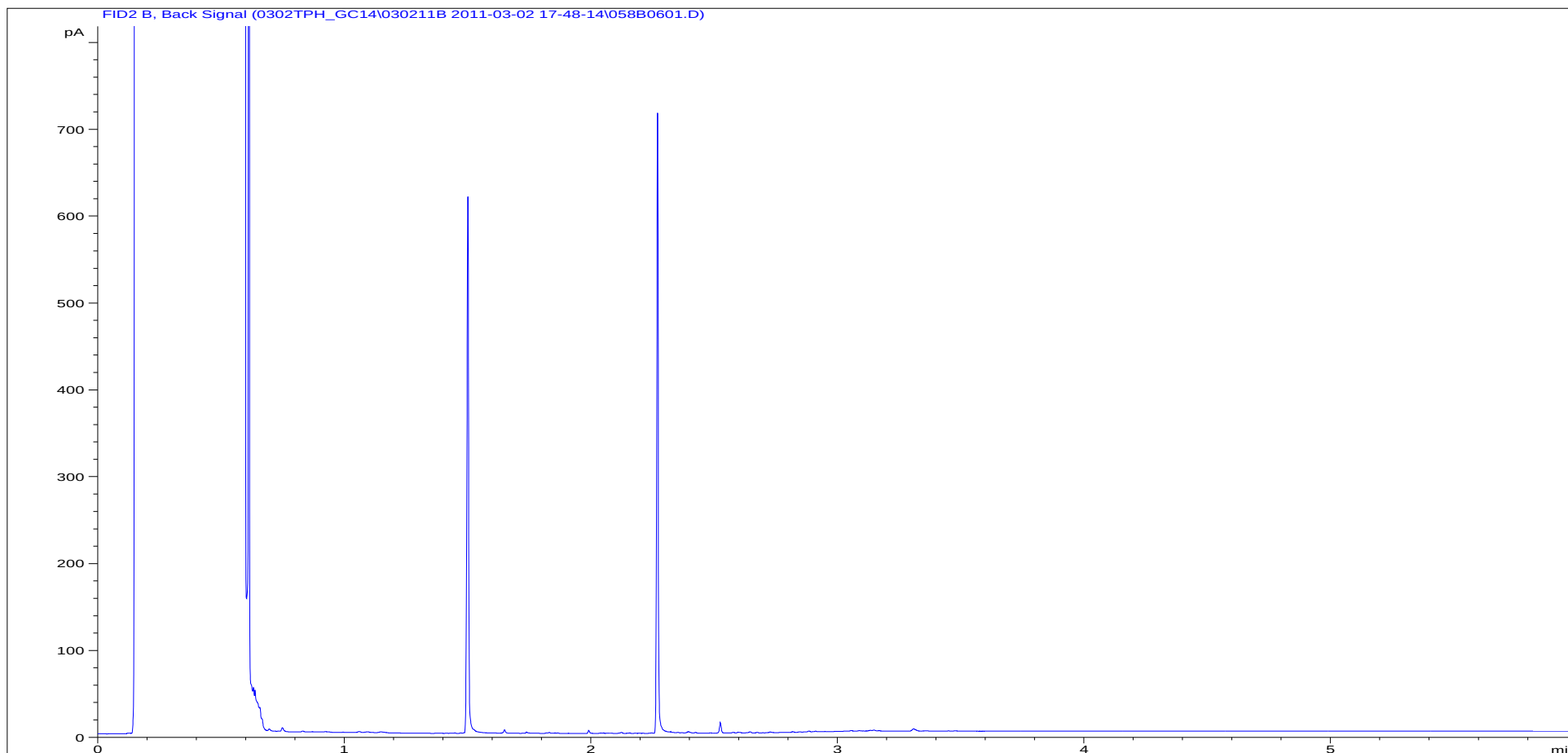
[illegible]

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



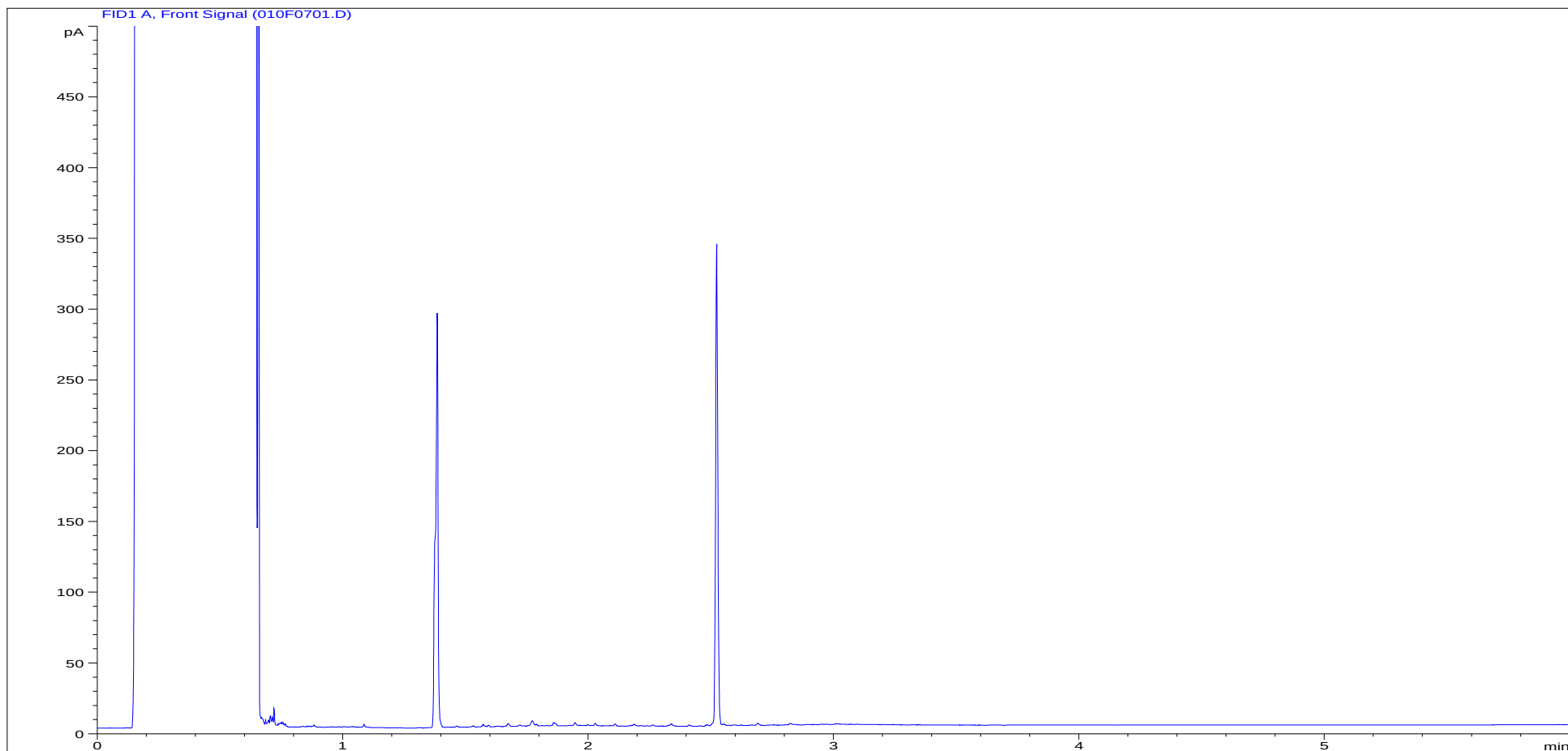
|                               |                                                                       |                           |                                |
|-------------------------------|-----------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1106941ALI                                                          | <b>Job Number:</b>        | S11_1437M                      |
| <b>Multiplier:</b>            | 14.82                                                                 | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                     | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                        | <b>Client Sample Ref:</b> | BH603 ES 3 0.50                |
| <b>Acquisition Date/Time:</b> | 02-Mar-11, 18:47:40                                                   |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\0302TPH_GC14\030211B 2011-03-02 17-48-14\009F0601.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



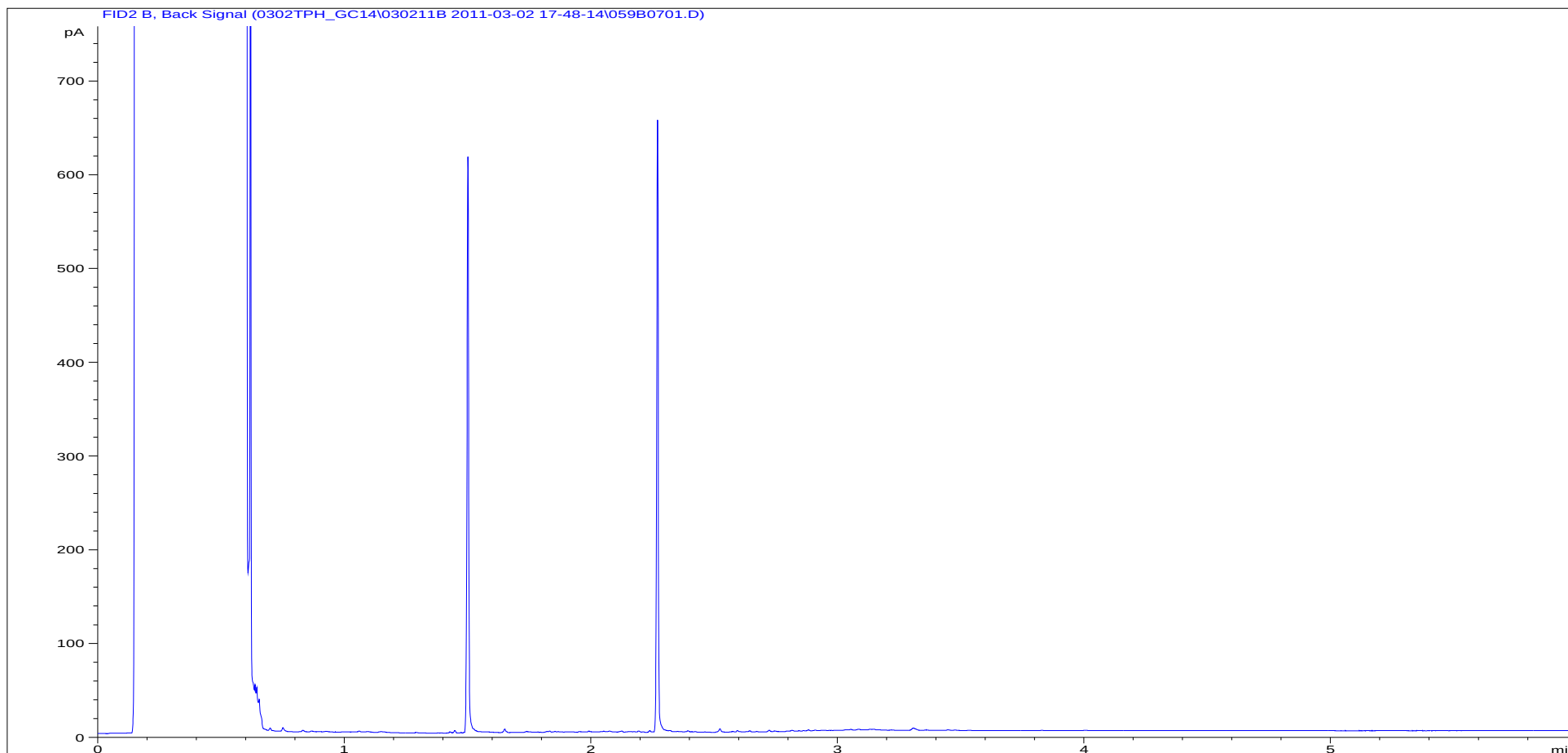
|                               |                                                                       |                           |                                |
|-------------------------------|-----------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1106941ARO                                                          | <b>Job Number:</b>        | S11_1437M                      |
| <b>Multiplier:</b>            | 11.4                                                                  | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                     | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                        | <b>Client Sample Ref:</b> | BH603 ES 3 0.50                |
| <b>Acquisition Date/Time:</b> | 02-Mar-11, 18:47:40                                                   |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\0302TPH_GC14\030211B 2011-03-02 17-48-14\058B0601.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



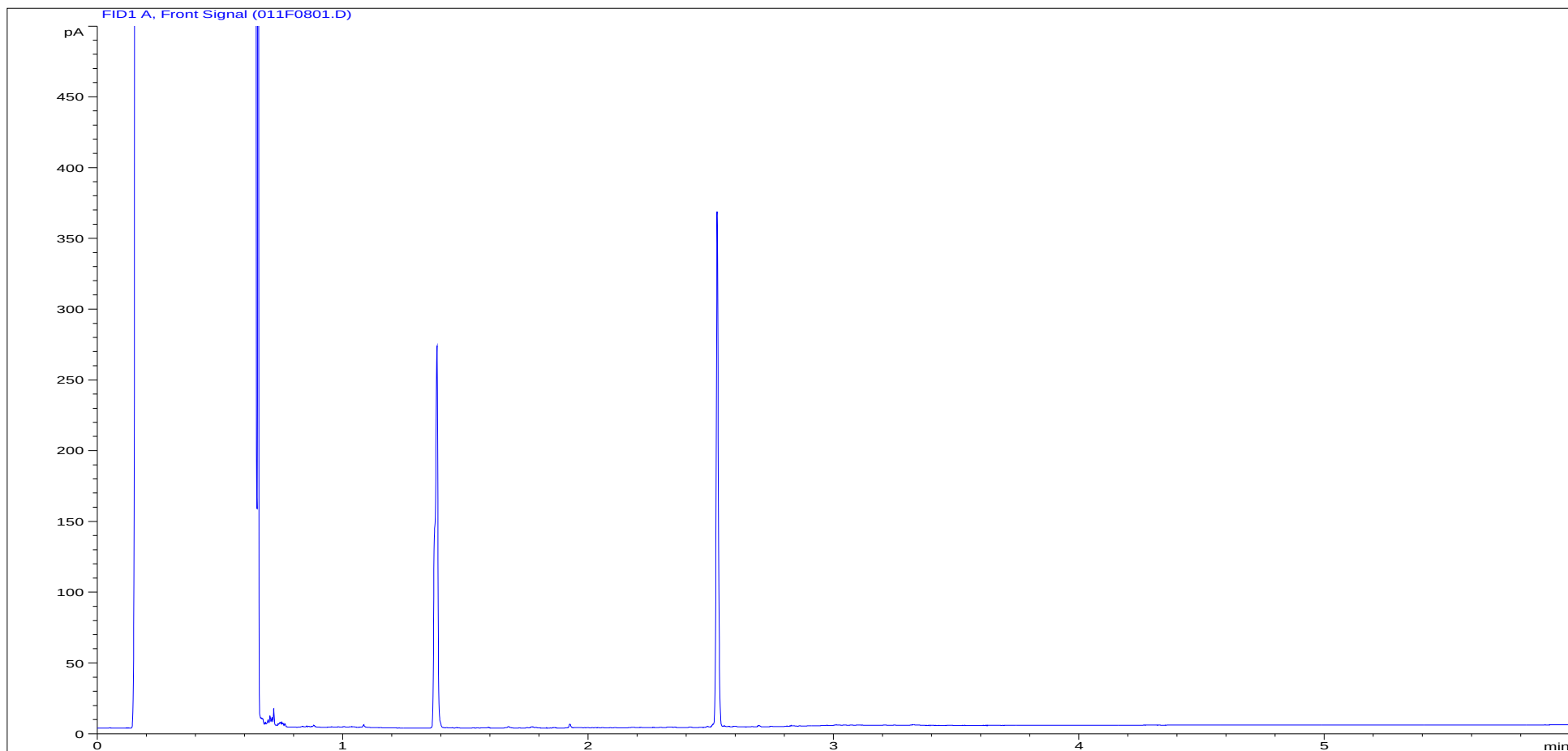
|                               |                                                                       |                           |                                |
|-------------------------------|-----------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1106942ALI                                                          | <b>Job Number:</b>        | S11_1437M                      |
| <b>Multiplier:</b>            | 14.82                                                                 | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                     | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                        | <b>Client Sample Ref:</b> | BH604 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 02-Mar-11, 18:59:26                                                   |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\0302TPH_GC14\030211B 2011-03-02 17-48-14\010F0701.D |                           |                                |

# Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



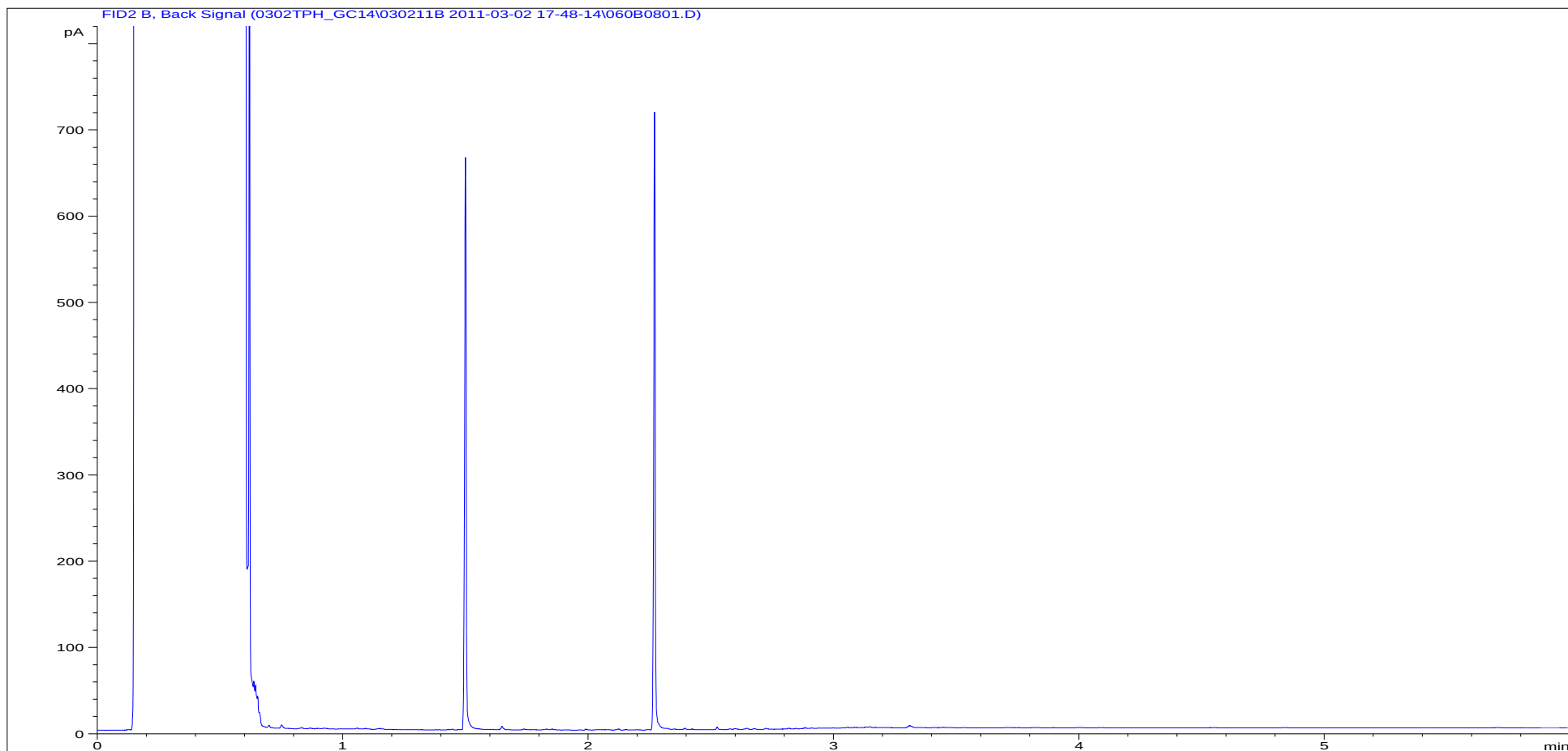
|                               |                                                                       |                           |                                |
|-------------------------------|-----------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1106942ARO                                                          | <b>Job Number:</b>        | S11_1437M                      |
| <b>Multiplier:</b>            | 11.4                                                                  | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                     | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                        | <b>Client Sample Ref:</b> | BH604 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 02-Mar-11, 18:59:26                                                   |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\0302TPH_GC14\030211B 2011-03-02 17-48-14\059B0701.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



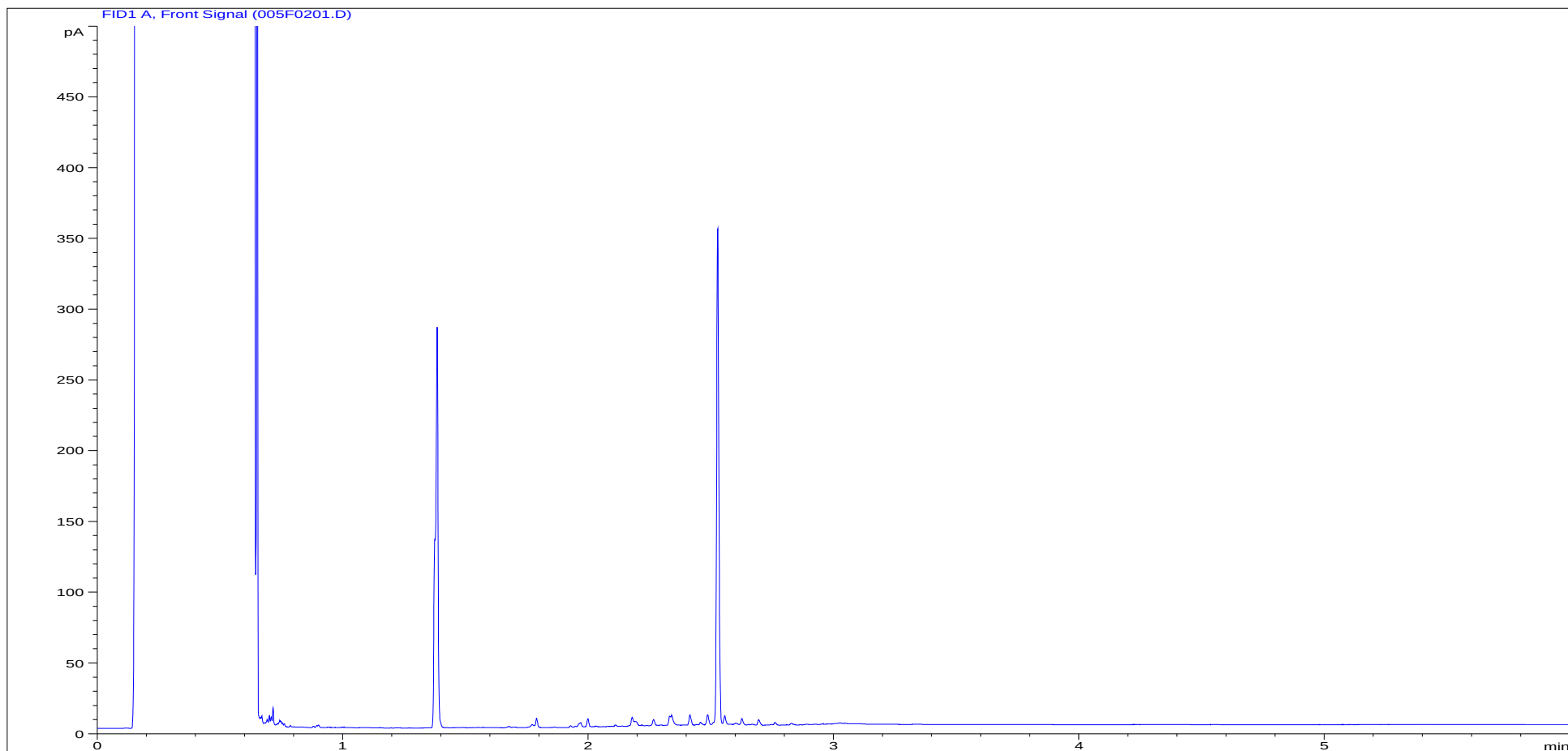
|                               |                                                                       |                           |                                |
|-------------------------------|-----------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1106943ALI                                                          | <b>Job Number:</b>        | S11_1437M                      |
| <b>Multiplier:</b>            | 14.82                                                                 | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                     | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                        | <b>Client Sample Ref:</b> | BH604 ES 7 2.20                |
| <b>Acquisition Date/Time:</b> | 02-Mar-11, 19:11:12                                                   |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\0302TPH_GC14\030211B 2011-03-02 17-48-14\011F0801.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                                       |                           |                                |
|-------------------------------|-----------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1106943ARO                                                          | <b>Job Number:</b>        | S11_1437M                      |
| <b>Multiplier:</b>            | 11.4                                                                  | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                     | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                        | <b>Client Sample Ref:</b> | BH604 ES 7 2.20                |
| <b>Acquisition Date/Time:</b> | 02-Mar-11, 19:11:12                                                   |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\0302TPH_GC14\030211B 2011-03-02 17-48-14\060B0801.D |                           |                                |

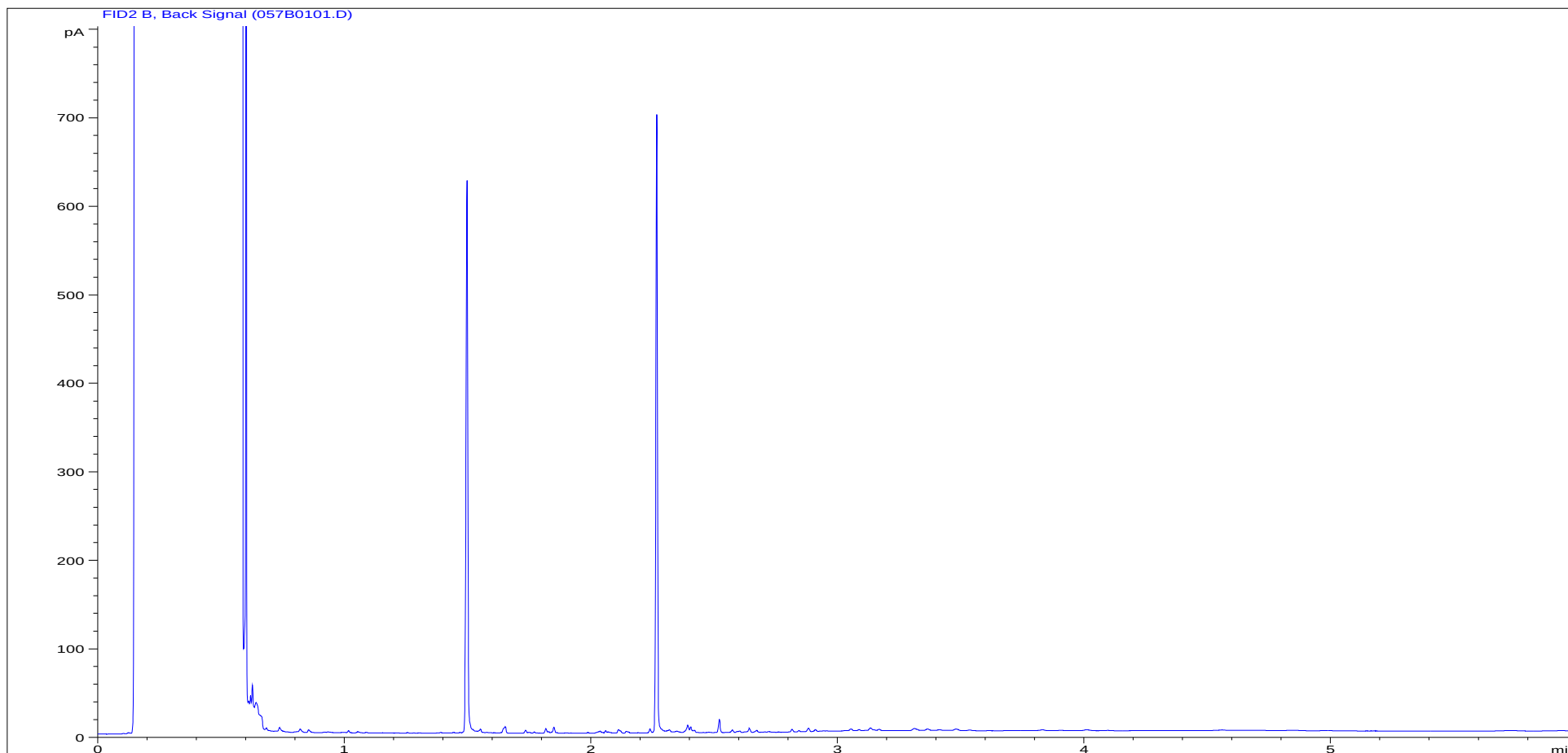
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                                       |                           |                                |
|-------------------------------|-----------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1106944ALI                                                          | <b>Job Number:</b>        | S11_1437M                      |
| <b>Multiplier:</b>            | 15.2                                                                  | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                     | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                        | <b>Client Sample Ref:</b> | BH609 ES 3 0.50                |
| <b>Acquisition Date/Time:</b> | 04-Mar-11, 13:56:50                                                   |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\0304TPH_GC14\030411A 2011-03-04 13-44-19\005F0201.D |                           |                                |

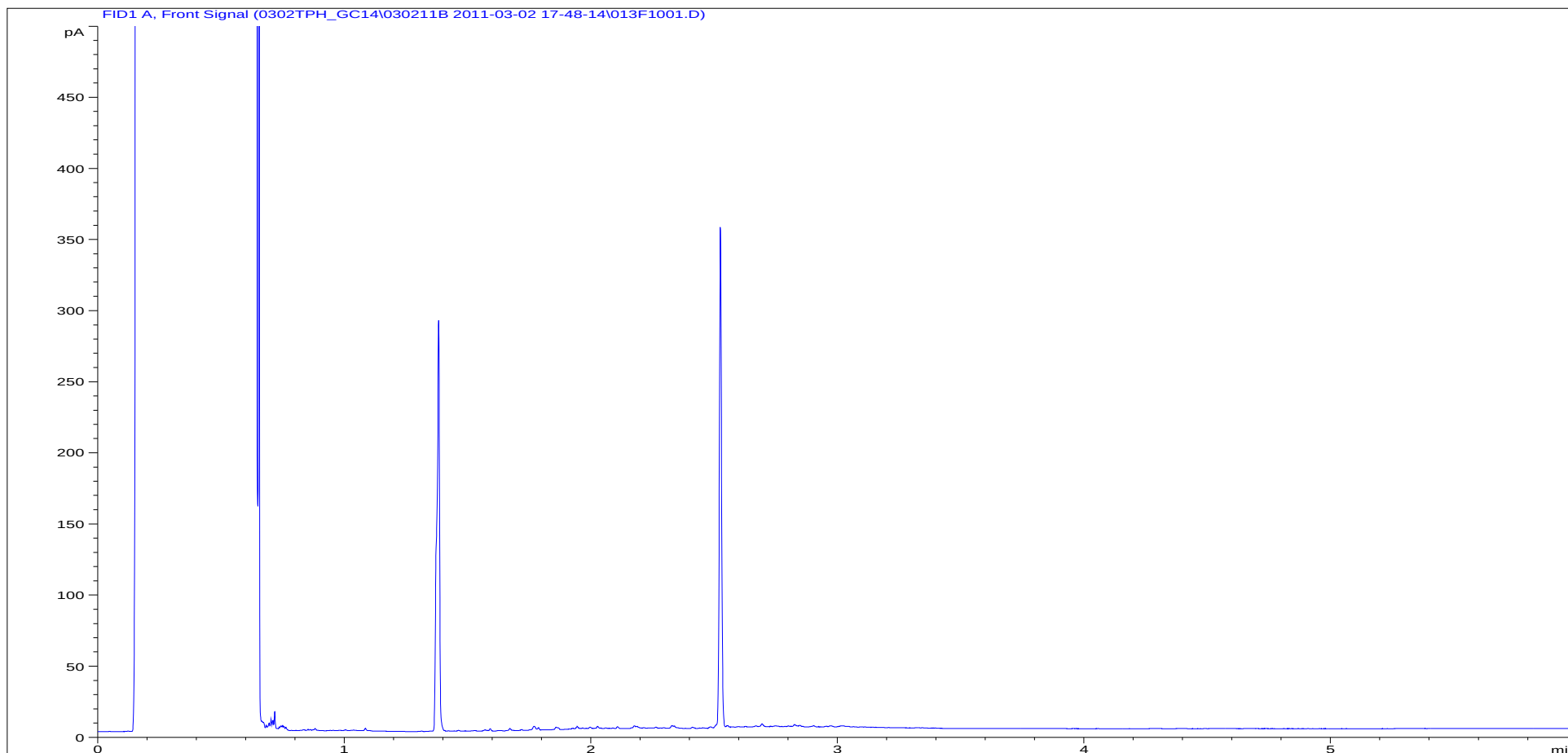


**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



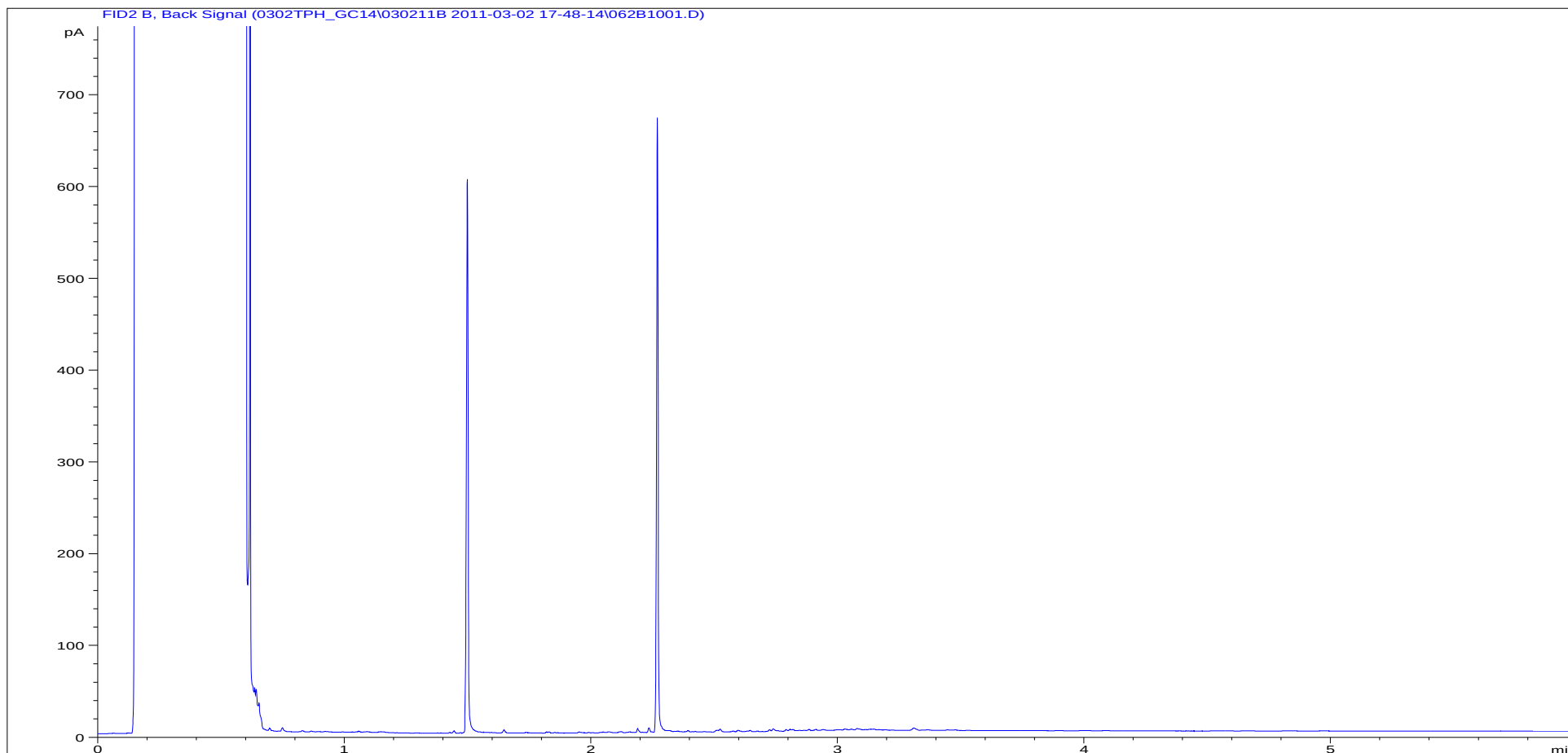
|                               |                                                                       |                           |                                |
|-------------------------------|-----------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1106944ARO                                                          | <b>Job Number:</b>        | S11_1437M                      |
| <b>Multiplier:</b>            | 11.4                                                                  | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                     | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                        | <b>Client Sample Ref:</b> | BH609 ES 3 0.50                |
| <b>Acquisition Date/Time:</b> | 04-Mar-11, 14:20:38                                                   |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\0304TPH_GC14\030411B 2011-03-04 14-18-58\057B0101.D |                           |                                |

# Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



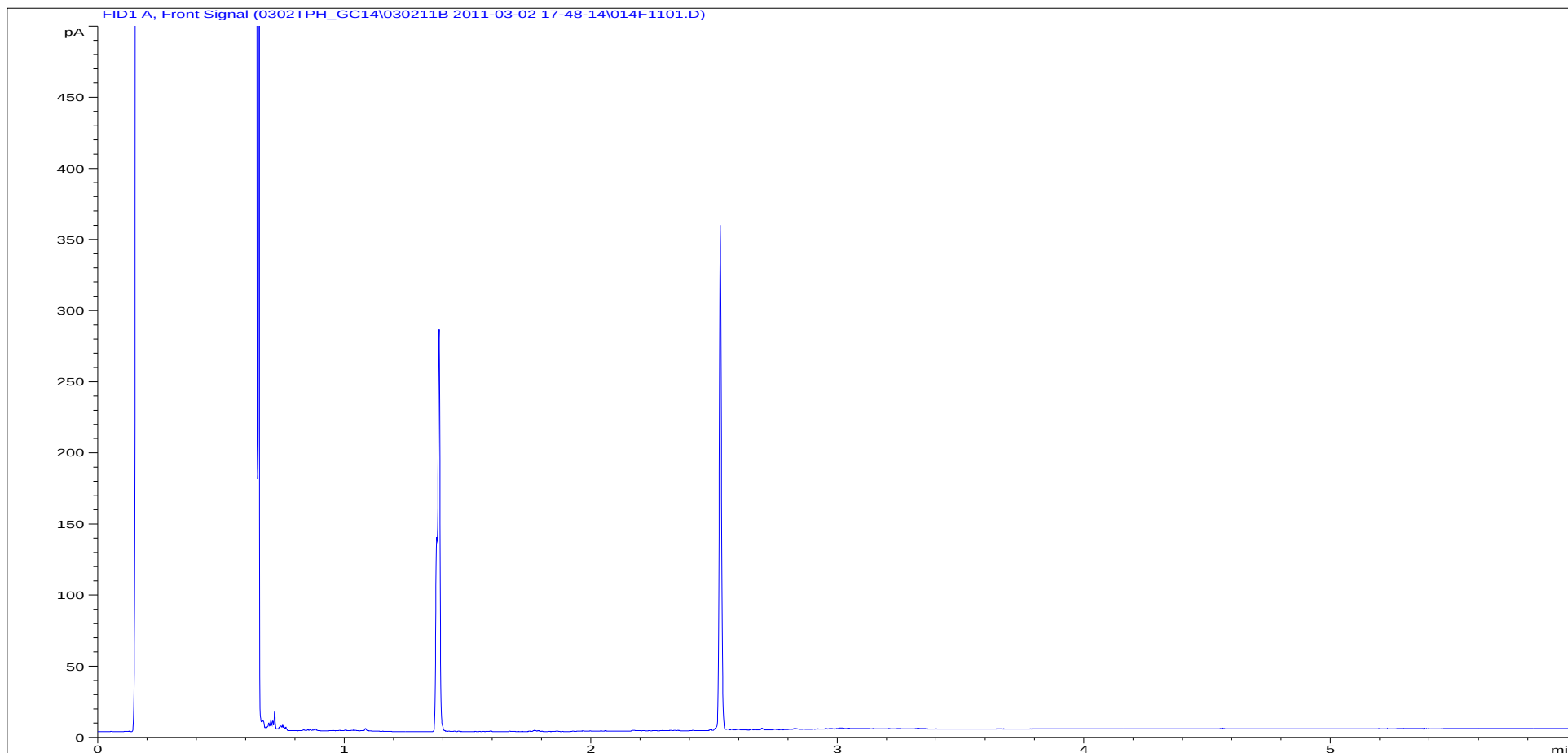
|                               |                                                                       |                           |                                |
|-------------------------------|-----------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1106945ALI                                                          | <b>Job Number:</b>        | S11_1437M                      |
| <b>Multiplier:</b>            | 14.4                                                                  | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                     | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                        | <b>Client Sample Ref:</b> | BH611 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 02-Mar-11, 19:35:40                                                   |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\0302TPH_GC14\030211B 2011-03-02 17-48-14\013F1001.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



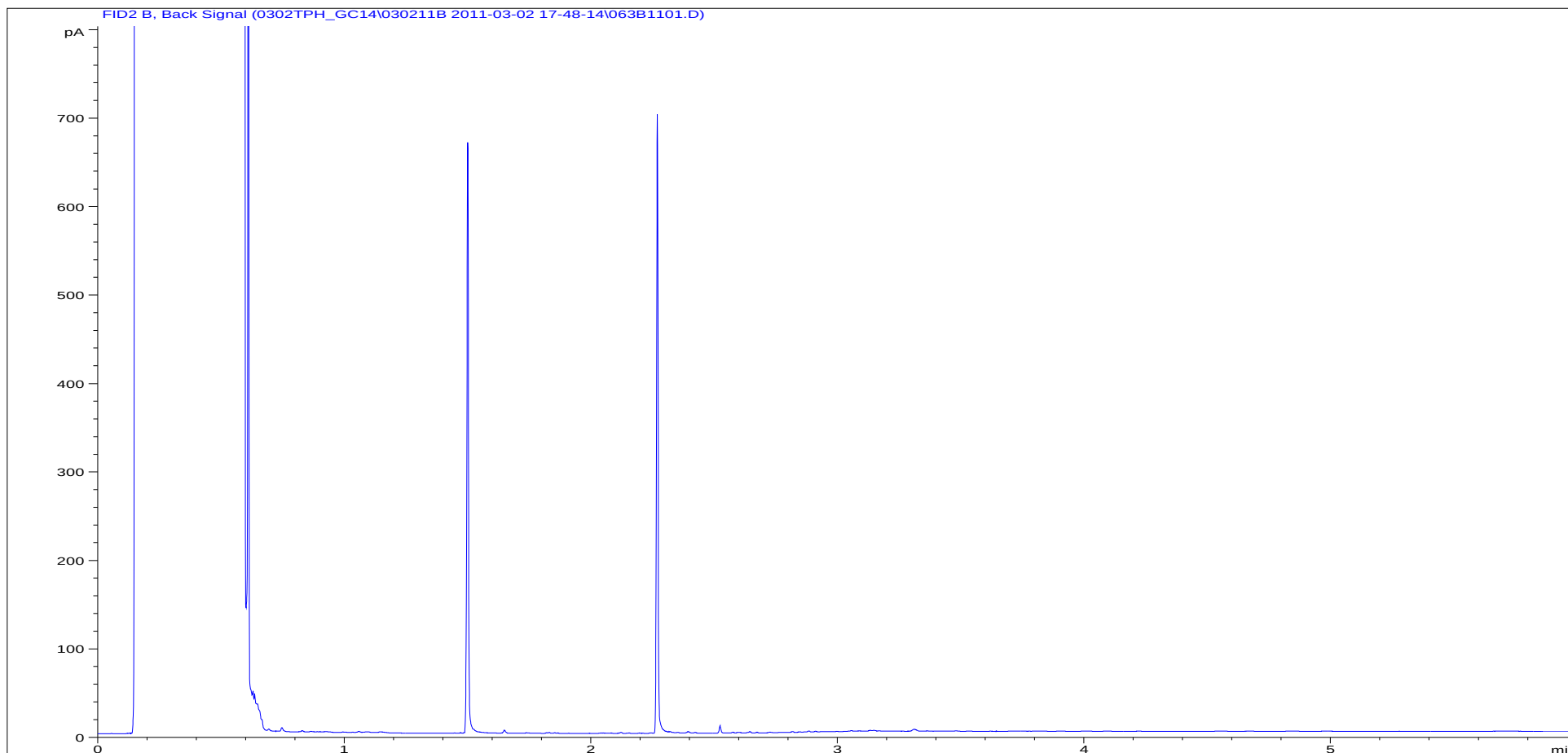
|                               |                                                                       |                           |                                |
|-------------------------------|-----------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1106945ARO                                                          | <b>Job Number:</b>        | S11_1437M                      |
| <b>Multiplier:</b>            | 11.16                                                                 | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                     | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                        | <b>Client Sample Ref:</b> | BH611 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 02-Mar-11, 19:35:40                                                   |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\0302TPH_GC14\030211B 2011-03-02 17-48-14\062B1001.D |                           |                                |

# Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



|                               |                                                                       |                           |                                |
|-------------------------------|-----------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1106946ALI                                                          | <b>Job Number:</b>        | S11_1437M                      |
| <b>Multiplier:</b>            | 14.82                                                                 | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                     | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                        | <b>Client Sample Ref:</b> | BH611 ES 5 1.00                |
| <b>Acquisition Date/Time:</b> | 02-Mar-11, 19:48:27                                                   |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\0302TPH_GC14\030211B 2011-03-02 17-48-14\014F1101.D |                           |                                |

# Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



|                               |                                                                       |                           |                                |
|-------------------------------|-----------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1106946ARO                                                          | <b>Job Number:</b>        | S11_1437M                      |
| <b>Multiplier:</b>            | 11.4                                                                  | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                     | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                        | <b>Client Sample Ref:</b> | BH611 ES 5 1.00                |
| <b>Acquisition Date/Time:</b> | 02-Mar-11, 19:48:27                                                   |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\0302TPH_GC14\030211B 2011-03-02 17-48-14\063B1101.D |                           |                                |



# Method Descriptions

| Matrix | MethodID | Analysis Basis | Method Description                                                                                                                                 |
|--------|----------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Soil   | FOCS     | Air Dried      | Calculation of Soil Organic Matter content from Organic Carbon content of soil samples                                                             |
| Soil   | ICPBOR   | Air Dried      | Determination of Boron in soil samples by hot water extraction followed by ICPOES detection                                                        |
| Soil   | ICPMSS   | Air Dried      | Determination of Metals in soil samples by aqua regia digestion followed by ICPMS                                                                  |
| Soil   | PAHMSUS  | As Received    | Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection                                    |
| Soil   | PHSOIL   | As Received    | Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.                                                                      |
| Soil   | SFAPI    | As Received    | Segmented flow analysis with colorimetric detection                                                                                                |
| Soil   | Subcon*  | *              | Contact Laboratory for details of the methodology used by the sub-contractor.                                                                      |
| Soil   | TMSS     | As Received    | Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis                                                   |
| Soil   | TPHUSSI  | As Received    | Determination of hexane/acetone extractable Hydrocarbons in soil with GC/FID detection including quantitation of Aromatic and Aliphatic fractions. |
| Soil   | WSLM59   | Air Dried      | Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection                   |

# Report Notes

## Generic Notes

### Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

### Waters Analysis

Unless stated otherwise results are expressed as mg/l

### Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm<sup>3</sup>@ 15°C

### Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

### Asbestos Analysis

**CH** Denotes Chrysotile

**CR** Denotes Crocidolite

**AM** Denotes Amosite

**NAIIS** No Asbestos Identified in Sample

## Symbol Reference

<sup>^</sup> Sub-contracted analysis. Note: The accreditation status is that assigned by the subcontract laboratory.

**\$\$** Unable to analyse due to the nature of the sample

**¶** Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

**¥** Results for guidance only due to possible interference

**&** Blank corrected result

**I.S** Insufficient sample to complete requested analysis

**I.S(g)** Insufficient sample to re-analyse, results for guidance only

**Intf** Unable to analyse due to interferences

**N.D** Not determined

**N.Det** Not detected

**Req** Analysis requested, see attached sheets for results

**▮** Raised detection limit due to nature of the sample

**\*** All accreditation has been removed by the laboratory for this result

**‡** MCERTS accreditation has been removed for this result

**Note:** The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

## END OF REPORT



## Sample Descriptions

**Client :** Soil Mechanics  
**Site :** Ferrybridge Multifuel PowerStn  
**Report Number :** S11\_1437M

Note: major constituent in upper case

[illegible]

# TEST REPORT

## SOIL SAMPLE ANALYSIS



Report No. EFS/111614M (Ver. 2)

Soil Mechanics  
Askern Road  
Carcroft  
Doncaster  
DN6 8DG

**Site: Ferrybridge Multifuel PowerStn**

The 7 samples described in this report were logged for analysis by Scientifics on 02-Mar-2011. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 14-Apr-2011

Tests where the accreditation is set to N or No, and any individual data items marked with a \* are not UKAS or MCERTS accredited. Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)  
Table of PAH (MS-SIM) (80) Results (Pages 4 to 10)  
Table of PCB Congener Results (Page 11)  
Table of TPH (Si) banding (std) (Page 12)  
GC-FID Chromatograms (Pages 13 to 26)  
Table of WAC Analysis Results (Page 27)  
Table of Asbestos ID & Quant Analysis (Page 28)  
Table of Asbestos Screening Results (Page 29)  
Table of Method Descriptions (Page 30)  
Table of Report Notes (Page 31)  
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of  
Scientifics :  
Andrew Timms

Operations Manager

Date of Issue: 14-Apr-2011

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)

Tests marked '\*' have been subcontracted to another laboratory.

(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.

All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)  
Scientifics accepts no responsibility for any sampling not carried out by our personnel.

| Units :<br>Method Codes :<br>Method Reporting Limits :<br>Accreditation Code: |                           | mg/kg                                                                                                                                                                                                                                                   | mg/kg           | mg/kg           | mg/kg        | mg/kg          | mg/kg         | mg/kg     | mg/kg        | mg/kg       | mg/kg         | mg/kg     | mg/kg                 | pH Units      | mg/kg              | mg/kg             |                 |        |       |
|-------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|--------------|----------------|---------------|-----------|--------------|-------------|---------------|-----------|-----------------------|---------------|--------------------|-------------------|-----------------|--------|-------|
|                                                                               |                           | ICPBOR                                                                                                                                                                                                                                                  | ICPMSS          | ICPMSS          | ICPMSS       | ICPMSS         | ICPMSS        | ICPMSS    | ICPMSS       | ICPMSS      | ICPMSS        | ICPMSS    | ICPMSS                | PAHMSUS       | PHSOIL             | SFAPI             | SFAPI           | Sub02a |       |
|                                                                               |                           | 0.5                                                                                                                                                                                                                                                     | 0.1             | 0.3             | 0.2          | 1.2            | 1.6           | 0.7       | 0.5          | 2           | 0.5           | 16        | 0.08                  |               | UM                 | 0.5               | 0.5             |        |       |
|                                                                               |                           | UM                                                                                                                                                                                                                                                      | U               | UM              | UM           | UM             | UM            | UM        | UM           | UM          | UM            | UM        | UM                    |               | UM                 | UM                | U               | U      |       |
| Laboratory ID Number    CL/                                                   | Client Sample Description | Boron (H2O Soluble)                                                                                                                                                                                                                                     | Antimony (MS)   | Arsenic (MS)    | Cadmium (MS) | Chromium (MS)  | Copper (MS)   | Lead (MS) | Mercury (MS) | Nickel (MS) | Selenium (MS) | Zinc (MS) | PAH by MS,16(0.08)    | pH units (AR) | Cyanide(Free) (AR) | Phenol Index (AR) | Asbestos Screen |        |       |
|                                                                               |                           | 1107647                                                                                                                                                                                                                                                 | BH601 ES 1 0.30 | 1               | 0.6          | 10.4           | 0.36          | 229.9     | 17.7         | 15.3        | <0.5          | 12.7      | <0.5                  | 38.6          | Req                | 9.5               | <0.5            | <0.5   | NAIIS |
|                                                                               |                           | 1107652                                                                                                                                                                                                                                                 | BH602 ES 3 0.50 | <0.5            | 0.4          | 7.7            | <0.2          | 27.3      | 20           | 8           | <0.5          | 17.7      | <0.5                  | 34            | Req                | 7.6               | <0.6            | <0.6   | NAIIS |
|                                                                               |                           | 1107653                                                                                                                                                                                                                                                 | BH606 ES 4 1.00 | 0.9             | 1.1          | 16.6           | 0.49          | 21.1      | 32.1         | 56.4        | <0.51         | 25.1      | 0.5                   | 92.5          | Req                | 8.9               | <0.6            | <0.6   | NAIIS |
|                                                                               |                           | 1107649                                                                                                                                                                                                                                                 | BH607 ES 3 0.50 | 0.9             | 0.3          | 5.2            | 0.3           | 20.6      | 11.5         | 15.5        | <0.5          | 20        | <0.5                  | 84.9          | Req                | 8.5               | <0.6            | <0.6   | NAIIS |
|                                                                               |                           | 1107650                                                                                                                                                                                                                                                 | BH608 ES 1 0.30 | <0.5            | 0.4          | 7.4            | 0.44          | 18.7      | 19           | 18.9        | <0.5          | 22.6      | 0.6                   | 76            | Req                | 8.2               | <0.6            | <0.6   | NAIIS |
|                                                                               |                           | 1107651                                                                                                                                                                                                                                                 | BH610 ES 1 0.30 | 0.5             | 0.5          | 10.3           | <0.18         | 14.7      | 20.8         | 23.1        | <0.44         | 17.6      | <0.4                  | 71            | Req                | 8.7               | <0.6            | <0.6   | CH AM |
|                                                                               |                           | 1107648                                                                                                                                                                                                                                                 | BH613 ES 3 0.50 | 0.5             | 0.4          | 5.8            | 0.32          | 16.5      | 13.5         | 24.6        | <0.5          | 18.5      | <0.5                  | 58.7          | Req                | 8.7               | <0.6            | <0.6   | NAIIS |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                 |                 |              |                |               |           |              |             |               |           |                       |               |                    |                   |                 |        |       |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                 |                 |              |                |               |           |              |             |               |           |                       |               |                    |                   |                 |        |       |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                 |                 |              |                |               |           |              |             |               |           |                       |               |                    |                   |                 |        |       |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                 |                 |              |                |               |           |              |             |               |           |                       |               |                    |                   |                 |        |       |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                 |                 |              |                |               |           |              |             |               |           |                       |               |                    |                   |                 |        |       |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                 |                 |              |                |               |           |              |             |               |           |                       |               |                    |                   |                 |        |       |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                 |                 |              |                |               |           |              |             |               |           |                       |               |                    |                   |                 |        |       |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                 |                 |              |                |               |           |              |             |               |           |                       |               |                    |                   |                 |        |       |
|                                                                               |                           | <div><br/>Bretby Business Park, Ashby Road<br/><br/>Burton-on-Trent, Staffordshire, DE15 0YZ<br/><br/>Tel +44 (0) 1283 554400<br/><br/>Fax +44 (0) 1283 554422</div> |                 | Client Name     |              | Soil Mechanics |               |           |              |             |               |           | Soils Sample Analysis |               |                    |                   |                 |        |       |
| Contact                                                                       |                           |                                                                                                                                                                                                                                                         |                 | Mr J Huntington |              |                |               |           |              |             |               |           |                       |               |                    |                   |                 |        |       |
| Ferrybridge Multifuel PowerStn                                                |                           |                                                                                                                                                                                                                                                         |                 |                 |              |                | Date Printed  |           | 14-Apr-11    |             |               |           |                       |               |                    |                   |                 |        |       |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                 |                 |              |                | Report Number |           | EFS/111614M  |             |               |           |                       |               |                    |                   |                 |        |       |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                 |                 |              |                | Table Number  |           | 1            |             |               |           |                       |               |                    |                   |                 |        |       |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                 |                 |              |                |               |           |              |             |               |           |                       |               |                    |                   |                 |        |       |

[illegible]

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | BH601 ES 1 0.30                                | <b>Job Number:</b>     | S11_1614M  |
| <b>LIMS ID Number:</b>            | CL1107647                                      | <b>Date Booked in:</b> | 02-Mar-11  |
| <b>QC Batch Number:</b>           | 110452                                         | <b>Date Extracted:</b> | 07-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 08-Mar-11  |
| <b>Directory:</b>                 | 711PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | 3.45          | 0.20                   | 91    | UM            |
| Acenaphthylene         | 208-96-8 | 4.51          | 0.10                   | 89    | U             |
| Acenaphthene           | 83-32-9  | 4.63          | 0.27                   | 95    | UM            |
| Fluorene               | 86-73-7  | 5.03          | 0.20                   | 98    | UM            |
| Phenanthrene           | 85-01-8  | 5.90          | 1.28                   | 99    | UM            |
| Anthracene             | 120-12-7 | 5.95          | 0.70                   | 99    | U             |
| Fluoranthene           | 206-44-0 | 7.27          | 3.19                   | 90    | UM            |
| Pyrene                 | 129-00-0 | 7.56          | 2.85                   | 87    | UM            |
| Benzo[a]anthracene     | 56-55-3  | 9.26          | 1.92                   | 95    | UM            |
| Chrysene               | 218-01-9 | 9.31          | 1.68                   | 97    | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | 10.79         | 2.99                   | 92    | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | 10.82         | 1.02                   | 88    | UM            |
| Benzo[a]pyrene         | 50-32-8  | 11.22         | 2.79                   | 94    | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.60         | 1.98                   | 93    | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | 12.62         | 0.35                   | 84    | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.92         | 1.92                   | 82    | UM            |
| Total (USEPA16) PAHs   | -        | -             | 23.38                  | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 113    |
| Acenaphthene-d10       | 111    |
| Phenanthrene-d10       | 114    |
| Chrysene-d12           | 125    |
| Perylene-d12           | 143    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 86    |
| Terphenyl-d14    | 92    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | BH613 ES 3 0.50                                | <b>Job Number:</b>     | S11_1614M  |
| <b>LIMS ID Number:</b>            | CL1107648                                      | <b>Date Booked in:</b> | 02-Mar-11  |
| <b>QC Batch Number:</b>           | 110452                                         | <b>Date Extracted:</b> | 07-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 08-Mar-11  |
| <b>Directory:</b>                 | 711PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.48                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 113    |
| Acenaphthene-d10       | 118    |
| Phenanthrene-d10       | 123    |
| Chrysene-d12           | 123    |
| Perylene-d12           | 134    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 84    |
| Terphenyl-d14    | 90    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | BH607 ES 3 0.50                                | <b>Job Number:</b>     | S11_1614M  |
| <b>LIMS ID Number:</b>            | CL1107649                                      | <b>Date Booked in:</b> | 02-Mar-11  |
| <b>QC Batch Number:</b>           | 110452                                         | <b>Date Extracted:</b> | 07-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 08-Mar-11  |
| <b>Directory:</b>                 | 711PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.10                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.10                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.10                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.10                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.10                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.10                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.10                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.10                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.10                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.10                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.10                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.10                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.10                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.10                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.10                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.10                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.52                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 118    |
| Acenaphthene-d10       | 119    |
| Phenanthrene-d10       | 125    |
| Chrysene-d12           | 125    |
| Perylene-d12           | 132    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 84    |
| Terphenyl-d14    | 91    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | BH608 ES 1 0.30                                | <b>Job Number:</b>     | S11_1614M  |
| <b>LIMS ID Number:</b>            | CL1107650                                      | <b>Date Booked in:</b> | 02-Mar-11  |
| <b>QC Batch Number:</b>           | 110452                                         | <b>Date Extracted:</b> | 07-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 08-Mar-11  |
| <b>Directory:</b>                 | 711PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.46                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 111    |
| Acenaphthene-d10       | 111    |
| Phenanthrene-d10       | 111    |
| Chrysene-d12           | 100    |
| Perylene-d12           | 102    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 84    |
| Terphenyl-d14    | 87    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.



# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | BH610 ES 1 0.30                                | <b>Job Number:</b>     | S11_1614M  |
| <b>LIMS ID Number:</b>            | CL1107651                                      | <b>Date Booked in:</b> | 02-Mar-11  |
| <b>QC Batch Number:</b>           | 110452                                         | <b>Date Extracted:</b> | 07-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 08-Mar-11  |
| <b>Directory:</b>                 | 711PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | 3.45          | 0.10                   | 88    | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | 7.27          | 0.10                   | 66    | UM            |
| Pyrene                 | 129-00-0 | 7.56          | 0.10                   | 81    | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | 10.79         | 0.10                   | 78    | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.52                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 111    |
| Acenaphthene-d10       | 111    |
| Phenanthrene-d10       | 114    |
| Chrysene-d12           | 107    |
| Perylene-d12           | 115    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 86    |
| Terphenyl-d14    | 89    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | BH602 ES 3 0.50                                | <b>Job Number:</b>     | S11_1614M  |
| <b>LIMS ID Number:</b>            | CL1107652                                      | <b>Date Booked in:</b> | 02-Mar-11  |
| <b>QC Batch Number:</b>           | 110452                                         | <b>Date Extracted:</b> | 07-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 08-Mar-11  |
| <b>Directory:</b>                 | 711PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | 7.56          | 0.10                   | 69    | UM            |
| Benzo[a]anthracene     | 56-55-3  | 9.26          | 0.10                   | 86    | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | 11.22         | 0.09                   | 91    | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.92         | 0.10                   | 67    | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.49                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 118    |
| Acenaphthene-d10       | 117    |
| Phenanthrene-d10       | 123    |
| Chrysene-d12           | 121    |
| Perylene-d12           | 133    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 85    |
| Terphenyl-d14    | 90    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | BH606 ES 4 1.00                                | <b>Job Number:</b>     | S11_1614M  |
| <b>LIMS ID Number:</b>            | CL1107653                                      | <b>Date Booked in:</b> | 02-Mar-11  |
| <b>QC Batch Number:</b>           | 110452                                         | <b>Date Extracted:</b> | 07-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 08-Mar-11  |
| <b>Directory:</b>                 | 711PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | 3.45          | 0.29                   | 92    | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | 4.63          | 0.10                   | 94    | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | 5.90          | 0.60                   | 99    | UM            |
| Anthracene             | 120-12-7 | 5.95          | 0.10                   | 98    | U             |
| Fluoranthene           | 206-44-0 | 7.27          | 0.65                   | 90    | UM            |
| Pyrene                 | 129-00-0 | 7.56          | 0.49                   | 74    | UM            |
| Benzo[a]anthracene     | 56-55-3  | 9.26          | 0.40                   | 98    | UM            |
| Chrysene               | 218-01-9 | 9.31          | 0.40                   | 99    | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | 10.79         | 0.37                   | 87    | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | 10.82         | 0.13                   | 83    | UM            |
| Benzo[a]pyrene         | 50-32-8  | 11.22         | 0.29                   | 97    | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.60         | 0.19                   | 74    | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.91         | 0.16                   | 89    | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 4.38                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 110    |
| Acenaphthene-d10       | 111    |
| Phenanthrene-d10       | 116    |
| Chrysene-d12           | 111    |
| Perylene-d12           | 119    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 86    |
| Terphenyl-d14    | 90    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polychlorinated Biphenyls (congeners)

**Customer and Site Details:** Soil Mechanics: Ferrybridge Multifuel PowerStn  
**Job Number:** S11\_1614M  
**QC Batch Number:** 110711  
**Directory:** 0404PCB.GC8  
**Method:** Ultrasonic  
**Accreditation code:** N

**Matrix:** SOIL  
**Date Booked in:** 02-Mar-11  
**Date Extracted:** 04-Apr-11  
**Date Analysed:** 05-Apr-11

|             |                 | Concentration, (µg/kg) |       |        |        |        |        |        |
|-------------|-----------------|------------------------|-------|--------|--------|--------|--------|--------|
| Sample ID   | Customer ID     | PCB28                  | PCB52 | PCB101 | PCB118 | PCB153 | PCB138 | PCB180 |
| * CL1107647 | BH601 ES 1 0.30 | <5.1                   | <5.1  | <5.1   | <5.1   | <5.1   | <5.1   | <5.1   |
| * CL1107652 | BH602 ES 3 0.50 | <5.0                   | <5.0  | <5.0   | <5.0   | <5.0   | <5.0   | <5.0   |
|             |                 |                        |       |        |        |        |        |        |
|             |                 |                        |       |        |        |        |        |        |
|             |                 |                        |       |        |        |        |        |        |
|             |                 |                        |       |        |        |        |        |        |
|             |                 |                        |       |        |        |        |        |        |
|             |                 |                        |       |        |        |        |        |        |
|             |                 |                        |       |        |        |        |        |        |
|             |                 |                        |       |        |        |        |        |        |
|             |                 |                        |       |        |        |        |        |        |
|             |                 |                        |       |        |        |        |        |        |
|             |                 |                        |       |        |        |        |        |        |
|             |                 |                        |       |        |        |        |        |        |
|             |                 |                        |       |        |        |        |        |        |

# ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details: Soil Mechanics : Ferrybridge Multifuel PowerStn  
Job Number: S11\_1614  
QC Batch Number: 110452  
Directory: D:\TES\DATA\Y2011\MARCH2011\0310TPH\_GC3\059B5501.D  
Method: Ultra Sonic

Separation: Silica gel  
Eluents: Hexane, DCM

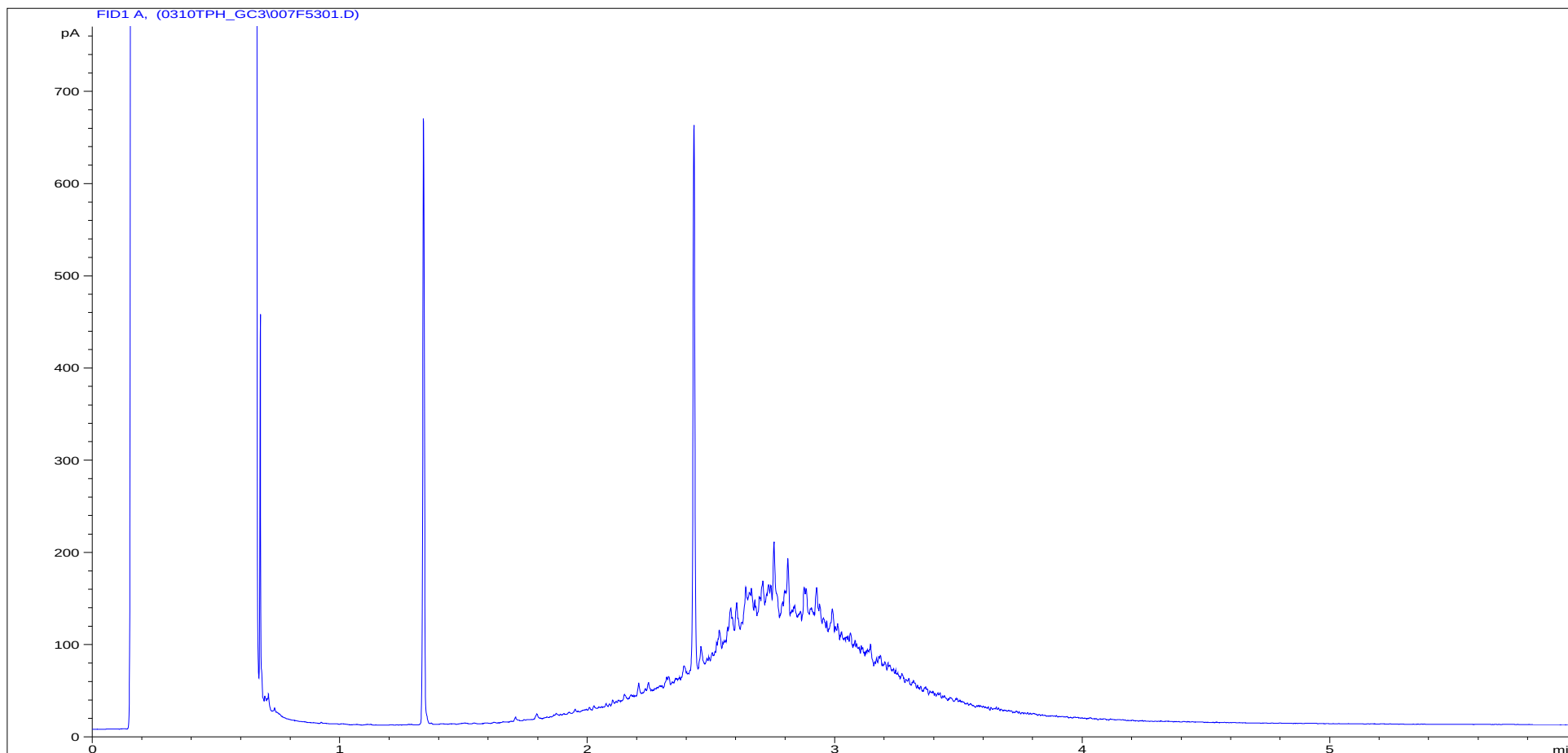
Matrix: Soil  
Date Booked in: 02-Mar-11  
Date Extracted: 07-Mar-11  
Date Analysed: 10-Mar-11

This sample data is not MCERTS accredited.

\* This sample data is not ISO17025 accredited.

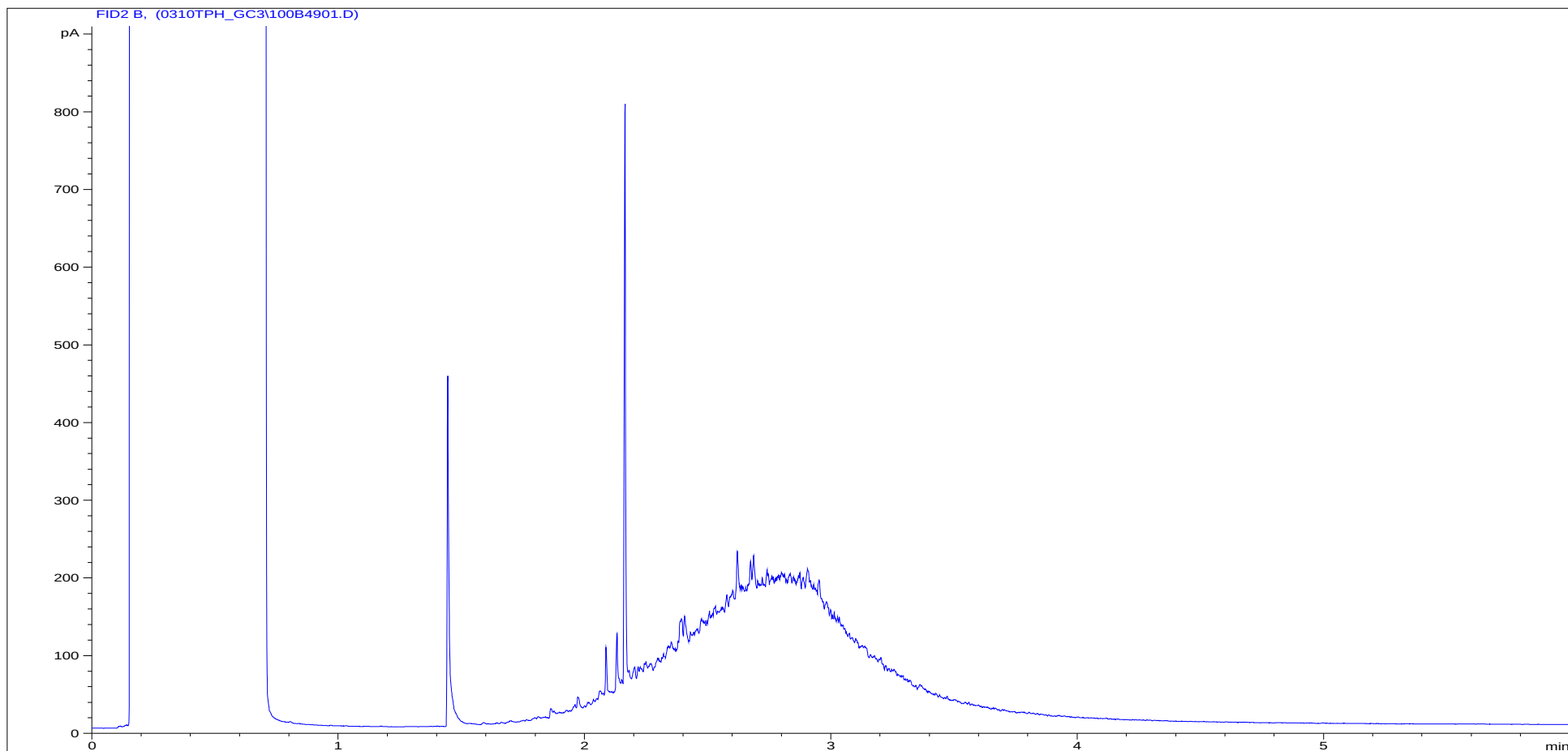
|           |                 | Concentration, (mg/kg) - as dry weight. |           |            |           |            |           |            |           |            |           |            |           |
|-----------|-----------------|-----------------------------------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
|           |                 | >C8 - C10                               |           | >C10 - C12 |           | >C12 - C16 |           | >C16 - C21 |           | >C21 - C35 |           | >C8 - C40  |           |
| Sample ID | Client ID       | Aliphatics                              | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics |
| CL1107647 | BH601 ES 1 0.30 | <4                                      | <4        | <4         | <4        | 5.34       | 9.15      | 35.4       | 66.7      | 678        | 1100      | 942        | 1440      |
| CL1107648 | BH613 ES 3 0.50 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <10.16     | 11        | <23        | <23       |
| CL1107649 | BH607 ES 3 0.50 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <10.42     | <10.42    | <24        | <24       |
| CL1107650 | BH608 ES 1 0.30 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <9.97      | <9.97     | <23        | <23       |
| CL1107651 | BH610 ES 1 0.30 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | 13.6       | 17.4      | <23        | 26.7      |
| CL1107652 | BH602 ES 3 0.50 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | 13.9      | 120        | 235       | 165        | 318       |
| CL1107653 | BH606 ES 4 1.00 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | 6.94      | <10.23     | 22.1      | <23        | 33        |
|           |                 |                                         |           |            |           |            |           |            |           |            |           |            |           |
|           |                 |                                         |           |            |           |            |           |            |           |            |           |            |           |
|           |                 |                                         |           |            |           |            |           |            |           |            |           |            |           |
|           |                 |                                         |           |            |           |            |           |            |           |            |           |            |           |
|           |                 |                                         |           |            |           |            |           |            |           |            |           |            |           |
|           |                 |                                         |           |            |           |            |           |            |           |            |           |            |           |
|           |                 |                                         |           |            |           |            |           |            |           |            |           |            |           |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



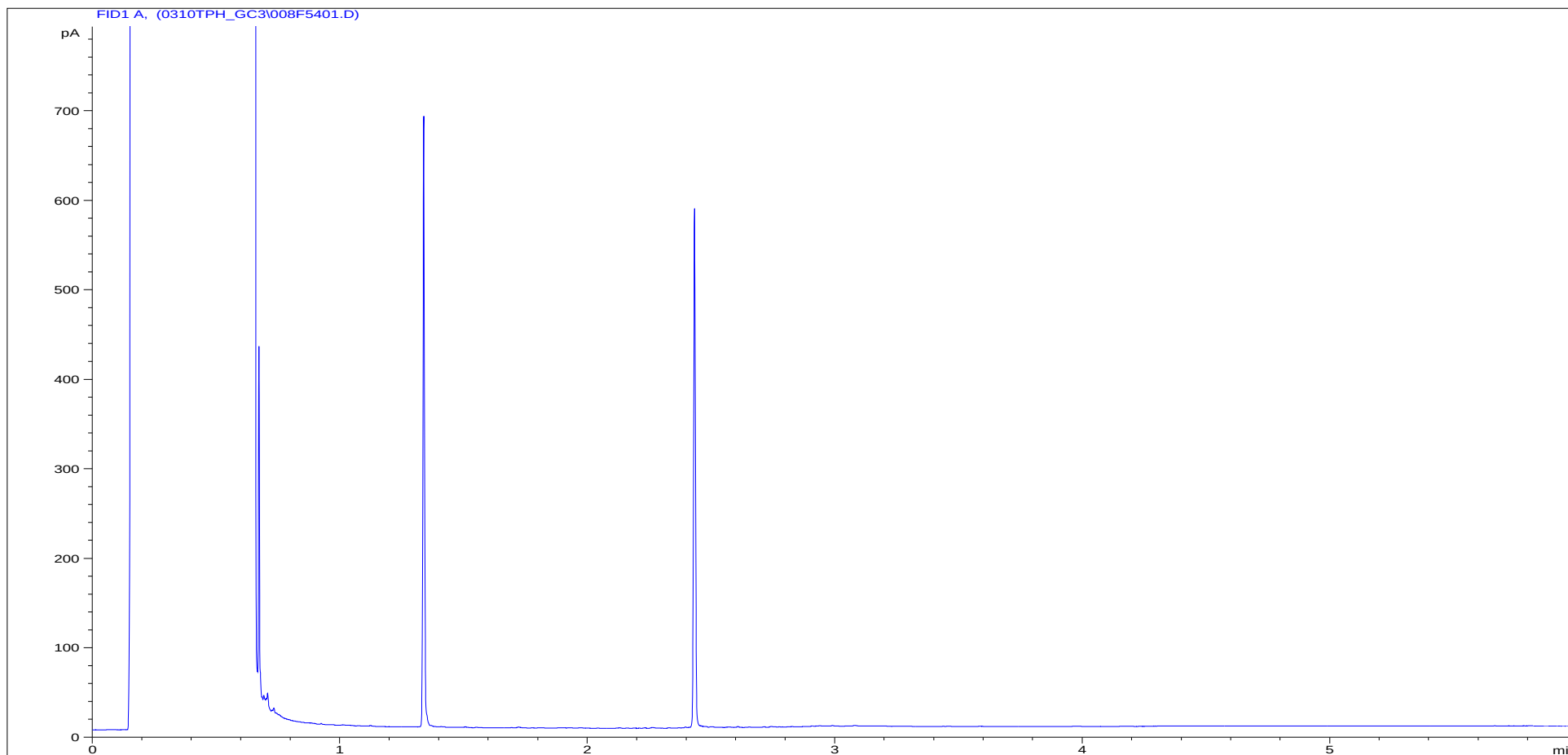
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1107647ALI                                       | <b>Job Number:</b>        | S11_1614M                      |
| <b>Multiplier:</b>            | 15.2                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | BH601 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 10-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0310TPH_GC3\007F5301.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1107647ARO                                       | <b>Job Number:</b>        | S11_1614M                      |
| <b>Multiplier:</b>            | 11.4                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | BH601 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 10-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0310TPH_GC3\100B4901.D |                           |                                |

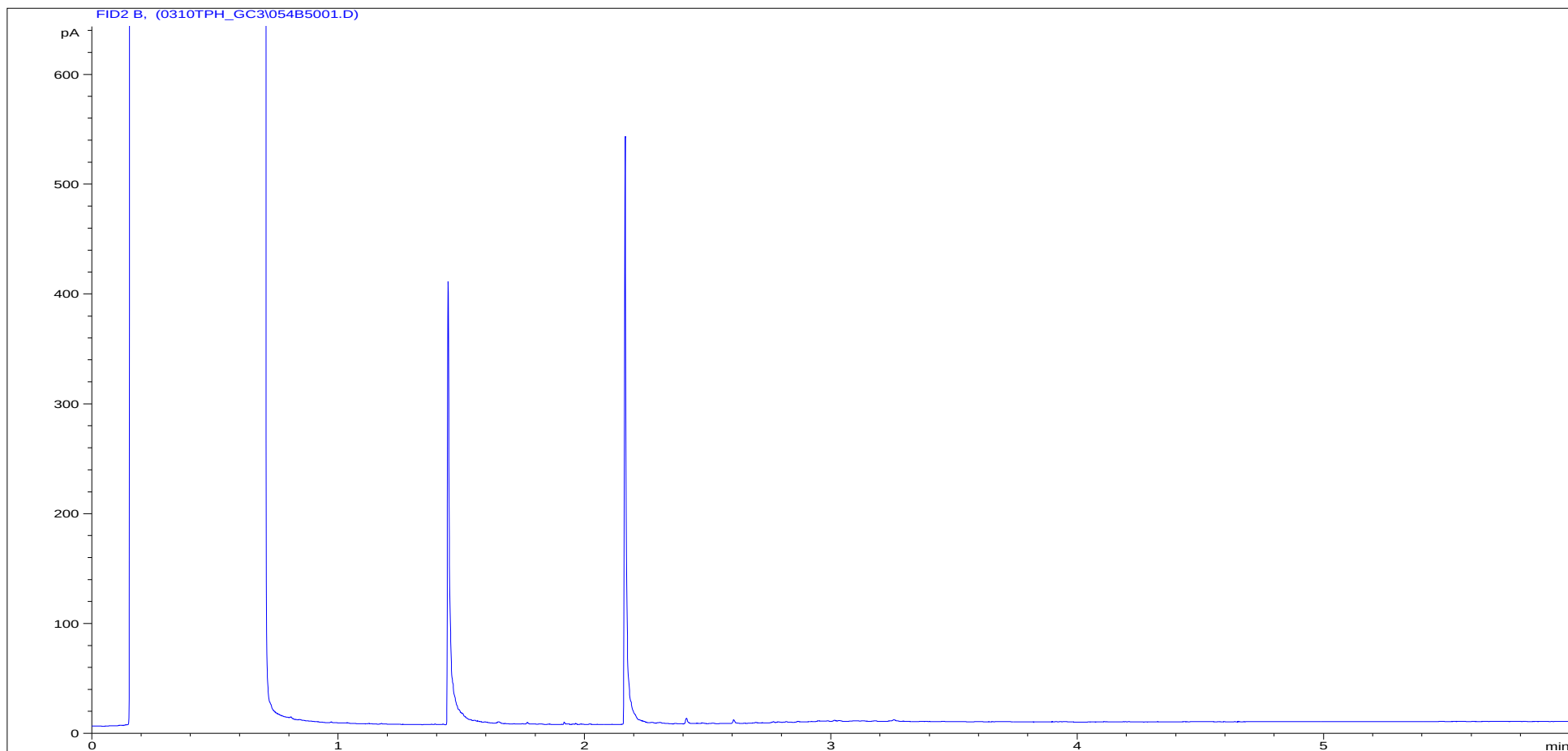
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1107648ALI                                       | <b>Job Number:</b>        | S11_1614M                      |
| <b>Multiplier:</b>            | 15.2                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | BH613 ES 3 0.50                |
| <b>Acquisition Date/Time:</b> | 10-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0310TPH_GC3\008F5401.D |                           |                                |

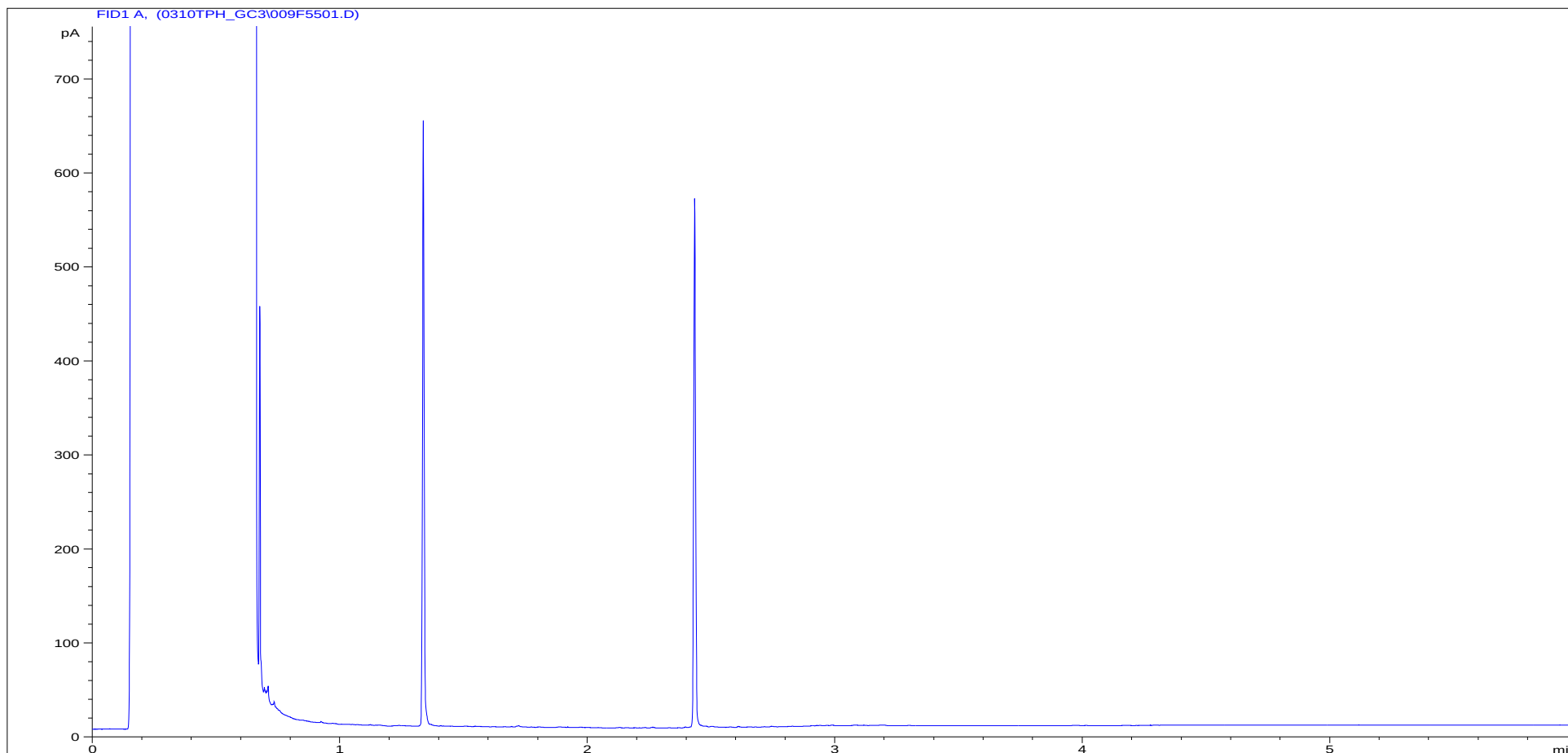


**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



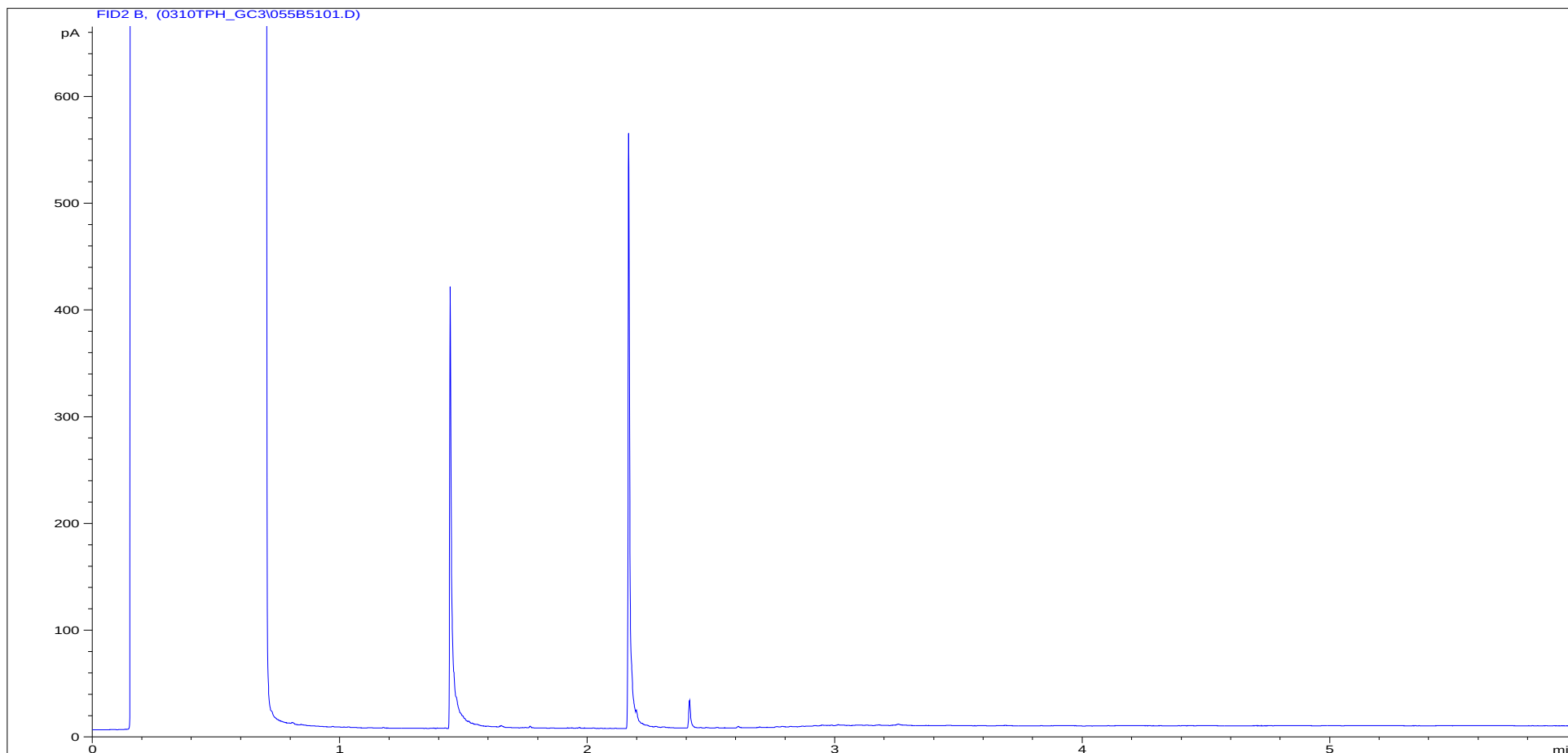
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1107648ARO                                       | <b>Job Number:</b>        | S11_1614M                      |
| <b>Multiplier:</b>            | 11.4                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | BH613 ES 3 0.50                |
| <b>Acquisition Date/Time:</b> | 10-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0310TPH_GC3\054B5001.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



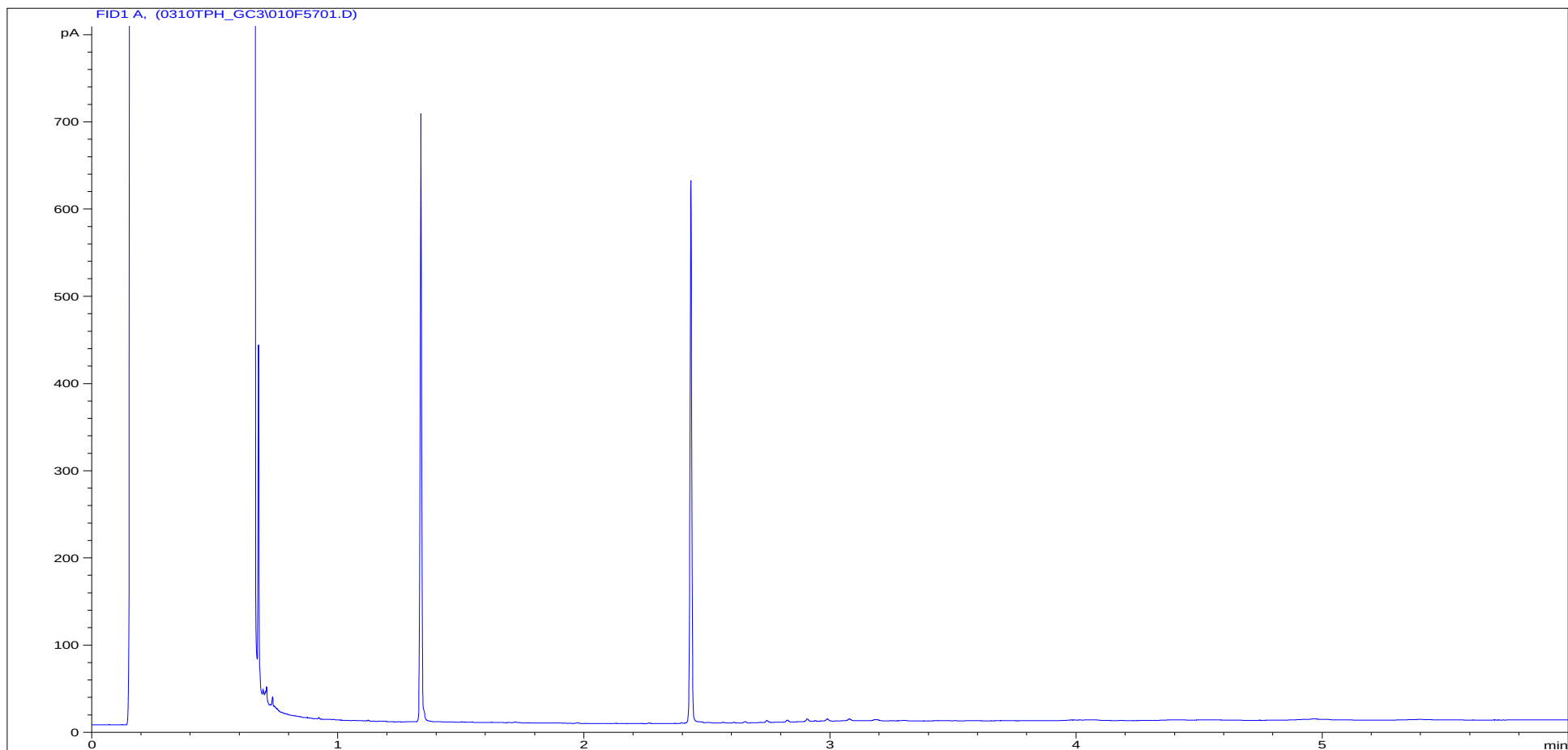
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1107649ALI                                       | <b>Job Number:</b>        | S11_1614M                      |
| <b>Multiplier:</b>            | 15.2                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | BH607 ES 3 0.50                |
| <b>Acquisition Date/Time:</b> | 10-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0310TPH_GC3\009F5501.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



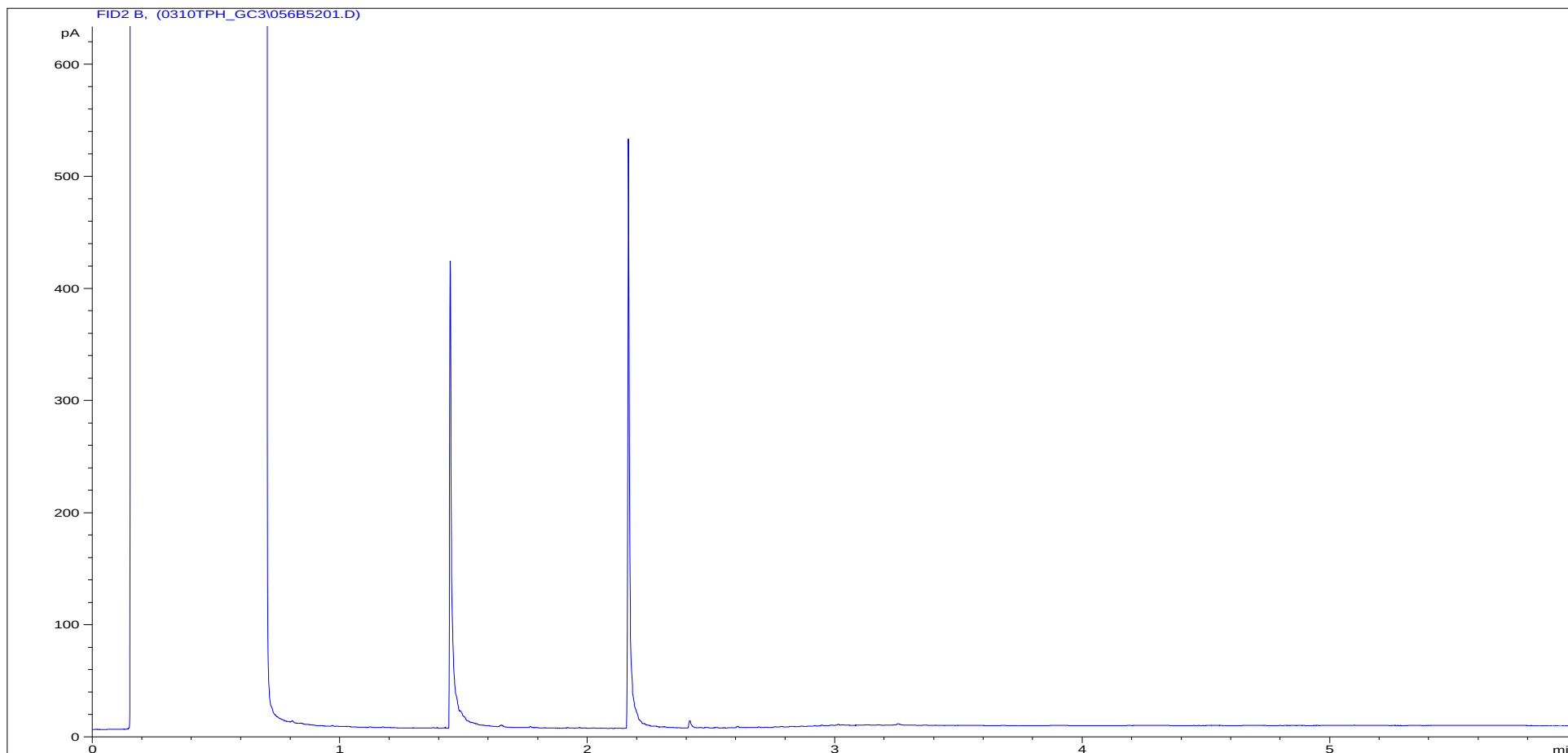
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1107649ARO                                       | <b>Job Number:</b>        | S11_1614M                      |
| <b>Multiplier:</b>            | 11.4                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | BH607 ES 3 0.50                |
| <b>Acquisition Date/Time:</b> | 10-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0310TPH_GC3\055B5101.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



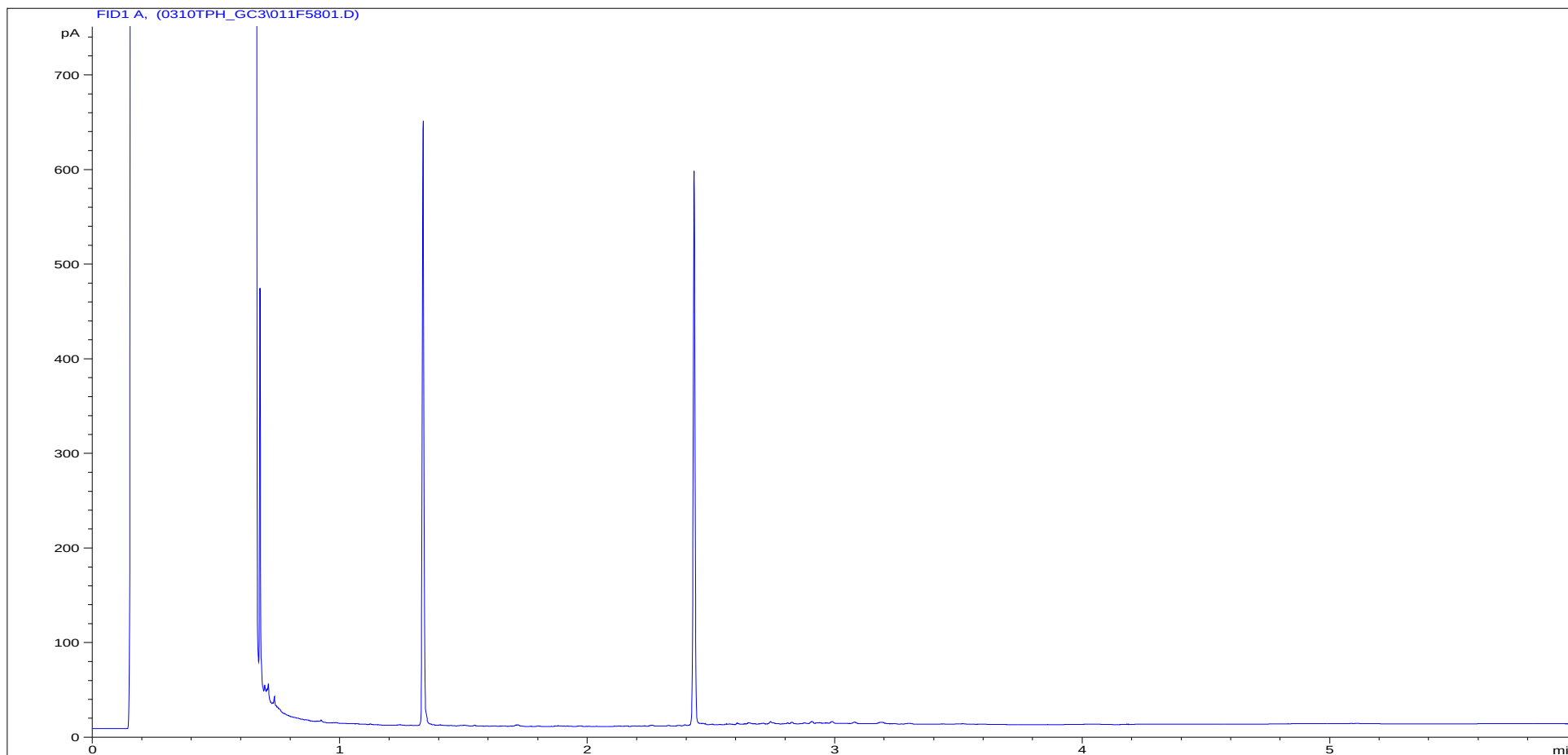
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1107650ALI                                       | <b>Job Number:</b>        | S11_1614M                      |
| <b>Multiplier:</b>            | 15.2                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | BH608 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 11-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0310TPH_GC3\010F5701.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



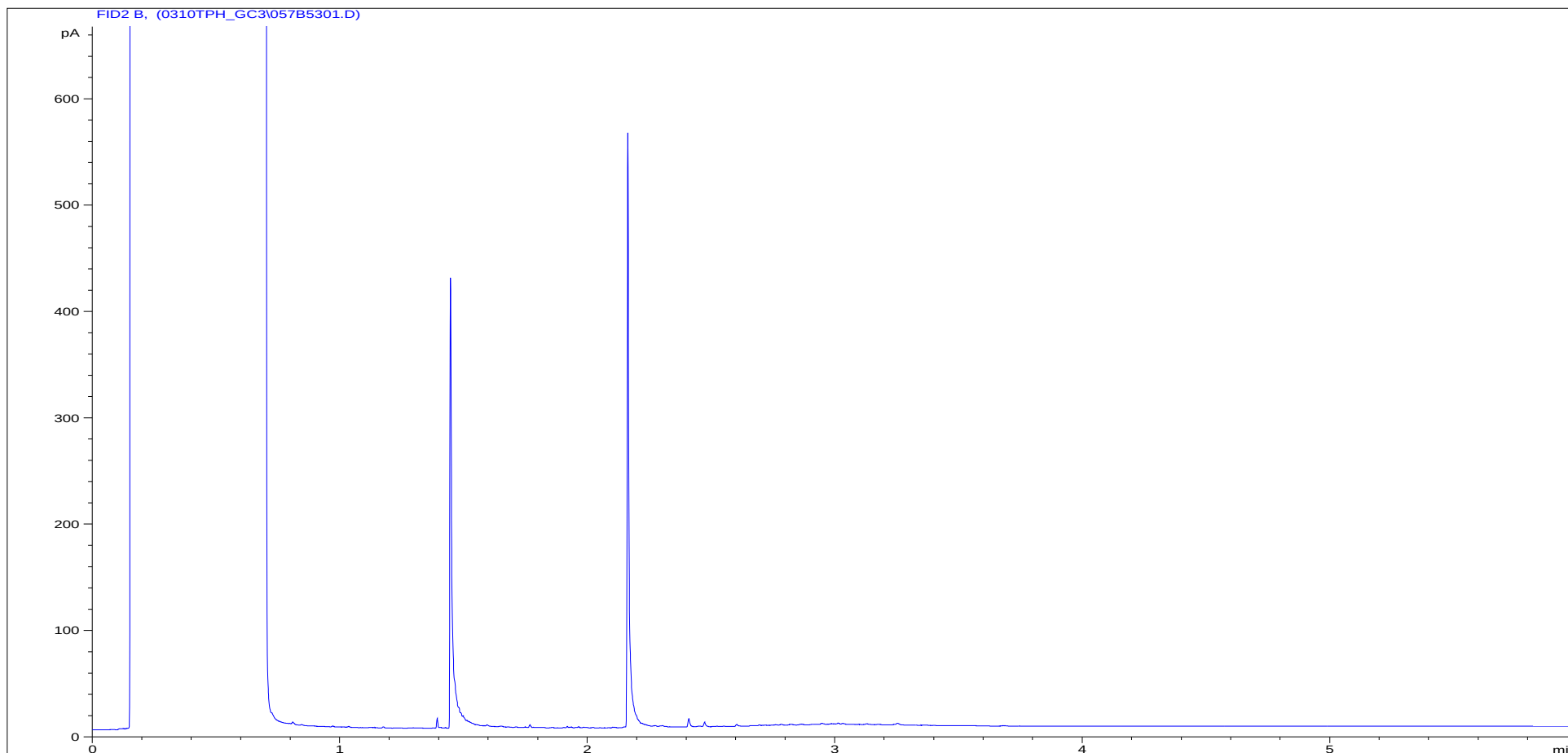
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1107650ARO                                       | <b>Job Number:</b>        | S11_1614M                      |
| <b>Multiplier:</b>            | 11.4                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | BH608 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 10-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0310TPH_GC3\056B5201.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



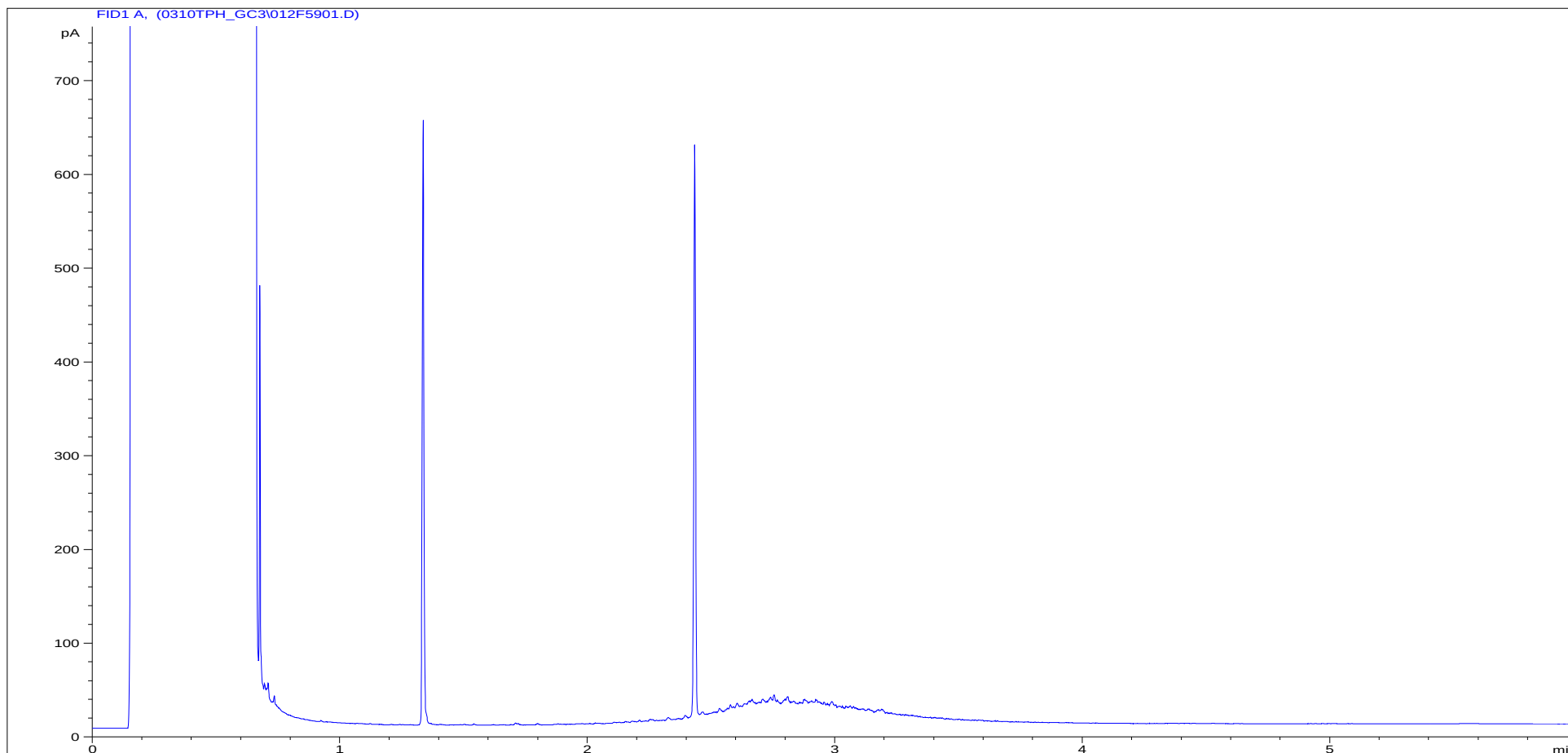
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1107651ALI                                       | <b>Job Number:</b>        | S11_1614M                      |
| <b>Multiplier:</b>            | 15.2                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | BH610 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 11-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0310TPH_GC3\011F5801.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1107651ARO                                       | <b>Job Number:</b>        | S11_1614M                      |
| <b>Multiplier:</b>            | 11.4                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | BH610 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 10-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0310TPH_GC3\057B5301.D |                           |                                |

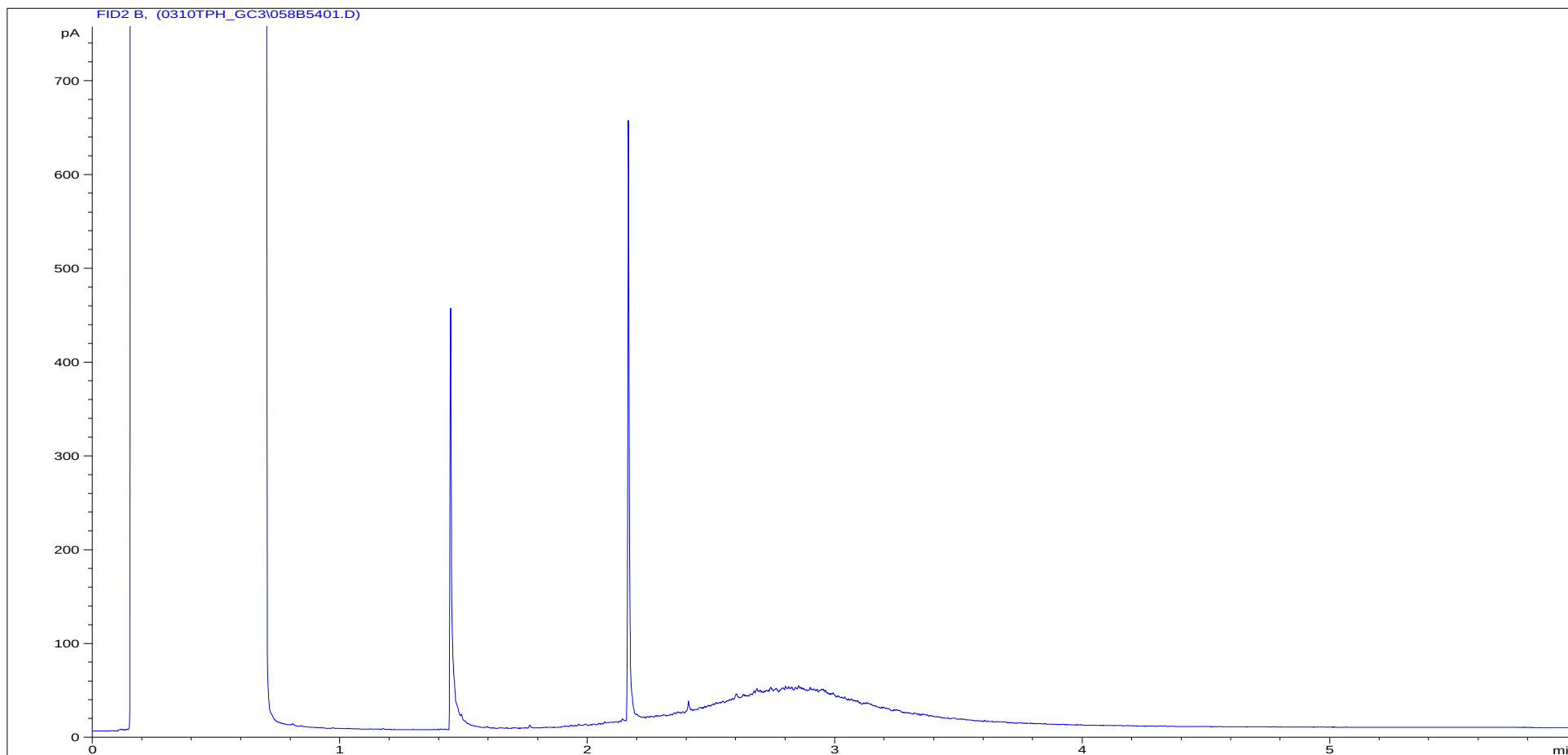
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1107652ALI                                       | <b>Job Number:</b>        | S11_1614M                      |
| <b>Multiplier:</b>            | 15.2                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | BH602 ES 3 0.50                |
| <b>Acquisition Date/Time:</b> | 11-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0310TPH_GC3\012F5901.D |                           |                                |

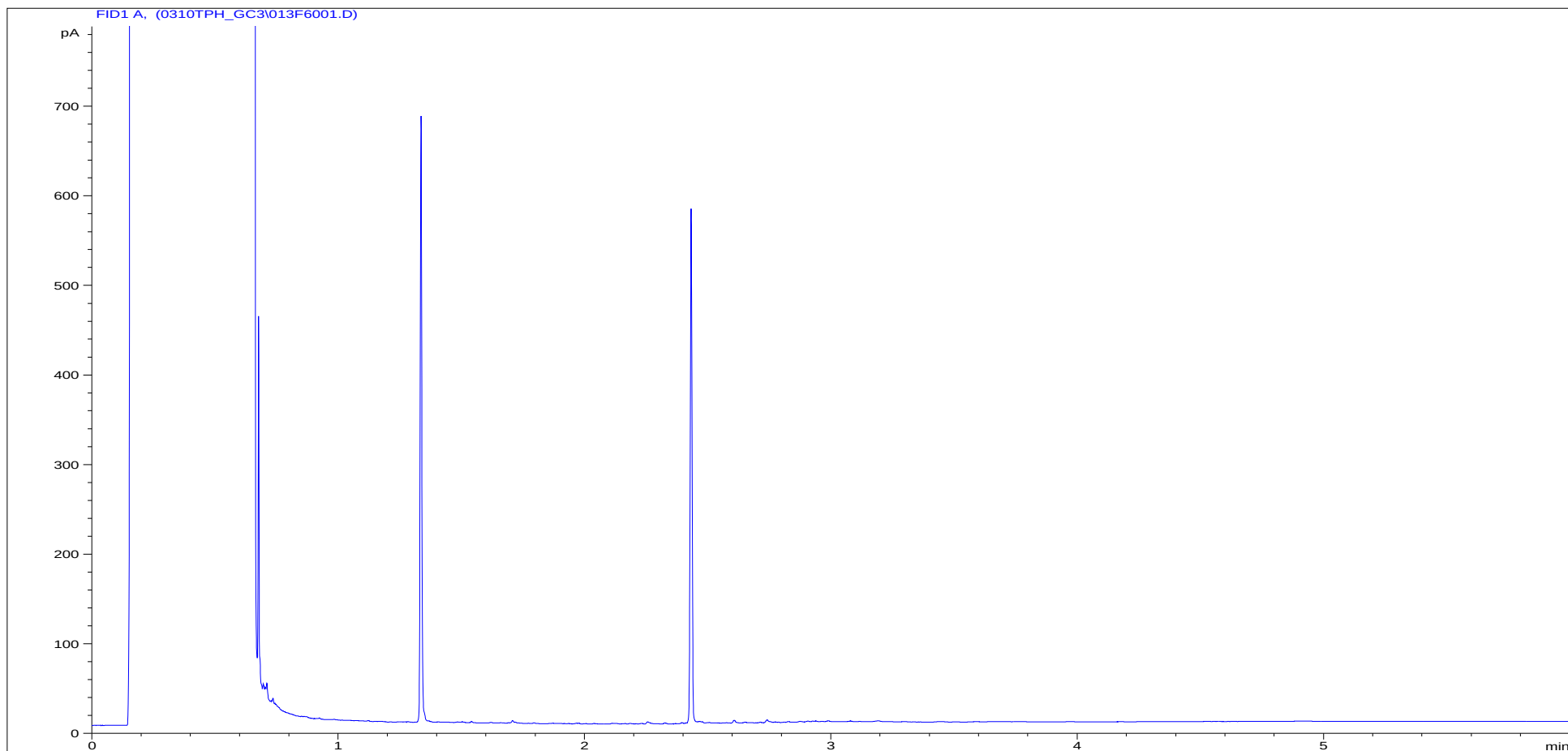


**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



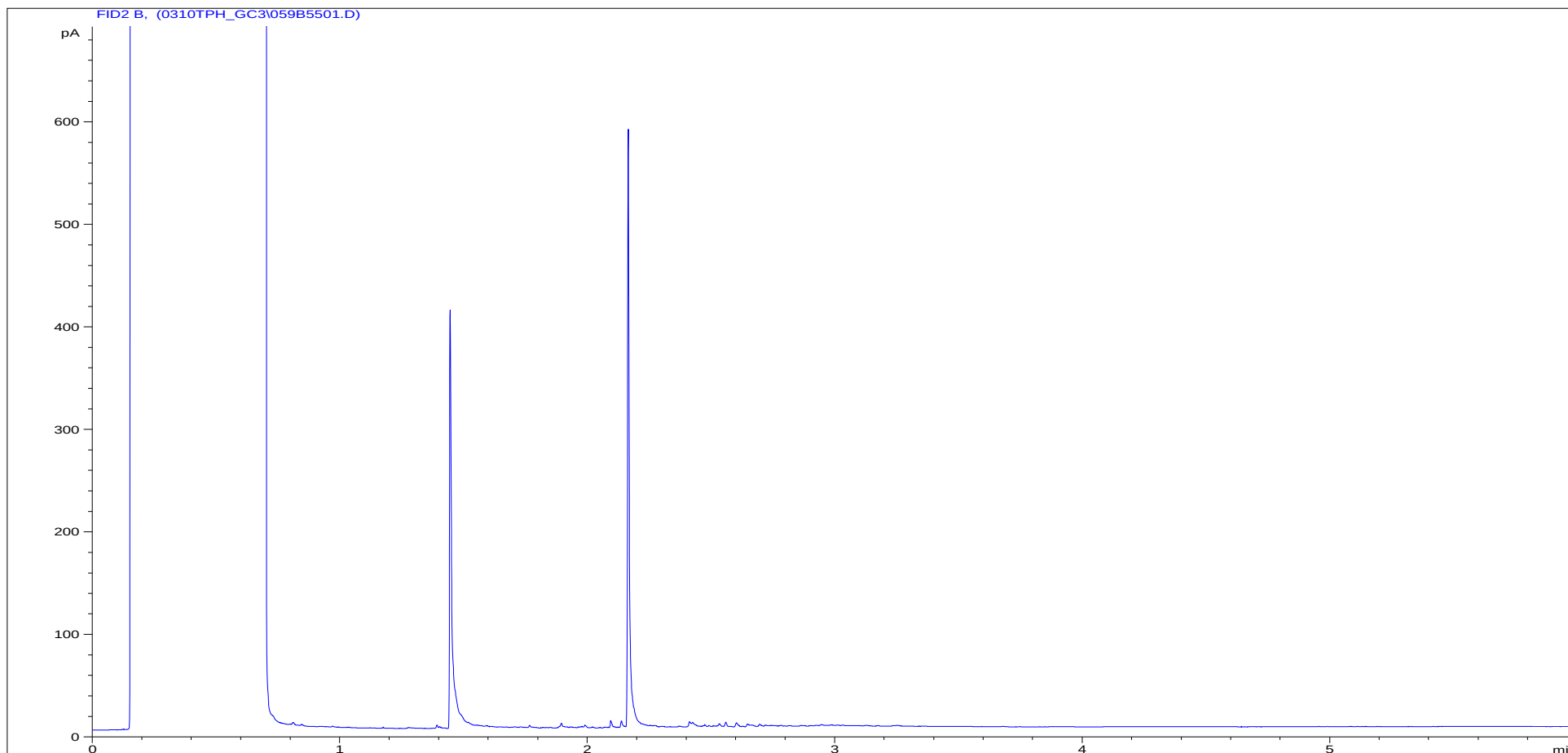
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1107652ARO                                       | <b>Job Number:</b>        | S11_1614M                      |
| <b>Multiplier:</b>            | 11.4                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | BH602 ES 3 0.50                |
| <b>Acquisition Date/Time:</b> | 10-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0310TPH_GC3\058B5401.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1107653ALI                                       | <b>Job Number:</b>        | S11_1614M                      |
| <b>Multiplier:</b>            | 15.2                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | BH606 ES 4 1.00                |
| <b>Acquisition Date/Time:</b> | 11-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0310TPH_GC3\013F6001.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1107653ARO                                       | <b>Job Number:</b>        | S11_1614M                      |
| <b>Multiplier:</b>            | 11.4                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | BH606 ES 4 1.00                |
| <b>Acquisition Date/Time:</b> | 10-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0310TPH_GC3\059B5501.D |                           |                                |

# WASTE ACCEPTANCE CRITERIA TESTING

## BSEN 12457/3

|                    |                                |           |            |            |                                                          |       |
|--------------------|--------------------------------|-----------|------------|------------|----------------------------------------------------------|-------|
| Client             | Soil Mechanics                 |           |            |            | Leaching Data                                            |       |
|                    |                                |           |            |            | Weight of sample (kg)                                    | 0.225 |
| Contact            | Mr J Huntington                |           |            |            | Moisture content @ 105°C (%)                             | 14.4  |
|                    |                                |           |            |            | Equivalent Weight based on drying at 105°C (kg)          | 0.194 |
| Site               | Ferrybridge Multifuel PowerStn |           |            |            | Volume of water required to carry out 2:1 stage (litres) | 0.356 |
|                    |                                |           |            |            | Weight of Sieved Soil to carry out 2:1 stage (kg)        | 0.262 |
| Sample Description |                                | Report No | Sample No  | Issue Date | Weight of Deionised water to carry out 2:1 stage (kg)    | 0.413 |
| BH606 ES 4 1.00    |                                | s11_1614  | CL/1107653 | 14-Apr-11  | Volume to undertake analysis (2:1 Stage) (litres)        | 0.300 |
|                    |                                |           |            |            | Weight of Deionised water to carry out 8:1 stage (kg)    | 1.461 |

| Accreditation | Method Code | Solid Waste Analysis (Dry Basis)            | Concentration in Solid (Dry Weight Basis) | Landfill Waste Acceptance Criteria Limit Values |                                                               |                          |
|---------------|-------------|---------------------------------------------|-------------------------------------------|-------------------------------------------------|---------------------------------------------------------------|--------------------------|
|               |             |                                             |                                           | Inert Waste Landfill                            | Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill | Hazardous Waste Landfill |
| N             | WSLM59      | Total Organic Carbon (% M/M)                | 2.76                                      | 3                                               | 5                                                             | 6                        |
|               | LOI450      | Loss on Ignition (%)                        |                                           |                                                 |                                                               | 10                       |
|               | BTEXHSA     | Sum of BTEX (mg/kg)                         |                                           | 6                                               |                                                               |                          |
|               | PCBUSECD    | Sum of 7 Congener PCB's (mg/kg)             |                                           | 1                                               |                                                               |                          |
|               | TPHFIDUS    | Mineral Oil (mg/kg)                         |                                           | 500                                             |                                                               |                          |
|               | PAHMSUS     | PAH Sum of 17 (mg/kg)                       |                                           | 100                                             |                                                               |                          |
| U             | PHSOIL      | pH (pH units)                               | 8.9                                       |                                                 | >6                                                            |                          |
|               | ANC         | Acid Neutralisation Capacity (mol/kg) @pH 7 |                                           |                                                 | To be evaluated                                               | To be evaluated          |

| Accreditation | Method Code | Leachate Analysis        | 2:1 Leachate   | 8:1 Leachate | Calculated amount leached @ 2:1     | Calculated cumulative amount leached @ 10:1 | Landfill Waste Acceptance Criteria Limit Values for BSEN 12457/3 @ L/S 10 litre kg-1<br><br>mg/kg (dry weight) |       |        |
|---------------|-------------|--------------------------|----------------|--------------|-------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------|--------|
|               |             |                          | mg/l except °° |              | mg/kg (dry weight)                  |                                             |                                                                                                                |       |        |
| U             | WSLM3       | pH (pH units) °°         | 7.5            | 7.6          | Calculated data not UKAS Accredited |                                             |                                                                                                                |       |        |
| U             | WSLM2       | Conductivity (µs/cm) °°  | 497            | 173          |                                     |                                             |                                                                                                                |       |        |
| 1             | ICPMSW      | Arsenic                  | 0.002          | 0.002        | 0.004                               | 0.02                                        | 0.5                                                                                                            | 2     | 25     |
| N             | ICPWATVAR   | Barium                   | 0.32           | 0.25         | 0.64                                | 2.6                                         | 20                                                                                                             | 100   | 300    |
| N             | ICPMSW      | Cadmium                  | 0.0001         | <0.0001      | 0.0002                              | <0.001                                      | 0.04                                                                                                           | 1     | 5      |
| N             | ICPMSW      | Chromium                 | 0.002          | 0.002        | 0.004                               | 0.02                                        | 0.5                                                                                                            | 10    | 70     |
| N             | ICPMSW      | Copper                   | 0.009          | 0.01         | 0.018                               | 0.1                                         | 2                                                                                                              | 50    | 100    |
| N             | ICPMSW      | Mercury                  | <0.0001        | <0.0001      | <0.0002                             | <0.001                                      | 0.01                                                                                                           | 0.2   | 2      |
| N             | ICPMSW      | Molybdenum               | 0.011          | 0.01         | 0.022                               | 0.1                                         | 0.5                                                                                                            | 10    | 30     |
| N             | ICPMSW      | Nickel                   | 0.002          | 0.001        | 0.004                               | 0.01                                        | 0.4                                                                                                            | 10    | 40     |
| N             | ICPMSW      | Lead                     | <0.001         | <0.001       | <0.002                              | <0.01                                       | 0.5                                                                                                            | 10    | 50     |
| N             | ICPMSW      | Antimony                 | 0.002          | 0.002        | 0.004                               | 0.02                                        | 0.06                                                                                                           | 0.7   | 5      |
| N             | ICPMSW      | Selenium                 | 0.001          | <0.001       | 0.002                               | <0.01                                       | 0.1                                                                                                            | 0.5   | 7      |
| N             | ICPMSW      | Zinc                     | 0.175          | 0.086        | 0.35                                | 1                                           | 4                                                                                                              | 50    | 200    |
| N             | KONENS      | Chloride                 | 2              | <1           | 4                                   | <12                                         | 800                                                                                                            | 15000 | 25000  |
| N             | ISEF        | Fluoride                 | 1.2            | 1.1          | 2.4                                 | 11                                          | 10                                                                                                             | 150   | 500    |
| N             | ICPWATVAR   | Sulphate as SO4          | 116            | 19           | 232                                 | 340                                         | 1000                                                                                                           | 20000 | 50000  |
| N             | WSLM27      | Total Dissolved Solids   | 388            | 135          | 776                                 | 1742                                        | 4000                                                                                                           | 60000 | 100000 |
| N             | SFAPI       | Phenol Index             | <0.05          | <0.05        | <0.1                                | <0.5                                        | 1                                                                                                              |       |        |
| N             | WSLM13      | Dissolved Organic Carbon | 7.2            | 3.1          | 14.4                                | 37                                          | 500                                                                                                            | 800   | 1000   |

Template Ver. 1

Landfill Waste Acceptance Criteria limit values correct as of 11th March 2009.



# Method Descriptions

| Matrix | MethodID   | Analysis Basis | Method Description                                                                                                                                |
|--------|------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Soil   | FOCS       | Air Dried      | Calculation of Soil Organic Matter content from Organic Carbon content of soil samples                                                            |
| Soil   | ICPBOR     | Air Dried      | Determination of Boron in soil samples by hot water extraction followed by ICPOES detection                                                       |
| Soil   | ICPMSS     | Air Dried      | Determination of Metals in soil samples by aqua regia digestion followed by ICPMS                                                                 |
| Soil   | KONECR     | Air Dried      | Determination of Chromium vi in soil samples by water extraction followed by colorimetric detection                                               |
| Soil   | PAHMSUS    | As Received    | Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection                                   |
| Soil   | PCBUSECDAR | As Received    | Determination of Polychlorinated Biphenyl (PCB) congeners/arocloris by hexane/acetone extraction followed by GCECD detection                      |
| Soil   | PHSOIL     | As Received    | Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.                                                                     |
| Soil   | SFAPI      | As Received    | Segmented flow analysis with colorimetric detection                                                                                               |
| Soil   | Subcon*    | *              | Contact Laboratory for details of the methodology used by the sub-contractor.                                                                     |
| Soil   | TMSS       | As Received    | Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis                                                  |
| Soil   | TPHUSSI    | As Received    | Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions. |
| Soil   | WSLM59     | Air Dried      | Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection                  |

# Report Notes

## Generic Notes

### Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

### Waters Analysis

Unless stated otherwise results are expressed as mg/l

### Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm<sup>3</sup>@ 15°C

### Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

### Asbestos Analysis

**CH** Denotes Chrysotile

**CR** Denotes Crocidolite

**AM** Denotes Amosite

**NAIIS** No Asbestos Identified in Sample

## Symbol Reference

<sup>^</sup> Sub-contracted analysis. Note: The accreditation status is that assigned by the subcontract laboratory.

**\$\$** Unable to analyse due to the nature of the sample

**¶** Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

**¥** Results for guidance only due to possible interference

**&** Blank corrected result

**I.S** Insufficient sample to complete requested analysis

**I.S(g)** Insufficient sample to re-analyse, results for guidance only

**Intf** Unable to analyse due to interferences

**N.D** Not determined

**N.Det** Not detected

**Req** Analysis requested, see attached sheets for results

**▯** Raised detection limit due to nature of the sample

**\*** All accreditation has been removed by the laboratory for this result

**‡** MCERTS accreditation has been removed for this result

**Note:** The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

## END OF REPORT

## Sample Descriptions

**Client :** Soil Mechanics  
**Site :** Ferrybridge Multifuel PowerStn  
**Report Number :** S11\_1614M

Note: major constituent in upper case

[illegible]



# TEST REPORT

## SOIL SAMPLE ANALYSIS



Report No. EFS/111662 (Ver. 1)

Soil Mechanics  
Askern Road  
Carcroft  
Doncaster  
DN6 8DG

**Site: Ferrybridge Multifuel PowerStn**

The 22 samples described in this report were logged for analysis by Scientifics on 03-Mar-2011. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 17-Mar-2011

Tests where the accreditation is set to N or No, and any individual data items marked with a \* are not UKAS accredited  
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)  
Table of Asbestos Screening Results (Page 4)  
Table of Method Descriptions (Page 5)  
Table of Report Notes (Page 6)

On behalf of  
Scientifics :  
Andrew Timms

A handwritten signature in black ink, appearing to read 'Andrew Timms', written over the printed name.

Operations Manager

Date of Issue: 17-Mar-2011

Tests marked '^' have been subcontracted to another laboratory.

Scientifics accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------|-----------------------|-----------------|-------|--|--|--|--|----------------------|------------------------------|--|--|--|--|--|--|
| <b>Units :</b><br><b>Method Codes :</b><br><b>Method Reporting Limits :</b><br><b>UKAS Accredited :</b>                                                                                                                                                     |                           | Sub02a                                |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           | yes                                   |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| Laboratory ID Number    CU/                                                                                                                                                                                                                                 | Client Sample Description | Asbestos Screen                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
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|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       | 1107898               | BH601 ES 3 0.50 | NAIIS |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107899                                                                                                                                                                                                                                                     | BH602 ES 1 0.30           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107900                                                                                                                                                                                                                                                     | BH602 ES 4 1.00           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107901                                                                                                                                                                                                                                                     | BH603 ES 1 0.30           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107902                                                                                                                                                                                                                                                     | BH603 ES 5 1.00           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107903                                                                                                                                                                                                                                                     | BH604 ES 3 0.50           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107904                                                                                                                                                                                                                                                     | BH604 ES 5 1.00           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107905                                                                                                                                                                                                                                                     | BH605 ES 1 0.30           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107906                                                                                                                                                                                                                                                     | BH606 ES 1 0.30           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107907                                                                                                                                                                                                                                                     | BH606 ES 3 0.50           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107908                                                                                                                                                                                                                                                     | BH607 ES 1 0.30           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107909                                                                                                                                                                                                                                                     | BH607 ES 5 1.00           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107910                                                                                                                                                                                                                                                     | BH608 ES 3 0.50           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107911                                                                                                                                                                                                                                                     | BH608 ES 5 1.00           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107912                                                                                                                                                                                                                                                     | BH609 ES 1 0.30           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107913                                                                                                                                                                                                                                                     | BH609 ES 5 1.00           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107914                                                                                                                                                                                                                                                     | BH610 ES 3 0.50           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107915                                                                                                                                                                                                                                                     | BH611 ES 3 0.50           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107916                                                                                                                                                                                                                                                     | BH612 ES 1 0.30           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| 1107917                                                                                                                                                                                                                                                     | BH613 ES 1 0.30           | NAIIS                                 |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
| <br><b>scientifics</b><br>Bretby Business Park, Ashby Road<br><br>Burton-on-Trent, Staffordshire, DE15 0YZ<br><br>Tel +44 (0) 1283 554400<br><br>Fax +44 (0) 1283 554422 |                           | <b>Client Name</b>                    | <b>Soil Mechanics</b> |                 |       |  |  |  |  |                      | <b>Soils Sample Analysis</b> |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           | <b>Contact</b>                        | Mr J Huntington       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           | <b>Ferrybridge Multifuel PowerStn</b> |                       |                 |       |  |  |  |  | <b>Date Printed</b>  | 17-Mar-11                    |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  | <b>Report Number</b> | EFS/111662                   |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  | <b>Table Number</b>  | 1                            |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                             |                           |                                       |                       |                 |       |  |  |  |  |                      |                              |  |  |  |  |  |  |

[illegible]

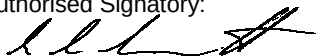
## ASBESTOS ANALYSIS RESULTS - SOIL ANALYSIS

|                        |                                                                   |                         |
|------------------------|-------------------------------------------------------------------|-------------------------|
| Client:                | Scientifics Environmental Chemistry                               | Page 1 of 1             |
| Address:               | Etwall House, Bretby Business Park, Ashby Road, Burton upon Trent | Report No:ANO-0488-1009 |
| For the attention of : | Soil Mechanics                                                    | Report Date:15/03/2011  |
| Site Address:          | Ferrybridge Multifuel PowerStn                                    | Project Number:S111662  |

| SAMPLE NUMBER | SAMPLE DATE | SAMPLE LOCATION | Sample Type | DEPTH (M) | TEST DATE  | % asbestos by dry weight** | ASBESTOS FIBRE TYPES IDENTIFIED  |
|---------------|-------------|-----------------|-------------|-----------|------------|----------------------------|----------------------------------|
| CL/1107898    |             | BH601 0.5       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107899    |             | BH602 0.3       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107900    |             | BH602 1.0       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107901    |             | BH603 0.3       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107902    |             | BH603 1.0       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107903    |             | BH604 0.5       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107904    |             | BH604 1.0       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107905    |             | BH605 0.3       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107906    |             | BH606 0.3       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107907    |             | BH606 0.5       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107908    |             | BH607 0.3       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107909    |             | BH607 1.0       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107910    |             | BH608 0.5       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107911    |             | BH608 1.0       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107912    |             | BH609 0.3       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107913    |             | BH609 1.0       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107914    |             | BH610 0.5       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107915    |             | BH611 0.5       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107916    |             | BH612 0.3       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107917    |             | BH613 0.3       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107918    |             | BH613 1.0       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |
| CL/1107919    |             | BH613 2.0       |             |           | 15/03/2011 | Screen Only                | No Asbestos Identified in Sample |

\*Sampling carried out by client \*\* Detection limit advised by client

The sample analysis for the above results was carried out using the procedures detailed in ESG Asbestos Limited in house method (SCI-ASB-020) based on HSE document MDHS 90 - Asbestos Contaminated Land - Draft 5 - November 1997 (withdrawn). Fibre identific

|                                        |                                                                                      |           |                                  |
|----------------------------------------|--------------------------------------------------------------------------------------|-----------|----------------------------------|
| Key                                    | Authorised Signatory:                                                                | Name:     | Kate Lovatt                      |
| NADIS = No Asbestos Detected in Sample |  | Position: | System Support & Quality Manager |

ESG Asbestos Limited is a wholly owned subsidiary of Environmental Scientifics Group Limited (ESG), registered in England and Wales, registered company 04951688.

Where individual results are flagged see report notes for status.

# Method Descriptions

| Matrix | MethodID | Analysis Basis | Method Description                                                            |
|--------|----------|----------------|-------------------------------------------------------------------------------|
| Soil   | Subcon*  | *              | Contact Laboratory for details of the methodology used by the sub-contractor. |

Where individual results are flagged see report notes for status.

# Report Notes

## Generic Notes

### Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

### Waters Analysis

Unless stated otherwise results are expressed as mg/l

### Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm<sup>3</sup>@ 15°C

### Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

### Asbestos Analysis

**CH** Denotes Chrysotile

**CR** Denotes Crocidolite

**AM** Denotes Amosite

**NAIIS** No Asbestos Identified in Sample

## Symbol Reference

<sup>^</sup> Sub-contracted analysis. Note: The accreditation status is that assigned by the subcontract laboratory.

**\$\$** Unable to analyse due to the nature of the sample

**¶** Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

**¥** Results for guidance only due to possible interference

**&** Blank corrected result

**I.S** Insufficient sample to complete requested analysis

**I.S(g)** Insufficient sample to re-analyse, results for guidance only

**Intf** Unable to analyse due to interferences

**N.D** Not determined

**N.Det** Not detected

**Req** Analysis requested, see attached sheets for results

**▮** Raised detection limit due to nature of the sample

**\*** All accreditation has been removed by the laboratory for this result

**‡** MCERTS accreditation has been removed for this result

**Note:** The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

## END OF REPORT

Where individual results are flagged see report notes for status.

# TEST REPORT

## SOIL SAMPLE ANALYSIS



Report No. EFS/111699M (Ver. 2)

Soil Mechanics  
Askern Road  
Carcroft  
Doncaster  
DN6 8DG

### Site: Ferrybridge Multifuel PowerStn

The 8 samples described in this report were logged for analysis by Scientifics on 04-Mar-2011. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 21-Apr-2011

Tests where the accreditation is set to N or No, and any individual data items marked with a \* are not UKAS or MCERTS accredited. Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)  
Table of PAH (MS-SIM) (80) Results (Pages 4 to 11)  
Table of PCB Congener Results (Page 12)  
Table of TPH (Si) banding (std) (Page 13)  
GC-FID Chromatograms (Pages 14 to 29)  
Table of WAC Analysis Results (Page 30)  
Table of Asbestos ID & Quant Results (Page 31)  
Table of Asbestos Screening Results (Page 32)  
Table of Method Descriptions (Page 33)  
Table of Report Notes (Page 34)  
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of  
Scientifics :  
Andrew Timms

Operations Manager

Date of Issue: 21-Apr-2011

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)

Tests marked '\*' have been subcontracted to another laboratory.

(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.

All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)  
Scientifics accepts no responsibility for any sampling not carried out by our personnel.

[illegible]



| Units :<br>Method Codes :<br>Method Reporting Limits :<br>Accreditation Code: |                           | %                                                                                                                                                                                                                                                       | mg/kg                | % M/M           | ug/kg               | %                   | % M/M                |       |             |  |  |                       |  |  |  |  |  |  |
|-------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|---------------------|---------------------|----------------------|-------|-------------|--|--|-----------------------|--|--|--|--|--|--|
|                                                                               |                           | TMSS                                                                                                                                                                                                                                                    | TPHUSSI              | FOCS            | PCBUSECDAR          | Sub02               | WSLM59               |       |             |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           | 0.2                                                                                                                                                                                                                                                     | 10.0                 | 0.04            |                     | 0.001               | 0.01                 |       |             |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           | U                                                                                                                                                                                                                                                       |                      | N               |                     | U                   | N                    |       |             |  |  |                       |  |  |  |  |  |  |
| Laboratory ID Number CL/                                                      | Client Sample Description | Tot.Moisture @ 105C                                                                                                                                                                                                                                     | TPH by GCFID (AR/SI) | S.O.M. % (Calc) | PCB-7 Congeners(AR) | Asbestos ID and Qua | Total Organic Carbon |       |             |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                      |                 |                     |                     |                      |       |             |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           | 1108116                                                                                                                                                                                                                                                 | WS606 ES 2 0.50      | 13.6            | Req                 | 2.09                |                      | 0.014 | 1.21        |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           | 1108117                                                                                                                                                                                                                                                 | WS606 ES 12 3.50     | 18.0            | Req                 | 4.86                | Req                  |       | 2.82        |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           | 1108110                                                                                                                                                                                                                                                 | WS614 ES 3 1.00      | 25.4            | Req                 | 1.36                |                      |       | 0.79        |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           | 1108111                                                                                                                                                                                                                                                 | WS615 ES 2 0.50      | 13.5            | Req                 | 4                   |                      |       | 2.32        |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           | 1108112                                                                                                                                                                                                                                                 | WS617 ES 1 0.30      | 11.1            | Req                 | 4.42                |                      |       | 2.56        |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           | 1108113                                                                                                                                                                                                                                                 | WS618 ES 1 0.30      | 15.4            | Req                 | 2.06                |                      |       | 1.2         |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           | 1108114                                                                                                                                                                                                                                                 | WS619 ES 1 0.30      | 18.8            | Req                 | 1.37                |                      |       | 0.79        |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           | 1108115                                                                                                                                                                                                                                                 | WS620 ES 1 0.30      | 10.2            | Req                 | 0.67                |                      |       | 0.38        |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                      |                 |                     |                     |                      |       |             |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                      |                 |                     |                     |                      |       |             |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                      |                 |                     |                     |                      |       |             |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                      |                 |                     |                     |                      |       |             |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                      |                 |                     |                     |                      |       |             |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                      |                 |                     |                     |                      |       |             |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                      |                 |                     |                     |                      |       |             |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                      |                 |                     |                     |                      |       |             |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           | <div><br/>Bretby Business Park, Ashby Road<br/><br/>Burton-on-Trent, Staffordshire, DE15 0YZ<br/><br/>Tel +44 (0) 1283 554400<br/><br/>Fax +44 (0) 1283 554422</div> |                      | Client Name     | Soil Mechanics      |                     |                      |       |             |  |  | Soils Sample Analysis |  |  |  |  |  |  |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                      | Contact         | Mr J Huntington     |                     |                      |       |             |  |  |                       |  |  |  |  |  |  |
| Ferrybridge Multifuel PowerStn                                                |                           |                                                                                                                                                                                                                                                         |                      |                 |                     |                     | Date Printed         |       | 27-Apr-11   |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                      |                 |                     |                     | Report Number        |       | EFS/111699M |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                      |                 |                     |                     | Table Number         |       | 1           |  |  |                       |  |  |  |  |  |  |
|                                                                               |                           |                                                                                                                                                                                                                                                         |                      |                 |                     |                     |                      |       |             |  |  |                       |  |  |  |  |  |  |

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS614 ES 3 1.00                                | <b>Job Number:</b>     | S11_1699M  |
| <b>LIMS ID Number:</b>            | CL1108110                                      | <b>Date Booked in:</b> | 04-Mar-11  |
| <b>QC Batch Number:</b>           | 110524                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 15-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.11                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.11                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.11                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.11                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.11                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.11                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.11                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.11                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.11                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.11                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.11                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.11                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.11                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.57         | 0.10                   | 61    | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | 12.60         | 0.20                   | 85    | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.88         | 0.15                   | 99    | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.90                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 102    |
| Acenaphthene-d10       | 100    |
| Phenanthrene-d10       | 105    |
| Chrysene-d12           | 91     |
| Perylene-d12           | 82     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 97    |
| Terphenyl-d14    | 97    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS615 ES 2 0.50                                | <b>Job Number:</b>     | S11_1699M  |
| <b>LIMS ID Number:</b>            | CL1108111                                      | <b>Date Booked in:</b> | 04-Mar-11  |
| <b>QC Batch Number:</b>           | 110524                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 15-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | 5.87          | 0.20                   | 96    | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | 7.24          | 0.45                   | 87    | UM            |
| Pyrene                 | 129-00-0 | 7.53          | 0.39                   | 84    | UM            |
| Benzo[a]anthracene     | 56-55-3  | 9.22          | 0.29                   | 89    | UM            |
| Chrysene               | 218-01-9 | 9.27          | 0.32                   | 87    | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | 10.75         | 0.42                   | 79    | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | 10.79         | 0.16                   | 83    | UM            |
| Benzo[a]pyrene         | 50-32-8  | 11.18         | 0.32                   | 95    | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.56         | 0.29                   | 67    | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | 12.59         | 0.10                   | 66    | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.88         | 0.28                   | 94    | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 3.69                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 98     |
| Acenaphthene-d10       | 99     |
| Phenanthrene-d10       | 103    |
| Chrysene-d12           | 104    |
| Perylene-d12           | 104    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 96    |
| Terphenyl-d14    | 102   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS617 ES 1 0.30                                | <b>Job Number:</b>     | S11_1699M  |
| <b>LIMS ID Number:</b>            | CL1108112                                      | <b>Date Booked in:</b> | 04-Mar-11  |
| <b>QC Batch Number:</b>           | 110524                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 15-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | 12.60         | 0.09                   | 68    | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.44                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 106    |
| Acenaphthene-d10       | 106    |
| Phenanthrene-d10       | 113    |
| Chrysene-d12           | 108    |
| Perylene-d12           | 99     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 95    |
| Terphenyl-d14    | 99    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS618 ES 1 0.30                                | <b>Job Number:</b>     | S11_1699M  |
| <b>LIMS ID Number:</b>            | CL1108113                                      | <b>Date Booked in:</b> | 04-Mar-11  |
| <b>QC Batch Number:</b>           | 110524                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 15-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | 12.60         | 0.09                   | 84    | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.51                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 109    |
| Acenaphthene-d10       | 108    |
| Phenanthrene-d10       | 117    |
| Chrysene-d12           | 106    |
| Perylene-d12           | 93     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 94    |
| Terphenyl-d14    | 97    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS619 ES 1 0.30                                | <b>Job Number:</b>     | S11_1699M  |
| <b>LIMS ID Number:</b>            | CL1108114                                      | <b>Date Booked in:</b> | 04-Mar-11  |
| <b>QC Batch Number:</b>           | 110524                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 15-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.10                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.10                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.10                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.10                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.10                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.10                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.10                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.10                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.10                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.10                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.10                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.10                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.10                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.10                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.10                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.10                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.58                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 100    |
| Acenaphthene-d10       | 101    |
| Phenanthrene-d10       | 106    |
| Chrysene-d12           | 92     |
| Perylene-d12           | 82     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 96    |
| Terphenyl-d14    | 95    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn | <b>Job Number:</b>     | S11_1699M  |
| <b>Sample Details:</b>            | WS620 ES 1 0.30                                | <b>Date Booked in:</b> | 04-Mar-11  |
| <b>LIMS ID Number:</b>            | CL1108115                                      | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>QC Batch Number:</b>           | 110524                                         | <b>Date Analysed:</b>  | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Matrix:</b>         | Soil       |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Ext Method:</b>     | Ultrasonic |
| <b>Dilution:</b>                  | 1.0                                            |                        |            |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.43                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 105    |
| Acenaphthene-d10       | 106    |
| Phenanthrene-d10       | 112    |
| Chrysene-d12           | 103    |
| Perylene-d12           | 90     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 95    |
| Terphenyl-d14    | 100   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS606 ES 2 0.50                                | <b>Job Number:</b>     | S11_1699M  |
| <b>LIMS ID Number:</b>            | CL1108116                                      | <b>Date Booked in:</b> | 04-Mar-11  |
| <b>QC Batch Number:</b>           | 110524                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 15-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.48                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 101    |
| Acenaphthene-d10       | 100    |
| Phenanthrene-d10       | 103    |
| Chrysene-d12           | 102    |
| Perylene-d12           | 94     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 97    |
| Terphenyl-d14    | 104   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.



# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn | <b>Job Number:</b>     | S11_1699M  |
| <b>Sample Details:</b>            | WS606 ES 12 3.50                               | <b>Date Booked in:</b> | 04-Mar-11  |
| <b>LIMS ID Number:</b>            | CL1108117                                      | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>QC Batch Number:</b>           | 110524                                         | <b>Date Analysed:</b>  | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Matrix:</b>         | Soil       |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Ext Method:</b>     | Ultrasonic |
| <b>Dilution:</b>                  | 1.0                                            |                        |            |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.10                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.10                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.10                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.10                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.10                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.10                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.10                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.10                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.10                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.10                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.10                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.10                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.10                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.10                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.10                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.10                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.56                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 100    |
| Acenaphthene-d10       | 100    |
| Phenanthrene-d10       | 104    |
| Chrysene-d12           | 107    |
| Perylene-d12           | 104    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 96    |
| Terphenyl-d14    | 103   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polychlorinated Biphenyls (congeners)

**Customer and Site Details:** Soil Mechanics: Ferrybridge Multifuel PowerStn  
**Job Number:** S11\_1699M  
**QC Batch Number:** 110711  
**Directory:** 0404PCB.GC8  
**Method:** Ultrasonic  
**Accreditation code:** N

**Matrix:** SOIL  
**Date Booked in:** 04-Mar-11  
**Date Extracted:** 04-Apr-11  
**Date Analysed:** 05-Apr-11

| Sample ID   | Customer ID      | Concentration, (µg/kg) |       |        |        |        |        |        |
|-------------|------------------|------------------------|-------|--------|--------|--------|--------|--------|
|             |                  | PCB28                  | PCB52 | PCB101 | PCB118 | PCB153 | PCB138 | PCB180 |
| * CL1108117 | WS606 ES 12 3.50 | <5.0                   | <5.0  | <5.0   | <5.0   | <5.0   | <5.0   | <5.0   |
|             |                  |                        |       |        |        |        |        |        |
|             |                  |                        |       |        |        |        |        |        |
|             |                  |                        |       |        |        |        |        |        |
|             |                  |                        |       |        |        |        |        |        |
|             |                  |                        |       |        |        |        |        |        |
|             |                  |                        |       |        |        |        |        |        |
|             |                  |                        |       |        |        |        |        |        |
|             |                  |                        |       |        |        |        |        |        |
|             |                  |                        |       |        |        |        |        |        |
|             |                  |                        |       |        |        |        |        |        |
|             |                  |                        |       |        |        |        |        |        |
|             |                  |                        |       |        |        |        |        |        |
|             |                  |                        |       |        |        |        |        |        |
|             |                  |                        |       |        |        |        |        |        |

# ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details:

Job Number:

QC Batch Number:

Directory:

Method:

Soil Mechanics : Ferrybridge Multifuel PowerStn

S11\_1699

110508

D:\TES\DATA\Y2011\MARCH2011\0314TPH\_GC3\087B4501.D

Ultra Sonic

Separation:

Eluents:

Silica gel

Hexane, DCM

Matrix:

Date Booked in

Date Extracted:

Date Analysed:

Soil

04-Mar-11

14-Mar-11

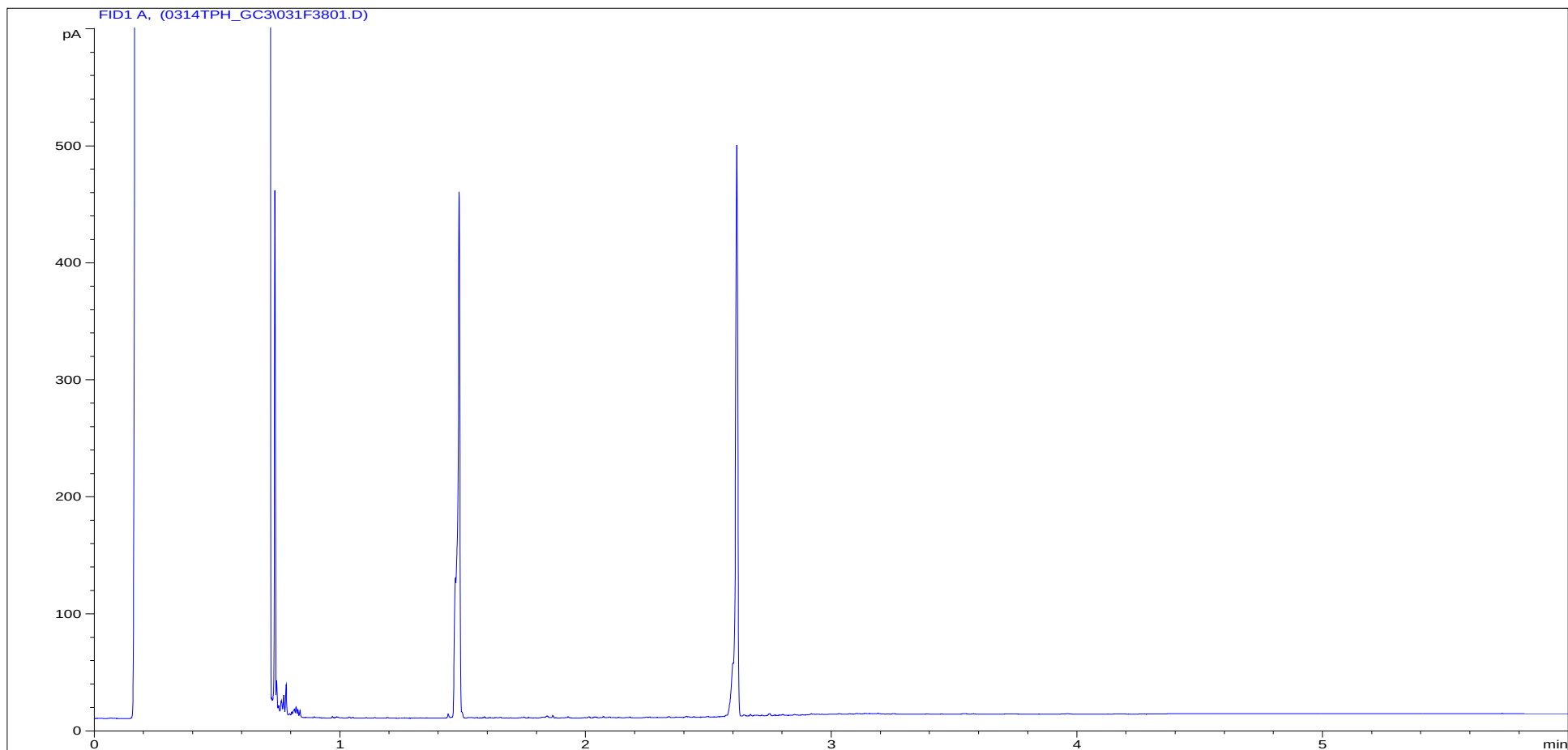
15-Mar-11

This sample data is not MCERTS accredited.

\* This sample data is not ISO17025 accredited.

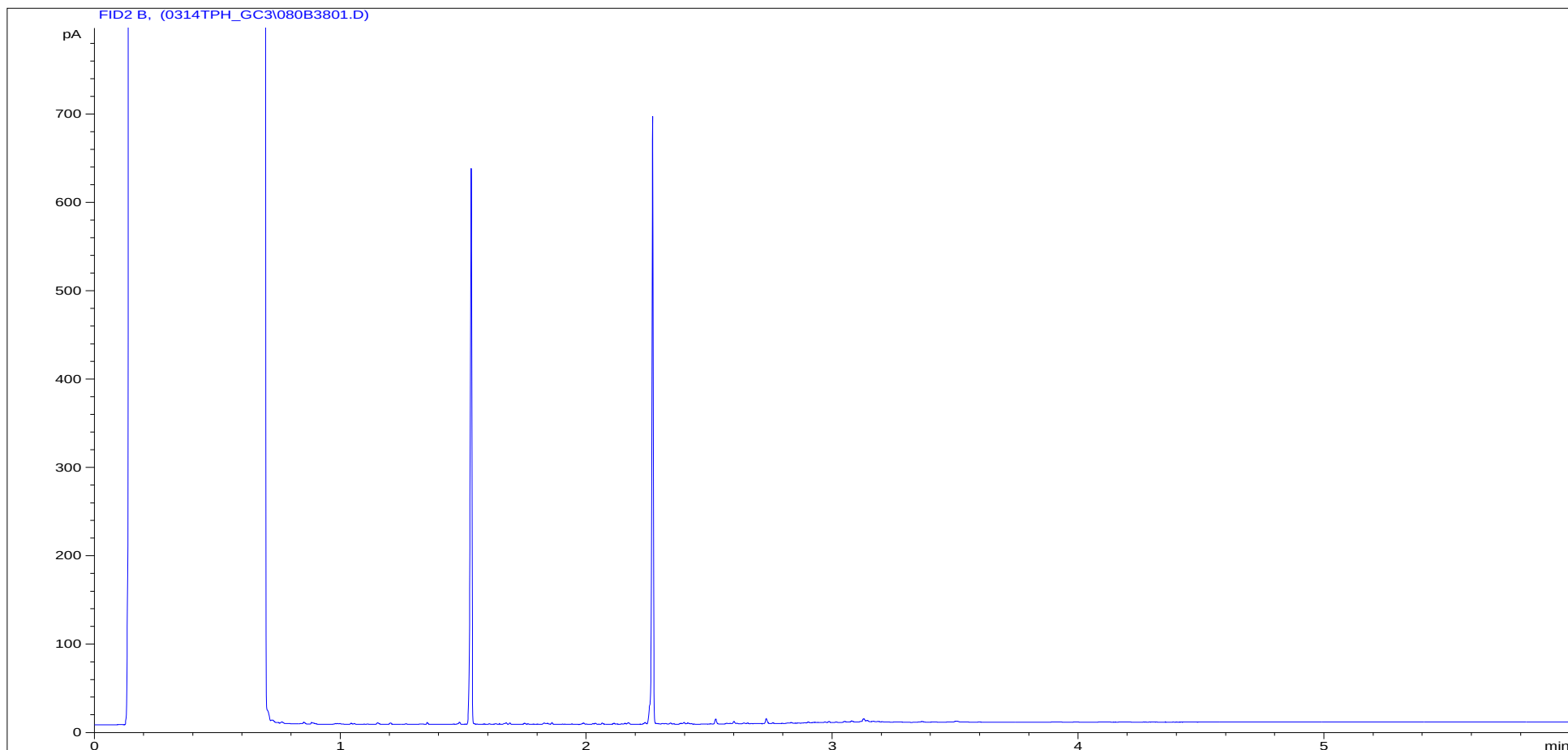
|           |                  | Concentration, (mg/kg) - as dry weight. |           |            |           |            |           |            |           |            |           |            |           |
|-----------|------------------|-----------------------------------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
|           |                  | >C8 - C10                               |           | >C10 - C12 |           | >C12 - C16 |           | >C16 - C21 |           | >C21 - C35 |           | >C8 - C40  |           |
| Sample ID | Client ID        | Aliphatics                              | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics |
| CL1108110 | WS614 ES 3 1.00  | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <11.74     | <11.74    | <27        | <27       |
| CL1108111 | WS615 ES 2 0.50  | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | 27.9       | 27        | 37.8       | 37.2      |
| CL1108112 | WS617 ES 1 0.30  | <4                                      | <4        | <4         | <4        | <4         | <4        | <4         | <4        | <9.85      | <9.85     | <22        | <22       |
| CL1108113 | WS618 ES 1 0.30  | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | 10.8       | <10.35    | <24        | <24       |
| CL1108114 | WS619 ES 1 0.30  | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <10.79     | <10.79    | <25        | <25       |
| CL1108115 | WS620 ES 1 0.30  | <4                                      | <4        | <4         | <4        | <4         | <4        | <4         | <4        | <9.76      | <9.76     | <22        | <22       |
| CL1108116 | WS606 ES 2 0.50  | <4.73                                   | <5        | <4.73      | <5        | <4.73      | <5        | 6.06       | 13.1      | 14.9       | 61.7      | 26         | 82        |
| CL1108117 | WS606 ES 12 3.50 | <4.99                                   | <5        | 17         | <5        | 120        | 19.9      | 144        | 70.5      | 113        | 66        | 401        | 160       |
|           |                  |                                         |           |            |           |            |           |            |           |            |           |            |           |
|           |                  |                                         |           |            |           |            |           |            |           |            |           |            |           |
|           |                  |                                         |           |            |           |            |           |            |           |            |           |            |           |
|           |                  |                                         |           |            |           |            |           |            |           |            |           |            |           |
|           |                  |                                         |           |            |           |            |           |            |           |            |           |            |           |
|           |                  |                                         |           |            |           |            |           |            |           |            |           |            |           |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



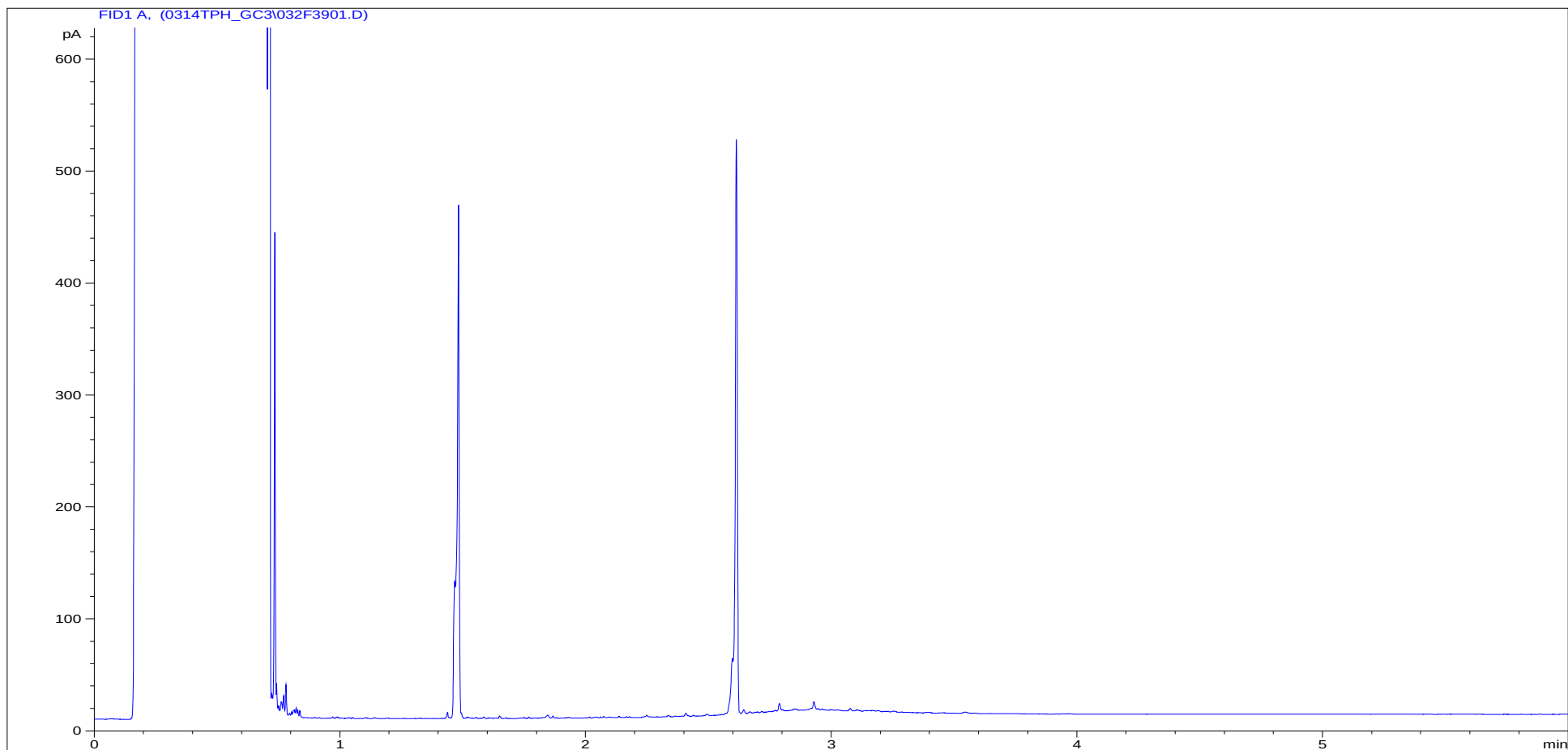
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108110ALI                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 14.82                                              | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS614 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 14-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\031F3801.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



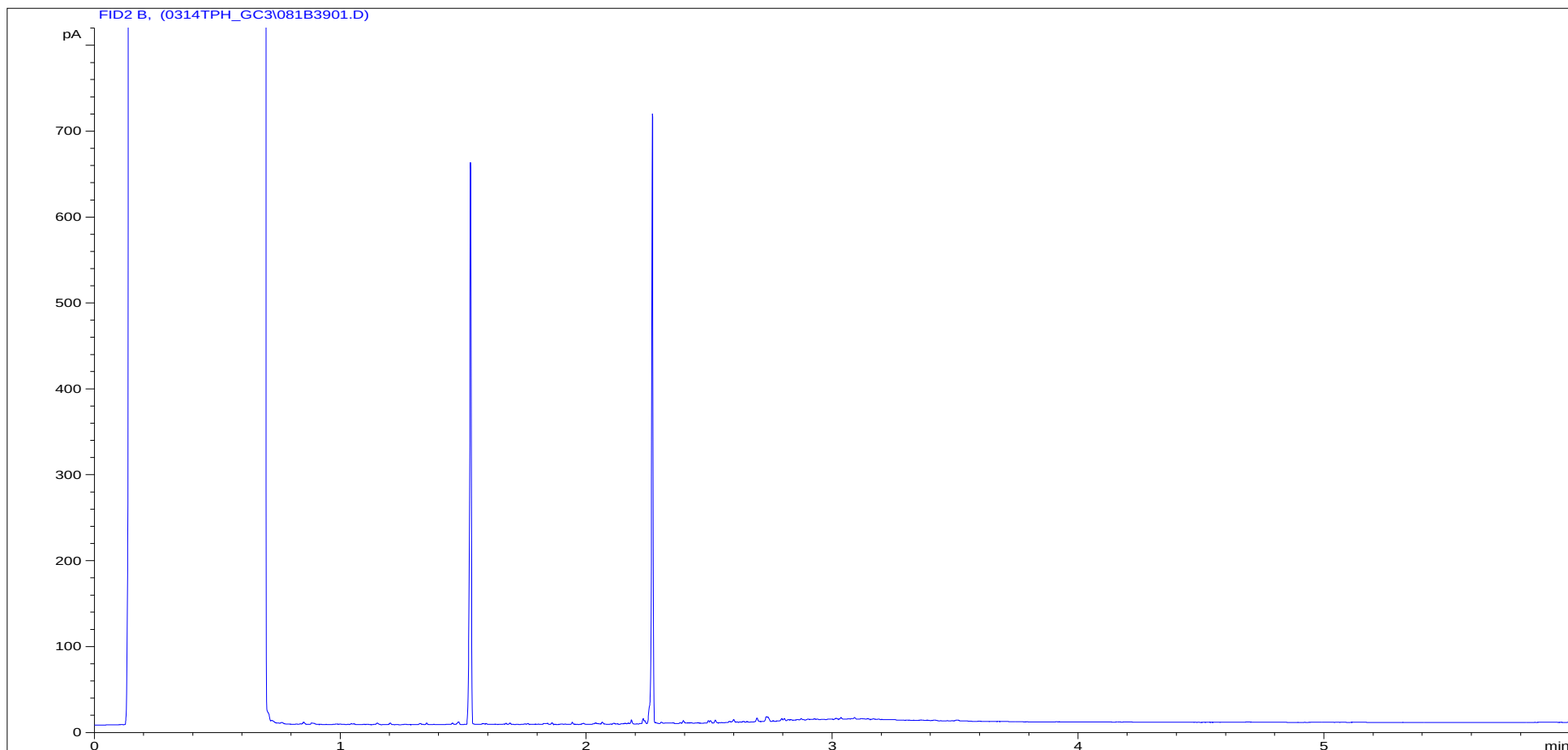
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108110ARO                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 11.4                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS614 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 14-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\080B3801.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



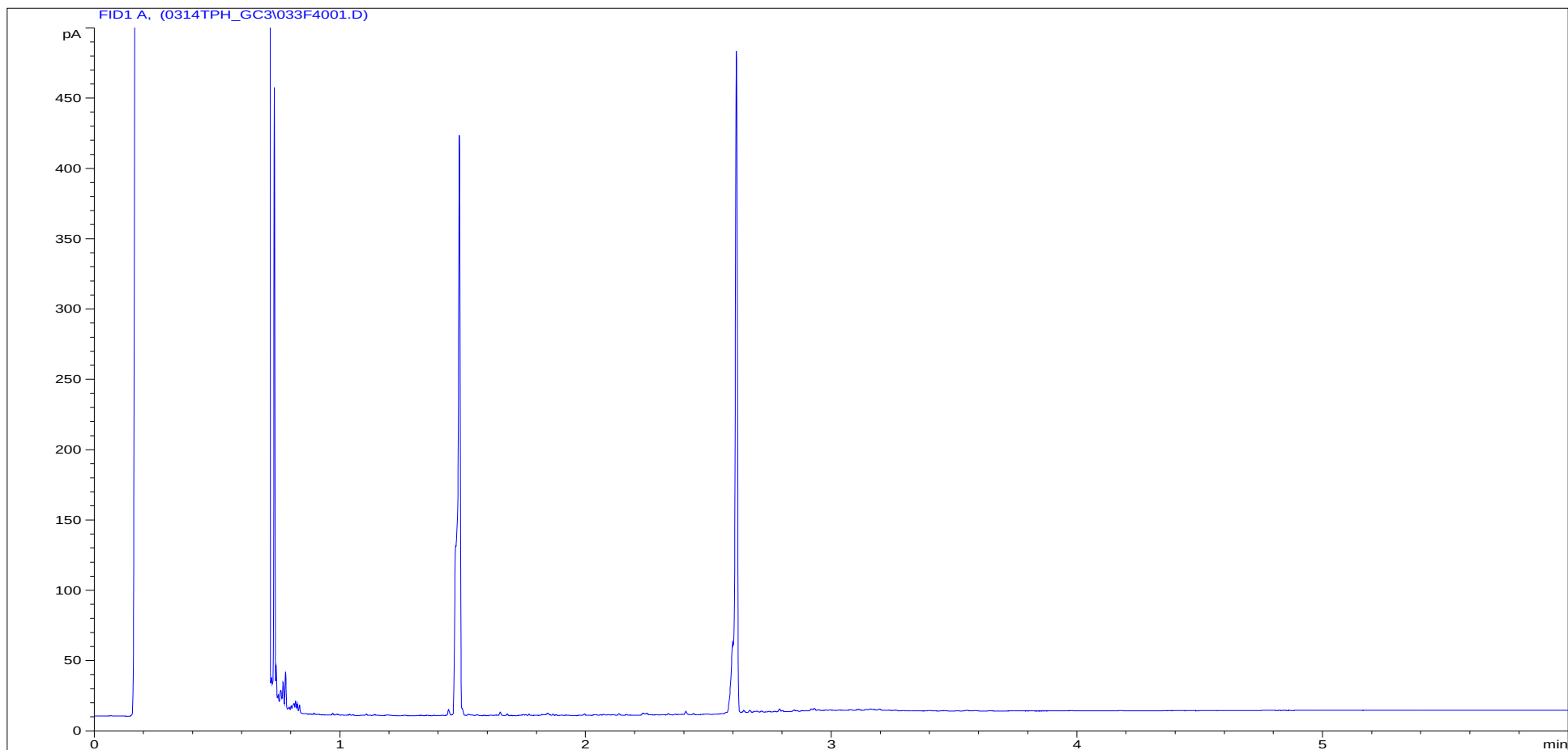
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108111ALI                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 14.82                                              | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS615 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 14-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\032F3901.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108111ARO                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 11.02                                              | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS615 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 14-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\081B3901.D |                           |                                |

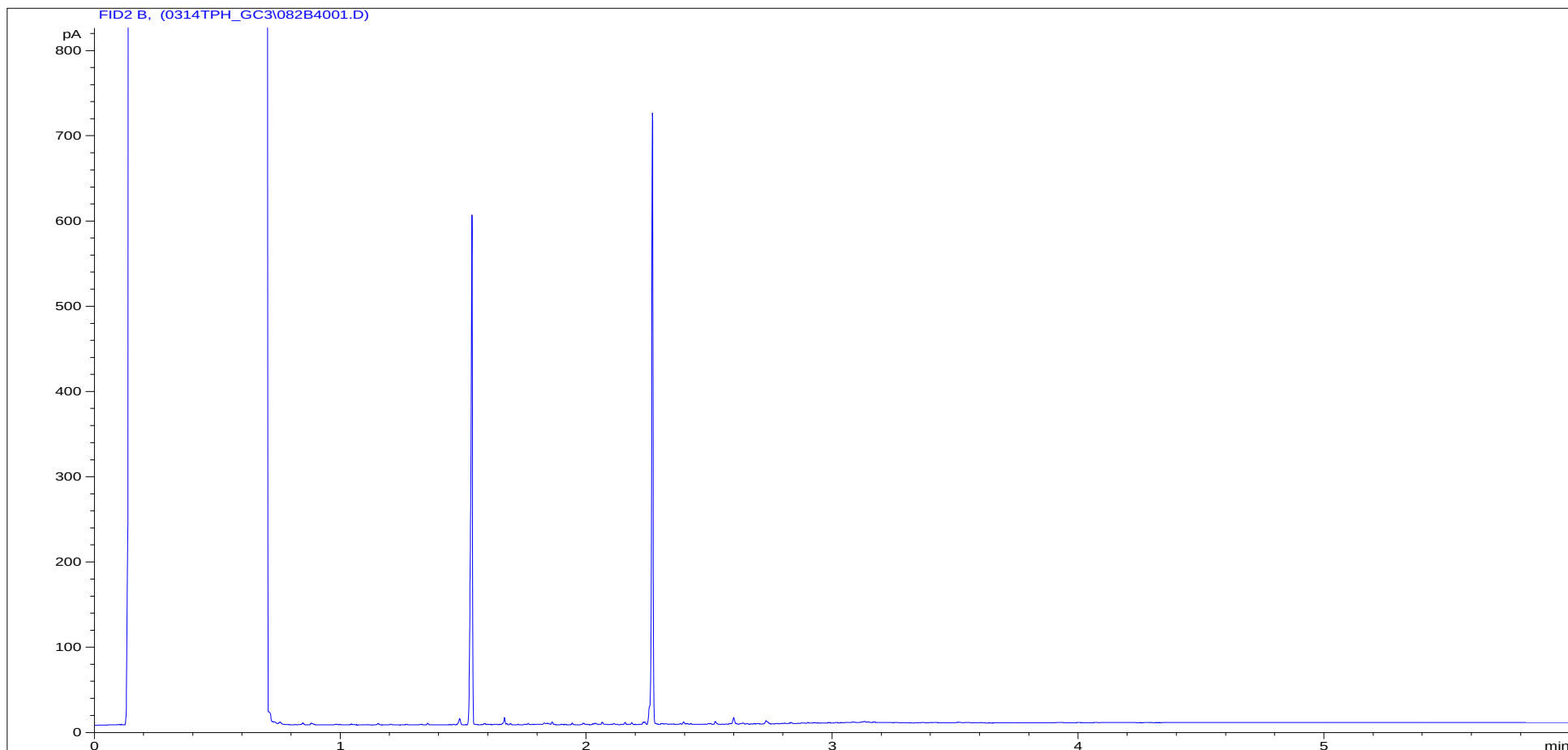
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108112ALI                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 14.04                                              | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS617 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 14-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\033F4001.D |                           |                                |

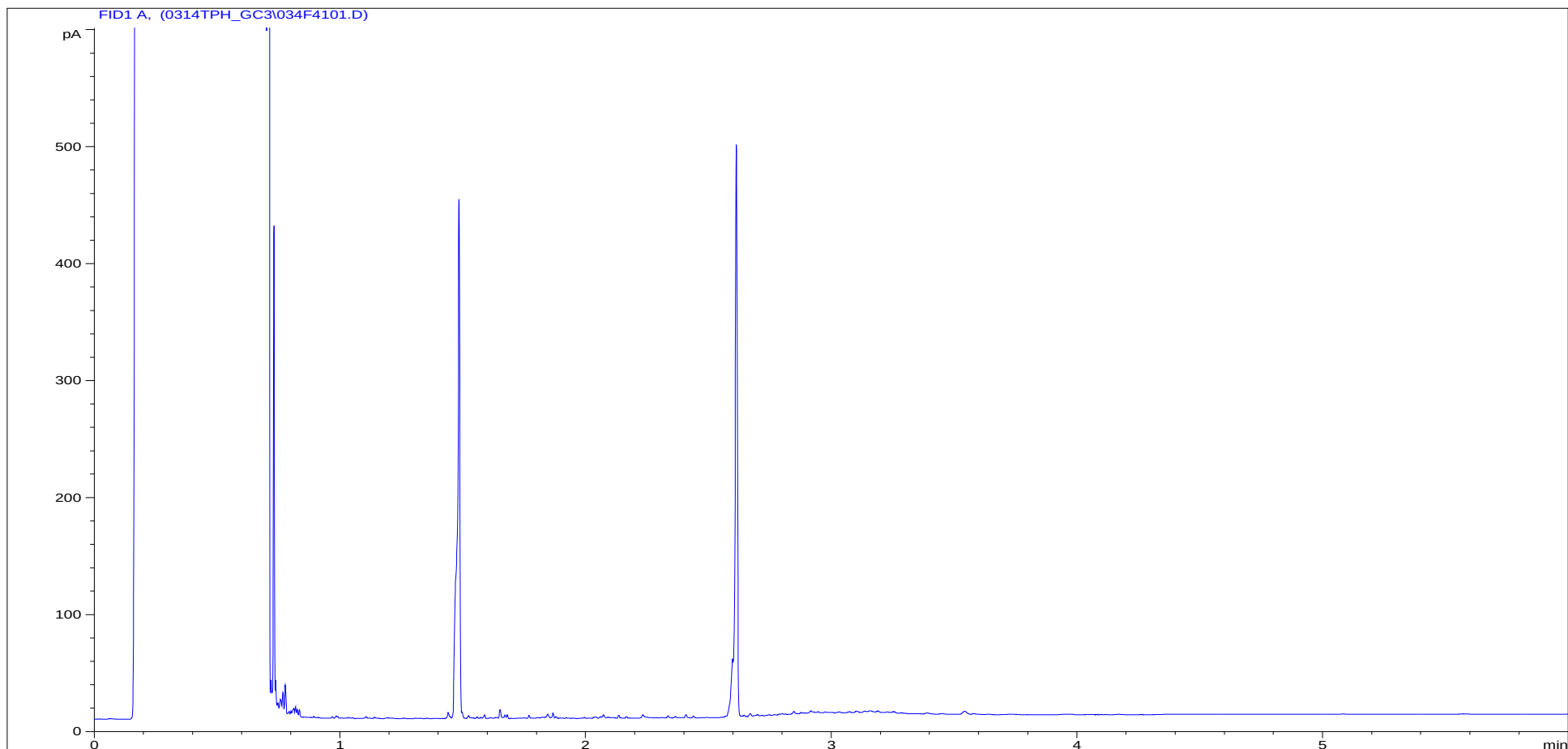


**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



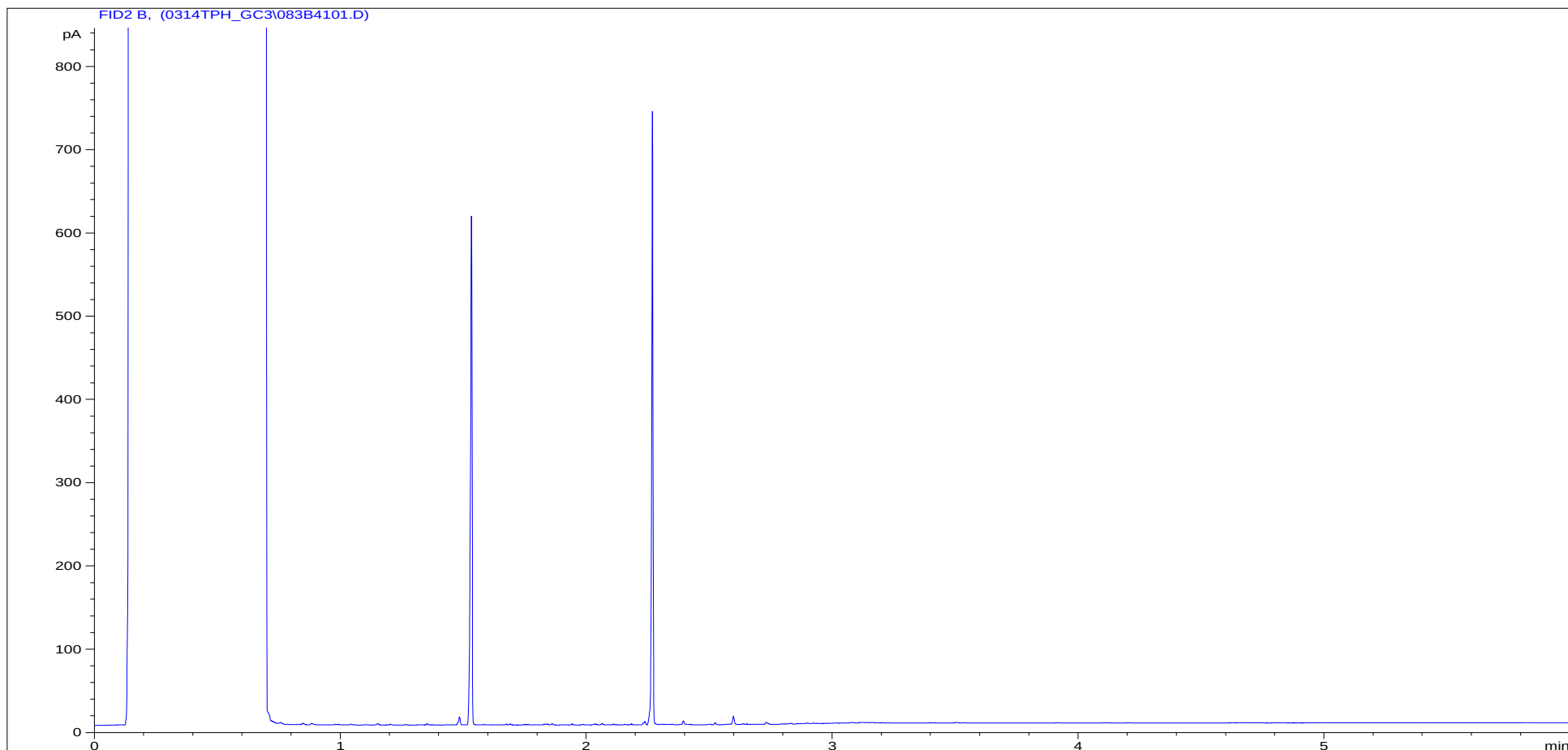
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108112ARO                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 10.8                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS617 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 14-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\082B4001.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



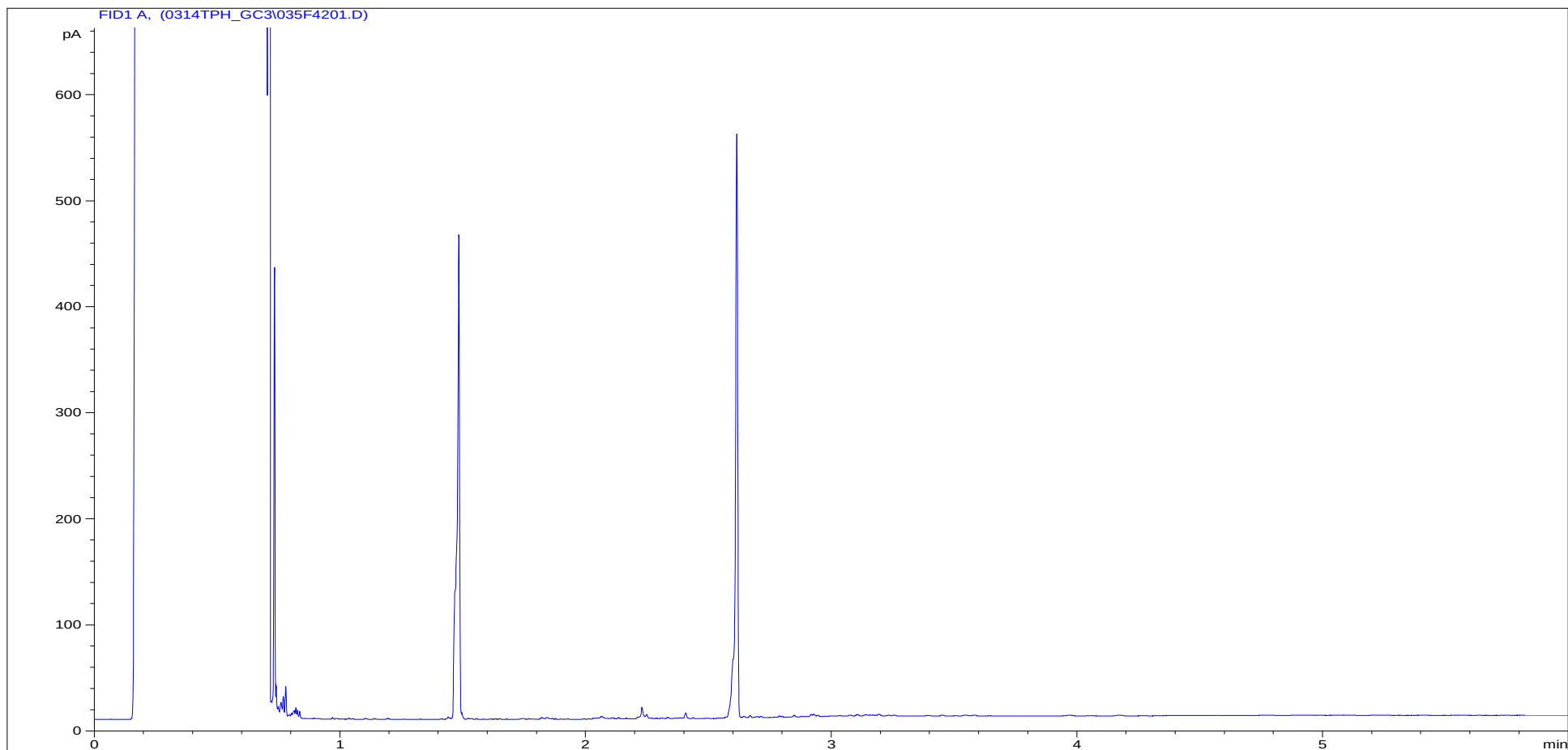
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108113ALI                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 14.82                                              | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS618 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 14-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\034F4101.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



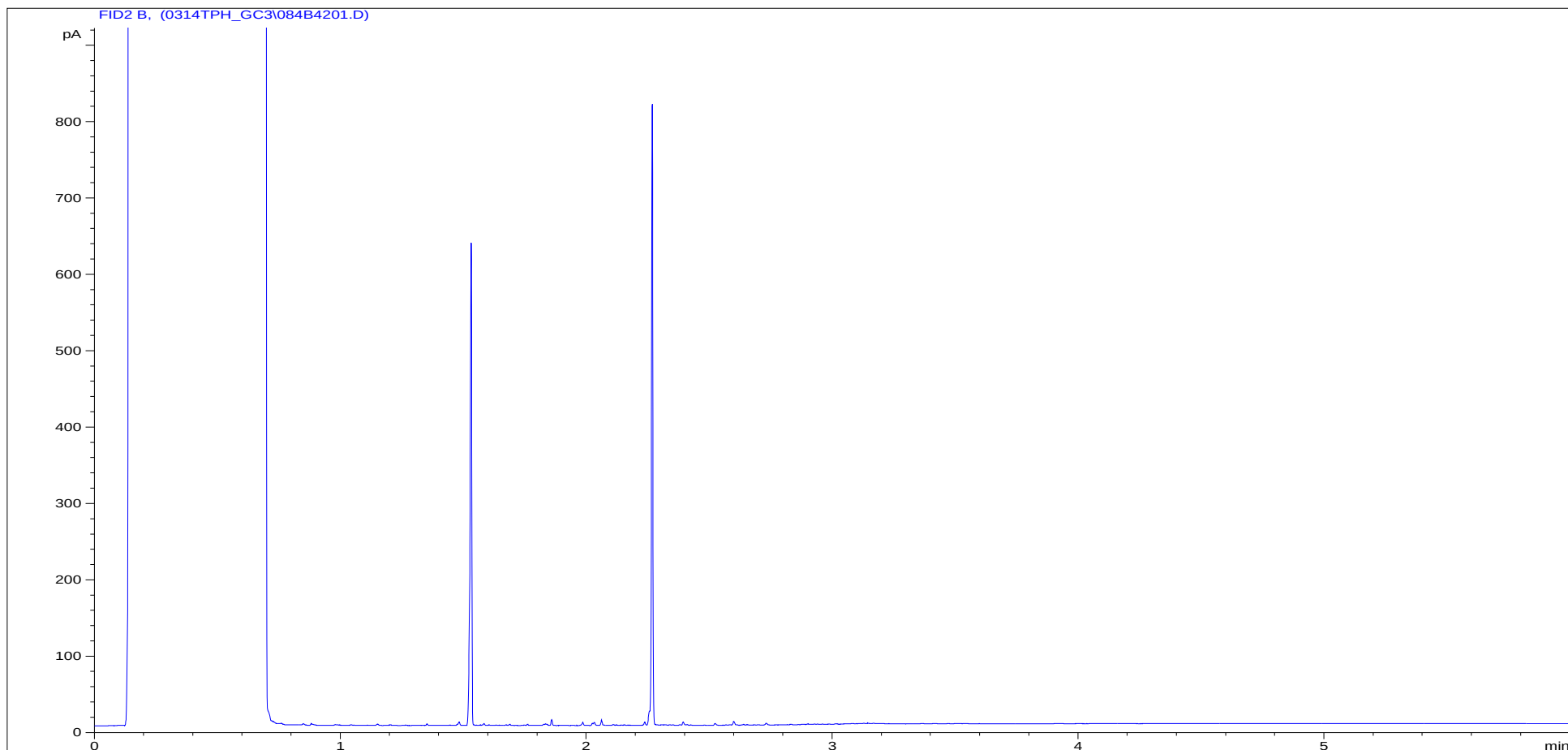
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108113ARO                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 11.4                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS618 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 14-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\083B4101.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



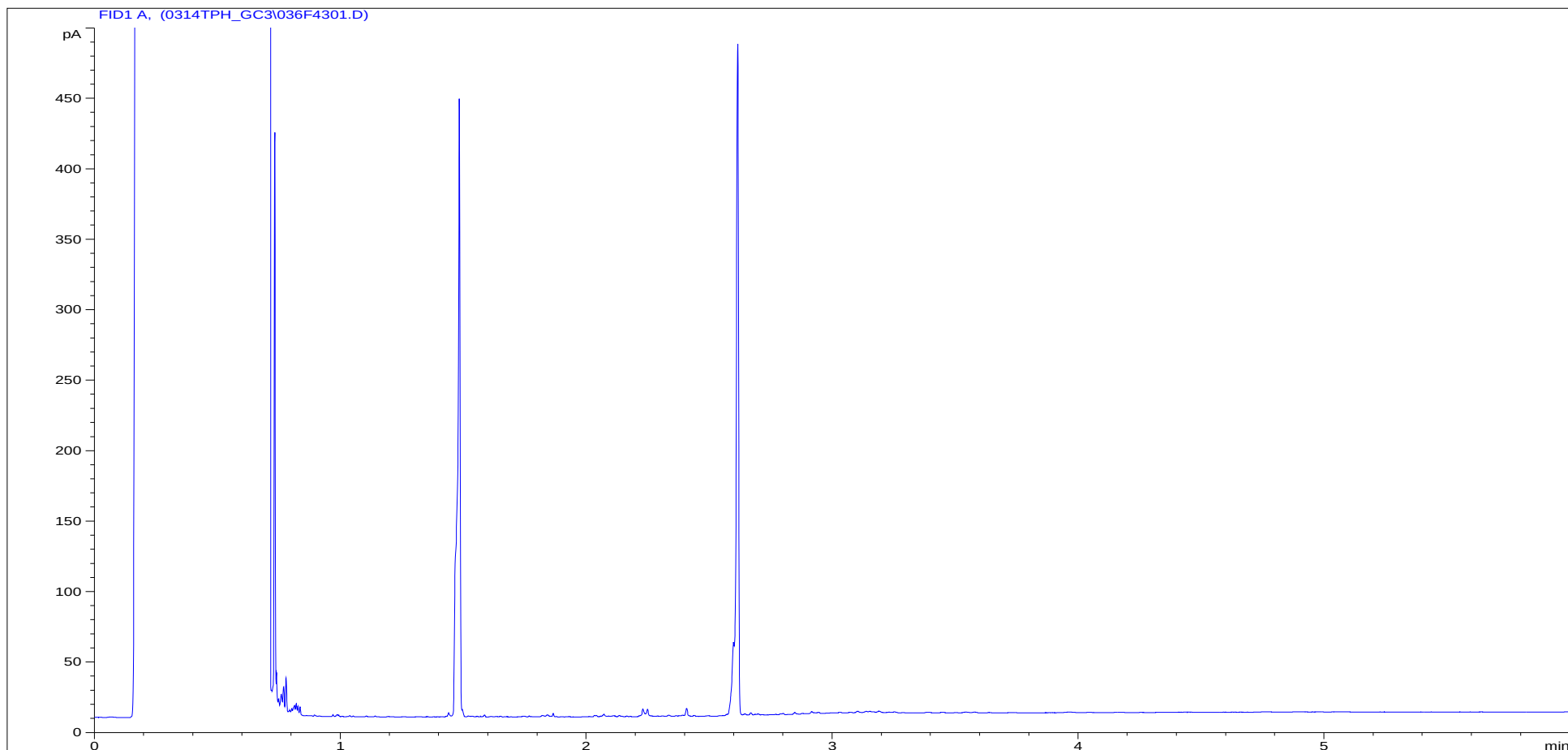
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108114ALI                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 14.82                                              | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS619 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 14-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\035F4201.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



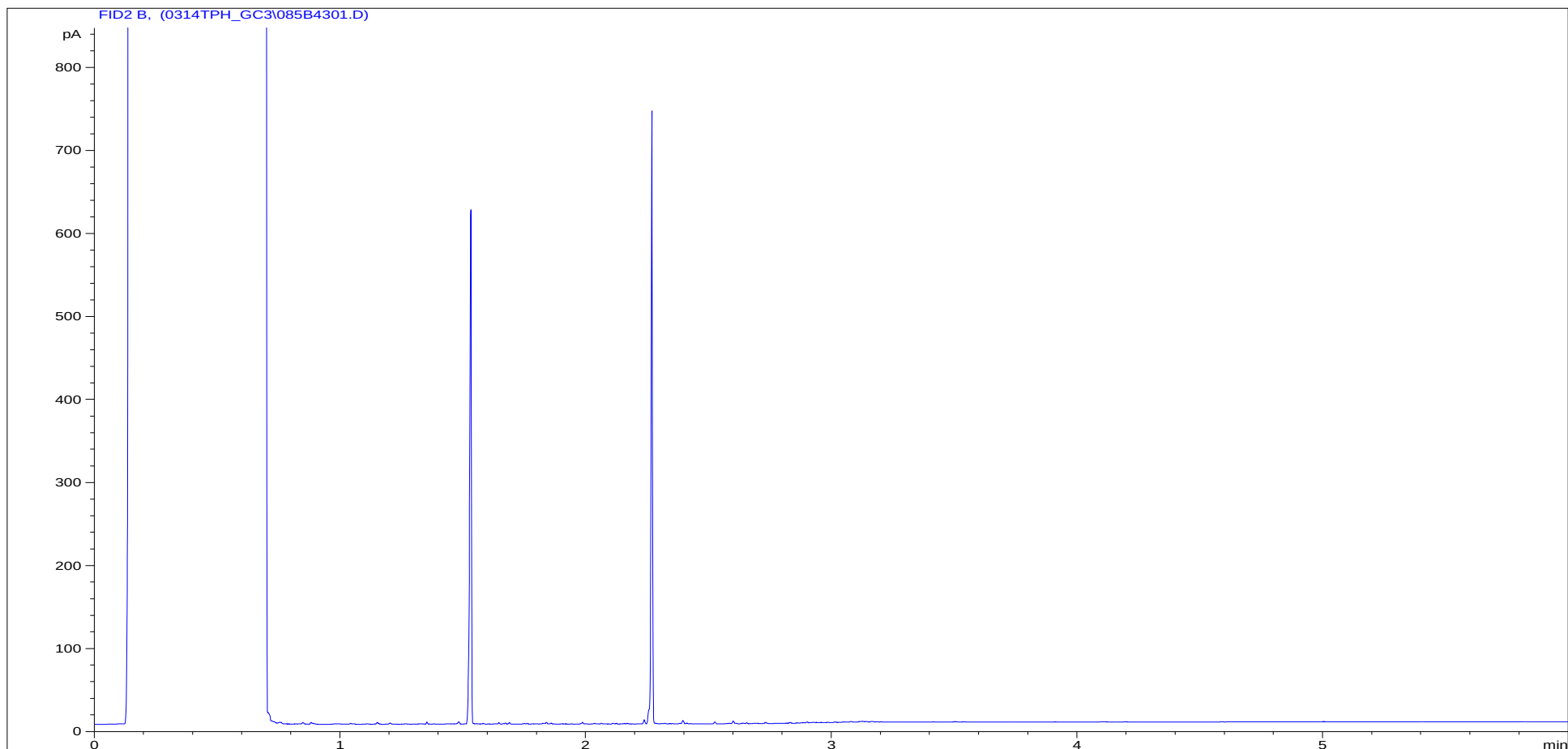
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108114ARO                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 11.78                                              | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS619 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 14-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\084B4201.D |                           |                                |

# Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



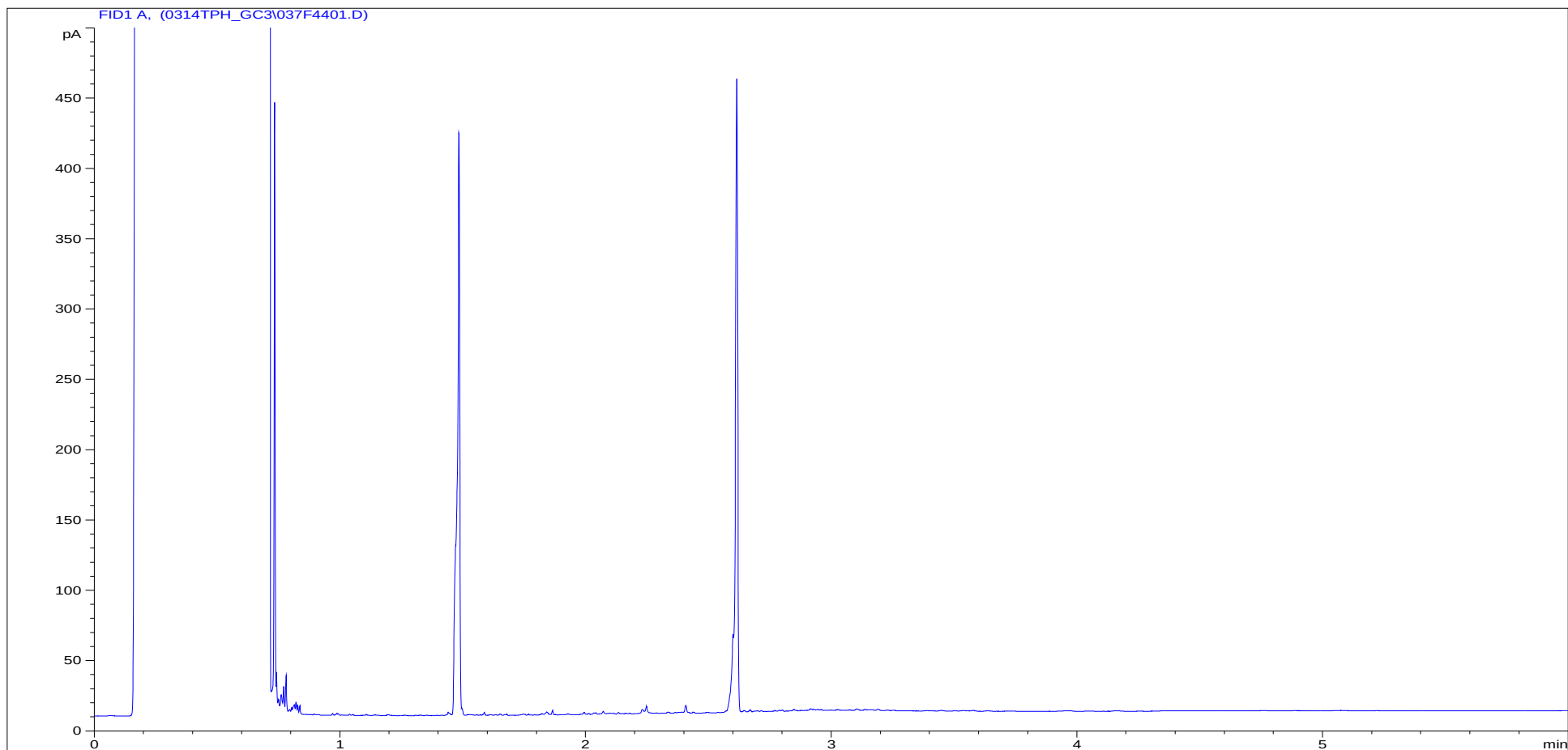
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108115ALI                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 15.6                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS620 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 14-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\036F4301.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108115ARO                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 12                                                 | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS620 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 14-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\085B4301.D |                           |                                |

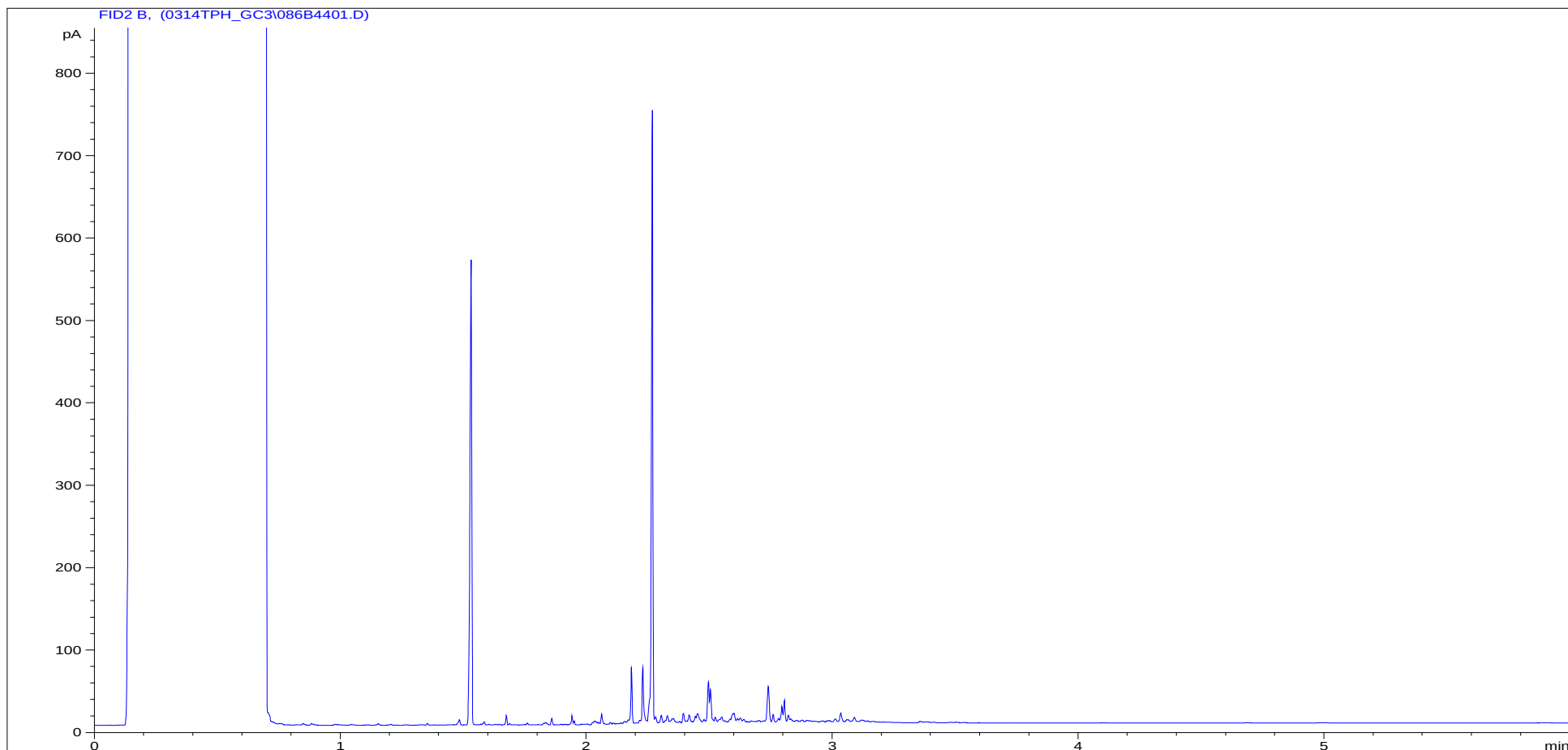
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108116ALI                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 16.38                                              | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS606 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 14-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\037F4401.D |                           |                                |

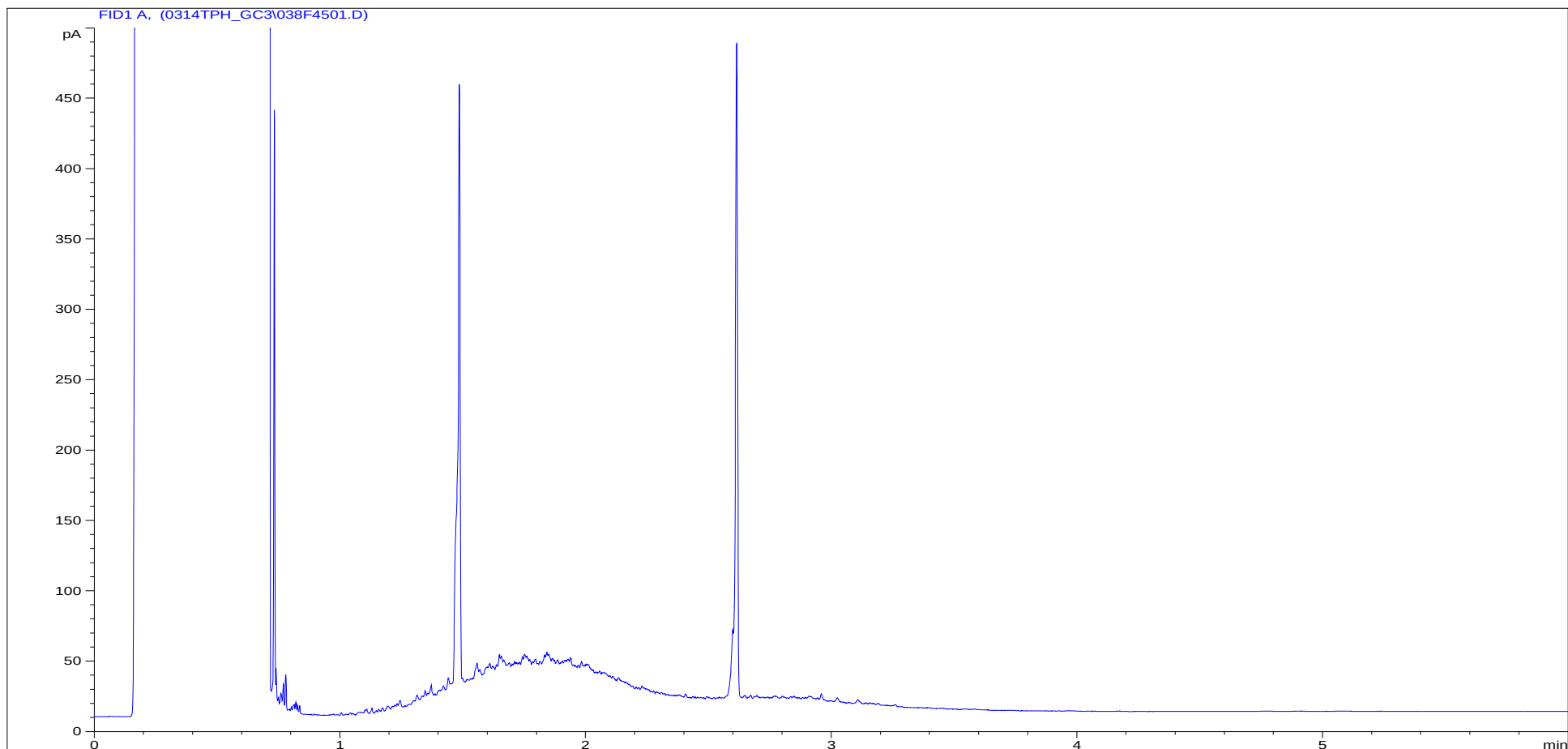


**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



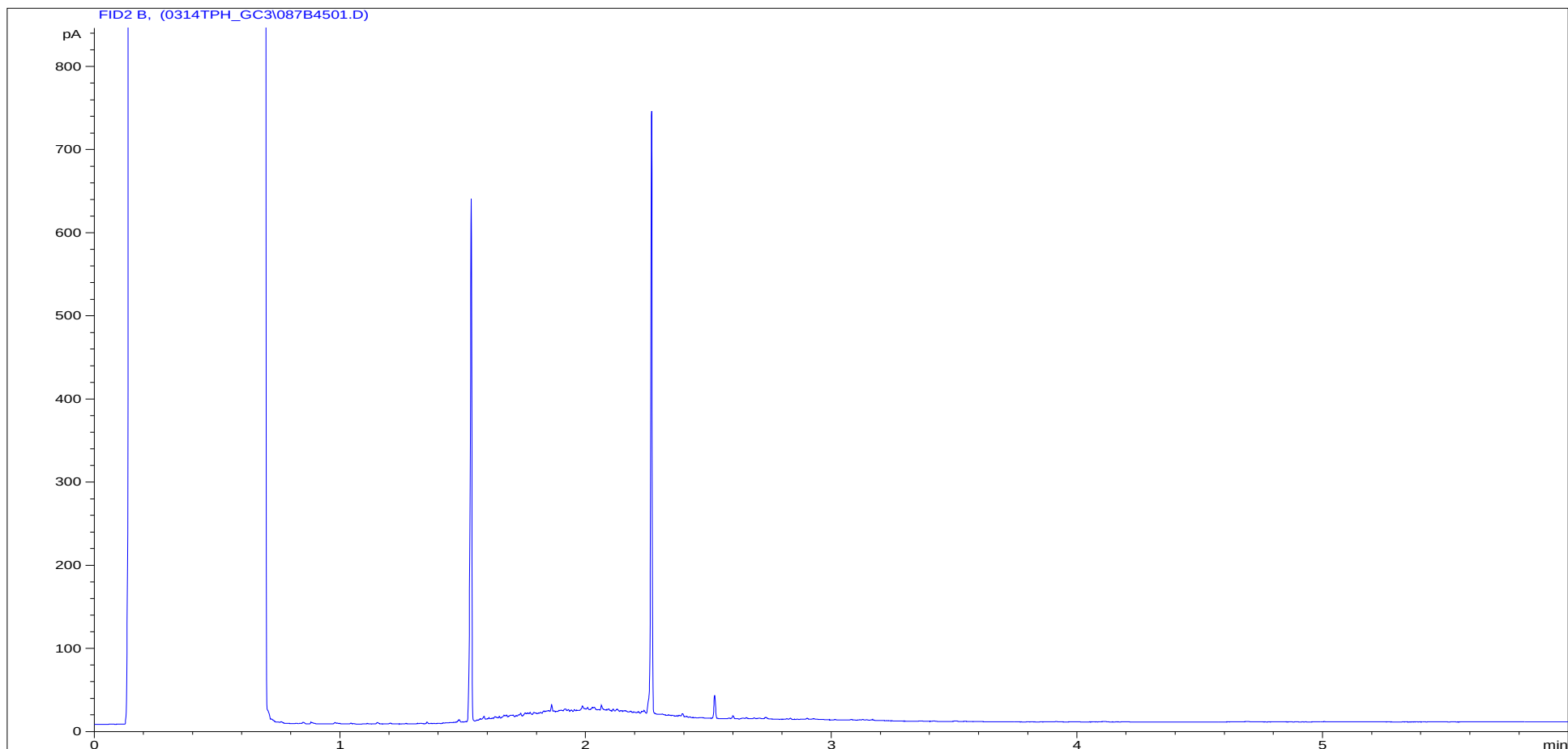
|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108116ARO                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 12.6                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS606 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 14-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\086B4401.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108117ALI                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 16.38                                              | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS606 ES 12 3.50               |
| <b>Acquisition Date/Time:</b> | 15-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\038F4501.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108117ARO                                       | <b>Job Number:</b>        | S11_1699M                      |
| <b>Multiplier:</b>            | 12.6                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS606 ES 12 3.50               |
| <b>Acquisition Date/Time:</b> | 15-Mar-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0314TPH_GC3\087B4501.D |                           |                                |

# WASTE ACCEPTANCE CRITERIA TESTING

## BSEN 12457/3

| Client             | Soil Mechanics                 |           |            |            | Leaching Data                                            |       |
|--------------------|--------------------------------|-----------|------------|------------|----------------------------------------------------------|-------|
|                    |                                |           |            |            | Weight of sample (kg)                                    | 0.225 |
| Contact            | Mr J Huntington                |           |            |            | Moisture content @ 105°C (%)                             | 18.8  |
|                    |                                |           |            |            | Equivalent Weight based on drying at 105°C (kg)          | 0.203 |
| Site               | Ferrybridge Multifuel PowerStn |           |            |            | Volume of water required to carry out 2:1 stage (litres) | 0.383 |
|                    |                                |           |            |            | Weight of Sieved Soil to carry out 2:1 stage (kg)        | 0.250 |
| Sample Description |                                | Report No | Sample No  | Issue Date | Weight of Deionised water to carry out 2:1 stage (kg)    | 0.425 |
| WS620 ES 1 0.30    |                                | s11_1699  | CL/1108115 | 13-Apr-11  | Volume to undertake analysis (2:1 Stage) (litres)        | 0.300 |
|                    |                                |           |            |            | Weight of Deionised water to carry out 8:1 stage (kg)    | 1.515 |

| Accreditation | Method Code | Solid Waste Analysis (Dry Basis)            | Concentration in Solid (Dry Weight Basis) | Landfill Waste Acceptance Criteria Limit Values |                                                               |                          |
|---------------|-------------|---------------------------------------------|-------------------------------------------|-------------------------------------------------|---------------------------------------------------------------|--------------------------|
|               |             |                                             |                                           | Inert Waste Landfill                            | Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill | Hazardous Waste Landfill |
| N             | WSLM59      | Total Organic Carbon (% M/M)                | 0.43                                      | 3                                               | 5                                                             | 6                        |
|               | LOI450      | Loss on Ignition (%)                        |                                           |                                                 |                                                               | 10                       |
|               | BTEXHSA     | Sum of BTEX (mg/kg)                         |                                           | 6                                               |                                                               |                          |
|               | PCBUSECD    | Sum of 7 Congener PCB's (mg/kg)             |                                           | 1                                               |                                                               |                          |
|               | TPHFIDUS    | Mineral Oil (mg/kg)                         |                                           | 500                                             |                                                               |                          |
|               | PAHMSUS     | PAH Sum of 17 (mg/kg)                       |                                           | 100                                             |                                                               |                          |
| U             | PHSOIL      | pH (pH units)                               | 8.1                                       |                                                 | >6                                                            |                          |
|               | ANC         | Acid Neutralisation Capacity (mol/kg) @pH 7 |                                           |                                                 | To be evaluated                                               | To be evaluated          |

| Accreditation | Method Code | Leachate Analysis        | 2:1 Leachate   | 8:1 Leachate | Calculated amount leached @ 2:1     | Calculated cumulative amount leached @ 10:1 | Landfill Waste Acceptance Criteria Limit Values for BSEN 12457/3 @ L/S 10 litre kg-1<br><br>mg/kg (dry weight) |       |        |
|---------------|-------------|--------------------------|----------------|--------------|-------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------|--------|
|               |             |                          | mg/l except °° |              | mg/kg (dry weight)                  |                                             |                                                                                                                |       |        |
| U             | WSLM3       | pH (pH units) °°         | 8.4            | 8.7          | Calculated data not UKAS Accredited |                                             |                                                                                                                |       |        |
| U             | WSLM2       | Conductivity (µs/cm) °°  | 144            | <100         |                                     |                                             |                                                                                                                |       |        |
| 1             | ICPMSW      | Arsenic                  | <0.001         | <0.001       | <0.002                              | <0.01                                       | 0.5                                                                                                            | 2     | 25     |
| N             | ICPWATVAR   | Barium                   | 0.25           | 0.46         | 0.5                                 | 4.3                                         | 20                                                                                                             | 100   | 300    |
| N             | ICPMSW      | Cadmium                  | <0.0001        | <0.0001      | <0.0002                             | <0.001                                      | 0.04                                                                                                           | 1     | 5      |
| N             | ICPMSW      | Chromium                 | 0.179          | 0.025        | 0.358                               | 0.48                                        | 0.5                                                                                                            | 10    | 70     |
| N             | ICPMSW      | Copper                   | 0.005          | 0.005        | 0.01                                | 0.05                                        | 2                                                                                                              | 50    | 100    |
| N             | ICPMSW      | Mercury                  | <0.0001        | 0.0001       | <0.0002                             | <0.001                                      | 0.01                                                                                                           | 0.2   | 2      |
| N             | ICPMSW      | Molybdenum               | 0.008          | 0.004        | 0.016                               | 0.05                                        | 0.5                                                                                                            | 10    | 30     |
| N             | ICPMSW      | Nickel                   | <0.001         | <0.001       | <0.002                              | <0.01                                       | 0.4                                                                                                            | 10    | 40     |
| N             | ICPMSW      | Lead                     | 0.006          | 0.004        | 0.012                               | 0.04                                        | 0.5                                                                                                            | 10    | 50     |
| N             | ICPMSW      | Antimony                 | 0.005          | 0.004        | 0.01                                | 0.04                                        | 0.06                                                                                                           | 0.7   | 5      |
| N             | ICPMSW      | Selenium                 | <0.001         | <0.001       | <0.002                              | <0.01                                       | 0.1                                                                                                            | 0.5   | 7      |
| N             | ICPMSW      | Zinc                     | 0.041          | 0.16         | 0.082                               | 1.42                                        | 4                                                                                                              | 50    | 200    |
| N             | KONENS      | Chloride                 | 3              | <1           | 6                                   | <13                                         | 800                                                                                                            | 15000 | 25000  |
| N             | ISEF        | Fluoride                 | 1.4            | 0.8          | 2.8                                 | 9                                           | 10                                                                                                             | 150   | 500    |
| N             | ICPWATVAR   | Sulphate as SO4          | 15             | 5            | 30                                  | 65                                          | 1000                                                                                                           | 20000 | 50000  |
| N             | WSLM27      | Total Dissolved Solids   | 112            | 59           | 224                                 | 669                                         | 4000                                                                                                           | 60000 | 100000 |
| N             | SFAPI       | Phenol Index             | <0.05          | <0.05        | <0.1                                | <0.5                                        | 1                                                                                                              |       |        |
| N             | WSLM13      | Dissolved Organic Carbon | 7.4            | 4.7          | 14.8                                | 51                                          | 500                                                                                                            | 800   | 1000   |

Template Ver. 1

Landfill Waste Acceptance Criteria limit values correct as of 11th March 2009.





# Method Descriptions

| Matrix | MethodID   | Analysis Basis | Method Description                                                                                                                                |
|--------|------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Soil   | FOCS       | Air Dried      | Calculation of Soil Organic Matter content from Organic Carbon content of soil samples                                                            |
| Soil   | ICPBOR     | Air Dried      | Determination of Boron in soil samples by hot water extraction followed by ICPOES detection                                                       |
| Soil   | ICPMSS     | Air Dried      | Determination of Metals in soil samples by aqua regia digestion followed by ICPMS                                                                 |
| Soil   | PAHMSUS    | As Received    | Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection                                   |
| Soil   | PCBUSECDAR | As Received    | Determination of Polychlorinated Biphenyl (PCB) congeners/arocloris by hexane/acetone extraction followed by GCECD detection                      |
| Soil   | PHSOIL     | As Received    | Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.                                                                     |
| Soil   | SFAPI      | As Received    | Segmented flow analysis with colorimetric detection                                                                                               |
| Soil   | Subcon*    | *              | Contact Laboratory for details of the methodology used by the sub-contractor.                                                                     |
| Soil   | TMSS       | As Received    | Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis                                                  |
| Soil   | TPHUSSI    | As Received    | Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions. |
| Soil   | WSLM59     | Air Dried      | Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection                  |

# Report Notes

## Generic Notes

### Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

### Waters Analysis

Unless stated otherwise results are expressed as mg/l

### Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm<sup>3</sup>@ 15°C

### Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

### Asbestos Analysis

**CH** Denotes Chrysotile

**CR** Denotes Crocidolite

**AM** Denotes Amosite

**NAIIS** No Asbestos Identified in Sample

## Symbol Reference

<sup>^</sup> Sub-contracted analysis. Note: The accreditation status is that assigned by the subcontract laboratory.

**\$\$** Unable to analyse due to the nature of the sample

**¶** Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

**¥** Results for guidance only due to possible interference

**&** Blank corrected result

**I.S** Insufficient sample to complete requested analysis

**I.S(g)** Insufficient sample to re-analyse, results for guidance only

**Intf** Unable to analyse due to interferences

**N.D** Not determined

**N.Det** Not detected

**Req** Analysis requested, see attached sheets for results

**▮** Raised detection limit due to nature of the sample

**\*** All accreditation has been removed by the laboratory for this result

**‡** MCERTS accreditation has been removed for this result

**Note:** The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

## END OF REPORT



## Sample Descriptions

**Client :** Soil Mechanics  
**Site :** Ferrybridge Multifuel PowerStn  
**Report Number :** S11\_1699M

Note: major constituent in upper case

[illegible]

# TEST REPORT

## SOIL SAMPLE ANALYSIS



Report No. EFS/111807M (Ver. 2)

Soil Mechanics  
Askern Road  
Carcroft  
Doncaster  
DN6 8DG

### Site: Ferrybridge Multifuel PowerStn

The 20 samples described in this report were logged for analysis by Scientifics on 08-Mar-2011. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 06-Apr-2011

Tests where the accreditation is set to N or No, and any individual data items marked with a \* are not UKAS or MCERTS accredited. Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)  
Table of PAH (MS-SIM) (80) Results (Pages 4 to 23)  
Table of TPH (Si) banding (std) (Page 24)  
GC-FID Chromatograms (Pages 25 to 64)  
Asbestos Screening (Pages 65 to 68)  
Table of WAC Analysis Results (Pages 69 to 71)  
Table of Asbestos ID & Quantification Results (Page 72)  
Table of Method Descriptions (Page 73)  
Table of Report Notes (Page 74)  
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of  
Scientifics :  
Andrew Timms

Operations Manager

Date of Issue: 06-Apr-2011

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)

Tests marked '\*' have been subcontracted to another laboratory.

(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.

All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)  
Scientifics accepts no responsibility for any sampling not carried out by our personnel.

| Units :<br>Method Codes :<br>Method Reporting Limits :<br>Accreditation Code:                                                                                                                |                           | mg/kg                          | mg/kg           | mg/kg        | mg/kg        | mg/kg         | mg/kg       | mg/kg     | mg/kg        | mg/kg       | mg/kg                 | mg/kg         | mg/kg              | pH Units      | mg/kg              | mg/kg             |                    |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|-----------------|--------------|--------------|---------------|-------------|-----------|--------------|-------------|-----------------------|---------------|--------------------|---------------|--------------------|-------------------|--------------------|--|
|                                                                                                                                                                                              |                           | ICPBOR                         | ICPMSS          | ICPMSS       | ICPMSS       | ICPMSS        | ICPMSS      | ICPMSS    | ICPMSS       | ICPMSS      | ICPMSS                | ICPMSS        | PAHMSUS            | PHSOIL        | SFAPI              | SFAPI             | Sub31              |  |
|                                                                                                                                                                                              |                           | 0.5                            | 0.1             | 0.3          | 0.2          | 1.2           | 1.6         | 0.7       | 0.5          | 2           | 0.5                   | 16            | 0.08               |               | 0.5                | 0.5               |                    |  |
|                                                                                                                                                                                              |                           | UM                             | U               | UM           | UM           | UM            | UM          | UM        | UM           | UM          | UM                    | UM            |                    | UM            | UM                 | U                 |                    |  |
| Laboratory ID Number                                                                                                                                                                         | Client Sample Description | Boron (H2O Soluble)            | Antimony (MS)   | Arsenic (MS) | Cadmium (MS) | Chromium (MS) | Copper (MS) | Lead (MS) | Mercury (MS) | Nickel (MS) | Selenium (MS)         | Zinc (MS)     | PAH by MS,16(0.08) | pH units (AR) | Cyanide(Free) (AR) | Phenol Index (AR) | Asbestos Screen CT |  |
| 1108599                                                                                                                                                                                      | WS601 ES 2 0.50           | 1.2                            | 1.2             | 14.2         | 0.4          | 22            | 38.2        | 34.9      | <0.5         | 29.8        | 0.6                   | 73.9          | Req                | 7.9           | <0.6               | <0.6              | NAIIS              |  |
| 1108600                                                                                                                                                                                      | WS601 ES 3 1.00           | 0.7                            | 0.6             | 6.7          | 0.36         | 21            | 23          | 16.9      | <0.51        | 28.9        | 0.7                   | 52.9          | Req                | 7.8           | <0.6               | <0.6              | NAIIS              |  |
| 1108601                                                                                                                                                                                      | WS602 ES 3 1.00           | 0.8                            | 1.1             | 5.7          | 0.47         | 16            | 18.2        | 18        | <0.50        | 28.8        | 0.7                   | 60            | Req                | 7.2           | <0.6               | <0.6              | NAIIS              |  |
| 1108602                                                                                                                                                                                      | WS603 ES 1 0.30           | 1.2                            | 0.8             | 10.1         | 0.45         | 17            | 21.4        | 85        | <0.52        | 17          | 0.6                   | 77.2          | Req                | 8.5           | <0.6               | <0.6              | AM                 |  |
| 1108603                                                                                                                                                                                      | WS603 ES 3 1.00           | 0.7                            | 0.3             | 4.2          | 0.3          | 8.2           | 10          | 31.7      | <0.5         | 8.3         | <0.5                  | 44.4          | Req                | 8.7           | <0.6               | <0.6              | NAIIS              |  |
| 1108604                                                                                                                                                                                      | WS605 ES 2 0.50           | 1                              | 1.2             | 14.8         | 0.65         | 14.7          | 30          | 72.2      | <0.51        | 14.5        | 0.8                   | 96            | Req                | 8.2           | <0.6               | <0.6              | NAIIS              |  |
| 1108605                                                                                                                                                                                      | WS607 ES 3 1.00           | 0.6                            | 0.6             | 5.4          | 0.4          | 8.9           | 13          | 48.6      | <0.5         | 9.4         | <0.5                  | 59.8          | Req                | 8.9           | <0.6               | <0.6              | NAIIS              |  |
| 1108606                                                                                                                                                                                      | WS608 ES 1 0.30           | 0.5                            | 0.5             | 6.4          | 0.36         | 6.9           | 11.9        | 28.2      | <0.51        | 7.4         | <0.5                  | 52.2          | Req                | 8.6           | <0.6               | <0.6              | NAIIS              |  |
| 1108607                                                                                                                                                                                      | WS609 ES 2 0.50           | 0.6                            | 0.2             | 3.6          | 0.37         | 5.4           | 7.4         | 26.5      | <0.5         | 6.3         | <0.5                  | 43.5          | Req                | 8.6           | <0.6               | <0.6              | NAIIS              |  |
| 1108608                                                                                                                                                                                      | WS611 ES 1 0.30           | 0.9                            | 0.7             | 9.3          | 0.74         | 11.8          | 18.3        | 41.9      | <0.51        | 11.5        | 0.6                   | 314.5         | Req                | 8.1           | <0.6               | <0.6              | NAIIS              |  |
| 1108609                                                                                                                                                                                      | WS613 ES 1 0.30           | 0.9                            | 0.5             | 7.4          | 0.58         | 15.9          | 13.9        | 33.2      | <0.51        | 16.6        | 0.6                   | 99.7          | Req                | 8.3           | <0.6               | <0.6              | NAIIS              |  |
| 1108610                                                                                                                                                                                      | WS616 ES 1 0.30           | <0.5                           | <0.1            | 1.2          | <0.21        | 1.9           | 5.2         | 4.5       | <0.5         | 2.9         | <0.5                  | 42            | Req                | 8.7           | <0.6               | <0.6              | NAIIS              |  |
| 1108611                                                                                                                                                                                      | WS621 ES 1 0.30           | 0.9                            | 0.6             | 7.8          | 0.41         | 13.5          | 16          | 20        | <0.50        | 16.9        | 0.7                   | 71.6          | Req                | 7.9           | <0.6               | <0.6              | NAIIS              |  |
| 1108612                                                                                                                                                                                      | WS621 ES 3 1.00           | 0.6                            | 0.5             | 5.4          | 0.34         | 19.3          | 15.1        | 14.4      | <0.5         | 23.8        | 0.6                   | 62            | Req                | 7.8           | <0.6               | <0.6              | NAIIS              |  |
| 1108613                                                                                                                                                                                      | WS622 ES 2 0.50           | <0.5                           | 0.5             | 6.8          | 0.46         | 13.8          | 17          | 24.4      | <0.51        | 16.7        | 0.8                   | 56.7          | Req                | 7.6           | <0.6               | <0.6              | NAIIS              |  |
| 1108614                                                                                                                                                                                      | WS623 ES 2 0.50           | 0.9                            | 0.4             | 4.5          | <0.18        | 15            | 12.2        | 13        | <0.4         | 11.1        | <0.4                  | 22.1          | Req                | 8.3           | <0.6               | <0.6              | NAIIS              |  |
| 1108615                                                                                                                                                                                      | WS625 ES 1 0.30           | 0.7                            | 0.6             | 7.7          | 0.39         | 14.8          | 15.3        | 35        | <0.51        | 17.2        | 0.8                   | 77.6          | Req                | 8.5           | <0.6               | <0.6              | NAIIS              |  |
| 1108616                                                                                                                                                                                      | WS625 ES 3 1.00           | 0.9                            | 0.8             | 10.5         | 1.02         | 33.9          | 27          | 77.9      | <0.5         | 45.4        | 0.8                   | 241.4         | Req                | 8.2           | <0.6               | <0.6              | NAIIS              |  |
| 1108617                                                                                                                                                                                      | WS626 ES 1 0.30           | 0.7                            | 0.5             | 6.9          | <0.20        | 13.4          | 13.9        | 15.3      | <0.5         | 13.8        | 0.5                   | 31            | Req                | 8.2           | <0.6               | <0.6              | NAIIS              |  |
| 1108618                                                                                                                                                                                      | WS627 ES 2 0.50           | 0.7                            | 0.5             | 7.4          | 0.52         | 18.4          | 18          | 29.6      | <0.51        | 24          | 0.8                   | 104.5         | Req                | 7.9           | <0.6               | <0.6              | NAIIS              |  |
| <div>scientifics</div> <div>Bretby Business Park, Ashby Road</div> <div>Burton-on-Trent, Staffordshire, DE15 0YZ</div> <div>Tel +44 (0) 1283 554400</div> <div>Fax +44 (0) 1283 554422</div> |                           | Client Name                    | Soil Mechanics  |              |              |               |             |           |              |             | Soils Sample Analysis |               |                    |               |                    |                   |                    |  |
|                                                                                                                                                                                              |                           | Contact                        | Mr J Huntington |              |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    |  |
|                                                                                                                                                                                              |                           | Ferrybridge Multifuel PowerStn |                 |              |              |               |             |           |              |             |                       | Date Printed  |                    | 06-Apr-11     |                    |                   |                    |  |
|                                                                                                                                                                                              |                           |                                |                 |              |              |               |             |           |              |             |                       | Report Number |                    | EFS/111807M   |                    |                   |                    |  |
|                                                                                                                                                                                              |                           |                                |                 |              |              |               |             |           |              |             |                       | Table Number  |                    | 1             |                    |                   |                    |  |
|                                                                                                                                                                                              |                           |                                |                 |              |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    |  |

| Units :<br>Method Codes :<br>Method Reporting Limits :<br>Accreditation Code:                                                                                                                |                           | %                              | mg/kg               | % M/M           | % M/M                |         |                 |      |               |       |                       |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|---------------------|-----------------|----------------------|---------|-----------------|------|---------------|-------|-----------------------|--|--|--|--|--|--|--|--|--|--|--|
|                                                                                                                                                                                              |                           | TMSS                           | TPHUSSI             | FOCS            | WSLM59               |         |                 |      |               |       |                       |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           | 0.2                            | 10.0                | 0.04            | 0.01                 |         |                 |      |               |       |                       |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           | U                              |                     | N               | N                    |         |                 |      |               |       |                       |  |  |  |  |  |  |  |  |  |  |  |
| Laboratory ID Number CL/                                                                                                                                                                     | Client Sample Description | Tot.Moisture @ 105C            | TPH by GCFD (AR/SI) | S.O.M. % (Calc) | Total Organic Carbon |         |                 |      |               |       |                       |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      |         |                 |      |               |       |                       |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108599 | WS601 ES 2 0.50 | 15.2 | Req           | 13.17 | 7.64                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108600 | WS601 ES 3 1.00 | 13.3 | Req           | 3.48  | 2.02                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108601 | WS602 ES 3 1.00 | 14.2 | Req           | 1.51  | 0.88                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108602 | WS603 ES 1 0.30 | 19.5 | Req           | 3.09  | 1.79                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108603 | WS603 ES 3 1.00 | 18.9 | Req           | 1.88  | 1.09                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108604 | WS605 ES 2 0.50 | 18.0 | Req           | 6.43  | 3.73                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108605 | WS607 ES 3 1.00 | 16.5 | Req           | 1.46  | 0.85                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108606 | WS608 ES 1 0.30 | 13.3 | Req           | 1.5   | 0.87                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108607 | WS609 ES 2 0.50 | 12.2 | Req           | 0.78  | 0.45                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108608 | WS611 ES 1 0.30 | 15.3 | Req           | 3.6   | 2.09                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108609 | WS613 ES 1 0.30 | 13.9 | Req           | 1.51  | 0.87                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108610 | WS616 ES 1 0.30 | 14.0 | Req           | 4.4   | 2.55                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108611 | WS621 ES 1 0.30 | 11.3 | Req           | 1.92  | 1.12                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108612 | WS621 ES 3 1.00 | 15.6 | Req           | 0.74  | 0.43                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108613 | WS622 ES 2 0.50 | 11.6 | Req           | 1.31  | 0.76                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108614 | WS623 ES 2 0.50 | 11.6 | Req           | 0.55  | 0.32                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108615 | WS625 ES 1 0.30 | 13.2 | Req           | 1.49  | 0.86                  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      | 1108616 | WS625 ES 3 1.00 | 19.1 | Req           | 0.67  | 0.39                  |  |  |  |  |  |  |  |  |  |  |  |
| 1108617                                                                                                                                                                                      | WS626 ES 1 0.30           | 12.0                           | Req                 | 0.77            | 0.45                 |         |                 |      |               |       |                       |  |  |  |  |  |  |  |  |  |  |  |
| 1108618                                                                                                                                                                                      | WS627 ES 2 0.50           | 13.9                           | Req                 | 1.34            | 0.78                 |         |                 |      |               |       |                       |  |  |  |  |  |  |  |  |  |  |  |
| <div>scientifics</div> <div>Bretby Business Park, Ashby Road</div> <div>Burton-on-Trent, Staffordshire, DE15 0YZ</div> <div>Tel +44 (0) 1283 554400</div> <div>Fax +44 (0) 1283 554422</div> |                           | Client Name                    |                     | Soil Mechanics  |                      |         |                 |      |               |       | Soils Sample Analysis |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           | Contact                        |                     | Mr J Huntington |                      |         |                 |      |               |       |                       |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           | Ferrybridge Multifuel PowerStn |                     |                 |                      |         |                 |      | Date Printed  |       | 06-Apr-11             |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      |         |                 |      | Report Number |       | EFS/111807M           |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      |         |                 |      | Table Number  |       | 1                     |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                              |                           |                                |                     |                 |                      |         |                 |      |               |       |                       |  |  |  |  |  |  |  |  |  |  |  |

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn | <b>Job Number:</b>     | S11_1807M  |
| <b>Sample Details:</b>            | WS601 ES 2 0.50                                | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>LIMS ID Number:</b>            | CL1108599                                      | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Matrix:</b>         | Soil       |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Ext Method:</b>     | Ultrasonic |
| <b>Dilution:</b>                  | 1.0                                            |                        |            |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | 7.24          | 0.14                   | 66    | UM            |
| Pyrene                 | 129-00-0 | 7.53          | 0.10                   | 60    | UM            |
| Benzo[a]anthracene     | 56-55-3  | 9.22          | 0.10                   | 92    | UM            |
| Chrysene               | 218-01-9 | 9.27          | 0.13                   | 96    | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | 10.76         | 0.13                   | 71    | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.67                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 101    |
| Acenaphthene-d10       | 102    |
| Phenanthrene-d10       | 109    |
| Chrysene-d12           | 112    |
| Perylene-d12           | 110    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 93    |
| Terphenyl-d14    | 99    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn | <b>Job Number:</b>     | S11_1807M  |
| <b>Sample Details:</b>            | WS601 ES 3 1.00                                | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>LIMS ID Number:</b>            | CL1108600                                      | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Matrix:</b>         | Soil       |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Ext Method:</b>     | Ultrasonic |
| <b>Dilution:</b>                  | 1.0                                            |                        |            |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.48                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 101    |
| Acenaphthene-d10       | 102    |
| Phenanthrene-d10       | 108    |
| Chrysene-d12           | 109    |
| Perylene-d12           | 105    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 93    |
| Terphenyl-d14    | 99    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn | <b>Job Number:</b>     | S11_1807M  |
| <b>Sample Details:</b>            | WS602 ES 3 1.00                                | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>LIMS ID Number:</b>            | CL1108601                                      | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Matrix:</b>         | Soil       |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Ext Method:</b>     | Ultrasonic |
| <b>Dilution:</b>                  | 1.0                                            |                        |            |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.49                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 100    |
| Acenaphthene-d10       | 100    |
| Phenanthrene-d10       | 105    |
| Chrysene-d12           | 105    |
| Perylene-d12           | 98     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 94    |
| Terphenyl-d14    | 102   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS603 ES 1 0.30                                | <b>Job Number:</b>     | S11_1807M  |
| <b>LIMS ID Number:</b>            | CL1108602                                      | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.10                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.10                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.10                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.10                 | -     | UM            |
| Phenanthrene           | 85-01-8  | 5.87          | 0.15                   | 95    | UM            |
| Anthracene             | 120-12-7 | -             | < 0.10                 | -     | U             |
| Fluoranthene           | 206-44-0 | 7.24          | 0.22                   | 66    | UM            |
| Pyrene                 | 129-00-0 | 7.53          | 0.20                   | 60    | UM            |
| Benzo[a]anthracene     | 56-55-3  | 9.22          | 0.14                   | 97    | UM            |
| Chrysene               | 218-01-9 | 9.27          | 0.16                   | 99    | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | 10.76         | 0.16                   | 79    | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.10                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | 11.18         | 0.10                   | 92    | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.10                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.10                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.10                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 2.05                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 99     |
| Acenaphthene-d10       | 99     |
| Phenanthrene-d10       | 105    |
| Chrysene-d12           | 110    |
| Perylene-d12           | 112    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 93    |
| Terphenyl-d14    | 100   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.



# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS603 ES 3 1.00                                | <b>Job Number:</b>     | S11_1807M  |
| <b>LIMS ID Number:</b>            | CL1108603                                      | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.10                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.10                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.10                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.10                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.10                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.10                 | -     | U             |
| Fluoranthene           | 206-44-0 | 7.24          | 0.11                   | 66    | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.10                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.10                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.10                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.10                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.10                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.10                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.10                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.10                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.10                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.59                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 99     |
| Acenaphthene-d10       | 99     |
| Phenanthrene-d10       | 105    |
| Chrysene-d12           | 109    |
| Perylene-d12           | 107    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 93    |
| Terphenyl-d14    | 100   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn | <b>Job Number:</b>     | S11_1807M  |
| <b>Sample Details:</b>            | WS605 ES 2 0.50                                | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>LIMS ID Number:</b>            | CL1108604                                      | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Matrix:</b>         | Soil       |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Ext Method:</b>     | Ultrasonic |
| <b>Dilution:</b>                  | 1.0                                            |                        |            |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | 3.43          | 0.21                   | 93    | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.10                 | -     | U             |
| Acenaphthene           | 83-32-9  | 4.61          | 0.11                   | 94    | UM            |
| Fluorene               | 86-73-7  | -             | < 0.10                 | -     | UM            |
| Phenanthrene           | 85-01-8  | 5.87          | 0.72                   | 97    | UM            |
| Anthracene             | 120-12-7 | 5.92          | 0.26                   | 98    | U             |
| Fluoranthene           | 206-44-0 | 7.24          | 0.90                   | 88    | UM            |
| Pyrene                 | 129-00-0 | 7.53          | 0.76                   | 87    | UM            |
| Benzo[a]anthracene     | 56-55-3  | 9.22          | 0.48                   | 94    | UM            |
| Chrysene               | 218-01-9 | 9.27          | 0.43                   | 96    | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | 10.76         | 0.59                   | 77    | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | 10.79         | 0.20                   | 81    | UM            |
| Benzo[a]pyrene         | 50-32-8  | 11.18         | 0.44                   | 93    | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.56         | 0.28                   | 88    | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.10                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.88         | 0.27                   | 71    | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 5.96                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 99     |
| Acenaphthene-d10       | 97     |
| Phenanthrene-d10       | 100    |
| Chrysene-d12           | 104    |
| Perylene-d12           | 98     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 95    |
| Terphenyl-d14    | 104   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS607 ES 3 1.00                                | <b>Job Number:</b>     | S11_1807M  |
| <b>LIMS ID Number:</b>            | CL1108605                                      | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.10                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.10                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.10                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.10                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.10                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.10                 | -     | U             |
| Fluoranthene           | 206-44-0 | 7.24          | 0.13                   | 66    | UM            |
| Pyrene                 | 129-00-0 | 7.53          | 0.11                   | 60    | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.10                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.10                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | 10.76         | 0.10                   | 85    | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.10                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.10                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.10                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.10                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.10                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.60                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 98     |
| Acenaphthene-d10       | 98     |
| Phenanthrene-d10       | 99     |
| Chrysene-d12           | 109    |
| Perylene-d12           | 108    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 93    |
| Terphenyl-d14    | 105   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS608 ES 1 0.30                                | <b>Job Number:</b>     | S11_1807M  |
| <b>LIMS ID Number:</b>            | CL1108606                                      | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | 5.87          | 0.17                   | 93    | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | 7.24          | 0.28                   | 66    | UM            |
| Pyrene                 | 129-00-0 | 7.53          | 0.25                   | 60    | UM            |
| Benzo[a]anthracene     | 56-55-3  | 9.22          | 0.21                   | 92    | UM            |
| Chrysene               | 218-01-9 | 9.27          | 0.18                   | 98    | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | 10.75         | 0.20                   | 83    | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | 11.19         | 0.16                   | 76    | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.56         | 0.10                   | 63    | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.88         | 0.09                   | 91    | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 2.00                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 99     |
| Acenaphthene-d10       | 100    |
| Phenanthrene-d10       | 106    |
| Chrysene-d12           | 106    |
| Perylene-d12           | 104    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 95    |
| Terphenyl-d14    | 100   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS609 ES 2 0.50                                | <b>Job Number:</b>     | S11_1807M  |
| <b>LIMS ID Number:</b>            | CL1108607                                      | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.46                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 103    |
| Acenaphthene-d10       | 102    |
| Phenanthrene-d10       | 104    |
| Chrysene-d12           | 113    |
| Perylene-d12           | 109    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 94    |
| Terphenyl-d14    | 106   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS611 ES 1 0.30                                | <b>Job Number:</b>     | S11_1807M  |
| <b>LIMS ID Number:</b>            | CL1108608                                      | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | 3.43          | 0.11                   | 90    | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | 5.87          | 0.30                   | 94    | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | 7.24          | 0.41                   | 73    | UM            |
| Pyrene                 | 129-00-0 | 7.53          | 0.40                   | 60    | UM            |
| Benzo[a]anthracene     | 56-55-3  | 9.22          | 0.20                   | 90    | UM            |
| Chrysene               | 218-01-9 | 9.27          | 0.21                   | 94    | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | 10.75         | 0.32                   | 71    | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | 10.79         | 0.10                   | 75    | UM            |
| Benzo[a]pyrene         | 50-32-8  | 11.18         | 0.20                   | 93    | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.56         | 0.17                   | 81    | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.88         | 0.15                   | 82    | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 3.08                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 98     |
| Acenaphthene-d10       | 97     |
| Phenanthrene-d10       | 106    |
| Chrysene-d12           | 109    |
| Perylene-d12           | 109    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 95    |
| Terphenyl-d14    | 100   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS613 ES 1 0.30                                | <b>Job Number:</b>     | S11_1807M  |
| <b>LIMS ID Number:</b>            | CL1108609                                      | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.49                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 99     |
| Acenaphthene-d10       | 98     |
| Phenanthrene-d10       | 104    |
| Chrysene-d12           | 102    |
| Perylene-d12           | 95     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 94    |
| Terphenyl-d14    | 99    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS616 ES 1 0.30                                | <b>Job Number:</b>     | S11_1807M  |
| <b>LIMS ID Number:</b>            | CL1108610                                      | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.49                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 94     |
| Acenaphthene-d10       | 93     |
| Phenanthrene-d10       | 99     |
| Chrysene-d12           | 96     |
| Perylene-d12           | 92     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 94    |
| Terphenyl-d14    | 99    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.



# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS621 ES 1 0.30                                | <b>Job Number:</b>     | S11_1807M  |
| <b>LIMS ID Number:</b>            | CL1108611                                      | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | 7.24          | 0.12                   | 66    | UM            |
| Pyrene                 | 129-00-0 | 7.53          | 0.10                   | 60    | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.49                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 95     |
| Acenaphthene-d10       | 95     |
| Phenanthrene-d10       | 101    |
| Chrysene-d12           | 109    |
| Perylene-d12           | 116    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 95    |
| Terphenyl-d14    | 101   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn | <b>Job Number:</b>     | S11_1807M  |
| <b>Sample Details:</b>            | WS621 ES 3 1.00                                | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>LIMS ID Number:</b>            | CL1108612                                      | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Matrix:</b>         | Soil       |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Ext Method:</b>     | Ultrasonic |
| <b>Dilution:</b>                  | 1.0                                            |                        |            |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.52                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 99     |
| Acenaphthene-d10       | 99     |
| Phenanthrene-d10       | 107    |
| Chrysene-d12           | 111    |
| Perylene-d12           | 110    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 95    |
| Terphenyl-d14    | 100   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS622 ES 2 0.50                                | <b>Job Number:</b>     | S11_1807M  |
| <b>LIMS ID Number:</b>            | CL1108613                                      | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.45                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 97     |
| Acenaphthene-d10       | 95     |
| Phenanthrene-d10       | 101    |
| Chrysene-d12           | 96     |
| Perylene-d12           | 92     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 95    |
| Terphenyl-d14    | 97    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS623 ES 2 0.50                                | <b>Job Number:</b>     | S11_1807M  |
| <b>LIMS ID Number:</b>            | CL1108614                                      | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.45                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 91     |
| Acenaphthene-d10       | 89     |
| Phenanthrene-d10       | 94     |
| Chrysene-d12           | 85     |
| Perylene-d12           | 78     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 95    |
| Terphenyl-d14    | 97    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn | <b>Job Number:</b>     | S11_1807M  |
| <b>Sample Details:</b>            | WS625 ES 1 0.30                                | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>LIMS ID Number:</b>            | CL1108615                                      | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Matrix:</b>         | Soil       |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Ext Method:</b>     | Ultrasonic |
| <b>Dilution:</b>                  | 1.0                                            |                        |            |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.47                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 98     |
| Acenaphthene-d10       | 97     |
| Phenanthrene-d10       | 101    |
| Chrysene-d12           | 99     |
| Perylene-d12           | 96     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 96    |
| Terphenyl-d14    | 101   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn | <b>Job Number:</b>     | S11_1807M  |
| <b>Sample Details:</b>            | WS625 ES 3 1.00                                | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>LIMS ID Number:</b>            | CL1108616                                      | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Matrix:</b>         | Soil       |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Ext Method:</b>     | Ultrasonic |
| <b>Dilution:</b>                  | 1.0                                            |                        |            |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.10                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.10                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.10                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.10                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.10                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.10                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.10                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.10                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.10                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.10                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.10                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.10                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.10                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.10                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.10                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.10                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.58                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 95     |
| Acenaphthene-d10       | 94     |
| Phenanthrene-d10       | 99     |
| Chrysene-d12           | 91     |
| Perylene-d12           | 83     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 94    |
| Terphenyl-d14    | 96    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn | <b>Job Number:</b>     | S11_1807M  |
| <b>Sample Details:</b>            | WS626 ES 1 0.30                                | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>LIMS ID Number:</b>            | CL1108617                                      | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Matrix:</b>         | Soil       |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Ext Method:</b>     | Ultrasonic |
| <b>Dilution:</b>                  | 1.0                                            |                        |            |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.45                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 94     |
| Acenaphthene-d10       | 94     |
| Phenanthrene-d10       | 99     |
| Chrysene-d12           | 97     |
| Perylene-d12           | 91     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 94    |
| Terphenyl-d14    | 98    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn | <b>Job Number:</b>     | S11_1807M  |
| <b>Sample Details:</b>            | WS627 ES 2 0.50                                | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>LIMS ID Number:</b>            | CL1108618                                      | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>QC Batch Number:</b>           | 110516                                         | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Matrix:</b>         | Soil       |
| <b>Directory:</b>                 | 511PAH.MS14\                                   | <b>Ext Method:</b>     | Ultrasonic |
| <b>Dilution:</b>                  | 1.0                                            |                        |            |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit | Accr.<br>code |
|------------------------|----------|---------------|------------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                 | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                 | -     | U             |
| Acenaphthene           | 83-32-9  | -             | < 0.09                 | -     | UM            |
| Fluorene               | 86-73-7  | -             | < 0.09                 | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                 | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                 | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                 | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                 | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                 | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                 | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                 | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                 | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                 | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                 | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                 | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                 | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.49                 | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 95     |
| Acenaphthene-d10       | 94     |
| Phenanthrene-d10       | 101    |
| Chrysene-d12           | 99     |
| Perylene-d12           | 95     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 95    |
| Terphenyl-d14    | 99    |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.



# ALIPHATIC / AROMATIC FRACTION BY GC/FID

**Customer and Site Details:** Soil Mechanics : Ferrybridge Multifuel PowerStn  
**Job Number:** S11\_1807  
**QC Batch Number:** 110516  
**Directory:** D:\TES\DATA\Y2011\031611\TPH\_GC14\5ULTEMP2 2011-03-16 16-16-11\096F8301.D  
**Method:** Ultra Sonic

**Separation:** Silica gel  
**Eluents:** Hexane, DCM

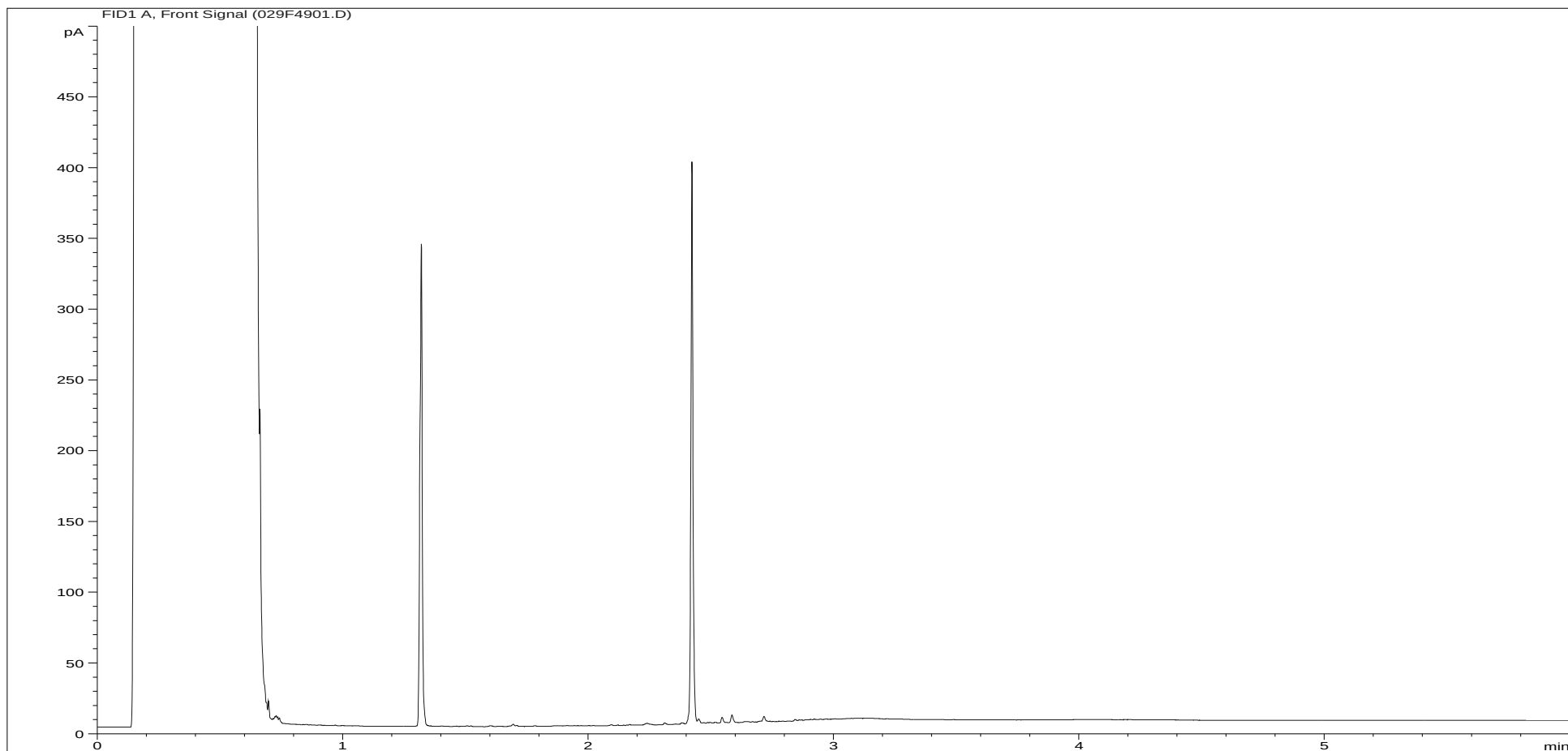
**Matrix:** Soil  
**Date Booked in** 08-Mar-11  
**Date Extracted** 15-Mar-11  
**Date Analysed:** 17-Mar-11, 09:47:43

This sample data is not MCERTS accredited.

\* This sample data is not ISO17025 accredited.

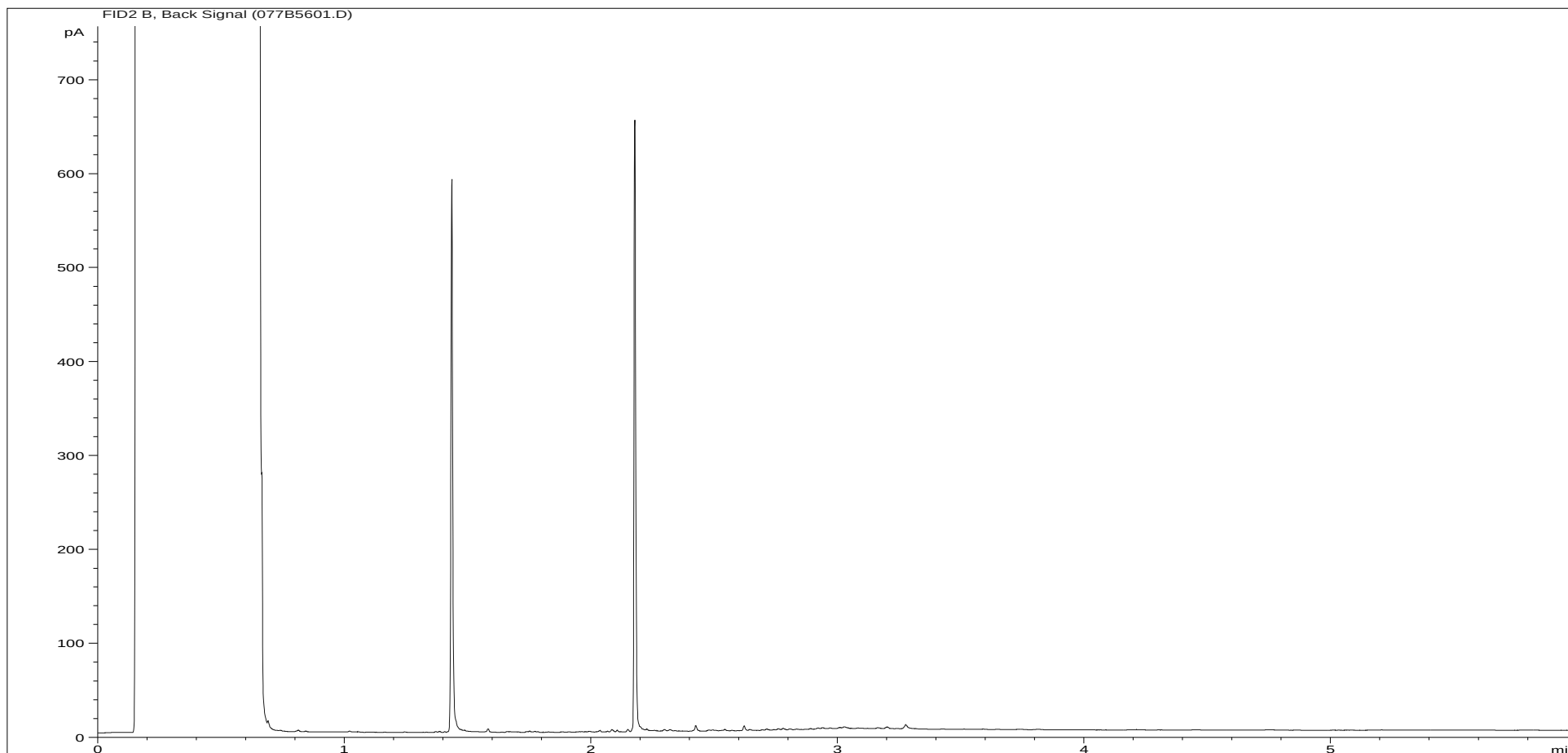
|           |                 | Concentration, (mg/kg) - as dry weight. |           |            |           |            |           |            |           |            |           |            |           |
|-----------|-----------------|-----------------------------------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
|           |                 | >C8 - C10                               |           | >C10 - C12 |           | >C12 - C16 |           | >C16 - C21 |           | >C21 - C35 |           | >C8 - C40  |           |
| Sample ID | Client ID       | Aliphatics                              | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics |
| CL1108599 | WS601 ES 2 0.50 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <10.33     | <10.33    | <24        | <24       |
| CL1108600 | WS601 ES 3 1.00 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <10.10     | <10.10    | <23        | <23       |
| CL1108601 | WS602 ES 3 1.00 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <10.21     | <10.21    | <23        | <23       |
| CL1108602 | WS603 ES 1 0.30 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <10.88     | <10.88    | <25        | <25       |
| CL1108603 | WS603 ES 3 1.00 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <10.80     | <10.80    | <25        | <25       |
| CL1108604 | WS605 ES 2 0.50 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | 5.3       | <10.68     | 22.2      | <24        | 32.7      |
| CL1108605 | WS607 ES 3 1.00 | <5                                      | <5        | <5         | <5        | 14         | <5        | 89         | 9.54      | 131        | 40.6      | 243        | 60.1      |
| CL1108606 | WS608 ES 1 0.30 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | 13         | 11.9      | <23        | <23       |
| CL1108607 | WS609 ES 2 0.50 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <9.98      | <9.98     | <23        | <23       |
| CL1108608 | WS611 ES 1 0.30 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <10.34     | 10.4      | <24        | <24       |
| CL1108609 | WS613 ES 1 0.30 | <5                                      | <5        | <5         | <5        | <5         | 5.74      | <5         | 12.5      | <10.17     | 121       | <23        | 149       |
| CL1108610 | WS616 ES 1 0.30 | <5                                      | <5        | <5         | <5        | <5         | 6.9       | <5         | 9.06      | <10.19     | 39.1      | <23        | 62.7      |
| CL1108611 | WS621 ES 1 0.30 | <5                                      | <5        | <5         | <5        | <5         | <5        | 5.96       | 10.01     | 86.5       | 141       | 123        | 233       |
| CL1108612 | WS621 ES 3 1.00 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <10.38     | 15.6      | <24        | 25.7      |
| CL1108613 | WS622 ES 2 0.50 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <9.91      | 11.8      | <23        | <23       |
| CL1108614 | WS623 ES 2 0.50 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <9.91      | <9.91     | <23        | <23       |
| CL1108615 | WS625 ES 1 0.30 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <10.09     | <10.09    | <23        | <23       |
| CL1108616 | WS625 ES 3 1.00 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <10.83     | <10.83    | <25        | <25       |
| CL1108617 | WS626 ES 1 0.30 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <9.95      | <9.95     | <23        | <23       |
| CL1108618 | WS627 ES 2 0.50 | <5                                      | <5        | <5         | <5        | <5         | <5        | <5         | <5        | <10.17     | 16.6      | <23        | 25.2      |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



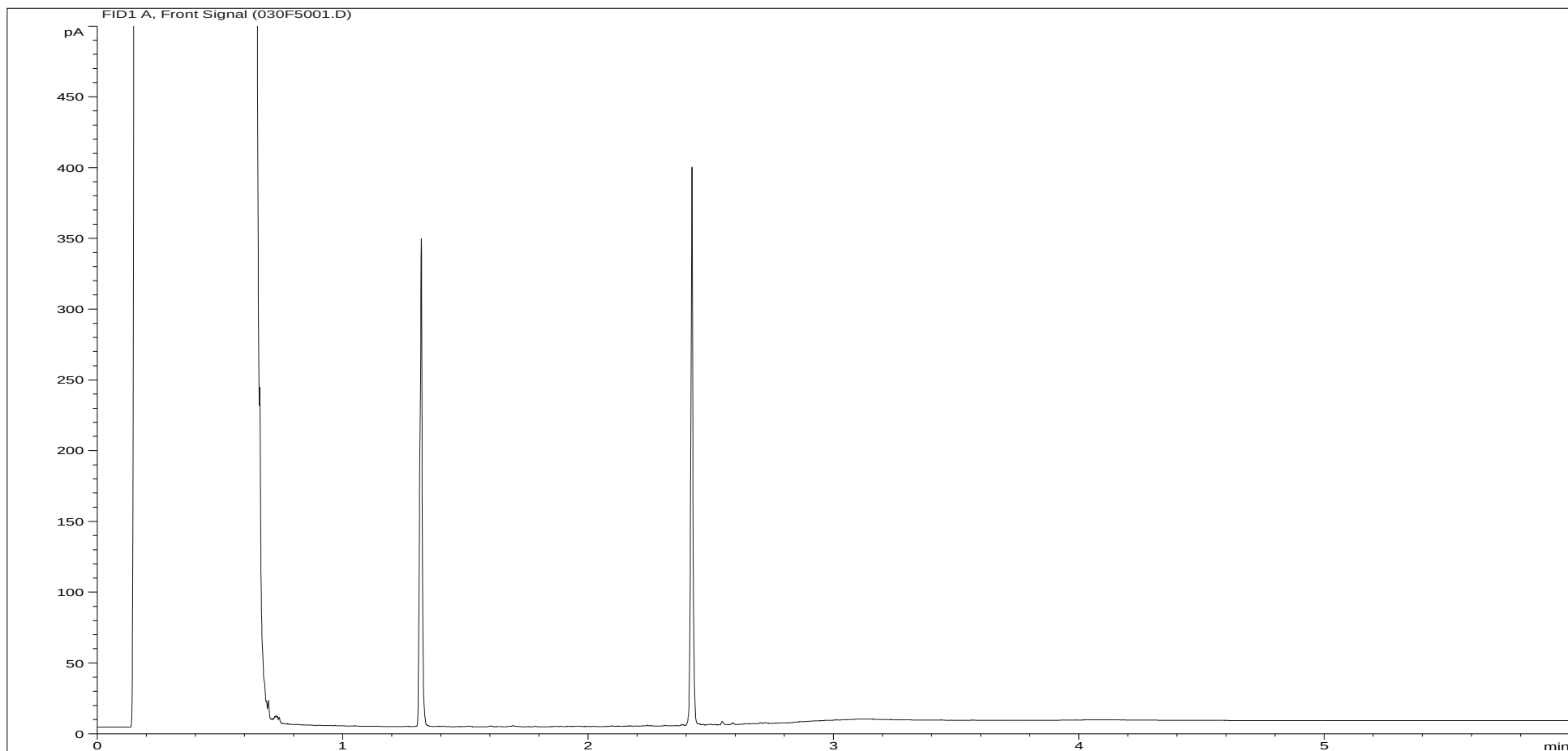
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108599ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 15.2                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS601 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 01:50:26                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\029F4901.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



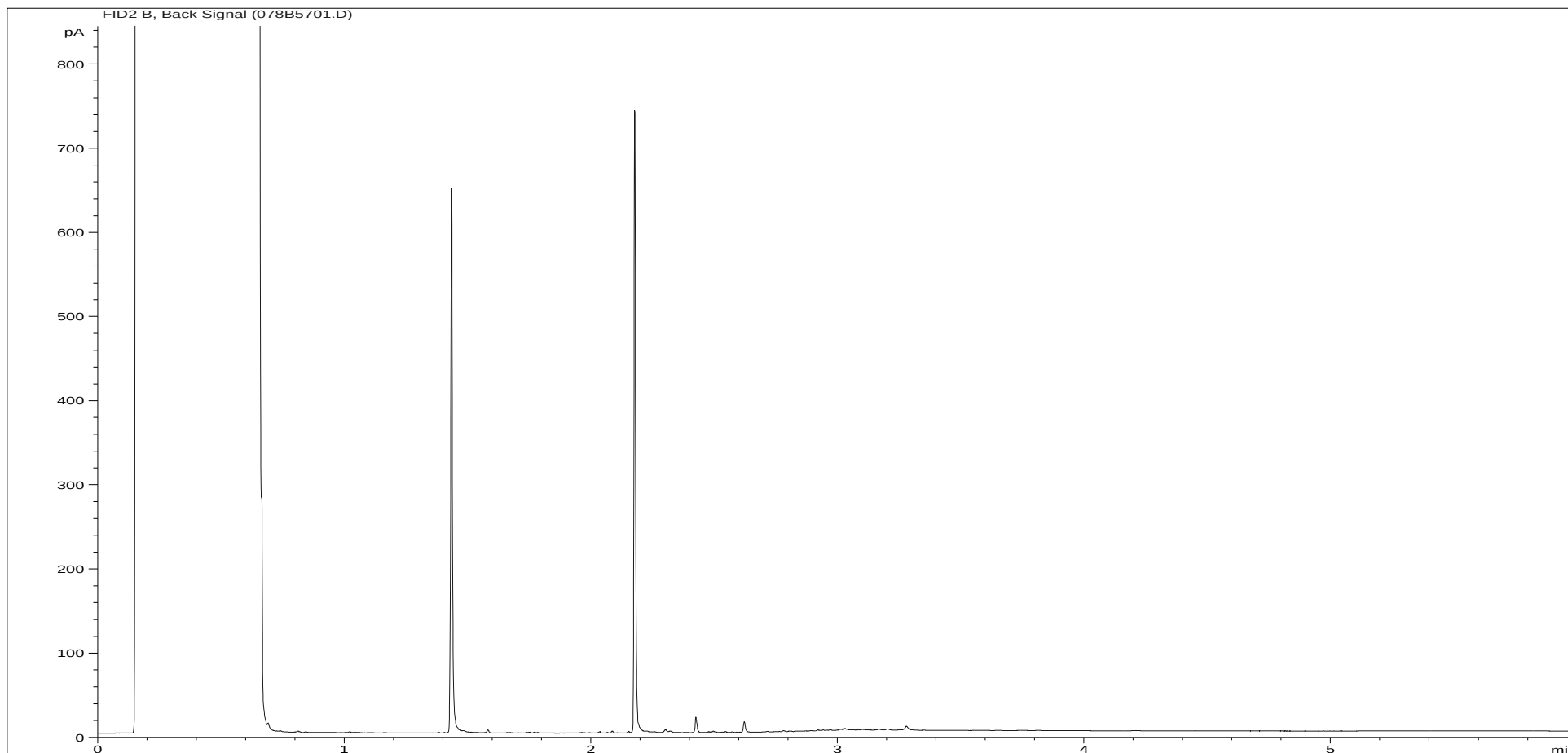
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108599ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 11.4                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS601 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 03:14:03                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\077B5601.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



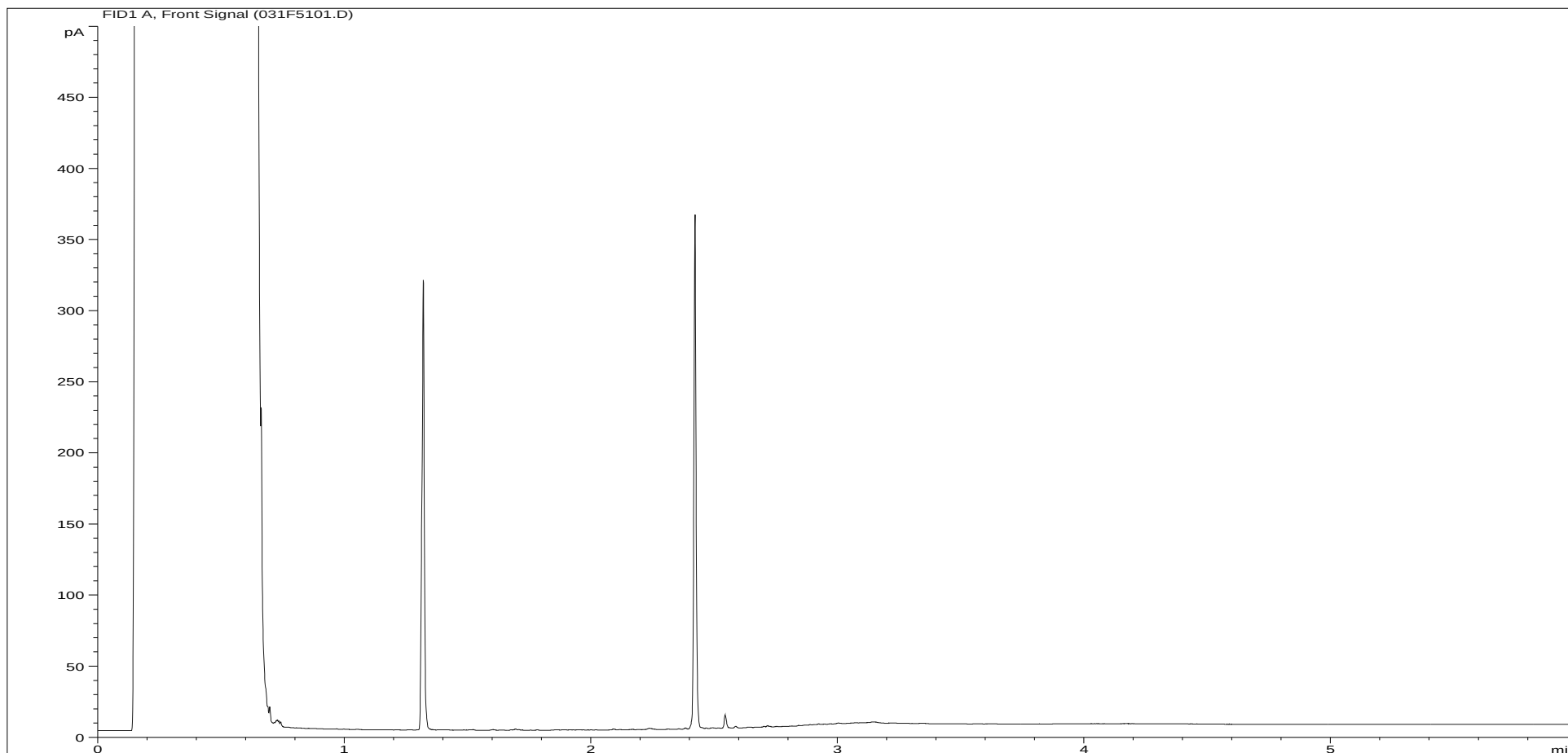
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108600ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 15.2                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS601 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 02:02:26                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\030F5001.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



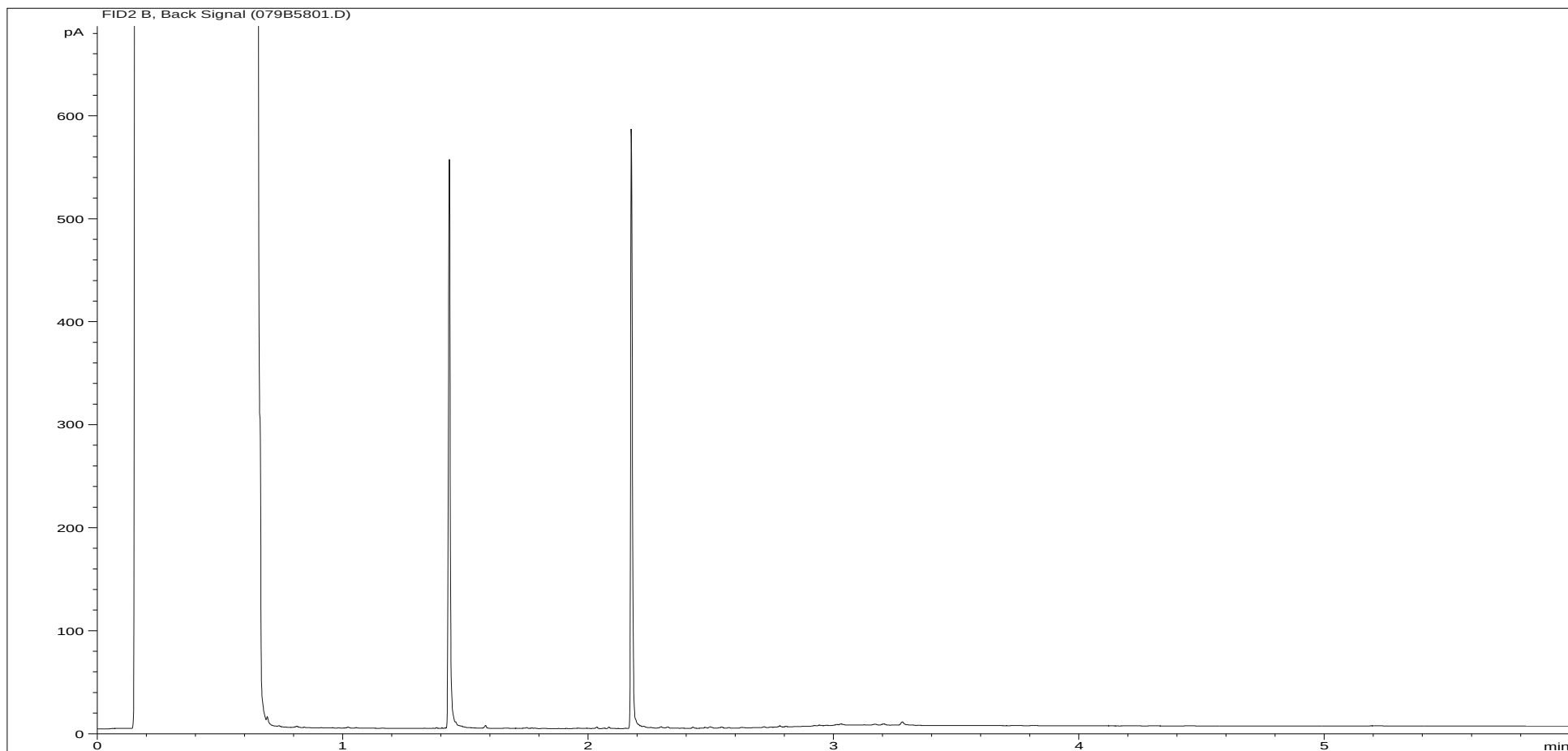
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108600ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 11.78                                                                    | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS601 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 03:25:58                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\078B5701.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



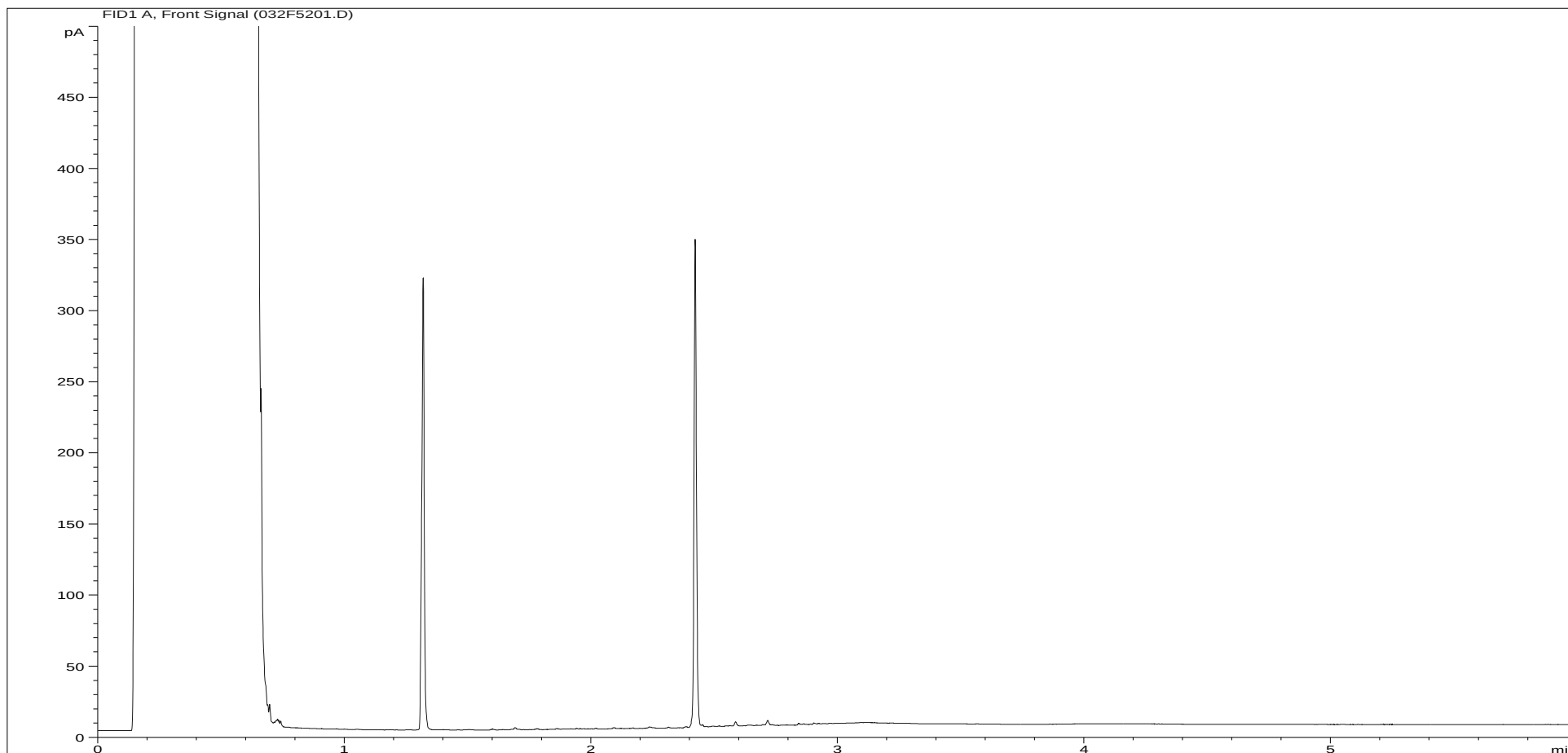
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108601ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 16                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS602 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 02:14:27                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\031F5101.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108601ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 12                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS602 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 03:37:54                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\079B5801.D |                           |                                |

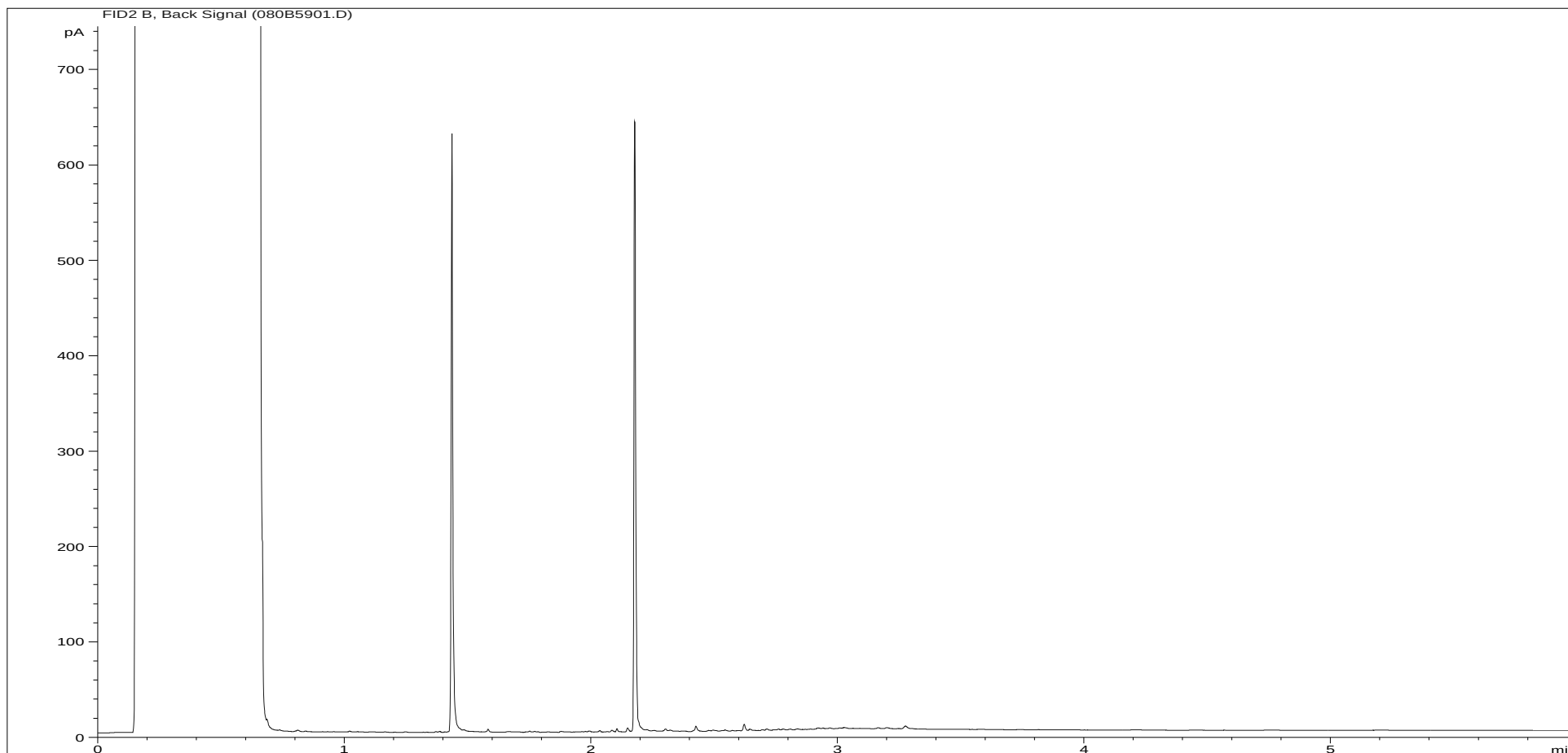
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108602ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 16                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS603 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 02:26:23                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\032F5201.D |                           |                                |

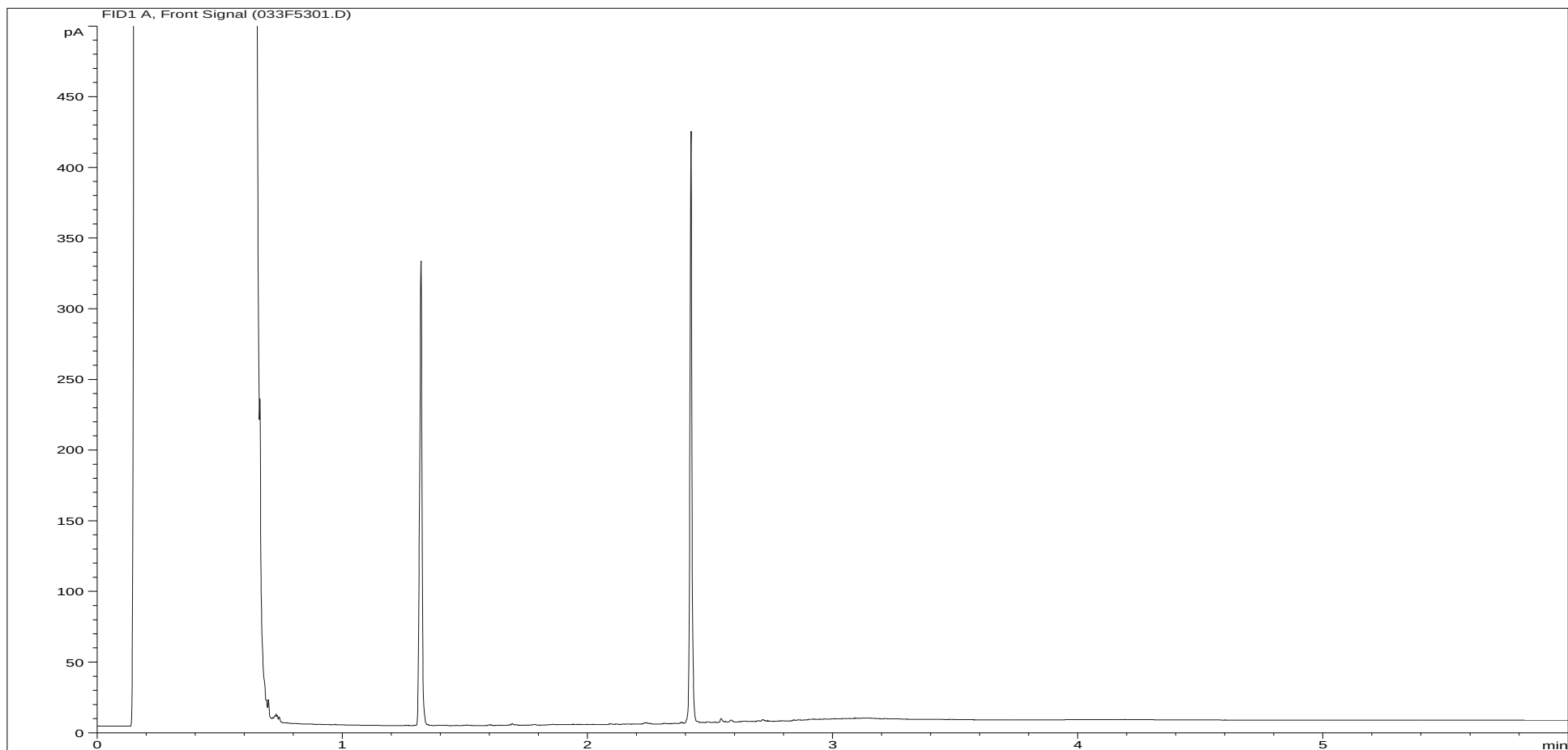


**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



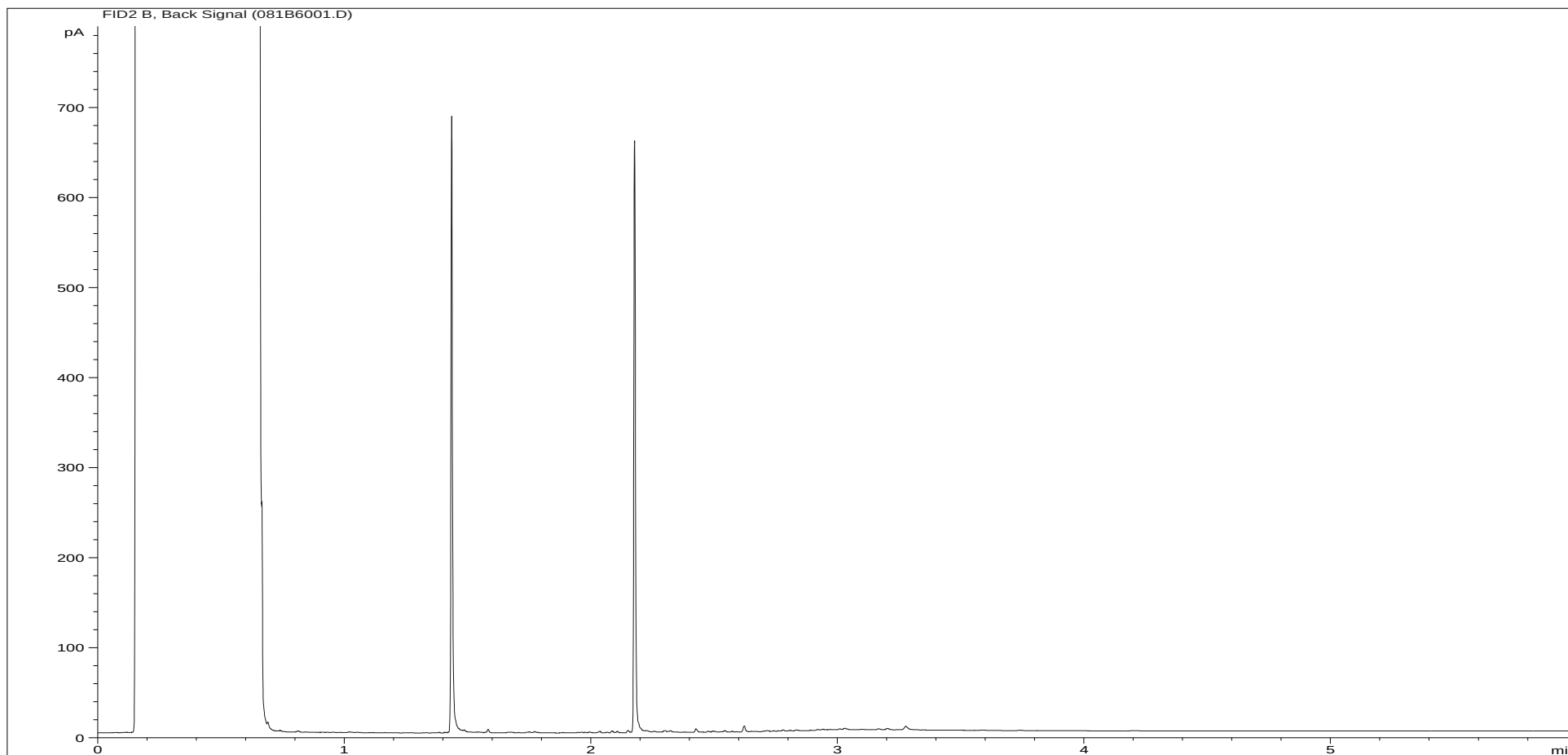
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108602ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 12                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS603 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 03:49:51                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\080B5901.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



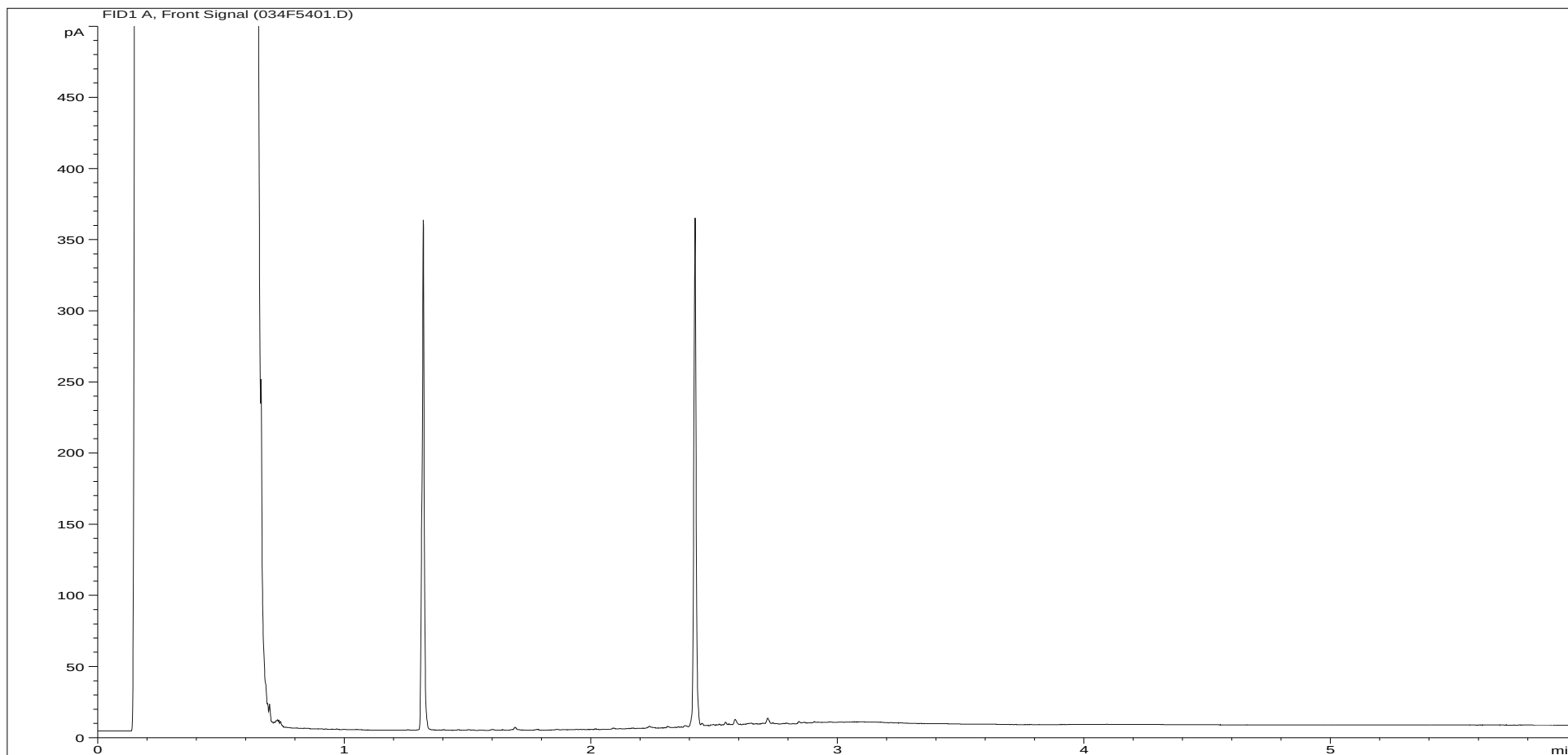
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108603ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 16                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS603 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 02:38:03                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\033F5301.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



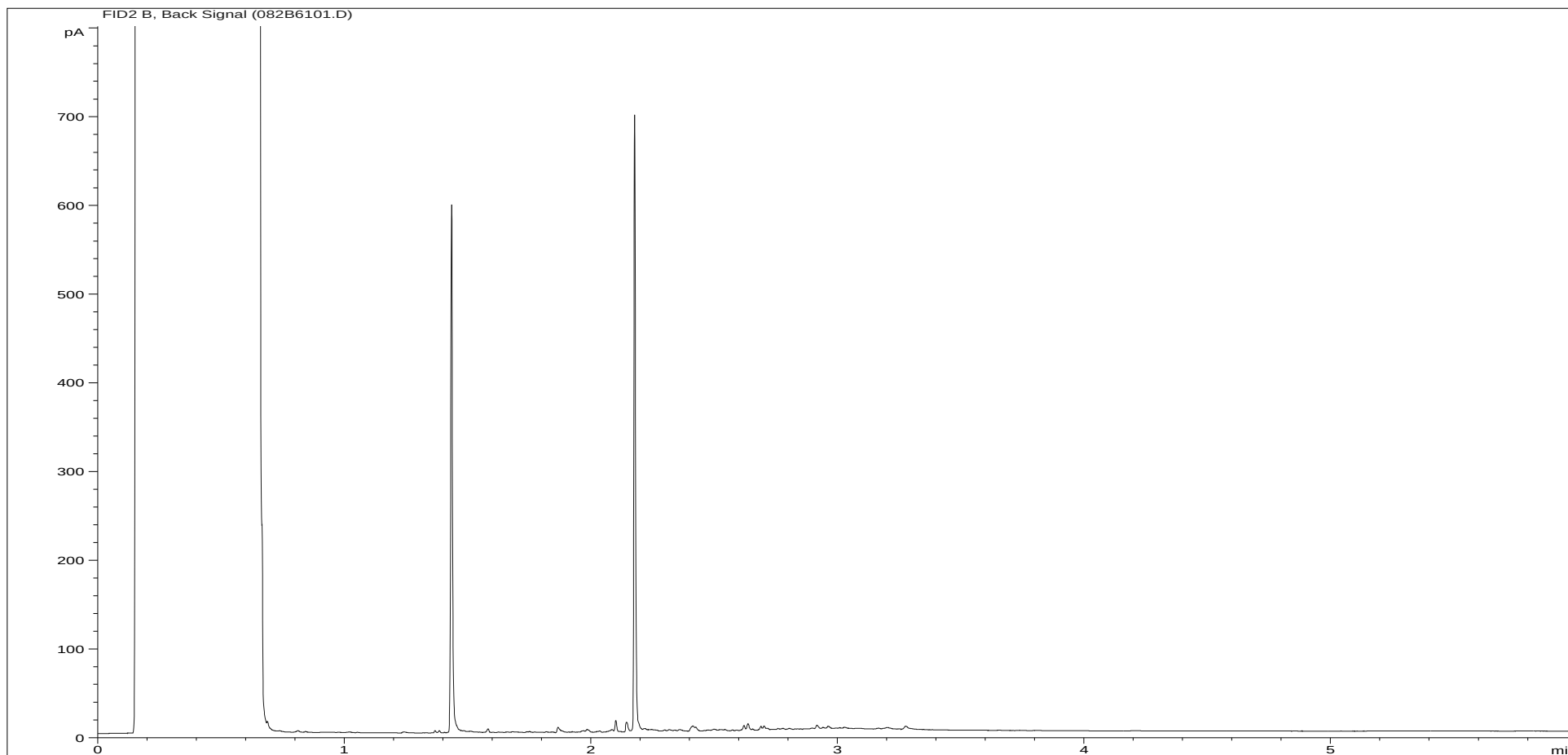
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108603ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 12                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS603 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 04:01:50                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\081B6001.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



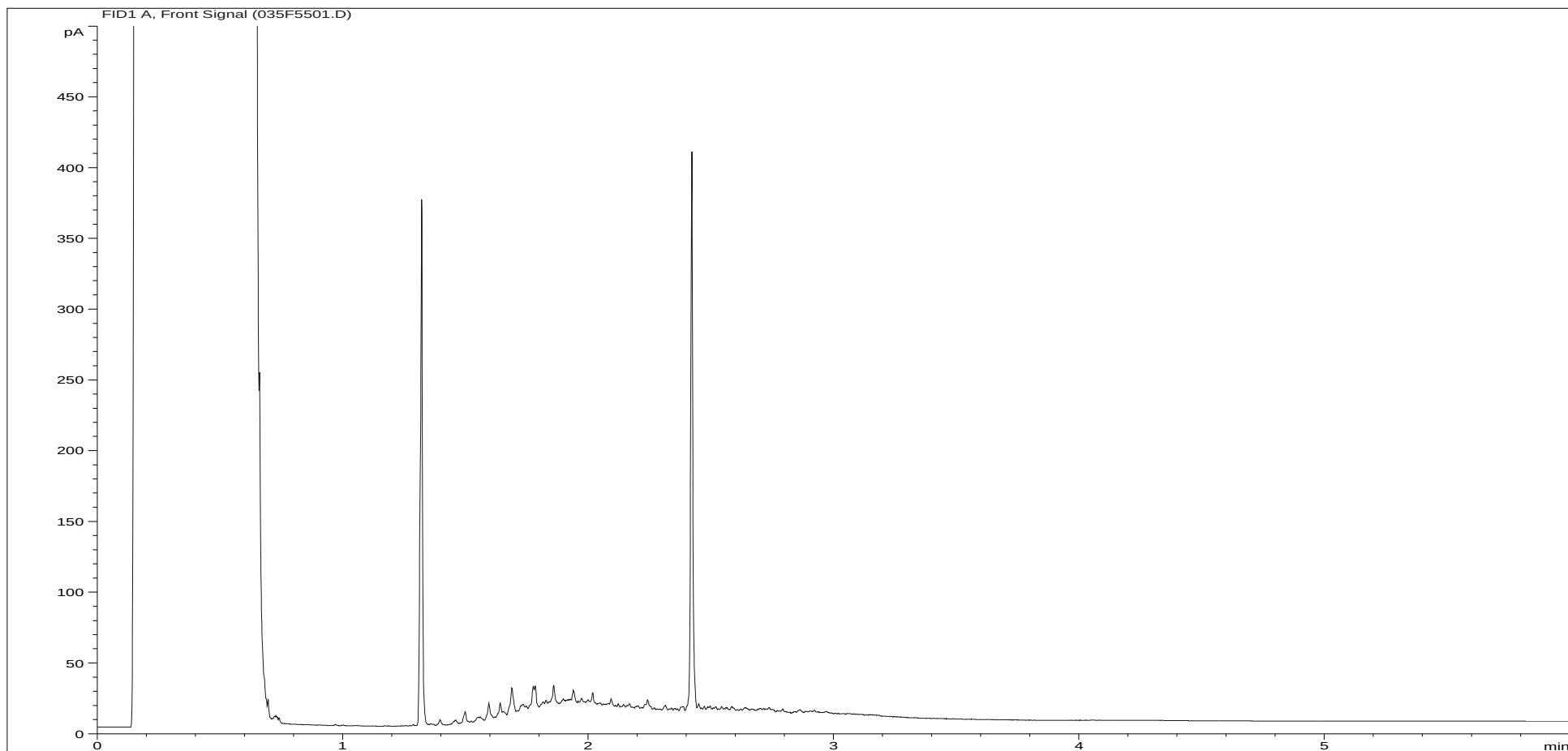
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108604ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 15.2                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS605 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 02:50:03                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\034F5401.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



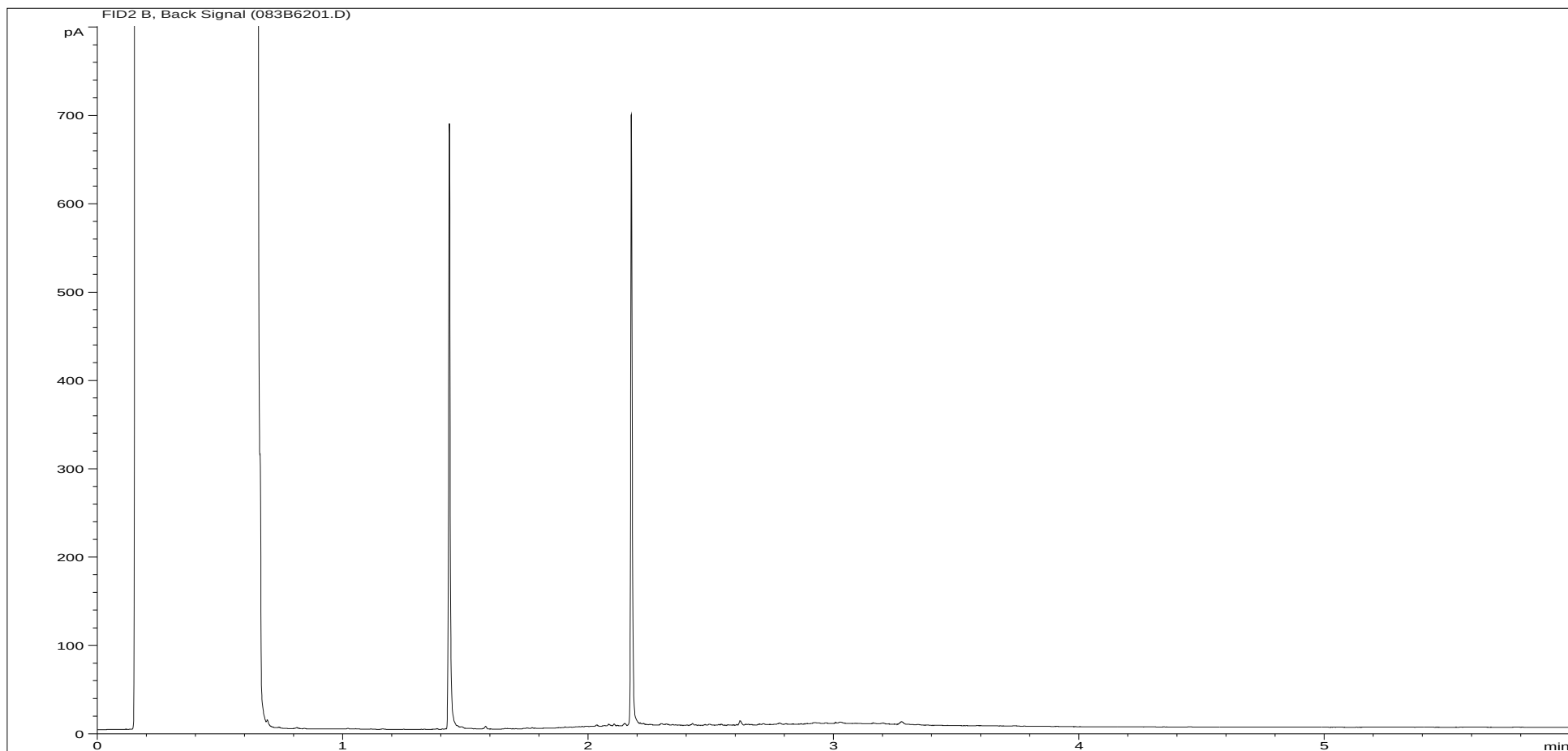
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108604ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 11.4                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS605 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 04:13:47                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\082B6101.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



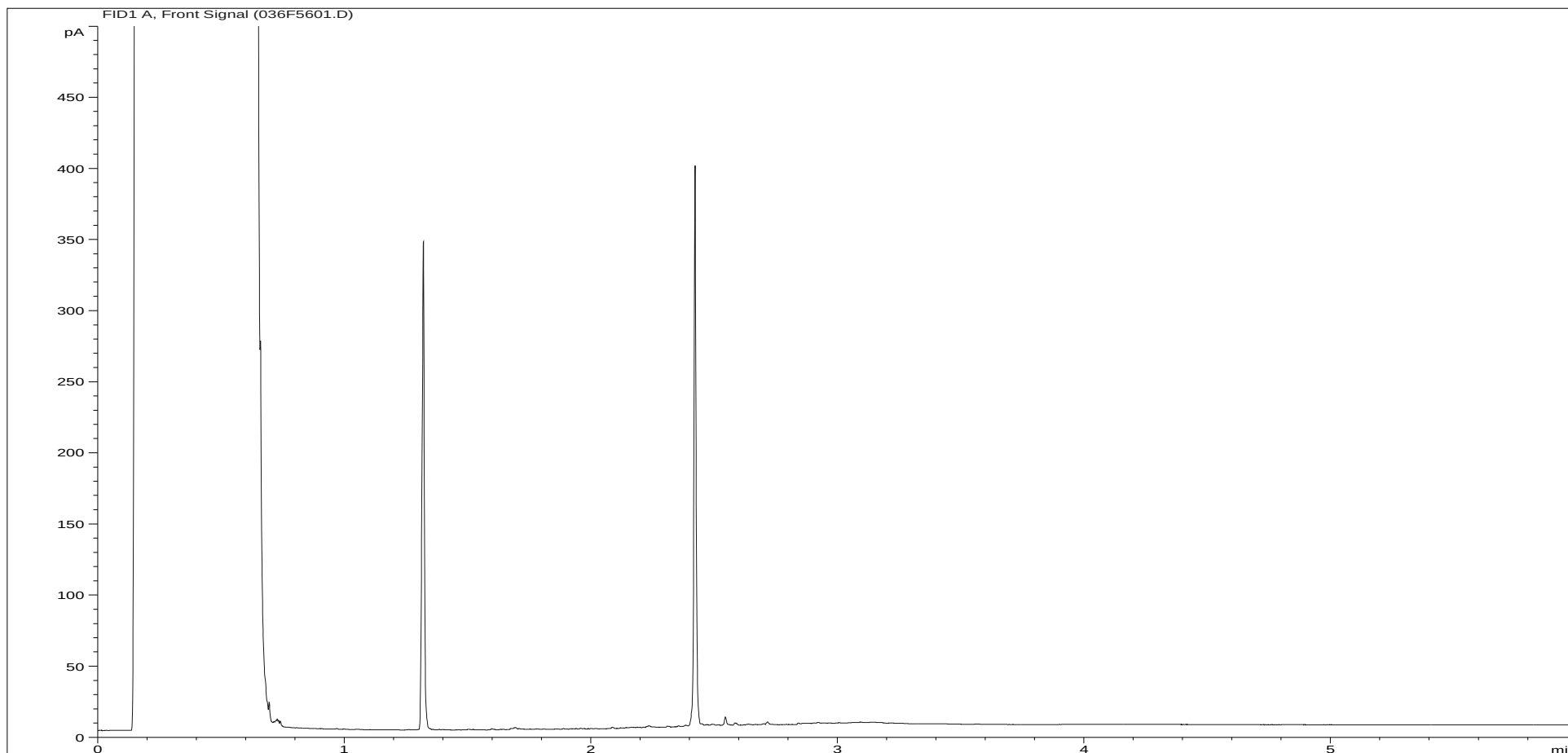
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108605ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 16                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS607 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 03:02:07                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\035F5501.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108605ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 12                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS607 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 04:26:08                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\083B6201.D |                           |                                |

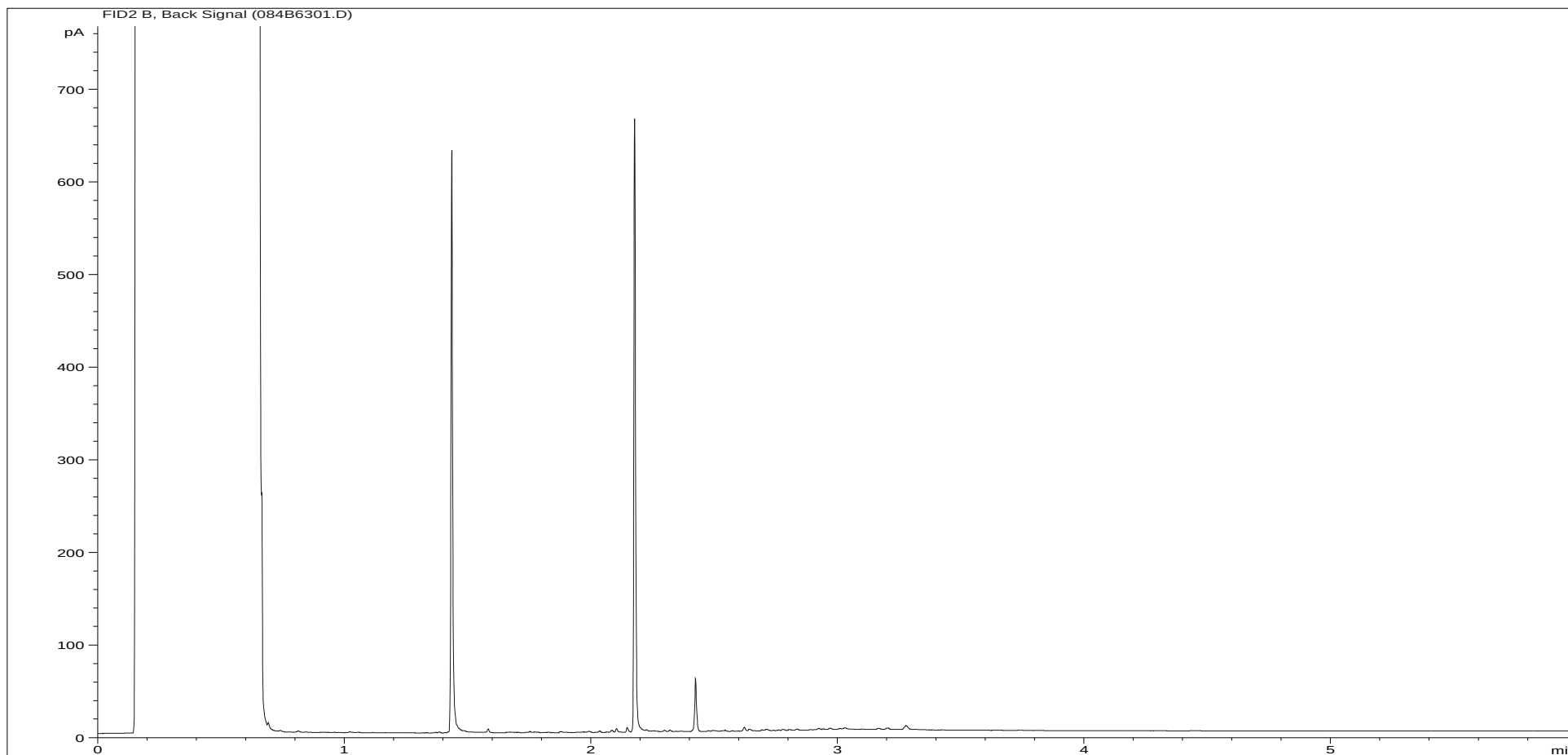
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108606ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 15.2                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS608 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 03:14:03                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\036F5601.D |                           |                                |

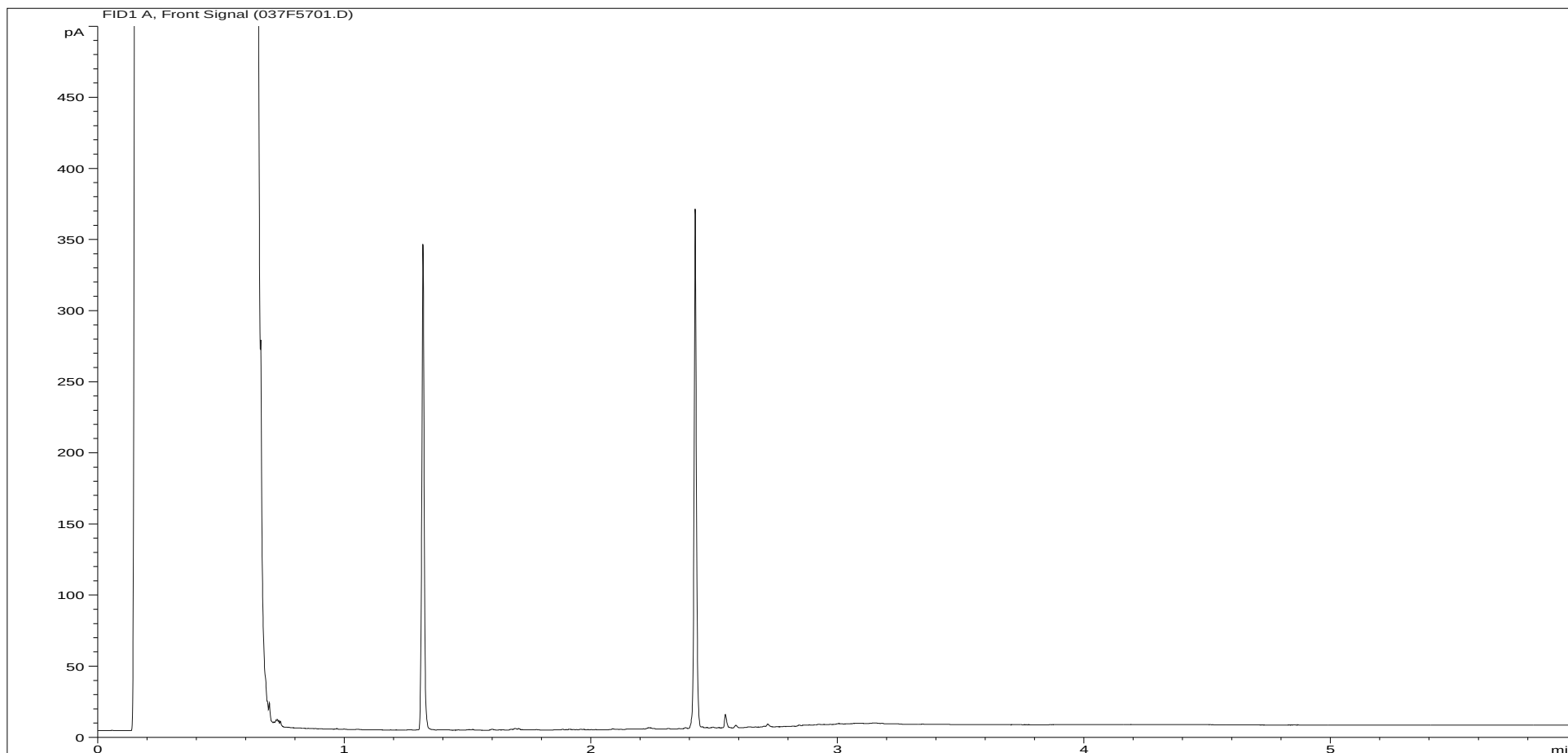


**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



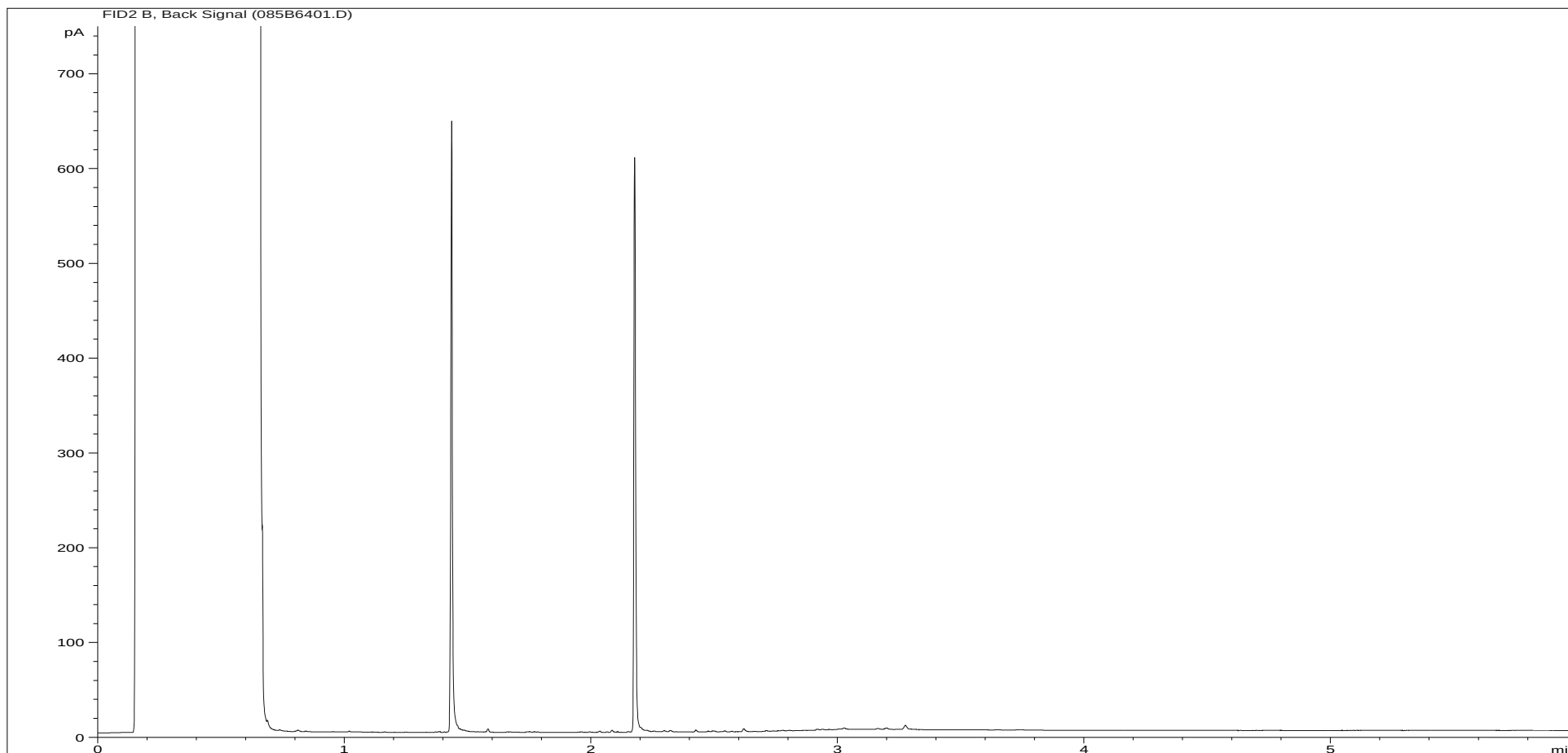
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108606ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 11.78                                                                    | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS608 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 04:37:59                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\084B6301.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



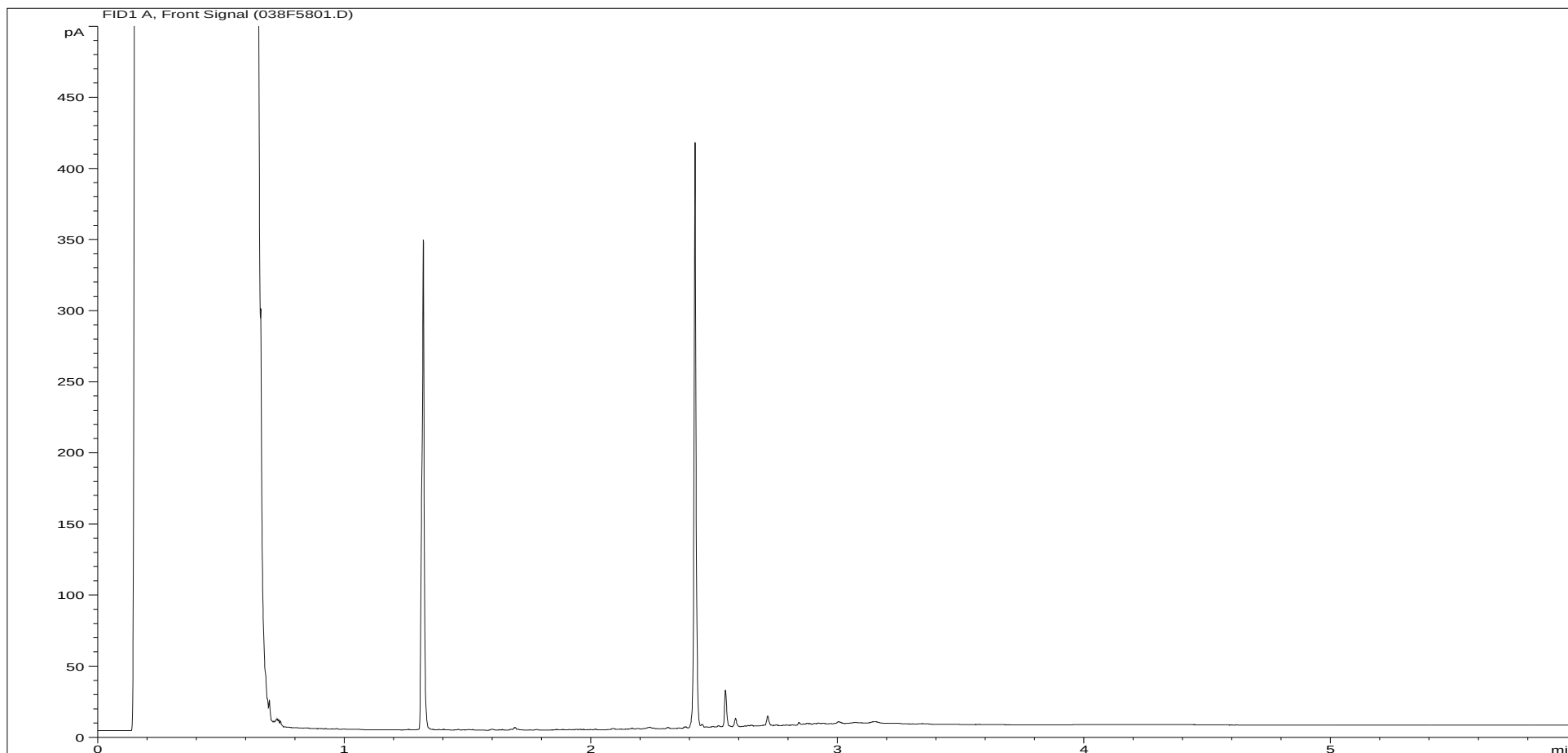
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108607ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 15.2                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS609 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 03:25:58                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\037F5701.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



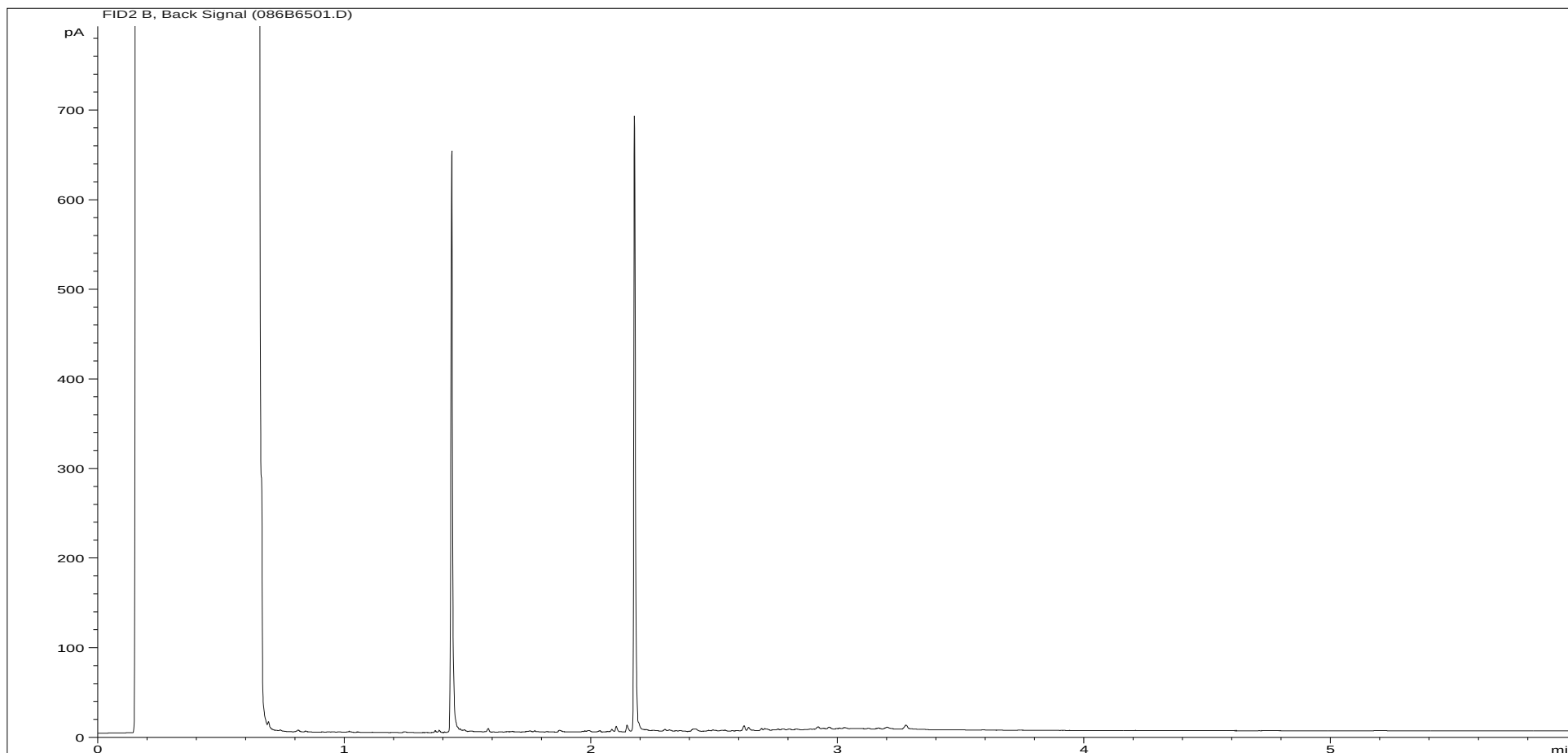
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108607ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 11.4                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS609 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 04:49:55                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\085B6401.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



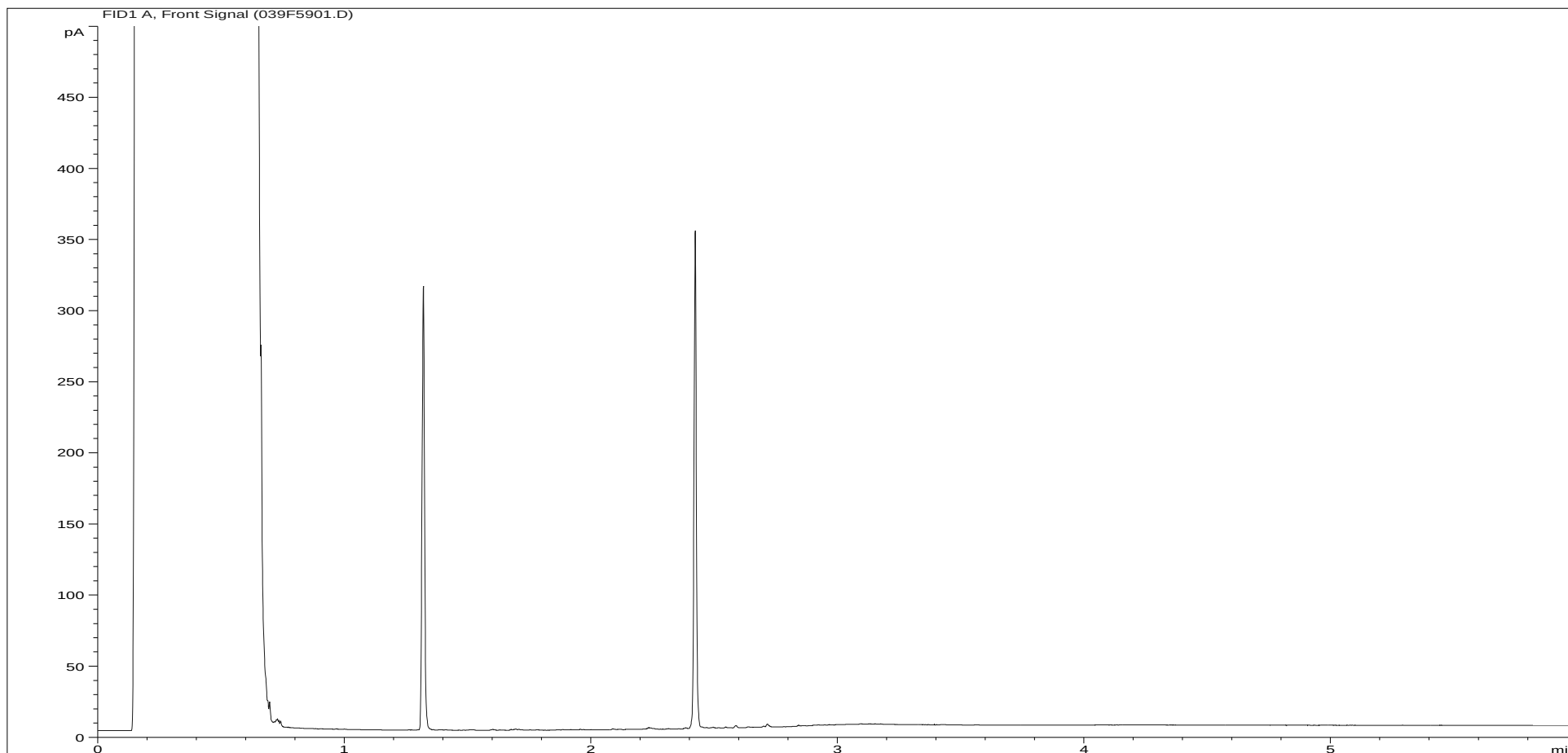
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108608ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 15.2                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS611 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 03:37:54                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\038F5801.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



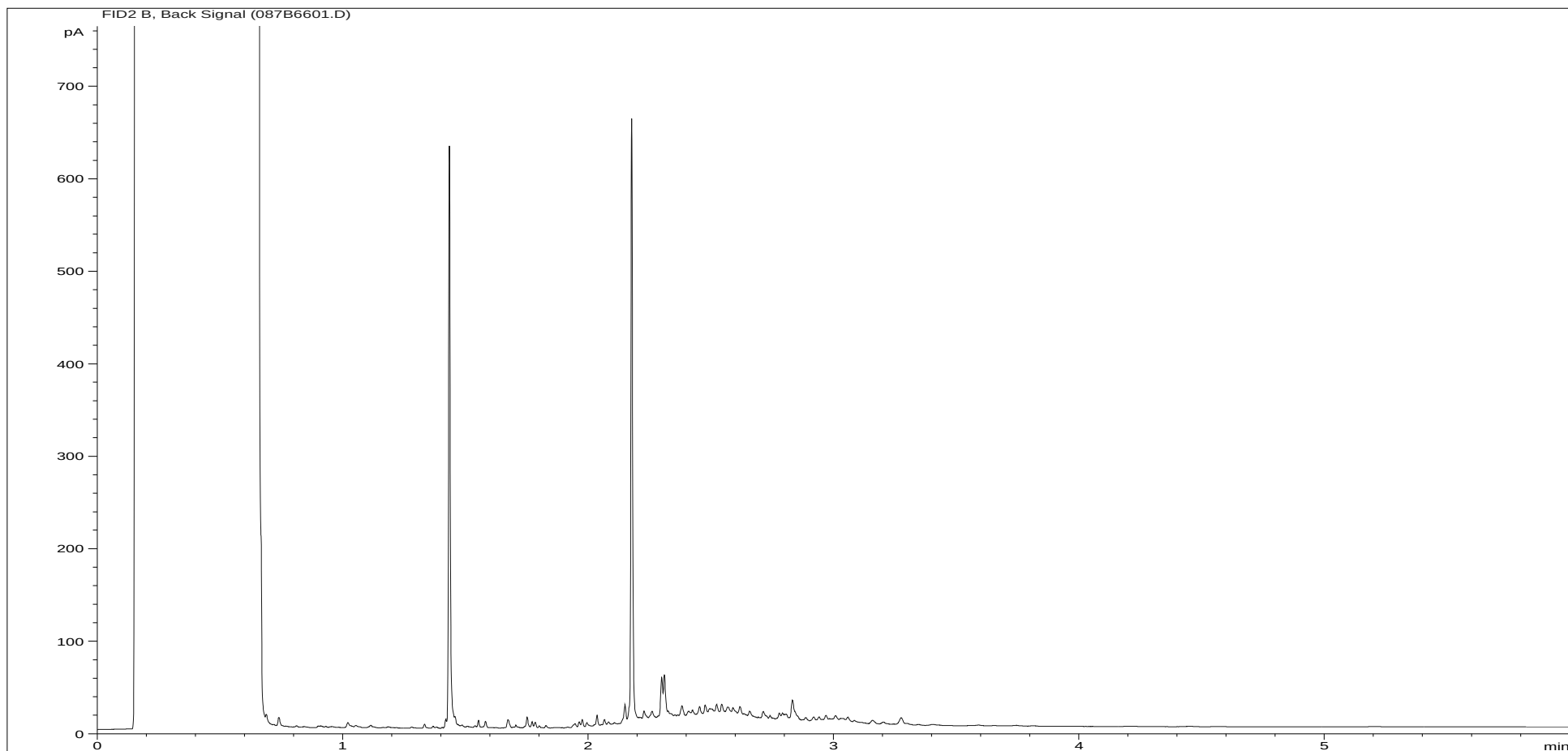
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108608ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 11.78                                                                    | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS611 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 05:01:49                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\086B6501.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



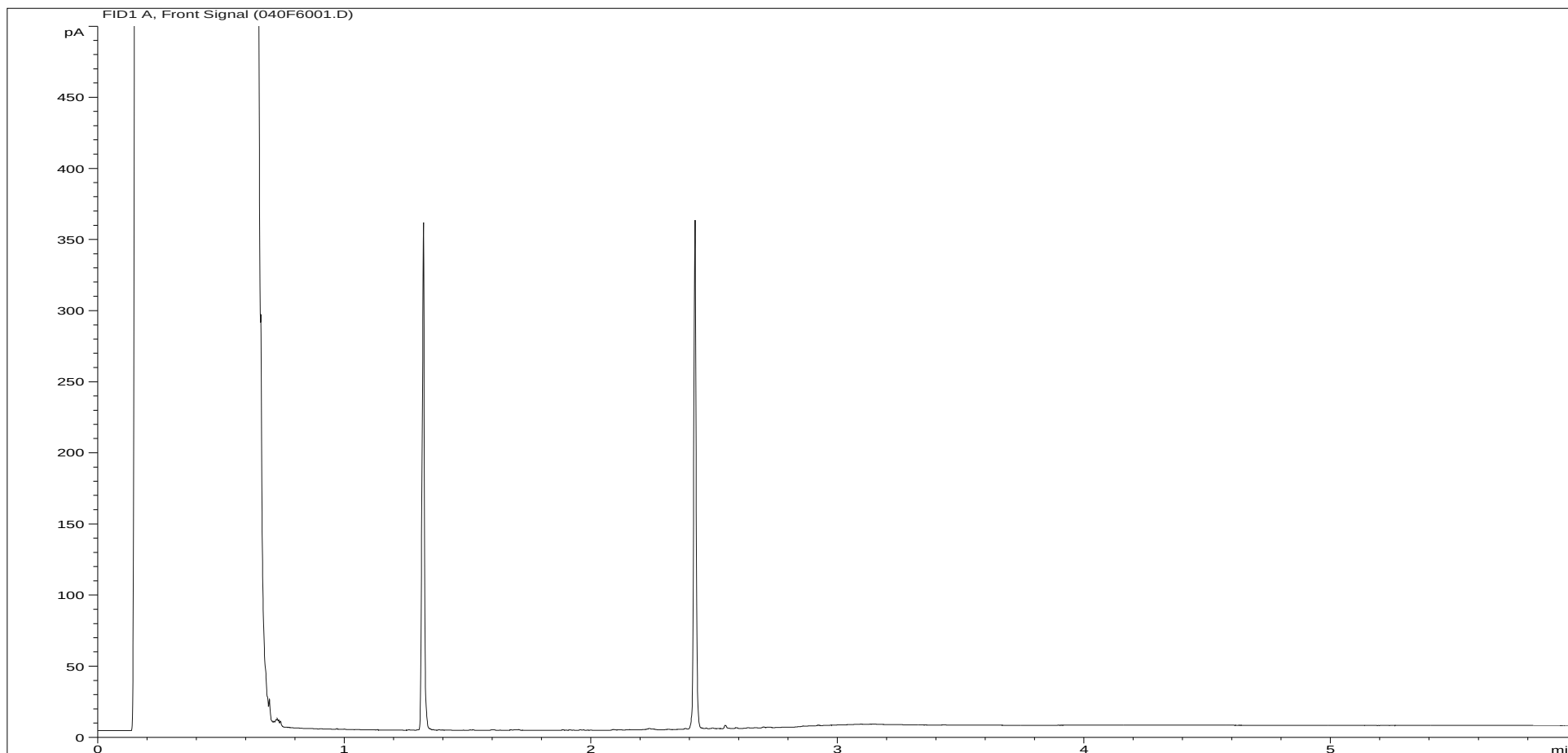
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108609ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 15.2                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS613 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 03:49:51                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\039F5901.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108609ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 11.78                                                                    | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS613 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 05:13:45                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\087B6601.D |                           |                                |

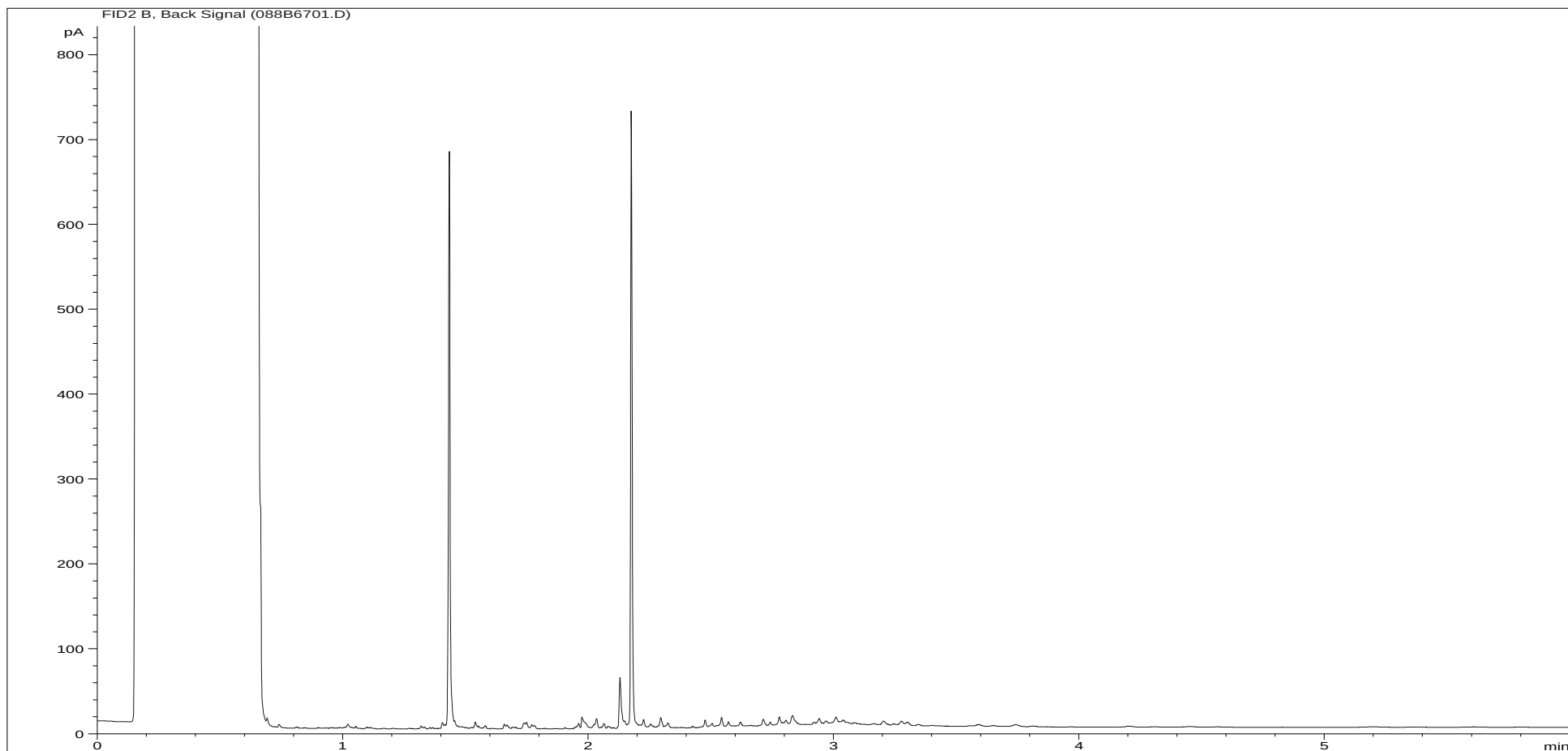
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108610ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 15.2                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS616 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 04:01:50                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\040F6001.D |                           |                                |

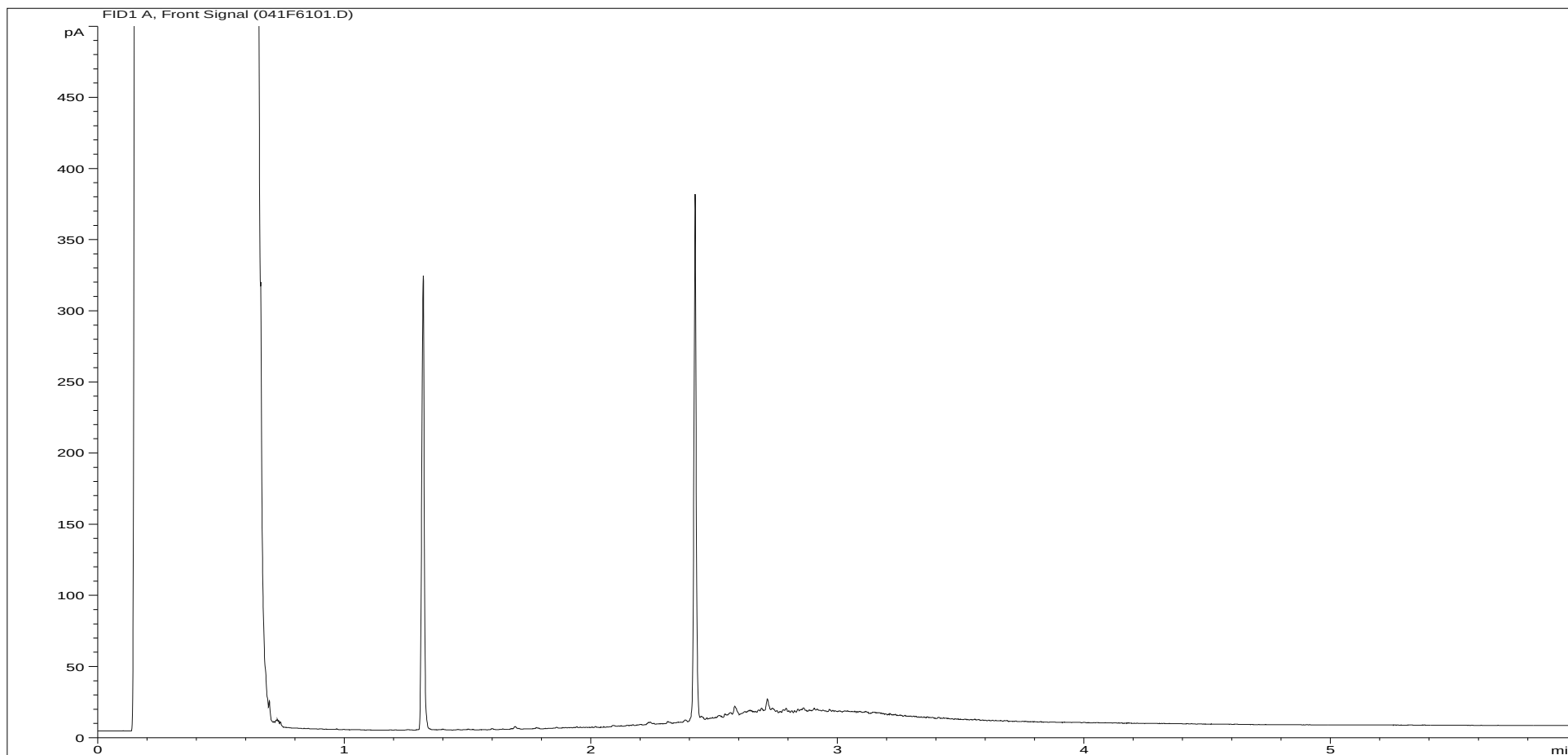


# Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



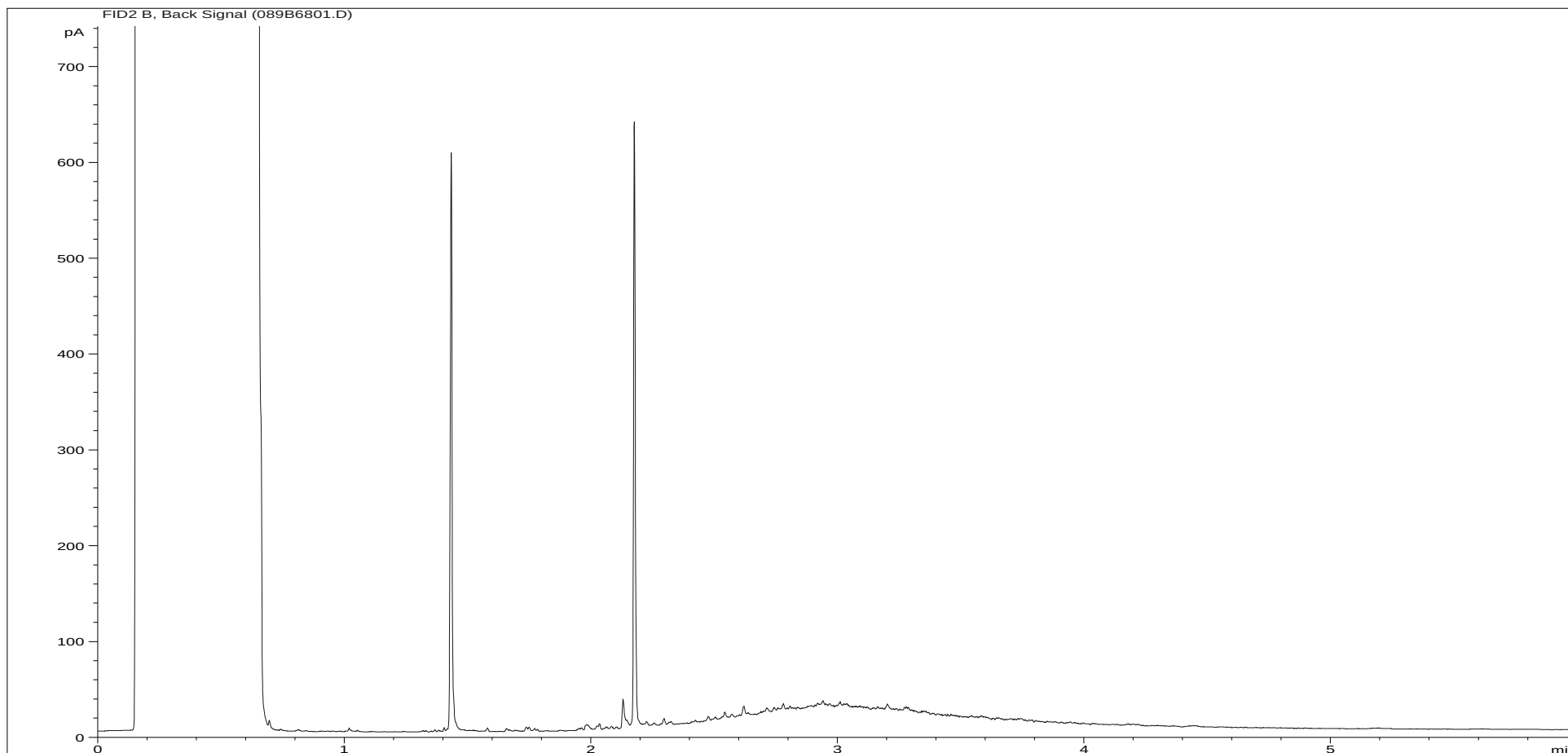
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108610ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 11.78                                                                    | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS616 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 05:25:37                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\088B6701.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



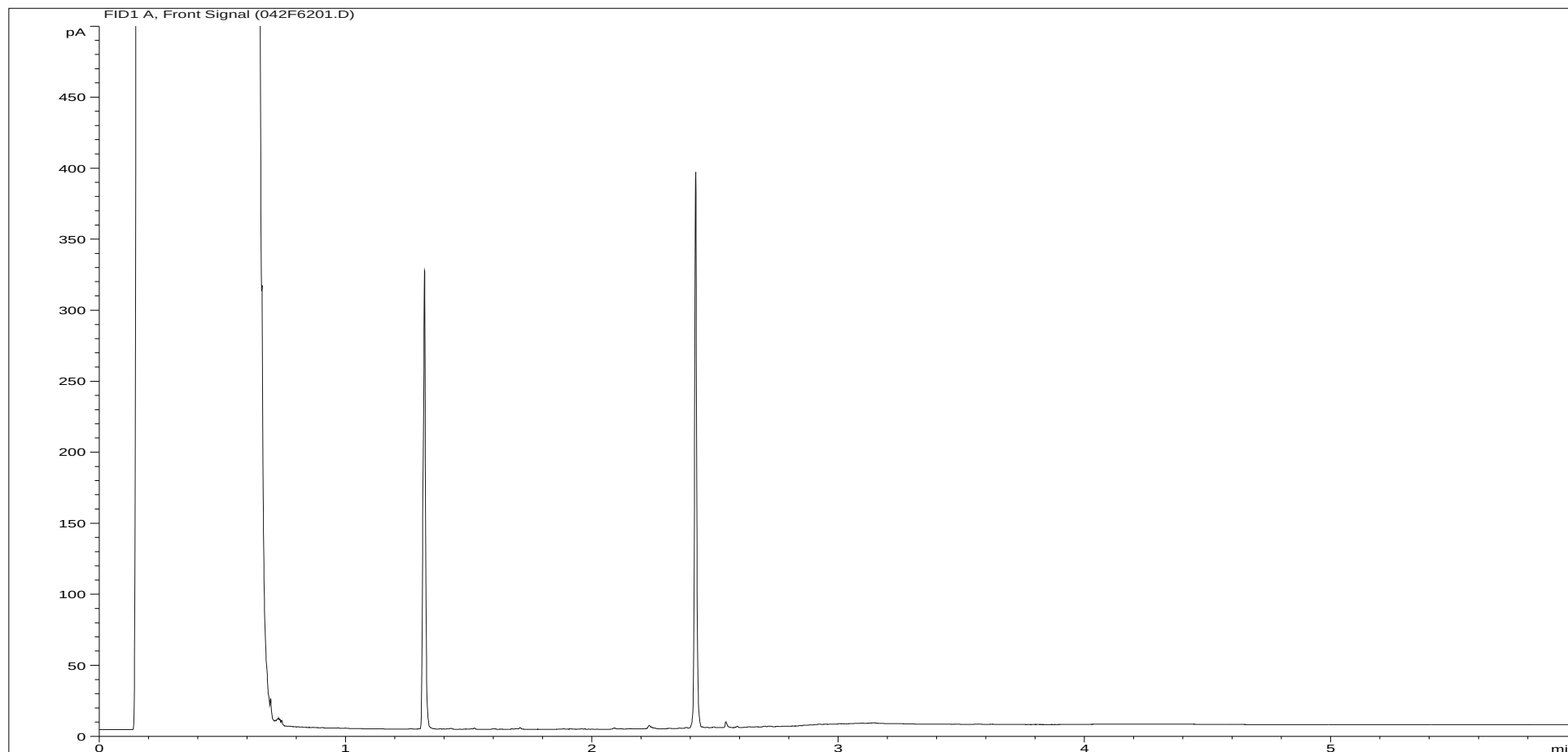
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108611ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 16                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS621 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 04:13:47                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\041F6101.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



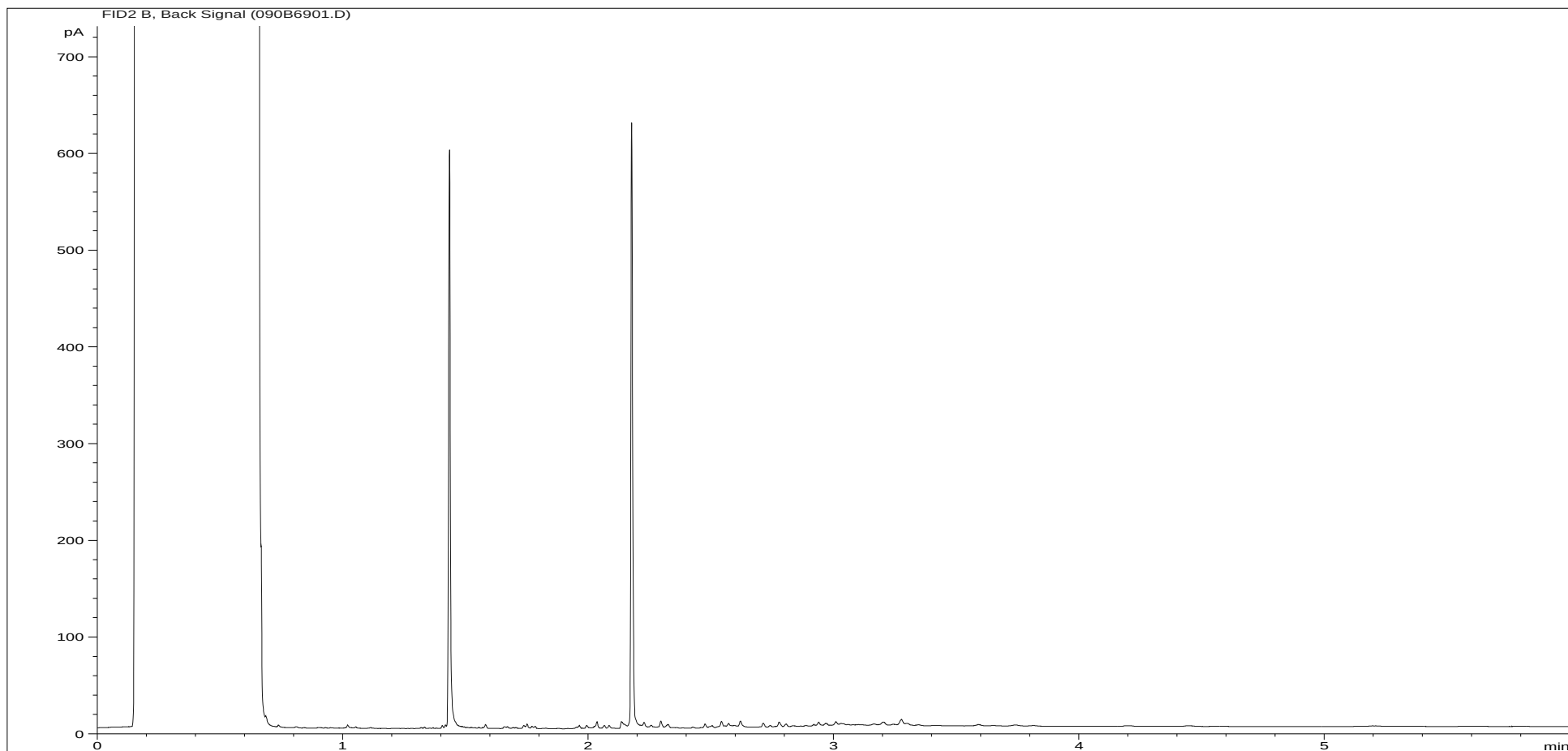
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108611ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 12                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS621 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 05:37:22                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\089B6801.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



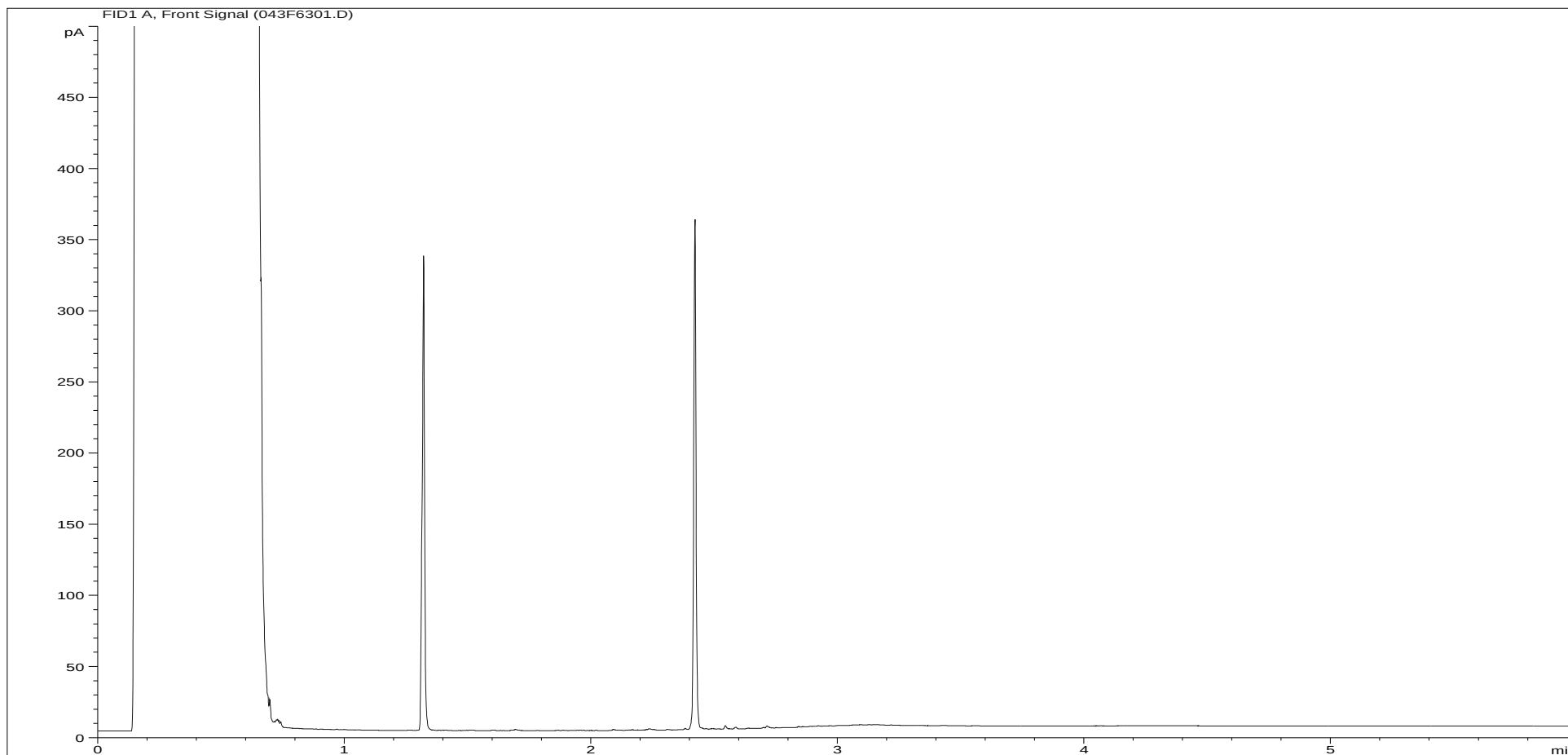
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108612ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 15.2                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS621 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 04:26:08                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\042F6201.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



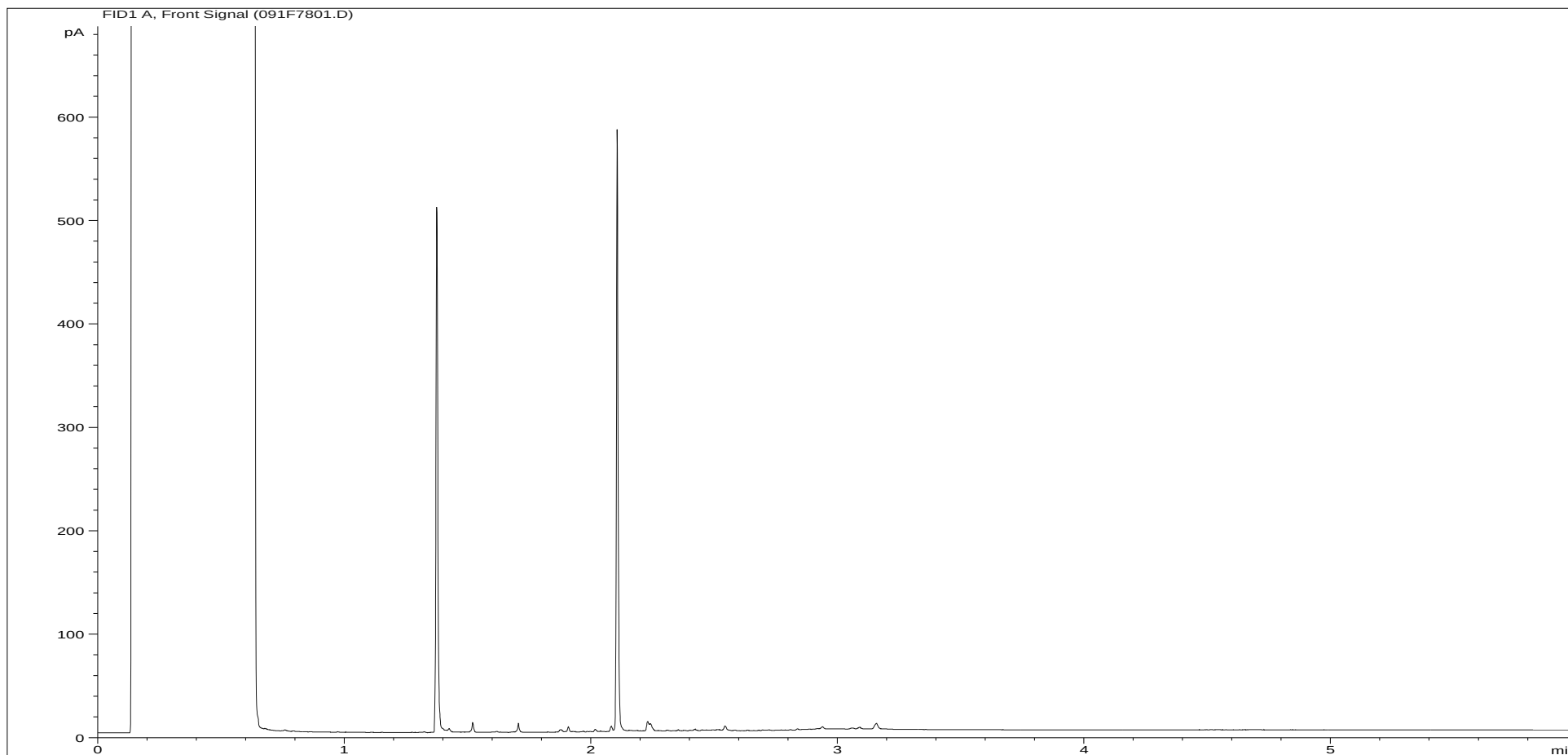
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108612ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 11.4                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS621 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 05:49:17                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\090B6901.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



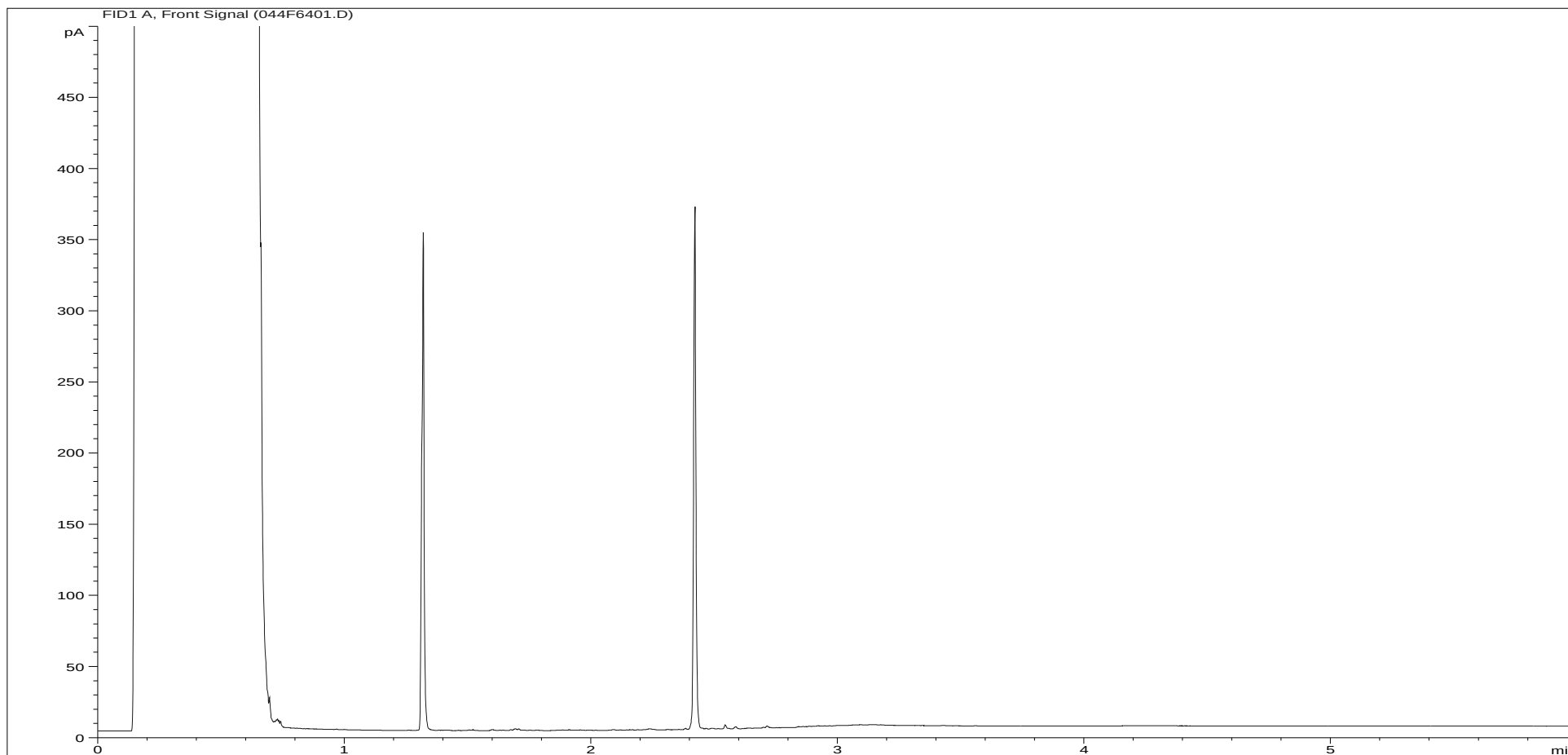
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108613ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 16                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS622 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 04:37:59                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\043F6301.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108613ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 12                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS622 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 08:47:53                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\091F7801.D |                           |                                |

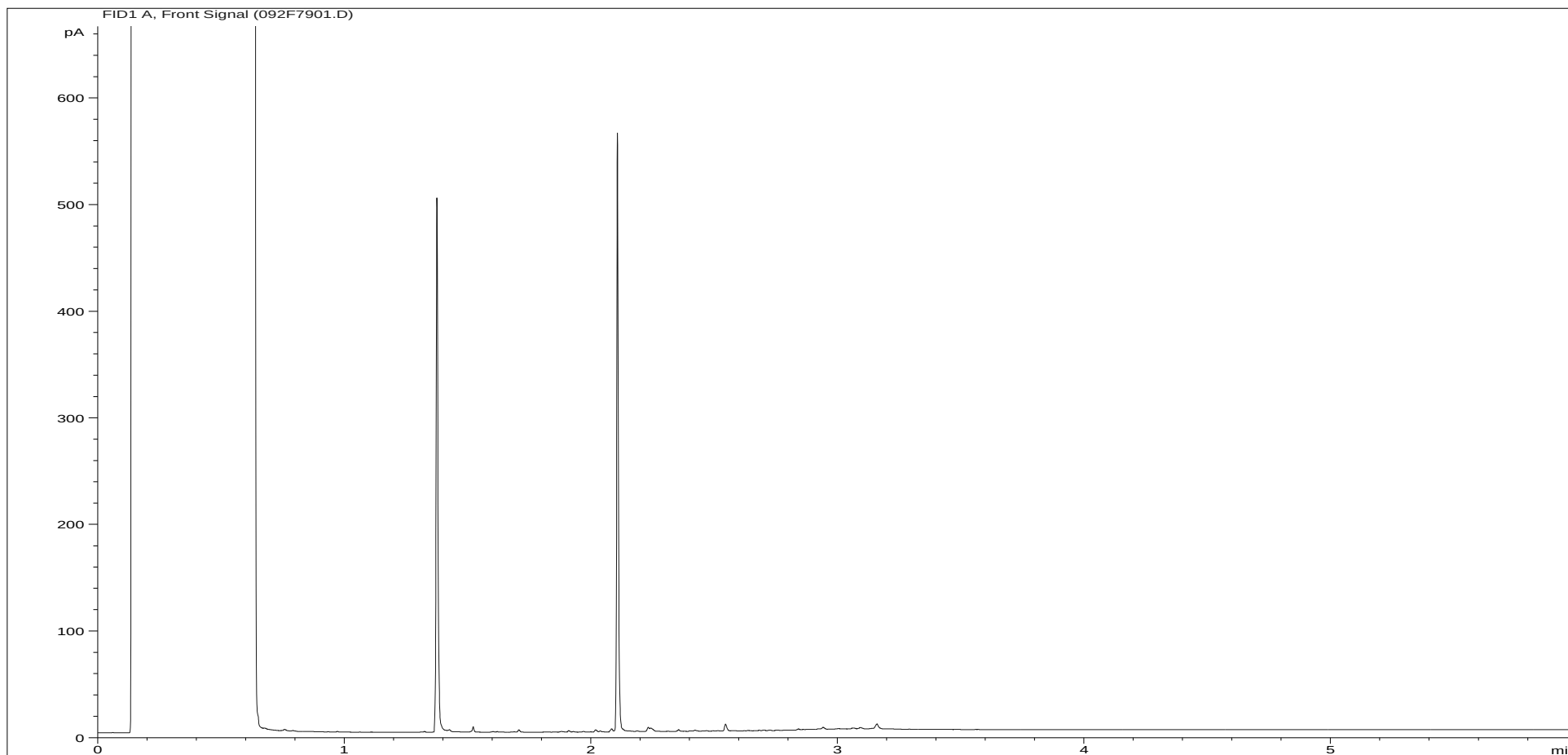
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108614ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 16                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS623 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 04:49:55                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\044F6401.D |                           |                                |

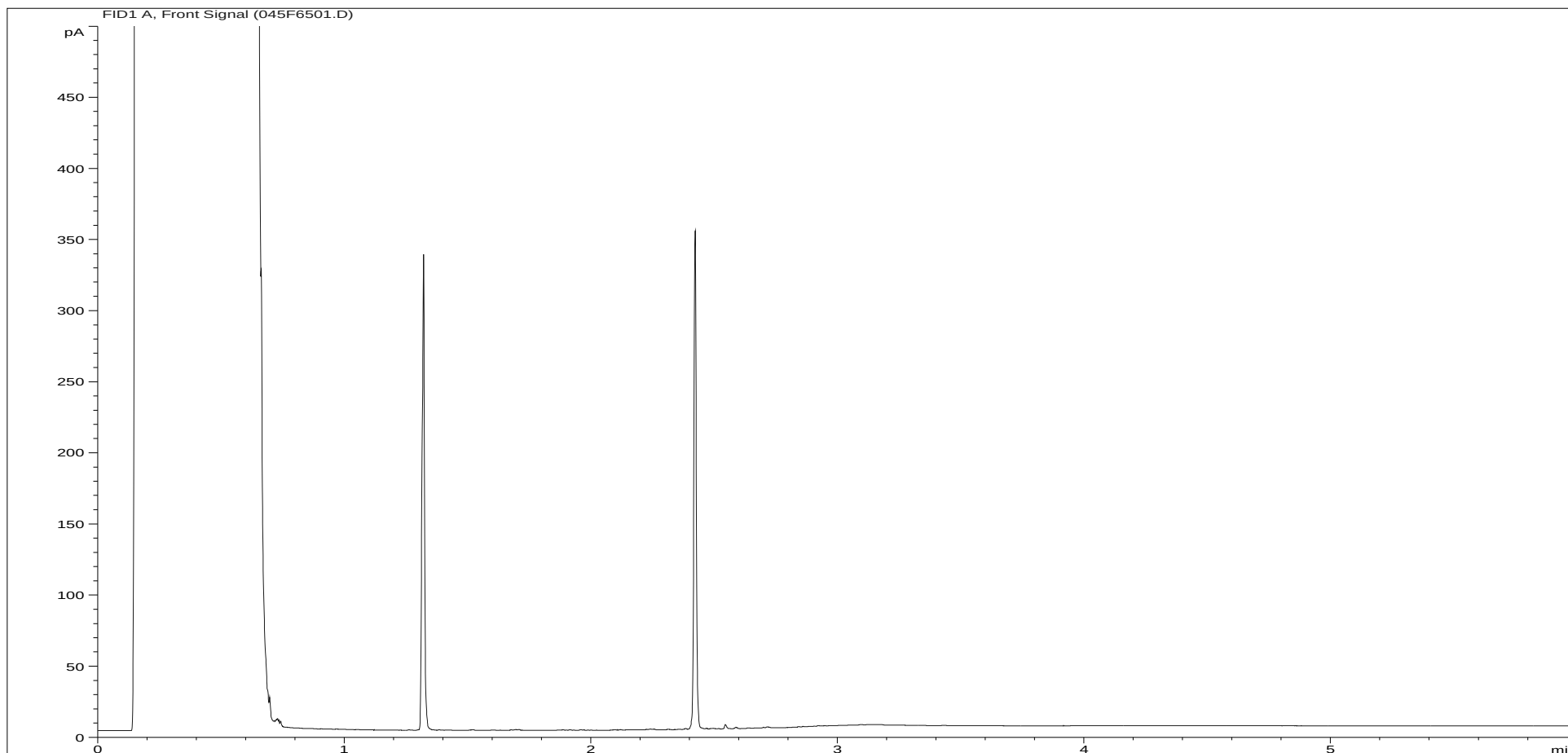


**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



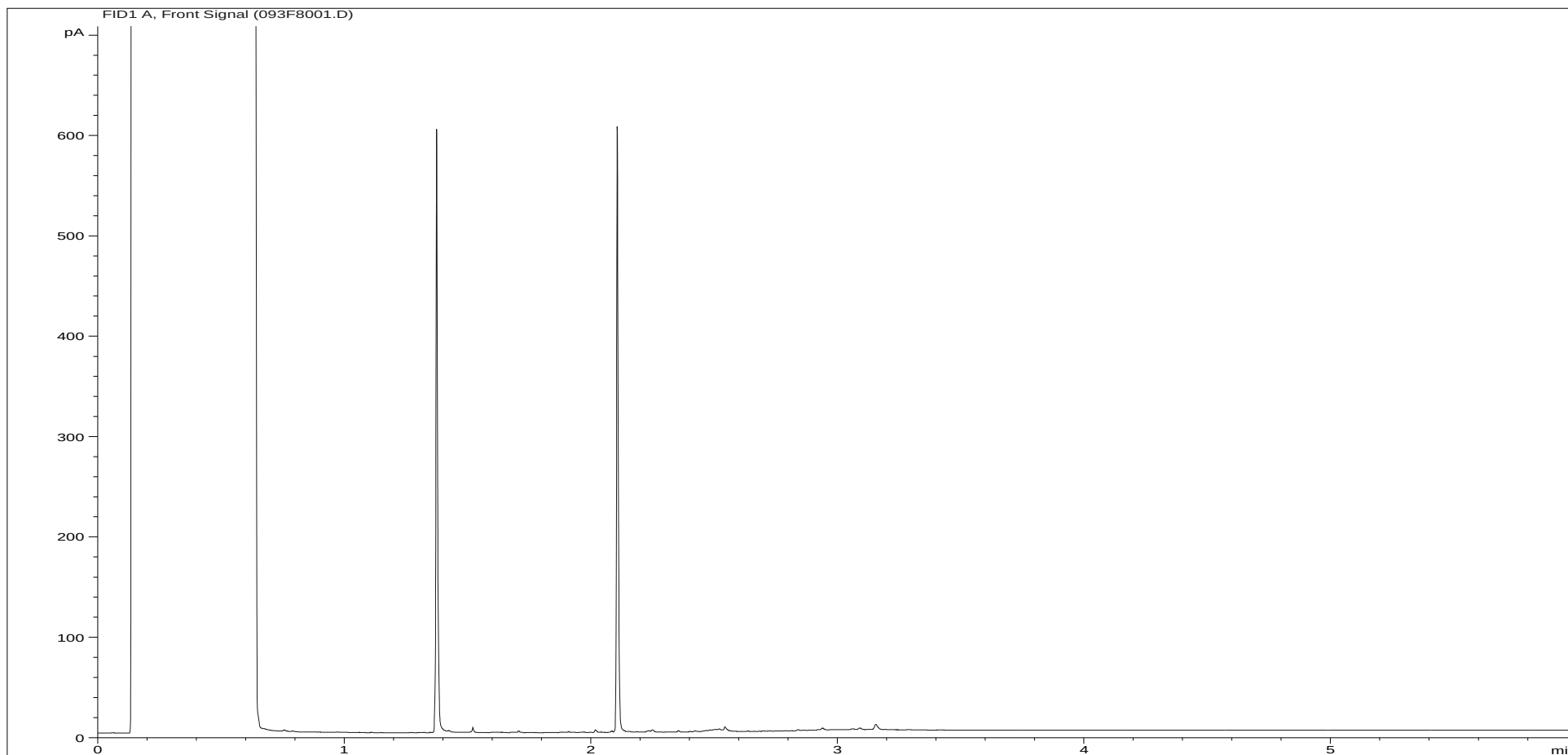
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108614ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 12                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS623 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 08:59:49                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\092F7901.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



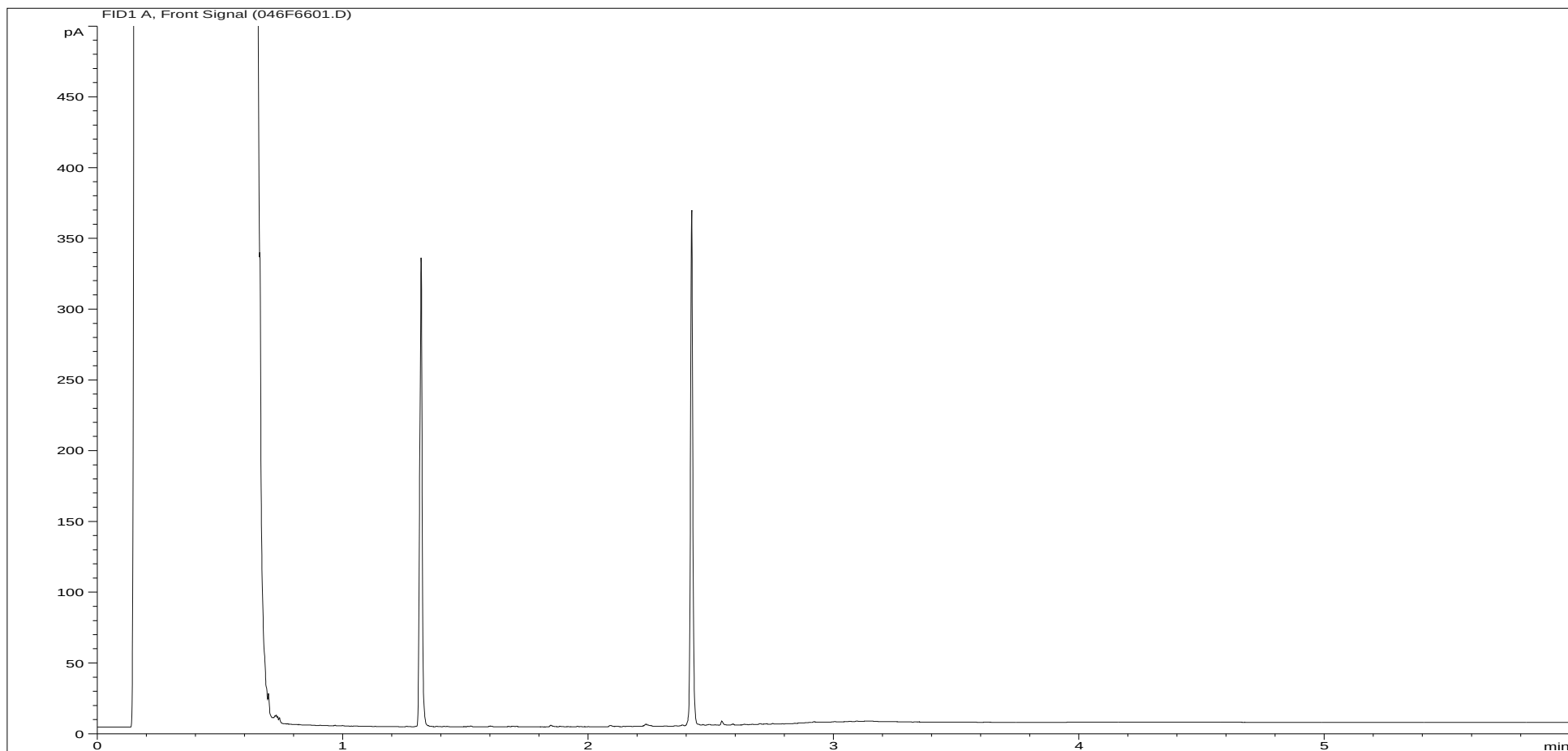
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108615ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 16                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS625 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 05:01:49                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\045F6501.D |                           |                                |

# Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



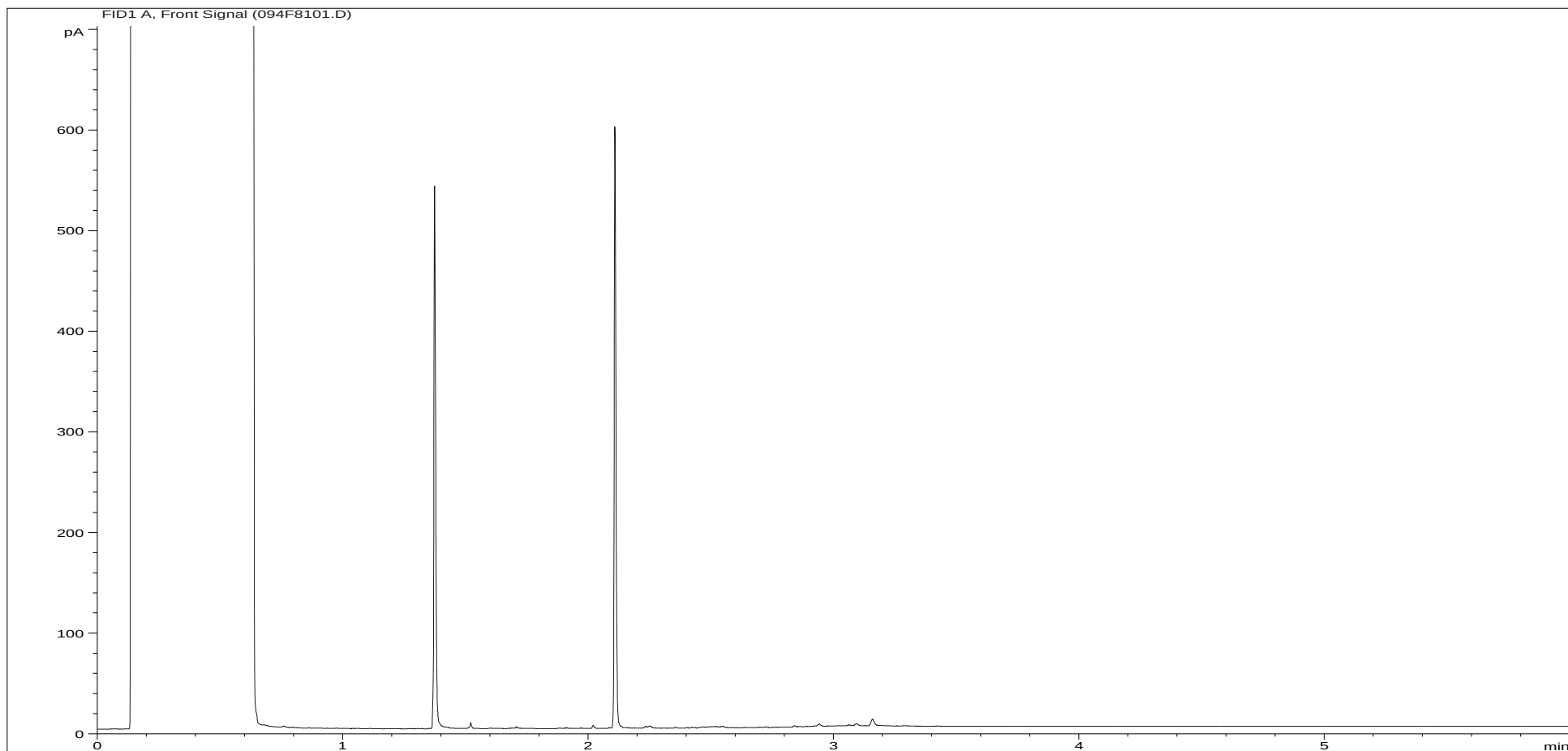
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108615ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 12                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS625 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 09:11:43                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\093F8001.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



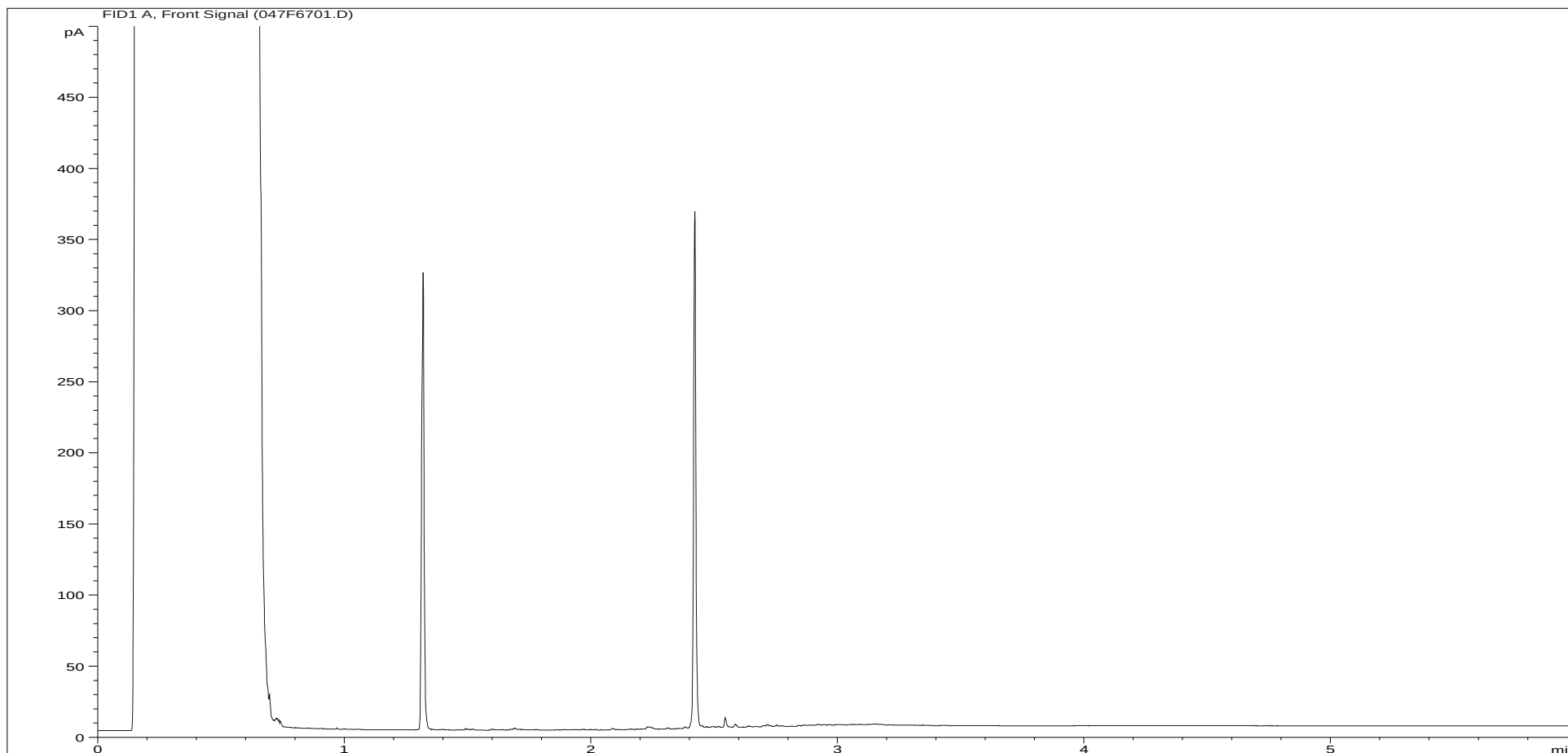
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108616ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 15.2                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS625 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 05:13:45                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\046F6601.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



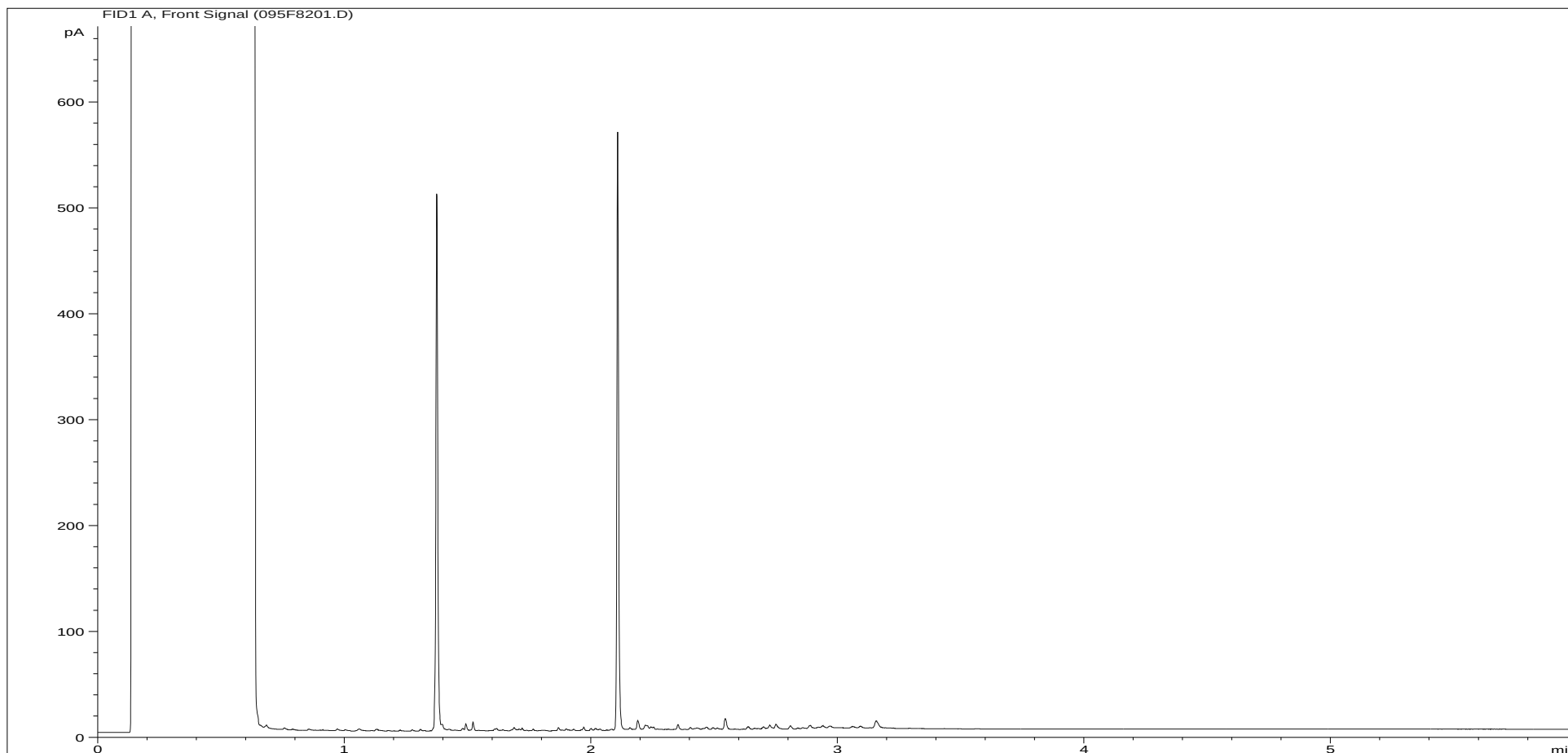
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108616ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 11.78                                                                    | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS625 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 09:23:38                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\094F8101.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



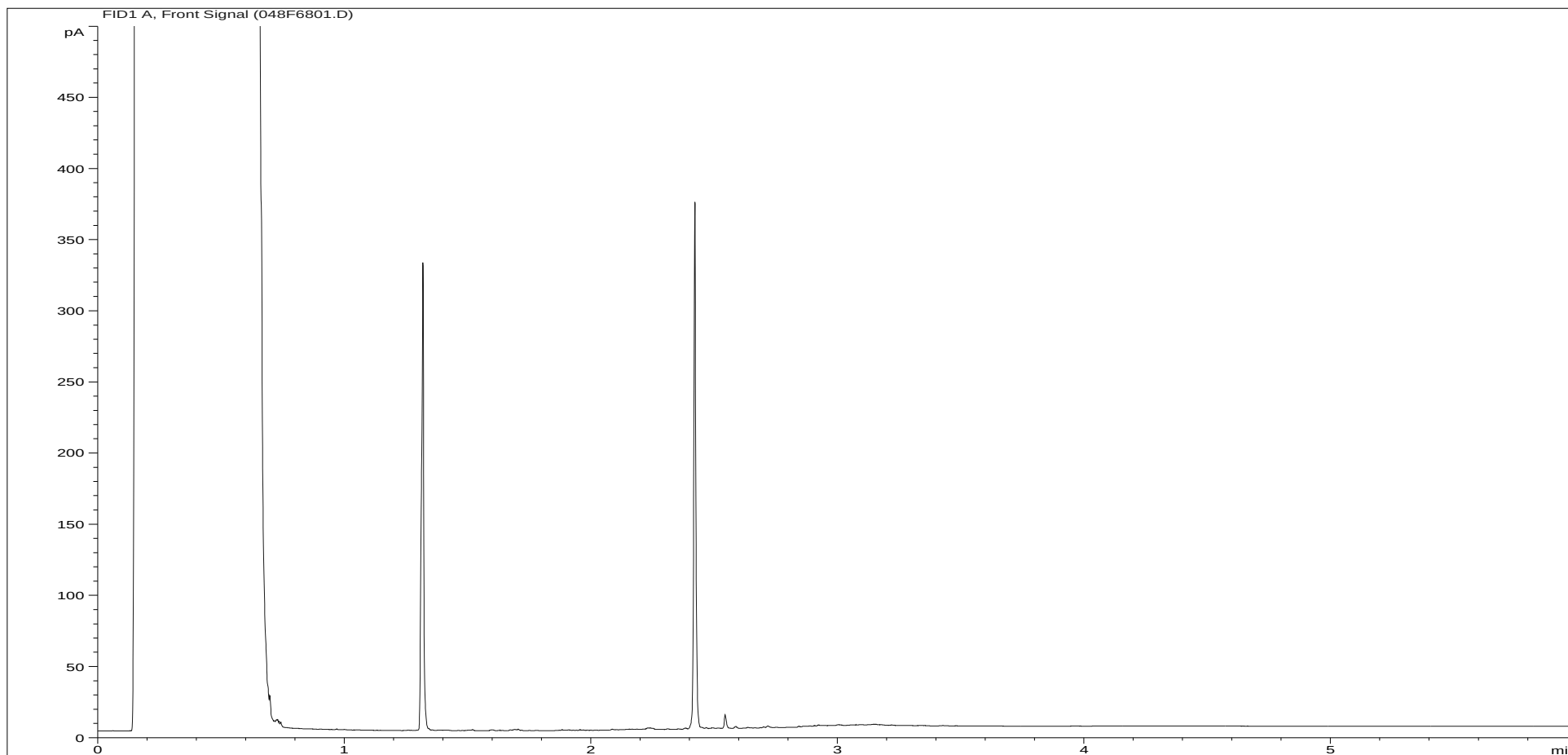
|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108617ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 15.2                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS626 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 05:25:37                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\047F6701.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108617ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 11.4                                                                     | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS626 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 09:35:43                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\095F8201.D |                           |                                |

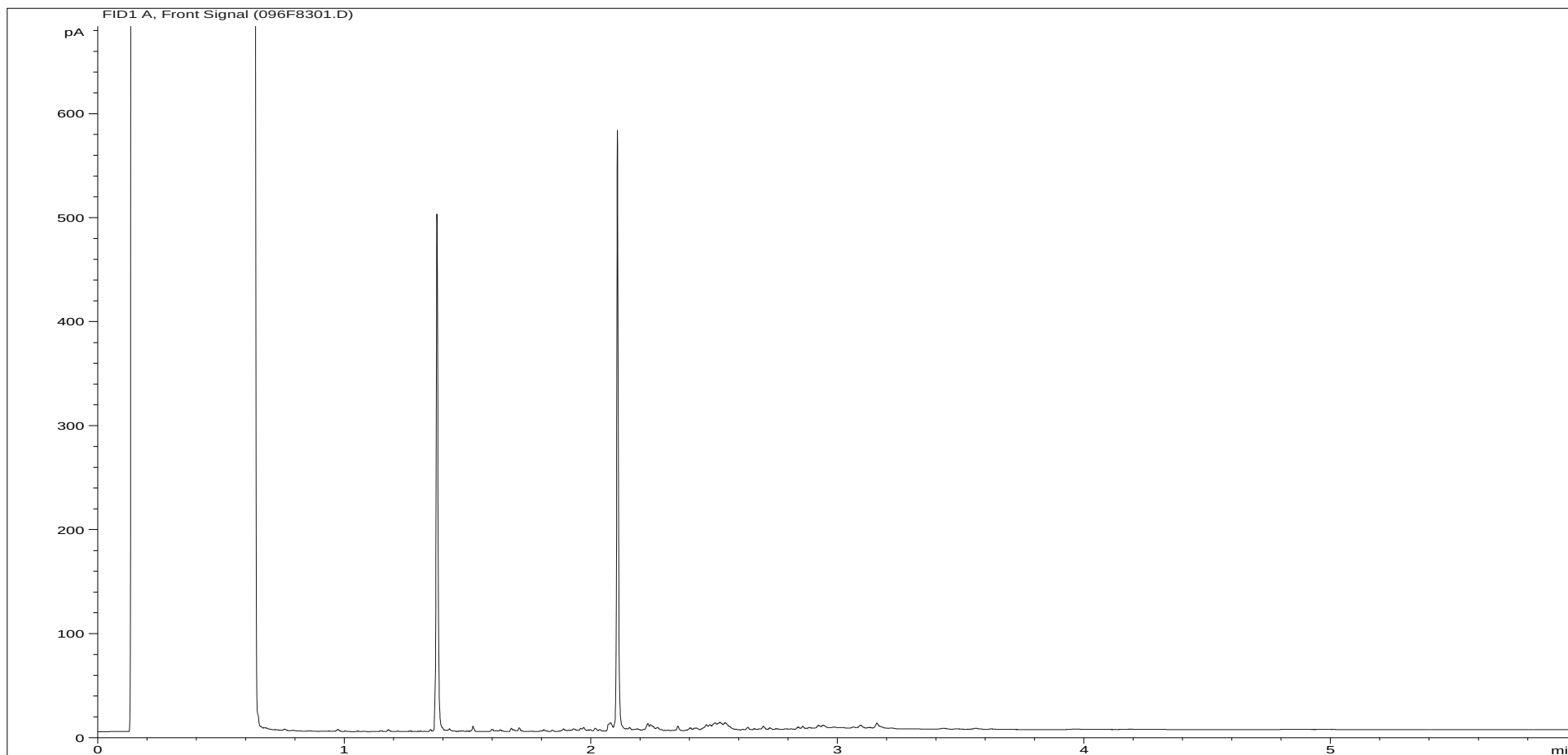
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108618ALI                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 16                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS627 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 05:37:22                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\048F6801.D |                           |                                |



**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                                          |                           |                                |
|-------------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108618ARO                                                             | <b>Job Number:</b>        | S11_1807M                      |
| <b>Multiplier:</b>            | 12                                                                       | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                                        | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_MAX_RUNF.M                                                           | <b>Client Sample Ref:</b> | WS627 ES 2 0.50                |
| <b>Acquisition Date/Time:</b> | 17-Mar-11, 09:47:43                                                      |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\031611TPH_GC14\5ULTEMP2 2011-03-16 16-16-11\096F8301.D |                           |                                |

# LABORATORY TEST REPORT

Report Date  
18 March 2011

Results of analysis of 20 samples for asbestos fibres in soil  
received 11 March 2011  
S111807 - 605737 - 50354

| Login Batch No     |               |          | 116601       |              |              |              |              |              |              |
|--------------------|---------------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Chemtest LIMS ID   |               |          | AF84218      | AF84219      | AF84220      | AF84221      | AF84222      | AF84223      | AF84224      |
| Sample ID          |               |          |              |              |              |              |              |              |              |
| Sample Description |               |          | CL/1108599   | CL/1108600   | CL/1108601   | CL/1108602   | CL/1108603   | CL/1108604   | CL/1108605   |
| SOP↓               | Determinand↓  | CAS No↓  |              |              |              |              |              |              |              |
| 2190               | Actinolite    | 77536664 | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|                    | Amosite       | 12172735 | Not detected | Not detected | Not detected | Detected     | Not detected | Not detected | Not detected |
|                    | Anthophyllite | 77536675 | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|                    | Chrysotile    | 12001295 | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|                    | Crocidolite   | 12001284 | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|                    | Tremolite     | 77536686 | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|                    | Material      |          | soil         | soil         | soil         | soil         | soil         | soil         | soil         |

All tests undertaken between 15-Mar-2011 and 15-Mar-2011

Signed

Albert Vella  
Senior Environmental Surveyor



2183

Notes to accompany report:

- The in-house procedure SOP 2190 is employed to identify fibres in soil
- Sample size is reduced by coning and quartering to obtain a representative sub-sample
- The bulk identification is in accordance with the requirements of the analyst guide (HSG 248)
- Samples associated with asbestos are retained for six months
- The results relate only to the items tested as supplied by the client
- Comments or interpretations are beyond the scope of UKAS accreditation

Environmental Services Group Ltd  
GTS Support Centre  
PO Box 100  
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DE15 0XD  
FAO Rebecca Clamp

# LABORATORY TEST REPORT

Results of analysis of 20 samples for asbestos fibres in soil  
received 11 March 2011  
S111807 - 605737 - 50354

Report Date  
18 March 2011

## Login Batch No

Chemtest LIMS ID

Sample ID

Sample Description

SOP↓ Determinand↓

CAS No↓

| 116601 |               |            |              |              |              |              |              |              |              |
|--------|---------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|        |               | AF84225    | AF84226      | AF84227      | AF84228      | AF84229      | AF84230      | AF84231      |              |
|        |               | CL/1108606 | CL/1108607   | CL/1108608   | CL/1108609   | CL/1108610   | CL/1108611   | CL/1108612   |              |
| 2190   | Actinolite    | 77536664   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Amosite       | 12172735   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Anthophyllite | 77536675   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Chrysotile    | 12001295   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Crocidolite   | 12001284   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Tremolite     | 77536686   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Material      |            | soil         | soil         | soil         | soil         | soil         | soil         | soil         |

All tests undertaken between 15-Mar-2011 and 15-Mar-2011



2183

## Notes to accompany report:

- The in-house procedure SOP 2190 is employed to identify fibres in soil
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Environmental Services Group Ltd  
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PO Box 100  
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DE15 0XD  
FAO Rebecca Clamp

# LABORATORY TEST REPORT

Results of analysis of 20 samples for asbestos fibres in soil  
received 11 March 2011  
S111807 - 605737 - 50354

Report Date  
18 March 2011

## Login Batch No

Chemtest LIMS ID

Sample ID

Sample Description

SOP↓ Determinand↓

CAS No↓

| 116601 |               |            |              |              |              |              |              |              |
|--------|---------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|
|        |               | AF84232    | AF84233      | AF84234      | AF84235      | AF84236      | AF84237      |              |
|        |               | CL/1108613 | CL/1108614   | CL/1108615   | CL/1108616   | CL/1108617   | CL/1108618   |              |
| 2190   | Actinolite    | 77536664   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Amosite       | 12172735   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Anthophyllite | 77536675   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Chrysotile    | 12001295   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Crocidolite   | 12001284   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Tremolite     | 77536686   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Material      |            | soil         | soil         | soil         | soil         | soil         | soil         |

All tests undertaken between 15-Mar-2011 and 15-Mar-2011



2183

## Notes to accompany report:

- The in-house procedure SOP 2190 is employed to identify fibres in soil
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# LABORATORY TEST REPORT

Results of analysis of 20 samples for asbestos fibres in soil  
received 11 March 2011  
S111807 - 605737 - 50354

Report Date  
18 March 2011

Signed

Albert Vella  
Senior Environmental Surveyor



2183

Notes to accompany report:

- The in-house procedure SOP 2190 is employed to identify fibres in soil
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# WASTE ACCEPTANCE CRITERIA TESTING

## BSEN 12457/3

| Client             | Soil Mechanics                 |           |            |            | Leaching Data                                            |       |
|--------------------|--------------------------------|-----------|------------|------------|----------------------------------------------------------|-------|
|                    |                                |           |            |            | Weight of sample (kg)                                    | 0.225 |
| Contact            | Mr J Huntington                |           |            |            | Moisture content @ 105°C (%)                             | 15.2  |
|                    |                                |           |            |            | Equivalent Weight based on drying at 105°C (kg)          | 0.191 |
| Site               | Ferrybridge Multifuel PowerStn |           |            |            | Volume of water required to carry out 2:1 stage (litres) | 0.349 |
|                    |                                |           |            |            | Weight of Sieved Soil to carry out 2:1 stage (kg)        | 0.265 |
| Sample Description |                                | Report No | Sample No  | Issue Date | Weight of Deionised water to carry out 2:1 stage (kg)    | 0.410 |
| WS601 ES 2 0.50    |                                | s11_1807  | CL/1108599 | 21-Mar-11  | Volume to undertake analysis (2:1 Stage) (litres)        | 0.300 |
|                    |                                |           |            |            | Weight of Deionised water to carry out 8:1 stage (kg)    | 1.448 |

| Accreditation | Method Code | Solid Waste Analysis (Dry Basis)            | Concentration in Solid (Dry Weight Basis) | Landfill Waste Acceptance Criteria Limit Values |                                                               |                          |
|---------------|-------------|---------------------------------------------|-------------------------------------------|-------------------------------------------------|---------------------------------------------------------------|--------------------------|
|               |             |                                             |                                           | Inert Waste Landfill                            | Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill | Hazardous Waste Landfill |
| N             | WSLM59      | Total Organic Carbon (% M/M)                | 7.64                                      | 3                                               | 5                                                             | 6                        |
|               | LOI450      | Loss on Ignition (%)                        |                                           |                                                 |                                                               | 10                       |
|               | BTEXHSA     | Sum of BTEX (mg/kg)                         |                                           | 6                                               |                                                               |                          |
|               | PCBUSECD    | Sum of 7 Congener PCB's (mg/kg)             |                                           | 1                                               |                                                               |                          |
|               | TPHFIDUS    | Mineral Oil (mg/kg)                         |                                           | 500                                             |                                                               |                          |
|               | PAHMSUS     | PAH Sum of 17 (mg/kg)                       |                                           | 100                                             |                                                               |                          |
| U             | PHSOIL      | pH (pH units)                               | 7.9                                       |                                                 | >6                                                            |                          |
|               | ANC         | Acid Neutralisation Capacity (mol/kg) @pH 7 |                                           |                                                 | To be evaluated                                               | To be evaluated          |

| Accreditation | Method Code | Leachate Analysis        | 2:1 Leachate   | 8:1 Leachate | Calculated amount leached @ 2:1     | Calculated cumulative amount leached @ 10:1 | Landfill Waste Acceptance Criteria Limit Values for BSEN 12457/3 @ L/S 10 litre kg-1<br><br>mg/kg (dry weight) |       |        |
|---------------|-------------|--------------------------|----------------|--------------|-------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------|--------|
|               |             |                          | mg/l except °° |              | mg/kg (dry weight)                  |                                             |                                                                                                                |       |        |
| U             | WSLM3       | pH (pH units) °°         | 7.4            | 7.2          | Calculated data not UKAS Accredited |                                             |                                                                                                                |       |        |
| U             | WSLM2       | Conductivity (µs/cm) °°  | 320            | 116          |                                     |                                             |                                                                                                                |       |        |
| 1             | ICPMSW      | Arsenic                  | 0.003          | 0.003        | 0.006                               | 0.03                                        | 0.5                                                                                                            | 2     | 25     |
| N             | ICPWATVAR   | Barium                   | 0.55           | 0.36         | 1.1                                 | 3.9                                         | 20                                                                                                             | 100   | 300    |
| N             | ICPMSW      | Cadmium                  | 0.0001         | <0.0001      | 0.0002                              | <0.001                                      | 0.04                                                                                                           | 1     | 5      |
| N             | ICPMSW      | Chromium                 | 0.003          | 0.003        | 0.006                               | 0.03                                        | 0.5                                                                                                            | 10    | 70     |
| N             | ICPMSW      | Copper                   | 0.008          | 0.009        | 0.016                               | 0.09                                        | 2                                                                                                              | 50    | 100    |
| N             | ICPMSW      | Mercury                  | <0.0001        | 0.0003       | <0.0002                             | <0.003                                      | 0.01                                                                                                           | 0.2   | 2      |
| N             | ICPMSW      | Molybdenum               | 0.017          | 0.013        | 0.034                               | 0.14                                        | 0.5                                                                                                            | 10    | 30     |
| N             | ICPMSW      | Nickel                   | 0.002          | 0.001        | 0.004                               | 0.01                                        | 0.4                                                                                                            | 10    | 40     |
| N             | ICPMSW      | Lead                     | 0.002          | 0.002        | 0.004                               | 0.02                                        | 0.5                                                                                                            | 10    | 50     |
| N             | ICPMSW      | Antimony                 | 0.003          | 0.002        | 0.006                               | 0.02                                        | 0.06                                                                                                           | 0.7   | 5      |
| N             | ICPMSW      | Selenium                 | <0.001         | <0.001       | <0.002                              | <0.01                                       | 0.1                                                                                                            | 0.5   | 7      |
| N             | ICPMSW      | Zinc                     | 0.165          | 0.141        | 0.33                                | 1.45                                        | 4                                                                                                              | 50    | 200    |
| N             | KONENS      | Chloride                 | 4              | 3            | 8                                   | 32                                          | 800                                                                                                            | 15000 | 25000  |
| N             | ISEF        | Fluoride                 | 1.2            | 1            | 2.4                                 | 10                                          | 10                                                                                                             | 150   | 500    |
| N             | ICPWATVAR   | Sulphate as SO4          | 59             | 14           | 118                                 | 211                                         | 1000                                                                                                           | 20000 | 50000  |
| N             | WSLM27      | Total Dissolved Solids   | 250            | 90           | 500                                 | 1151                                        | 4000                                                                                                           | 60000 | 100000 |
| N             | SFAPI       | Phenol Index             | <0.05          | <0.05        | <0.1                                | <0.5                                        | 1                                                                                                              |       |        |
| N             | WSLM13      | Dissolved Organic Carbon | 5.2            | 2.8          | 10.4                                | 32                                          | 500                                                                                                            | 800   | 1000   |

Template Ver. 1

Landfill Waste Acceptance Criteria limit values correct as of 11th March 2009.

# WASTE ACCEPTANCE CRITERIA TESTING

## BSEN 12457/3

|                    |                                |           |            |            |                                                          |       |
|--------------------|--------------------------------|-----------|------------|------------|----------------------------------------------------------|-------|
| Client             | Soil Mechanics                 |           |            |            | Leaching Data                                            |       |
|                    |                                |           |            |            | Weight of sample (kg)                                    | 0.225 |
| Contact            | Mr J Huntington                |           |            |            | Moisture content @ 105°C (%)                             | 16.5  |
|                    |                                |           |            |            | Equivalent Weight based on drying at 105°C (kg)          | 0.187 |
| Site               | Ferrybridge Multifuel PowerStn |           |            |            | Volume of water required to carry out 2:1 stage (litres) | 0.335 |
|                    |                                |           |            |            | Weight of Sieved Soil to carry out 2:1 stage (kg)        | 0.271 |
| Sample Description |                                | Report No | Sample No  | Issue Date | Weight of Deionised water to carry out 2:1 stage (kg)    | 0.404 |
| WS607 ES 3 1.00    |                                | s11_1807  | CL/1108605 | 21-Mar-11  | Volume to undertake analysis (2:1 Stage) (litres)        | 0.300 |
|                    |                                |           |            |            | Weight of Deionised water to carry out 8:1 stage (kg)    | 1.421 |

| Accreditation | Method Code | Solid Waste Analysis (Dry Basis)            | Concentration in Solid (Dry Weight Basis) | Landfill Waste Acceptance Criteria Limit Values |                                                               |                          |
|---------------|-------------|---------------------------------------------|-------------------------------------------|-------------------------------------------------|---------------------------------------------------------------|--------------------------|
|               |             |                                             |                                           | Inert Waste Landfill                            | Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill | Hazardous Waste Landfill |
| N             | WSLM59      | Total Organic Carbon (% M/M)                | 0.85                                      | 3                                               | 5                                                             | 6                        |
|               | LOI450      | Loss on Ignition (%)                        |                                           |                                                 |                                                               | 10                       |
|               | BTEXHSA     | Sum of BTEX (mg/kg)                         |                                           | 6                                               |                                                               |                          |
|               | PCBUSECD    | Sum of 7 Congener PCB's (mg/kg)             |                                           | 1                                               |                                                               |                          |
|               | TPHFIDUS    | Mineral Oil (mg/kg)                         |                                           | 500                                             |                                                               |                          |
|               | PAHMSUS     | PAH Sum of 17 (mg/kg)                       |                                           | 100                                             |                                                               |                          |
| U             | PHSOIL      | pH (pH units)                               | 8.9                                       |                                                 | >6                                                            |                          |
|               | ANC         | Acid Neutralisation Capacity (mol/kg) @pH 7 |                                           |                                                 | To be evaluated                                               | To be evaluated          |

| Accreditation | Method Code | Leachate Analysis        | 2:1 Leachate   | 8:1 Leachate | Calculated amount leached @ 2:1     | Calculated cumulative amount leached @ 10:1 | Landfill Waste Acceptance Criteria Limit Values for BSEN 12457/3 @ L/S 10 litre kg-1<br><br>mg/kg (dry weight) |       |        |
|---------------|-------------|--------------------------|----------------|--------------|-------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------|--------|
|               |             |                          | mg/l except °° |              | mg/kg (dry weight)                  |                                             |                                                                                                                |       |        |
| U             | WSLM3       | pH (pH units) °°         | 7.3            | 7.2          | Calculated data not UKAS Accredited |                                             |                                                                                                                |       |        |
| U             | WSLM2       | Conductivity (µs/cm) °°  | 244            | 127          |                                     |                                             |                                                                                                                |       |        |
| 1             | ICPMSW      | Arsenic                  | 0.005          | 0.007        | 0.01                                | 0.07                                        | 0.5                                                                                                            | 2     | 25     |
| N             | ICPWATVAR   | Barium                   | 0.45           | 0.47         | 0.9                                 | 4.7                                         | 20                                                                                                             | 100   | 300    |
| N             | ICPMSW      | Cadmium                  | <0.0001        | <0.0001      | <0.0002                             | <0.001                                      | 0.04                                                                                                           | 1     | 5      |
| N             | ICPMSW      | Chromium                 | 0.003          | 0.004        | 0.006                               | 0.04                                        | 0.5                                                                                                            | 10    | 70     |
| N             | ICPMSW      | Copper                   | 0.008          | 0.014        | 0.016                               | 0.13                                        | 2                                                                                                              | 50    | 100    |
| N             | ICPMSW      | Mercury                  | <0.0001        | <0.0001      | <0.0002                             | <0.001                                      | 0.01                                                                                                           | 0.2   | 2      |
| N             | ICPMSW      | Molybdenum               | 0.031          | 0.012        | 0.062                               | 0.15                                        | 0.5                                                                                                            | 10    | 30     |
| N             | ICPMSW      | Nickel                   | 0.001          | 0.003        | 0.002                               | 0.03                                        | 0.4                                                                                                            | 10    | 40     |
| N             | ICPMSW      | Lead                     | 0.005          | 0.016        | 0.01                                | 0.14                                        | 0.5                                                                                                            | 10    | 50     |
| N             | ICPMSW      | Antimony                 | 0.003          | 0.002        | 0.006                               | 0.02                                        | 0.06                                                                                                           | 0.7   | 5      |
| N             | ICPMSW      | Selenium                 | 0.001          | <0.001       | 0.002                               | <0.01                                       | 0.1                                                                                                            | 0.5   | 7      |
| N             | ICPMSW      | Zinc                     | 0.066          | 0.153        | 0.132                               | 1.39                                        | 4                                                                                                              | 50    | 200    |
| N             | KONENS      | Chloride                 | 4              | 3            | 8                                   | 32                                          | 800                                                                                                            | 15000 | 25000  |
| N             | ISEF        | Fluoride                 | 0.9            | 0.4          | 1.8                                 | 5                                           | 10                                                                                                             | 150   | 500    |
| N             | ICPWATVAR   | Sulphate as SO4          | 53             | 11           | 106                                 | 177                                         | 1000                                                                                                           | 20000 | 50000  |
| N             | WSLM27      | Total Dissolved Solids   | 190            | 99           | 380                                 | 1136                                        | 4000                                                                                                           | 60000 | 100000 |
| N             | SFAPI       | Phenol Index             | <0.05          | <0.05        | <0.1                                | <0.5                                        | 1                                                                                                              |       |        |
| N             | WSLM13      | Dissolved Organic Carbon | 5.1            | 3.4          | 10.2                                | 37                                          | 500                                                                                                            | 800   | 1000   |

Template Ver. 1

Landfill Waste Acceptance Criteria limit values correct as of 11th March 2009.

# WASTE ACCEPTANCE CRITERIA TESTING

## BSEN 12457/3

|                    |                                |           |            |            |                                                          |       |
|--------------------|--------------------------------|-----------|------------|------------|----------------------------------------------------------|-------|
| Client             | Soil Mechanics                 |           |            |            | Leaching Data                                            |       |
|                    |                                |           |            |            | Weight of sample (kg)                                    | 0.225 |
| Contact            | Mr J Huntington                |           |            |            | Moisture content @ 105°C (%)                             | 12.2  |
|                    |                                |           |            |            | Equivalent Weight based on drying at 105°C (kg)          | 0.198 |
| Site               | Ferrybridge Multifuel PowerStn |           |            |            | Volume of water required to carry out 2:1 stage (litres) | 0.369 |
|                    |                                |           |            |            | Weight of Sieved Soil to carry out 2:1 stage (kg)        | 0.256 |
| Sample Description |                                | Report No | Sample No  | Issue Date | Weight of Deionised water to carry out 2:1 stage (kg)    | 0.419 |
| WS609 ES 2 0.50    |                                | s11_1807  | CL/1108607 | 21-Mar-11  | Volume to undertake analysis (2:1 Stage) (litres)        | 0.300 |
|                    |                                |           |            |            | Weight of Deionised water to carry out 8:1 stage (kg)    | 1.488 |

| Accreditation | Method Code | Solid Waste Analysis (Dry Basis)            | Concentration in Solid (Dry Weight Basis) | Landfill Waste Acceptance Criteria Limit Values |                                                               |                          |
|---------------|-------------|---------------------------------------------|-------------------------------------------|-------------------------------------------------|---------------------------------------------------------------|--------------------------|
|               |             |                                             |                                           | Inert Waste Landfill                            | Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill | Hazardous Waste Landfill |
| N             | WSLM59      | Total Organic Carbon (% M/M)                | 0.45                                      | 3                                               | 5                                                             | 6                        |
|               | LOI450      | Loss on Ignition (%)                        |                                           |                                                 |                                                               | 10                       |
|               | BTEXHSA     | Sum of BTEX (mg/kg)                         |                                           | 6                                               |                                                               |                          |
|               | PCBUSECD    | Sum of 7 Congener PCB's (mg/kg)             |                                           | 1                                               |                                                               |                          |
|               | TPHFIDUS    | Mineral Oil (mg/kg)                         |                                           | 500                                             |                                                               |                          |
|               | PAHMSUS     | PAH Sum of 17 (mg/kg)                       |                                           | 100                                             |                                                               |                          |
| U             | PHSOIL      | pH (pH units)                               | 8.6                                       |                                                 | >6                                                            |                          |
|               | ANC         | Acid Neutralisation Capacity (mol/kg) @pH 7 |                                           |                                                 | To be evaluated                                               | To be evaluated          |

| Accreditation | Method Code | Leachate Analysis        | 2:1 Leachate   | 8:1 Leachate | Calculated amount leached @ 2:1     | Calculated cumulative amount leached @ 10:1 | Landfill Waste Acceptance Criteria Limit Values for BSEN 12457/3 @ L/S 10 litre kg-1<br><br>mg/kg (dry weight) |       |        |
|---------------|-------------|--------------------------|----------------|--------------|-------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------|--------|
|               |             |                          | mg/l except °° |              | mg/kg (dry weight)                  |                                             |                                                                                                                |       |        |
| U             | WSLM3       | pH (pH units) °°         | 7.5            | 7.3          | Calculated data not UKAS Accredited |                                             |                                                                                                                |       |        |
| U             | WSLM2       | Conductivity (µs/cm) °°  | 211            | 104          |                                     |                                             |                                                                                                                |       |        |
| 1             | ICPMSW      | Arsenic                  | 0.004          | 0.004        | 0.008                               | 0.04                                        | 0.5                                                                                                            | 2     | 25     |
| N             | ICPWATVAR   | Barium                   | 0.49           | 0.41         | 0.98                                | 4.2                                         | 20                                                                                                             | 100   | 300    |
| N             | ICPMSW      | Cadmium                  | 0.0001         | 0.0001       | 0.0002                              | 0.001                                       | 0.04                                                                                                           | 1     | 5      |
| N             | ICPMSW      | Chromium                 | 0.004          | 0.003        | 0.008                               | 0.03                                        | 0.5                                                                                                            | 10    | 70     |
| N             | ICPMSW      | Copper                   | 0.006          | 0.016        | 0.012                               | 0.14                                        | 2                                                                                                              | 50    | 100    |
| N             | ICPMSW      | Mercury                  | <0.0001        | <0.0001      | <0.0002                             | <0.001                                      | 0.01                                                                                                           | 0.2   | 2      |
| N             | ICPMSW      | Molybdenum               | 0.012          | 0.008        | 0.024                               | 0.09                                        | 0.5                                                                                                            | 10    | 30     |
| N             | ICPMSW      | Nickel                   | 0.002          | 0.002        | 0.004                               | 0.02                                        | 0.4                                                                                                            | 10    | 40     |
| N             | ICPMSW      | Lead                     | 0.009          | 0.009        | 0.018                               | 0.09                                        | 0.5                                                                                                            | 10    | 50     |
| N             | ICPMSW      | Antimony                 | 0.002          | 0.001        | 0.004                               | 0.01                                        | 0.06                                                                                                           | 0.7   | 5      |
| N             | ICPMSW      | Selenium                 | <0.001         | <0.001       | <0.002                              | <0.01                                       | 0.1                                                                                                            | 0.5   | 7      |
| N             | ICPMSW      | Zinc                     | 0.09           | 0.112        | 0.18                                | 1.09                                        | 4                                                                                                              | 50    | 200    |
| N             | KONENS      | Chloride                 | 5              | 3            | 10                                  | 33                                          | 800                                                                                                            | 15000 | 25000  |
| N             | ISEF        | Fluoride                 | 1.4            | 0.9          | 2.8                                 | 10                                          | 10                                                                                                             | 150   | 500    |
| N             | ICPWATVAR   | Sulphate as SO4          | 34             | 8            | 68                                  | 119                                         | 1000                                                                                                           | 20000 | 50000  |
| N             | WSLM27      | Total Dissolved Solids   | 165            | 81           | 330                                 | 937                                         | 4000                                                                                                           | 60000 | 100000 |
| N             | SFAPI       | Phenol Index             | <0.05          | <0.05        | <0.1                                | <0.5                                        | 1                                                                                                              |       |        |
| N             | WSLM13      | Dissolved Organic Carbon | 6.8            | 3.3          | 13.6                                | 38                                          | 500                                                                                                            | 800   | 1000   |

Template Ver. 1

Landfill Waste Acceptance Criteria limit values correct as of 11th March 2009.





# Method Descriptions

| Matrix | MethodID | Analysis Basis | Method Description                                                                                                                                |
|--------|----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Soil   | FOCS     | Air Dried      | Calculation of Soil Organic Matter content from Organic Carbon content of soil samples                                                            |
| Soil   | ICPBOR   | Air Dried      | Determination of Boron in soil samples by hot water extraction followed by ICPOES detection                                                       |
| Soil   | ICPMSS   | Air Dried      | Determination of Metals in soil samples by aqua regia digestion followed by ICPMS                                                                 |
| Soil   | PAHMSUS  | As Received    | Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection                                   |
| Soil   | PHSOIL   | As Received    | Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.                                                                     |
| Soil   | SFAPI    | As Received    | Segmented flow analysis with colorimetric detection                                                                                               |
| Soil   | Subcon*  | *              | Contact Laboratory for details of the methodology used by the sub-contractor.                                                                     |
| Soil   | TMSS     | As Received    | Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis                                                  |
| Soil   | TPHUSSI  | As Received    | Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions. |
| Soil   | WSLM59   | Air Dried      | Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection                  |

# Report Notes

## Generic Notes

### Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

### Waters Analysis

Unless stated otherwise results are expressed as mg/l

### Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm<sup>3</sup>@ 15°C

### Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

### Asbestos Analysis

**CH** Denotes Chrysotile

**CR** Denotes Crocidolite

**AM** Denotes Amosite

**NAIIS** No Asbestos Identified in Sample

## Symbol Reference

<sup>^</sup> Sub-contracted analysis. Note: The accreditation status is that assigned by the subcontract laboratory.

**\$\$** Unable to analyse due to the nature of the sample

**¶** Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

**¥** Results for guidance only due to possible interference

**&** Blank corrected result

**I.S** Insufficient sample to complete requested analysis

**I.S(g)** Insufficient sample to re-analyse, results for guidance only

**Intf** Unable to analyse due to interferences

**N.D** Not determined

**N.Det** Not detected

**Req** Analysis requested, see attached sheets for results

**▮** Raised detection limit due to nature of the sample

**\*** All accreditation has been removed by the laboratory for this result

**‡** MCERTS accreditation has been removed for this result

**Note:** The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

## END OF REPORT

## Sample Descriptions

**Client :** Soil Mechanics  
**Site :** Ferrybridge Multifuel PowerStn  
**Report Number :** S11\_1807M

Note: major constituent in upper case

[illegible]

# TEST REPORT

## SOIL SAMPLE ANALYSIS



Report No. EFS/111808M (Ver. 2)

Soil Mechanics  
Askern Road  
Carcroft  
Doncaster  
DN6 8DG

**Site: Ferrybridge Multifuel PowerStn**

The 3 samples described in this report were logged for analysis by Scientifics on 08-Mar-2011. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 06-Apr-2011

Tests where the accreditation is set to N or No, and any individual data items marked with a \* are not UKAS or MCERTS accredited. Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)  
Table of PAH (MS-SIM) (80) Results (Pages 4 to 6)  
Table of PCB Congener Results (Page 7)  
Table of TPH (Si) banding (std) (Page 8)  
GC-FID Chromatograms (Pages 9 to 14)  
Table of Method Descriptions (Page 15)  
Table of Report Notes (Page 16)  
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of  
Scientifics :  
Andrew Timms

Operations Manager

Date of Issue: 06-Apr-2011

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)

Tests marked '\*' have been subcontracted to another laboratory.

(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.

All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)  
Scientifics accepts no responsibility for any sampling not carried out by our personnel.

[illegible]

[illegible]

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn | <b>Job Number:</b>     | S11_1808M  |
| <b>Sample Details:</b>            | WS628 ES 3 1.00                                | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>LIMS ID Number:</b>            | CL1108619                                      | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>QC Batch Number:</b>           | 110532                                         | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Matrix:</b>         | Soil       |
| <b>Directory:</b>                 | 0316PAH.MS4\                                   | <b>Ext Method:</b>     | Ultrasonic |
| <b>Dilution:</b>                  | 1.0                                            |                        |            |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>ug/l | % Fit | Accr.<br>code |
|------------------------|----------|---------------|-----------------------|-------|---------------|
| Naphthalene            | 91-20-3  | 3.13          | 0.10                  | M     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.10                | -     | U             |
| Acenaphthene           | 83-32-9* | -             | < 0.10                | -     | N             |
| Fluorene               | 86-73-7  | -             | < 0.10                | -     | UM            |
| Phenanthrene           | 85-01-8  | 5.50          | 0.28                  | 58    | UM            |
| Anthracene             | 120-12-7 | 5.55          | 0.11                  | 65    | U             |
| Fluoranthene           | 206-44-0 | 6.81          | 0.59                  | 79    | UM            |
| Pyrene                 | 129-00-0 | 7.09          | 0.51                  | 74    | UM            |
| Benzo[a]anthracene     | 56-55-3  | 8.76          | 0.36                  | 51    | UM            |
| Chrysene               | 218-01-9 | 8.81          | 0.31                  | 50    | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | 10.29         | 0.41                  | M     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | 10.32         | 0.15                  | M     | UM            |
| Benzo[a]pyrene         | 50-32-8  | 10.71         | 0.36                  | 64    | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.09         | 0.30                  | 61    | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.10                | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.38         | 0.23                  | M     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 4.13                | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 108    |
| Acenaphthene-d10       | 108    |
| Phenanthrene-d10       | 118    |
| Chrysene-d12           | 132    |
| Perylene-d12           | 151    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 100   |
| Terphenyl-d14    | 101   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.



# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn | <b>Job Number:</b>     | S11_1808M  |
| <b>Sample Details:</b>            | WS628 ES 6 1.80                                | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>LIMS ID Number:</b>            | CL1108620                                      | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>QC Batch Number:</b>           | 110532                                         | <b>Date Analysed:</b>  | 16-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Matrix:</b>         | Soil       |
| <b>Directory:</b>                 | 0316PAH.MS4\                                   | <b>Ext Method:</b>     | Ultrasonic |
| <b>Dilution:</b>                  | 1.0                                            |                        |            |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>ug/l | % Fit | Accr.<br>code |
|------------------------|----------|---------------|-----------------------|-------|---------------|
| Naphthalene            | 91-20-3  | -             | < 0.09                | -     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.09                | -     | U             |
| Acenaphthene           | 83-32-9* | -             | < 0.09                | -     | N             |
| Fluorene               | 86-73-7  | -             | < 0.09                | -     | UM            |
| Phenanthrene           | 85-01-8  | -             | < 0.09                | -     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.09                | -     | U             |
| Fluoranthene           | 206-44-0 | -             | < 0.09                | -     | UM            |
| Pyrene                 | 129-00-0 | -             | < 0.09                | -     | UM            |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.09                | -     | UM            |
| Chrysene               | 218-01-9 | -             | < 0.09                | -     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.09                | -     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.09                | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.09                | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.09                | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.09                | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.09                | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.41                | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 98     |
| Acenaphthene-d10       | 96     |
| Phenanthrene-d10       | 101    |
| Chrysene-d12           | 104    |
| Perylene-d12           | 115    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 105   |
| Terphenyl-d14    | 104   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS629 ES 1 0.30                                | <b>Job Number:</b>     | S11_1808M  |
| <b>LIMS ID Number:</b>            | CL1108621                                      | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>QC Batch Number:</b>           | 110532                                         | <b>Date Extracted:</b> | 15-Mar-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 17-Mar-11  |
| <b>Directory:</b>                 | 0316PAH.MS4\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

Accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>ug/l | % Fit | Accr.<br>code |
|------------------------|----------|---------------|-----------------------|-------|---------------|
| Naphthalene            | 91-20-3  | 3.13          | 0.14                  | M     | UM            |
| Acenaphthylene         | 208-96-8 | -             | < 0.10                | -     | U             |
| Acenaphthene           | 83-32-9* | -             | < 0.10                | -     | N             |
| Fluorene               | 86-73-7  | -             | < 0.10                | -     | UM            |
| Phenanthrene           | 85-01-8  | 5.50          | 0.17                  | M     | UM            |
| Anthracene             | 120-12-7 | -             | < 0.10                | -     | U             |
| Fluoranthene           | 206-44-0 | 6.81          | 0.16                  | M     | UM            |
| Pyrene                 | 129-00-0 | 7.09          | 0.13                  | M     | UM            |
| Benzo[a]anthracene     | 56-55-3  | 8.76          | 0.11                  | M     | UM            |
| Chrysene               | 218-01-9 | 8.81          | 0.11                  | M     | UM            |
| Benzo[b]fluoranthene   | 205-99-2 | 10.29         | 0.11                  | M     | UM            |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.10                | -     | UM            |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.10                | -     | UM            |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.10                | -     | UM            |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.10                | -     | UM            |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.10                | -     | UM            |
| Total (USEPA16) PAHs   | -        | -             | < 1.79                | -     | N             |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 101    |
| Acenaphthene-d10       | 103    |
| Phenanthrene-d10       | 111    |
| Chrysene-d12           | 121    |
| Perylene-d12           | 137    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 104   |
| Terphenyl-d14    | 104   |

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

## Polychlorinated Biphenyls (congeners)

|                                   |                                                |
|-----------------------------------|------------------------------------------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |
| <b>Job Number:</b>                | S11_1808M                                      |
| <b>QC Batch Number:</b>           | 110711                                         |
| <b>Directory:</b>                 | 0404PCB.GC8                                    |
| <b>Method:</b>                    | Ultrasonic                                     |
| <b>Accreditation code:</b>        | N                                              |

|                        |           |
|------------------------|-----------|
| <b>Matrix:</b>         | SOIL      |
| <b>Date Booked in:</b> | 08-Mar-11 |
| <b>Date Extracted:</b> | 04-Apr-11 |
| <b>Date Analysed:</b>  | 05-Apr-11 |

[illegible]

## ALIPHATIC / AROMATIC FRACTION BY GC/FID

|                                   |                                                      |                    |
|-----------------------------------|------------------------------------------------------|--------------------|
| <b>Customer and Site Details:</b> | Soil Mechanics : Ferrybridge Multifuel PowerStn      |                    |
| <b>Job Number:</b>                | S11_1808                                             | <b>Separation:</b> |
| <b>QC Batch Number:</b>           | 110532                                               | <b>Eluent:</b>     |
| <b>Directory:</b>                 | D:\TEST\DATA\Y2011\MARCH2011\0316ATPH_GC3\097B4701.D |                    |
| <b>Method:</b>                    | Ultra Sonic                                          |                    |

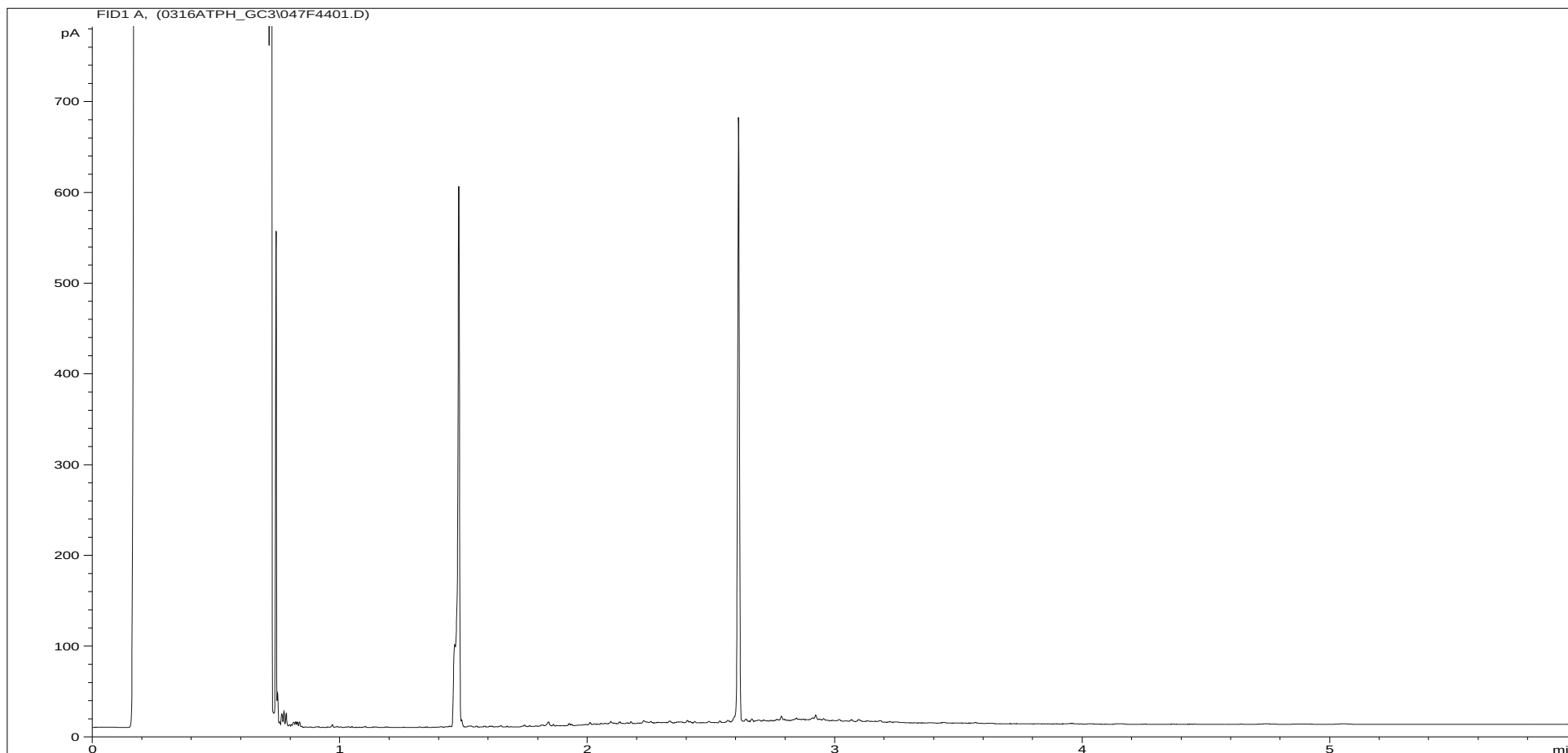
|                        |           |
|------------------------|-----------|
| <b>Matrix:</b>         | Soil      |
| <b>Date Booked in</b>  | 08-Mar-11 |
| <b>Date Extracted:</b> | 15-Mar-11 |
| <b>Date Analysed:</b>  | 16-Mar-11 |

This sample data is not MCERTS accredited.

**\* This sample data is not ISO17025 accredited.**

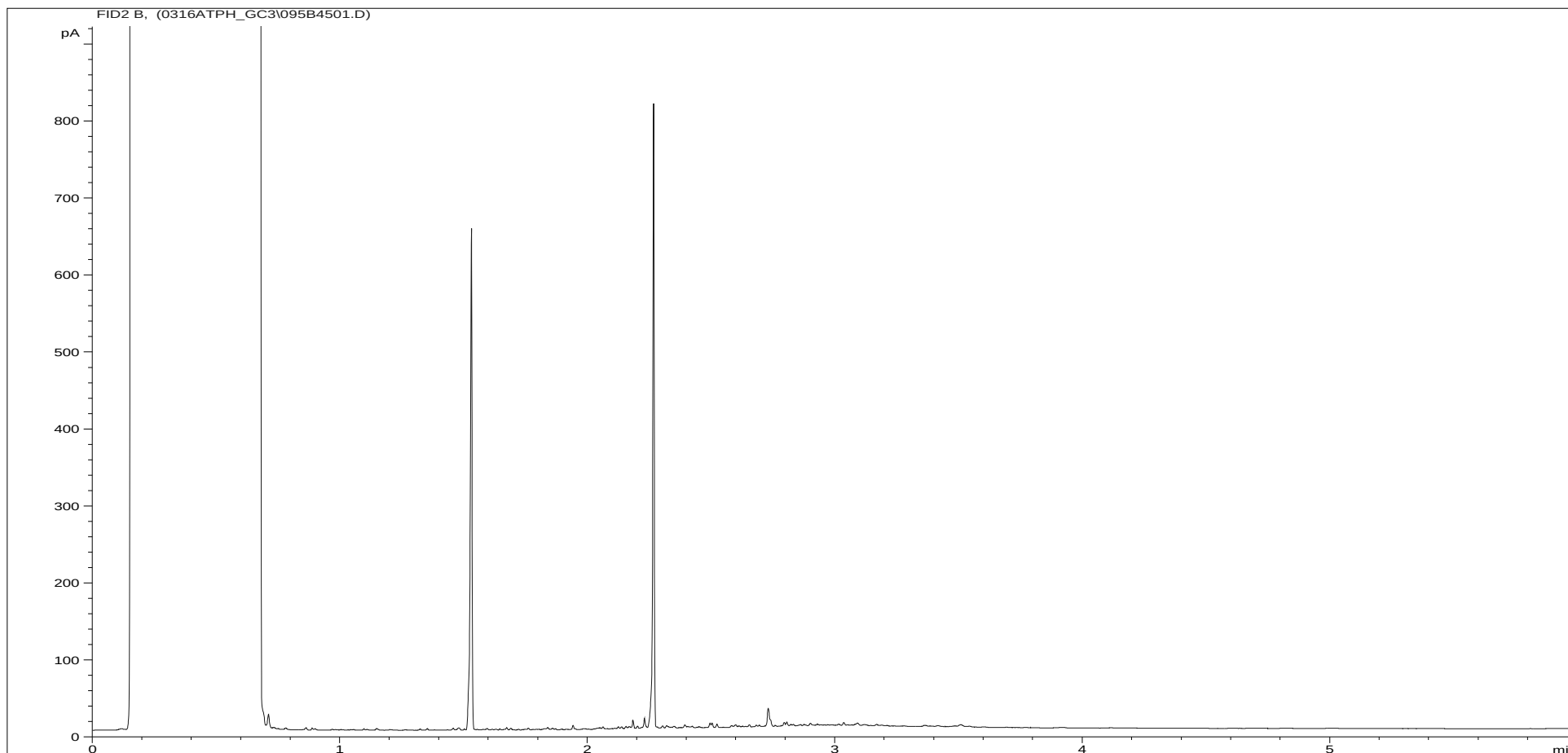
[illegible]

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



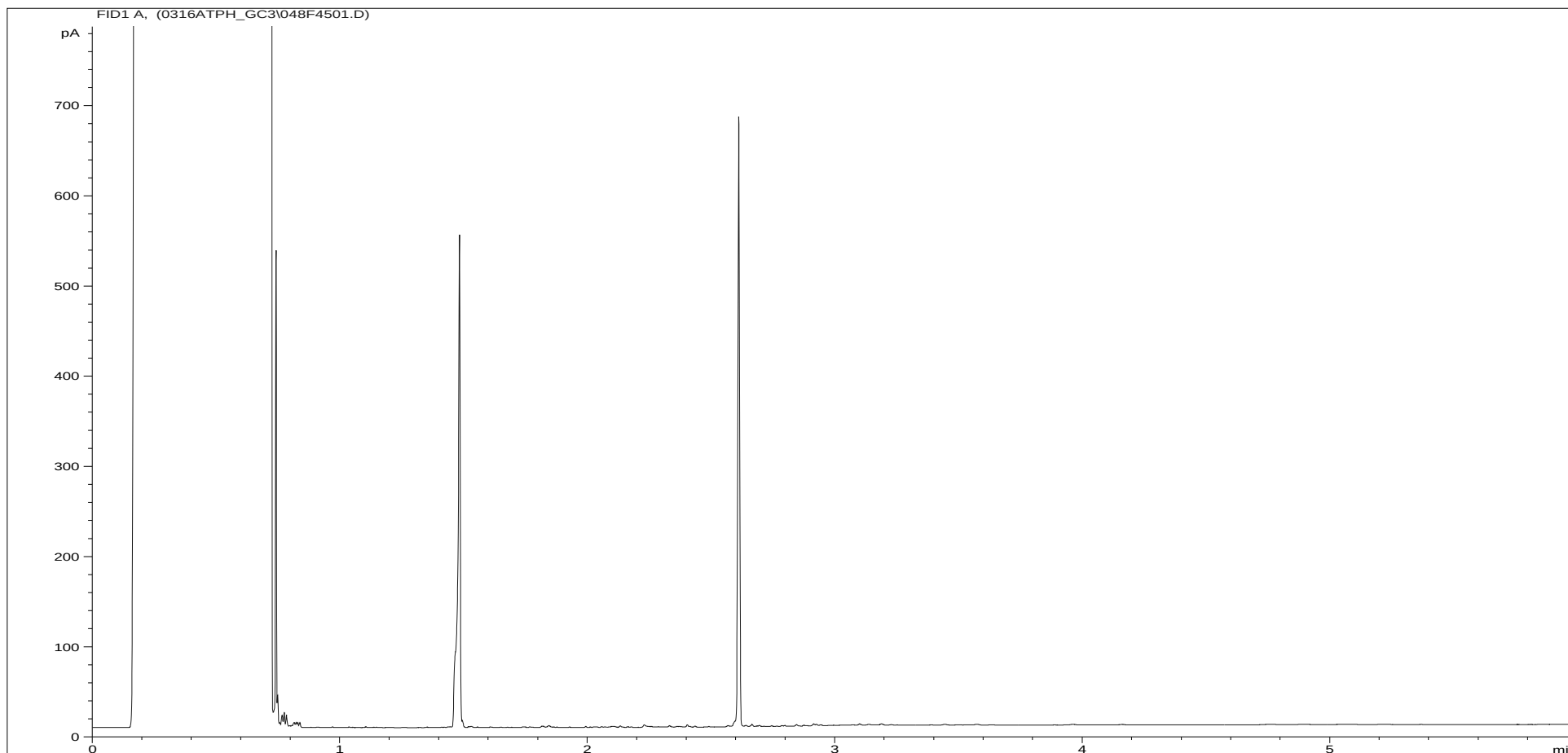
|                               |                                                     |                           |                                |
|-------------------------------|-----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108619ALI                                        | <b>Job Number:</b>        | S11_1808M                      |
| <b>Multiplier:</b>            | 16.38                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                   | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                          | <b>Client Sample Ref:</b> | WS628 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 16-Mar-11                                           |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0316ATPH_GC3\047F4401.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                     |                           |                                |
|-------------------------------|-----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108619ARO                                        | <b>Job Number:</b>        | S11_1808M                      |
| <b>Multiplier:</b>            | 12.18                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                   | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                          | <b>Client Sample Ref:</b> | WS628 ES 3 1.00                |
| <b>Acquisition Date/Time:</b> | 16-Mar-11                                           |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0316ATPH_GC3\095B4501.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



**Sample ID:** CL1108620ALI

**Multiplier:** 15.6

**Dilution:** 1

**Acquisition Method:** 5UL\_RUNF.M

**Acquisition Date/Time:** 16-Mar-11

**Datafile:** D:\TES\DATA\Y2011\MARCH2011\0316ATPH\_GC3\048F4501.D

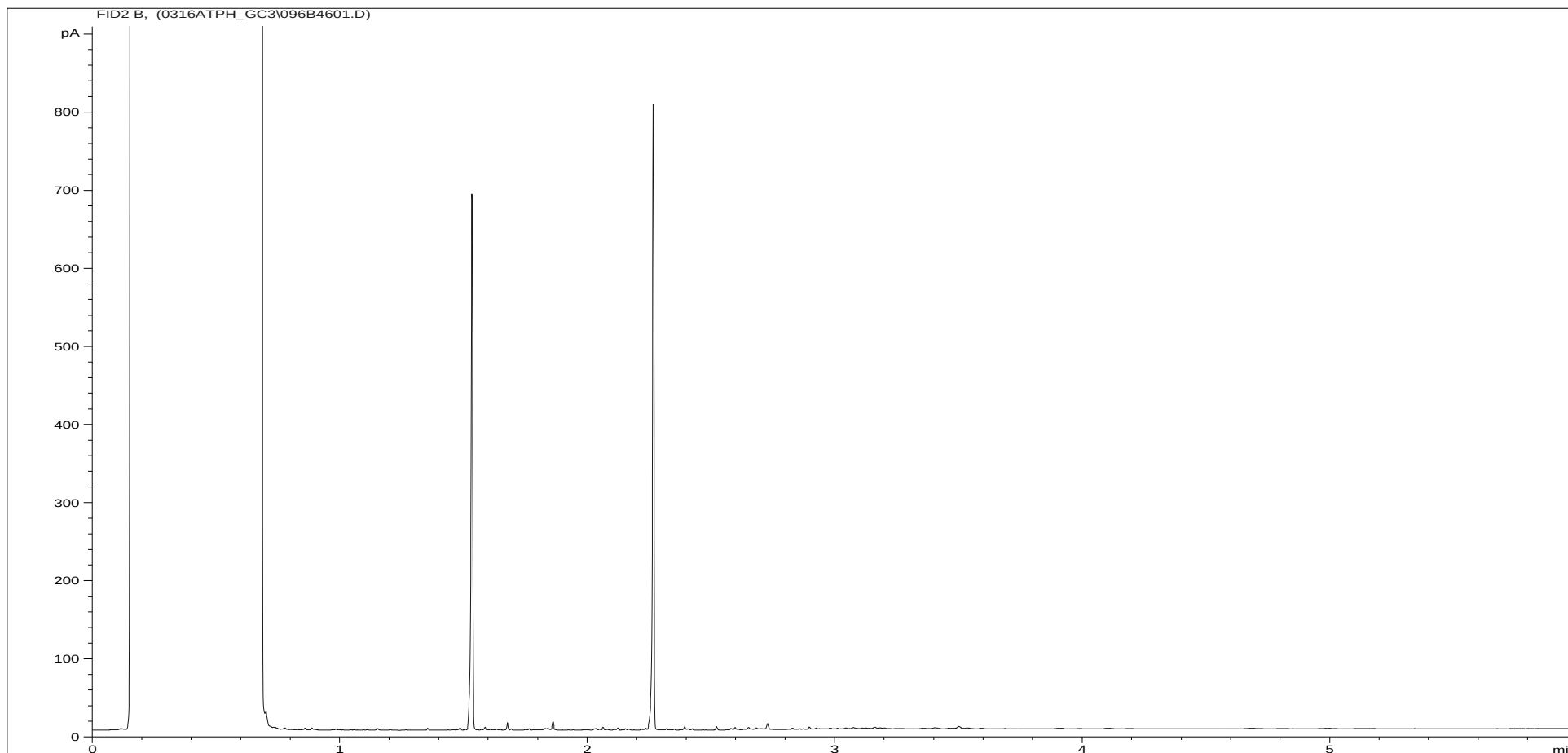
**Job Number:** S11\_1808M

**Client:** Soil Mechanics

**Site:** Ferrybridge Multifuel PowerStn

**Client Sample Ref:** WS628 ES 6 1.80

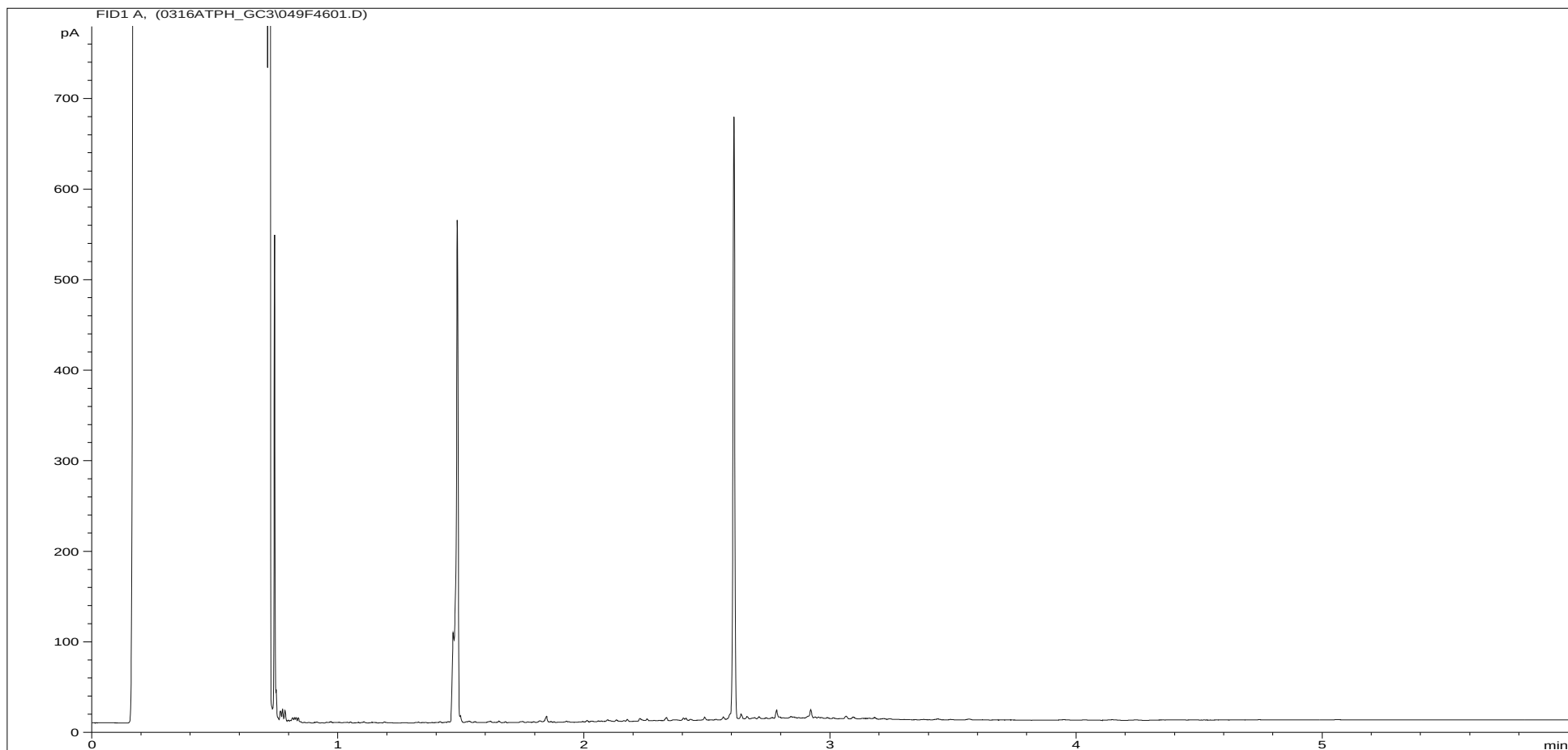
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                     |                           |                                |
|-------------------------------|-----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108620ARO                                        | <b>Job Number:</b>        | S11_1808M                      |
| <b>Multiplier:</b>            | 11.6                                                | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                   | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                          | <b>Client Sample Ref:</b> | WS628 ES 6 1.80                |
| <b>Acquisition Date/Time:</b> | 16-Mar-11                                           |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0316ATPH_GC3\096B4601.D |                           |                                |

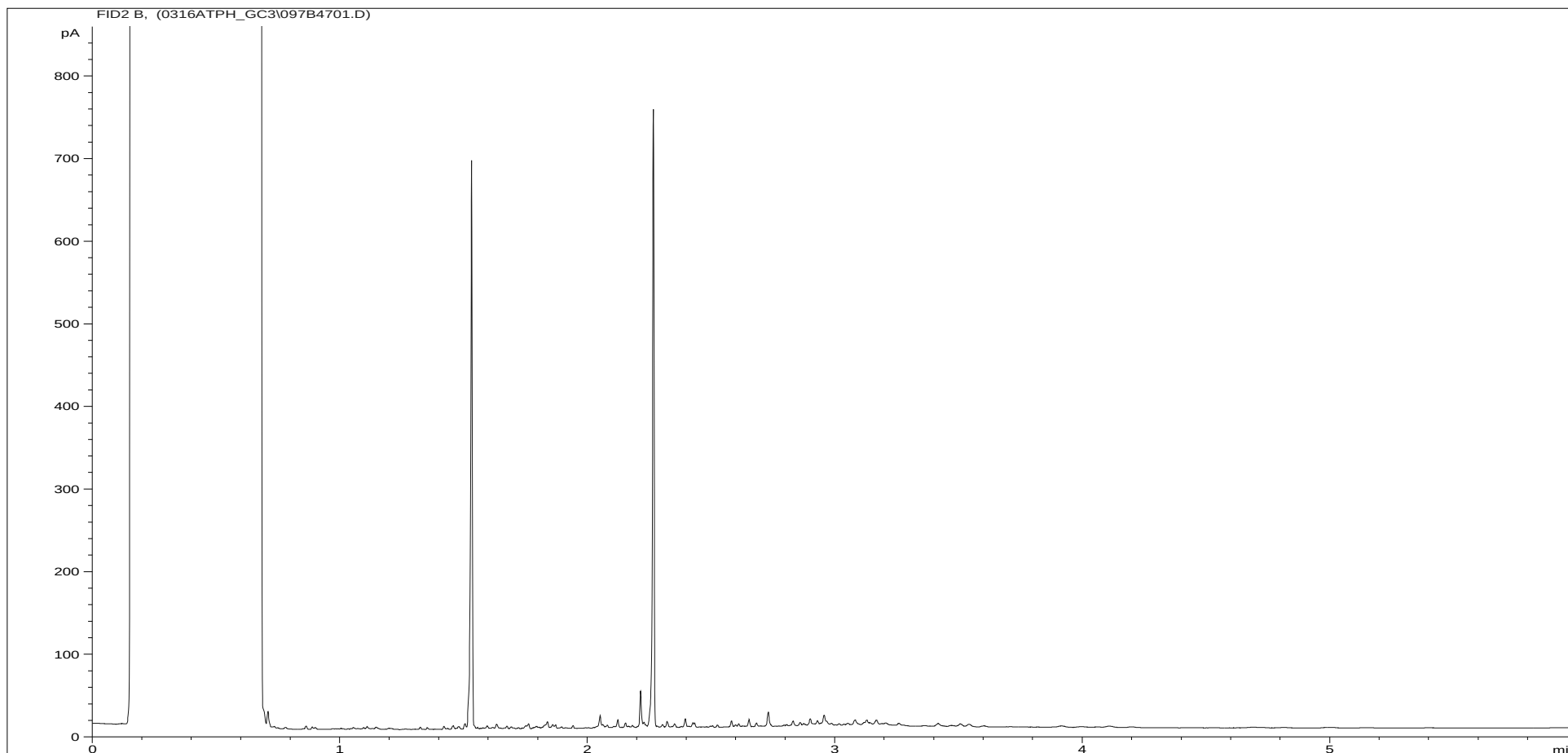


**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                     |                           |                                |
|-------------------------------|-----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108621ALI                                        | <b>Job Number:</b>        | S11_1808M                      |
| <b>Multiplier:</b>            | 14.82                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                   | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                          | <b>Client Sample Ref:</b> | WS629 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 16-Mar-11                                           |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0316ATPH_GC3\049F4601.D |                           |                                |

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                     |                           |                                |
|-------------------------------|-----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108621ARO                                        | <b>Job Number:</b>        | S11_1808M                      |
| <b>Multiplier:</b>            | 11.02                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                   | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                          | <b>Client Sample Ref:</b> | WS629 ES 1 0.30                |
| <b>Acquisition Date/Time:</b> | 16-Mar-11                                           |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\MARCH2011\0316ATPH_GC3\097B4701.D |                           |                                |

# Method Descriptions

| Matrix | MethodID   | Analysis Basis | Method Description                                                                                                                                |
|--------|------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Soil   | FOCS       | Air Dried      | Calculation of Soil Organic Matter content from Organic Carbon content of soil samples                                                            |
| Soil   | ICPBOR     | Air Dried      | Determination of Boron in soil samples by hot water extraction followed by ICPOES detection                                                       |
| Soil   | ICPMSS     | Air Dried      | Determination of Metals in soil samples by aqua regia digestion followed by ICPMS                                                                 |
| Soil   | PAHMSUS    | As Received    | Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection                                   |
| Soil   | PCBUSECDAR | As Received    | Determination of Polychlorinated Biphenyl (PCB) congeners/arocloris by hexane/acetone extraction followed by GCECD detection                      |
| Soil   | PHSOIL     | As Received    | Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.                                                                     |
| Soil   | SFAPI      | As Received    | Segmented flow analysis with colorimetric detection                                                                                               |
| Soil   | Subcon*    | *              | Contact Laboratory for details of the methodology used by the sub-contractor.                                                                     |
| Soil   | TMSS       | As Received    | Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis                                                  |
| Soil   | TPHUSSI    | As Received    | Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions. |
| Soil   | WSLM59     | Air Dried      | Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection                  |

# Report Notes

## Generic Notes

### Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

### Waters Analysis

Unless stated otherwise results are expressed as mg/l

### Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm<sup>3</sup>@ 15°C

### Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

### Asbestos Analysis

**CH** Denotes Chrysotile

**CR** Denotes Crocidolite

**AM** Denotes Amosite

**NAIIS** No Asbestos Identified in Sample

## Symbol Reference

<sup>^</sup> Sub-contracted analysis. Note: The accreditation status is that assigned by the subcontract laboratory.

**\$\$** Unable to analyse due to the nature of the sample

**¶** Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

**¥** Results for guidance only due to possible interference

**&** Blank corrected result

**I.S** Insufficient sample to complete requested analysis

**I.S(g)** Insufficient sample to re-analyse, results for guidance only

**Intf** Unable to analyse due to interferences

**N.D** Not determined

**N.Det** Not detected

**Req** Analysis requested, see attached sheets for results

**▯** Raised detection limit due to nature of the sample

**\*** All accreditation has been removed by the laboratory for this result

**‡** MCERTS accreditation has been removed for this result

**Note:** The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

## END OF REPORT

## Sample Descriptions

**Client :** Soil Mechanics  
**Site :** Ferrybridge Multifuel PowerStn  
**Report Number :** S11\_1808M

Note: major constituent in upper case

[illegible]

# TEST REPORT

## SOIL SAMPLE ANALYSIS



Report No. EFS/111809 (Ver. 2)

Soil Mechanics  
Askern Road  
Carcroft  
Doncaster  
DN6 8DG

**Site: Ferrybridge Multifuel PowerStn**

The 46 samples described in this report were logged for analysis by Scientifics on 08-Mar-2011. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 11-Apr-2011

Tests where the accreditation is set to N or No, and any individual data items marked with a \* are not UKAS accredited  
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 5)  
Table of PAH (MS-SIM) (80) Results (Page 6)  
Table of GRO Results (Page 7)  
Table of TPH (Si) banding (UK-CWG) (Page 8)  
GC-FID Chromatograms (Pages 9 to 10)  
Asbestos Results (Pages 11 to 19)  
Table of Method Descriptions (Page 20)  
Table of Report Notes (Page 21)

On behalf of  
Scientifics :  
Andrew Timms

A handwritten signature in black ink, appearing to read 'Andrew Timms', written over the printed name.

Operations Manager

Date of Issue: 11-Apr-2011

Tests marked '^' have been subcontracted to another laboratory.

Scientifics accepts no responsibility for any sampling not carried out by our personnel.

| Units :<br>Method Codes :<br>Method Reporting Limits :<br>UKAS Accredited :                                                                                                                  |                           | mg/kg                          | mg/kg         | mg/kg           | mg/kg        | mg/kg         | mg/kg       | mg/kg     | mg/kg        | mg/kg       | mg/kg                 | mg/kg         | mg/kg              | pH Units      | mg/kg              | mg/kg             |                    |       |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|---------------|-----------------|--------------|---------------|-------------|-----------|--------------|-------------|-----------------------|---------------|--------------------|---------------|--------------------|-------------------|--------------------|-------|--|
|                                                                                                                                                                                              |                           | ICPBOR                         | ICPMSS        | ICPMSS          | ICPMSS       | ICPMSS        | ICPMSS      | ICPMSS    | ICPMSS       | ICPMSS      | ICPMSS                | ICPMSS        | ICPMSS             | PAHMSUS       | PHSOIL             | SFAPI             | SFAPI              | Sub31 |  |
|                                                                                                                                                                                              |                           | 0.5                            | 0.1           | 0.3             | 0.1          | 0.5           | 0.5         | 0.5       | 0.10         | 0.5         | 0.5                   | 3.0           | 0.08               |               | 0.5                | 0.5               |                    |       |  |
|                                                                                                                                                                                              |                           | yes                            | yes           | yes             | yes          | yes           | yes         | yes       | yes          | yes         | yes                   | yes           | yes                | yes           | yes                | yes               | yes                | yes   |  |
| Laboratory ID Number CL/                                                                                                                                                                     | Client Sample Description | Boron (H20 Soluble)            | Antimony (MS) | Arsenic (MS)    | Cadmium (MS) | Chromium (MS) | Copper (MS) | Lead (MS) | Mercury (MS) | Nickel (MS) | Selenium (MS)         | Zinc (MS)     | PAH by MS.16(0.08) | pH units (AR) | Cyanide(Free) (AR) | Phenol Index.(AR) | Asbestos Screen CT |       |  |
|                                                                                                                                                                                              |                           |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    |       |  |
|                                                                                                                                                                                              |                           | 1108622                        | WS601 0.3     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108623                        | WS602 0.3     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108624                        | WS602 0.5     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108625                        | WS603 0.5     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108626                        | WS605 0.3     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108627                        | WS605 1.0     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108628                        | WS606 0.3     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108629                        | WS606 1.0     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108630                        | WS607 0.3     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108631                        | WS607 0.5     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108632                        | WS608 0.5     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108633                        | WS608 1.0     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108634                        | WS609 0.3     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108635                        | WS609 1.0     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108636                        | WS610 0.3     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108637                        | WS610 0.5     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108638                        | WS610 1.0     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108639                        | WS611 0.5     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
|                                                                                                                                                                                              |                           | 1108640                        | WS612 0.3     |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    | NAIIS |  |
| 1108641                                                                                                                                                                                      | WS613 0.5                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    | NAIIS             |                    |       |  |
| <div>scientifics</div> <div>Bretby Business Park, Ashby Road</div> <div>Burton-on-Trent, Staffordshire, DE15 0YZ</div> <div>Tel +44 (0) 1283 554400</div> <div>Fax +44 (0) 1283 554422</div> |                           | Client Name                    |               | Soil Mechanics  |              |               |             |           |              |             | Soils Sample Analysis |               |                    |               |                    |                   |                    |       |  |
|                                                                                                                                                                                              |                           | Contact                        |               | Mr J Huntington |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    |       |  |
|                                                                                                                                                                                              |                           | Ferrybridge Multifuel PowerStn |               |                 |              |               |             |           |              |             |                       | Date Printed  |                    | 11-Apr-11     |                    |                   |                    |       |  |
|                                                                                                                                                                                              |                           |                                |               |                 |              |               |             |           |              |             |                       | Report Number |                    | EFS/111809    |                    |                   |                    |       |  |
|                                                                                                                                                                                              |                           |                                |               |                 |              |               |             |           |              |             |                       | Table Number  |                    | 1             |                    |                   |                    |       |  |
|                                                                                                                                                                                              |                           |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    |       |  |

| Units :<br>Method Codes :<br>Method Reporting Limits :<br>UKAS Accredited :                                                                                                                                                                             |                           | mg/kg                          | mg/kg         | mg/kg           | mg/kg        | mg/kg         | mg/kg       | mg/kg     | mg/kg        | mg/kg       | mg/kg                 | mg/kg         | mg/kg              | pH Units      | mg/kg              | mg/kg             |                    |       |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|---------------|-----------------|--------------|---------------|-------------|-----------|--------------|-------------|-----------------------|---------------|--------------------|---------------|--------------------|-------------------|--------------------|-------|--|
|                                                                                                                                                                                                                                                         |                           | ICPBOR                         | ICPMSS        | ICPMSS          | ICPMSS       | ICPMSS        | ICPMSS      | ICPMSS    | ICPMSS       | ICPMSS      | ICPMSS                | ICPMSS        | ICPMSS             | PAHMSUS       | PHSOIL             | SFAPI             | SFAPI              | Sub31 |  |
|                                                                                                                                                                                                                                                         |                           | 0.5                            | 0.1           | 0.3             | 0.1          | 0.5           | 0.5         | 0.5       | 0.10         | 0.5         | 0.5                   | 3.0           | 0.08               |               | 0.5                | 0.5               |                    |       |  |
|                                                                                                                                                                                                                                                         |                           | yes                            | yes           | yes             | yes          | yes           | yes         | yes       | yes          | yes         | yes                   | yes           | yes                | yes           | yes                | yes               | yes                | yes   |  |
| Laboratory ID Number                                                                                                                                                                                                                                    | Client Sample Description | Boron (H20 Soluble)            | Antimony (MS) | Arsenic (MS)    | Cadmium (MS) | Chromium (MS) | Copper (MS) | Lead (MS) | Mercury (MS) | Nickel (MS) | Selenium (MS)         | Zinc (MS)     | PAH by MS.16(0.08) | pH units (AR) | Cyanide(Free) (AR) | Phenol Index.(AR) | Asbestos Screen CT |       |  |
|                                                                                                                                                                                                                                                         |                           |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    |       |  |
| 1108642                                                                                                                                                                                                                                                 | WS614 0.3                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108643                                                                                                                                                                                                                                                 | WS614 0.5                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108644                                                                                                                                                                                                                                                 | WS615 0.3                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | CH                 |       |  |
| 1108645                                                                                                                                                                                                                                                 | WS615 1.0                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108646                                                                                                                                                                                                                                                 | WS618 0.5                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108647                                                                                                                                                                                                                                                 | WS619 0.5                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108648                                                                                                                                                                                                                                                 | WS620 0.5                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108649                                                                                                                                                                                                                                                 | WS621 0.5                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108650                                                                                                                                                                                                                                                 | WS621 1.8                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108651                                                                                                                                                                                                                                                 | WS622 0.3                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108652                                                                                                                                                                                                                                                 | WS622 1.0                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108653                                                                                                                                                                                                                                                 | WS623 0.3                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108654                                                                                                                                                                                                                                                 | WS623 1.0                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108655                                                                                                                                                                                                                                                 | WS624 0.3                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108656                                                                                                                                                                                                                                                 | WS624 0.5                 | 0.8                            | 0.7           | 12.6            | 0.41         | 19.4          | 23.8        | 52.3      | 0.34         | 19.6        | <0.5                  | 84.9          | Req                | 8.1           | <0.5               | <0.5              | NAIIS              |       |  |
| 1108657                                                                                                                                                                                                                                                 | WS624 1.0                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108658                                                                                                                                                                                                                                                 | WS625 0.5                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108659                                                                                                                                                                                                                                                 | WS626 0.5                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108660                                                                                                                                                                                                                                                 | WS626 1.0                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| 1108661                                                                                                                                                                                                                                                 | WS627 0.3                 |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   | NAIIS              |       |  |
| <div><br/>Bretby Business Park, Ashby Road<br/><br/>Burton-on-Trent, Staffordshire, DE15 0YZ<br/><br/>Tel +44 (0) 1283 554400<br/><br/>Fax +44 (0) 1283 554422</div> |                           | Client Name                    |               | Soil Mechanics  |              |               |             |           |              |             | Soils Sample Analysis |               |                    |               |                    |                   |                    |       |  |
|                                                                                                                                                                                                                                                         |                           | Contact                        |               | Mr J Huntington |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    |       |  |
|                                                                                                                                                                                                                                                         |                           | Ferrybridge Multifuel PowerStn |               |                 |              |               |             |           |              |             |                       | Date Printed  |                    | 11-Apr-11     |                    |                   |                    |       |  |
|                                                                                                                                                                                                                                                         |                           |                                |               |                 |              |               |             |           |              |             |                       | Report Number |                    | EFS/111809    |                    |                   |                    |       |  |
|                                                                                                                                                                                                                                                         |                           |                                |               |                 |              |               |             |           |              |             |                       | Table Number  |                    | 1             |                    |                   |                    |       |  |
|                                                                                                                                                                                                                                                         |                           |                                |               |                 |              |               |             |           |              |             |                       |               |                    |               |                    |                   |                    |       |  |



| Units :<br>Method Codes :<br>Method Reporting Limits :<br>UKAS Accredited :                                                                                                                                                                             |     | mg/kg                     | % M/M                          | mg/kg           | %               | % M/M               |                      |  |               |  |                       |  |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------|--------------------------------|-----------------|-----------------|---------------------|----------------------|--|---------------|--|-----------------------|--|--|--|--|--|
|                                                                                                                                                                                                                                                         |     | TPHUSSI                   | FOCS                           | GROHSA          | Sub02           | WSLM59              |                      |  |               |  |                       |  |  |  |  |  |
|                                                                                                                                                                                                                                                         |     | 10.0                      | 0.04                           | 0.1             | 0.001           | 0.01                |                      |  |               |  |                       |  |  |  |  |  |
|                                                                                                                                                                                                                                                         |     | yes                       | no                             | no              | no              | no                  |                      |  |               |  |                       |  |  |  |  |  |
| Laboratory ID Number                                                                                                                                                                                                                                    | CL/ | Client Sample Description | TPH (St-UKCWG)>44              | S.O.M. % (Calc) | GRO (AA-UK)     | Asbestos ID and Qua | Total Organic Carbon |  |               |  |                       |  |  |  |  |  |
|                                                                                                                                                                                                                                                         |     |                           |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| 1108642                                                                                                                                                                                                                                                 |     | WS614 0.3                 |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| 1108643                                                                                                                                                                                                                                                 |     | WS614 0.5                 |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| 1108644                                                                                                                                                                                                                                                 |     | WS615 0.3                 |                                |                 |                 | 0.014               |                      |  |               |  |                       |  |  |  |  |  |
| 1108645                                                                                                                                                                                                                                                 |     | WS615 1.0                 |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| 1108646                                                                                                                                                                                                                                                 |     | WS618 0.5                 |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| 1108647                                                                                                                                                                                                                                                 |     | WS619 0.5                 |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| 1108648                                                                                                                                                                                                                                                 |     | WS620 0.5                 |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| 1108649                                                                                                                                                                                                                                                 |     | WS621 0.5                 |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| 1108650                                                                                                                                                                                                                                                 |     | WS621 1.8                 |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| 1108651                                                                                                                                                                                                                                                 |     | WS622 0.3                 |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| 1108652                                                                                                                                                                                                                                                 |     | WS622 1.0                 |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| 1108653                                                                                                                                                                                                                                                 |     | WS623 0.3                 |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| 1108654                                                                                                                                                                                                                                                 |     | WS623 1.0                 |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| 1108655                                                                                                                                                                                                                                                 |     | WS624 0.3                 |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| 1108656                                                                                                                                                                                                                                                 |     | WS624 0.5                 | Req                            | 3.91            | Req             |                     | 2.27                 |  |               |  |                       |  |  |  |  |  |
|                                                                                                                                                                                                                                                         |     |                           |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
|                                                                                                                                                                                                                                                         |     |                           |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
|                                                                                                                                                                                                                                                         |     |                           |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
|                                                                                                                                                                                                                                                         |     |                           |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
|                                                                                                                                                                                                                                                         |     |                           |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |
| <div><br/>Bretby Business Park, Ashby Road<br/><br/>Burton-on-Trent, Staffordshire, DE15 0YZ<br/><br/>Tel +44 (0) 1283 554400<br/><br/>Fax +44 (0) 1283 554422</div> |     |                           | Client Name                    |                 | Soil Mechanics  |                     |                      |  |               |  | Soils Sample Analysis |  |  |  |  |  |
|                                                                                                                                                                                                                                                         |     |                           | Contact                        |                 | Mr J Huntington |                     |                      |  |               |  |                       |  |  |  |  |  |
|                                                                                                                                                                                                                                                         |     |                           | Ferrybridge Multifuel PowerStn |                 |                 |                     |                      |  | Date Printed  |  | 11-Apr-11             |  |  |  |  |  |
|                                                                                                                                                                                                                                                         |     |                           |                                |                 |                 |                     |                      |  | Report Number |  | EFS/111809            |  |  |  |  |  |
|                                                                                                                                                                                                                                                         |     |                           |                                |                 |                 |                     |                      |  | Table Number  |  | 1                     |  |  |  |  |  |
|                                                                                                                                                                                                                                                         |     |                           |                                |                 |                 |                     |                      |  |               |  |                       |  |  |  |  |  |

[illegible]

# Polycyclic Aromatic Hydrocarbons

## GC/MS (SIM)

|                                   |                                                |                        |            |
|-----------------------------------|------------------------------------------------|------------------------|------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge Multifuel PowerStn |                        |            |
| <b>Sample Details:</b>            | WS624 0.5                                      | <b>Job Number:</b>     | S11_1809   |
| <b>LIMS ID Number:</b>            | CL1108656                                      | <b>Date Booked in:</b> | 08-Mar-11  |
| <b>QC Batch Number:</b>           | 110727                                         | <b>Date Extracted:</b> | 06-Apr-11  |
| <b>Quantitation File:</b>         | Initial Calibration                            | <b>Date Analysed:</b>  | 06-Apr-11  |
| <b>Directory:</b>                 | 0611PAH.GC5\                                   | <b>Matrix:</b>         | Soil       |
| <b>Dilution:</b>                  | 1.0                                            | <b>Ext Method:</b>     | Ultrasonic |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>mg/kg | % Fit |
|------------------------|----------|---------------|------------------------|-------|
| Naphthalene            | 91-20-3  | -             | < 0.08                 | -     |
| Acenaphthylene         | 208-96-8 | -             | < 0.08                 | -     |
| Acenaphthene           | 83-32-9  | -             | < 0.08                 | -     |
| Fluorene               | 86-73-7  | -             | < 0.08                 | -     |
| Phenanthrene           | 85-01-8  | 5.92          | 0.26                   | 99    |
| Anthracene             | 120-12-7 | -             | < 0.08                 | -     |
| Fluoranthene           | 206-44-0 | 7.30          | 0.29                   | 93    |
| Pyrene                 | 129-00-0 | 7.60          | 0.26                   | 94    |
| Benzo[a]anthracene     | 56-55-3  | 9.31          | 0.19                   | 96    |
| Chrysene               | 218-01-9 | 9.36          | 0.16                   | 97    |
| Benzo[b]fluoranthene   | 205-99-2 | 10.86         | 0.18                   | 71    |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.08                 | -     |
| Benzo[a]pyrene         | 50-32-8  | 11.29         | 0.15                   | 94    |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.69         | 0.11                   | 68    |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.08                 | -     |
| Benzo[g,h,i]perylene   | 191-24-2 | 13.02         | 0.08                   | 55    |
| Total (USEPA16) PAHs   | -        | -             | < 2.24                 | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 124    |
| Acenaphthene-d10       | 124    |
| Phenanthrene-d10       | 135    |
| Chrysene-d12           | 147    |
| Perylene-d12           | 178    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 88    |
| Terphenyl-d14    | 88    |

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

## Gasoline Range Organics (BTEX and Aromatic/Aliphatic Carbon Ranges)

**Customer and Site Details:** Soil Mechanics : Ferrybridge Multifuel PowerStn  
**Job Number:** S11\_1809  
**Directory:** D:\TES\DATA\Y2011\0405AHSA\_GC9\040511B 2011-04-06 15-20-26\019F1601.D  
**Method:** HEADSPACE GC/FID

**Matrix:** Soil  
**Date Booked in:** 08-Mar-11  
**Date extracted:** 06-Apr-11  
**Date Analysed:** 06-Apr-11, 20:17:00  
**Units:** mg/kg

\* Sample data with an asterisk are not UKAS accredited.

[illegible]

## ALIPHATIC / AROMATIC FRACTION BY GC/FID

Soil Mechanics : Ferrybridge Multifuel PowerStn

**Separation:** Silica gel

**Eluents:** Hexane, DCM

Ultra Sonic

Ultra Sonic

## Soil

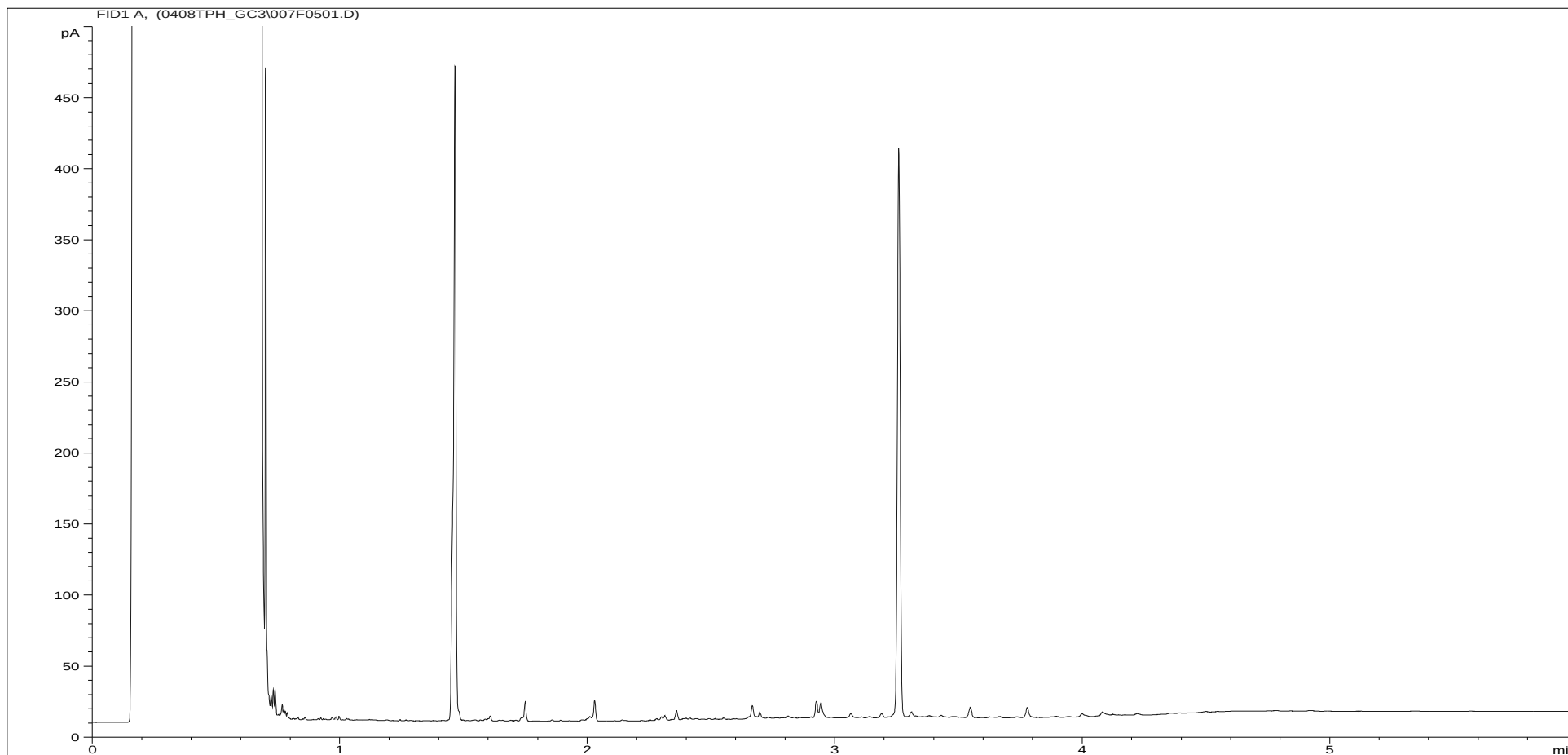
08-Mar-11

05-Apr-11

2004-05-01

[illegible]

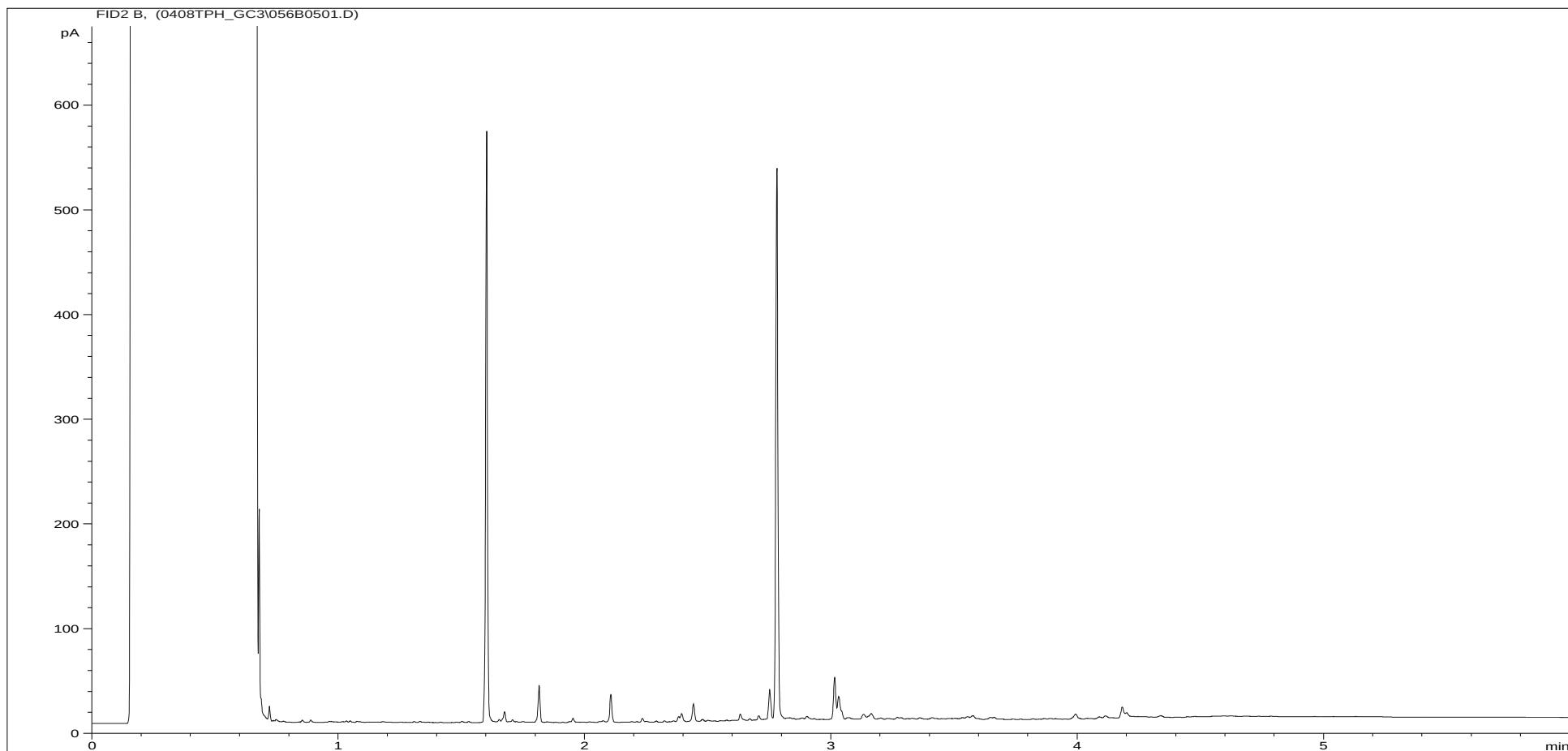
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108656ALI                                       | <b>Job Number:</b>        | S11_1809                       |
| <b>Multiplier:</b>            | 14.82                                              | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS624 0.5                      |
| <b>Acquisition Date/Time:</b> | 08-Apr-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\APRIL2011\0408TPH_GC3\007F0501.D |                           |                                |

Where individual results are flagged see report notes for status.

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                    |                           |                                |
|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------|
| <b>Sample ID:</b>             | CL1108656ARO                                       | <b>Job Number:</b>        | S11_1809                       |
| <b>Multiplier:</b>            | 11.4                                               | <b>Client:</b>            | Soil Mechanics                 |
| <b>Dilution:</b>              | 1                                                  | <b>Site:</b>              | Ferrybridge Multifuel PowerStn |
| <b>Acquisition Method:</b>    | 5UL_RUNF.M                                         | <b>Client Sample Ref:</b> | WS624 0.5                      |
| <b>Acquisition Date/Time:</b> | 08-Apr-11                                          |                           |                                |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\APRIL2011\0408TPH_GC3\056B0501.D |                           |                                |

Where individual results are flagged see report notes for status.





# LABORATORY TEST REPORT

Report Date  
21 March 2011

Results of analysis of 46 samples for asbestos fibres in soil  
received 11 March 2011  
S111809 - 605735 - 50354

| Login Batch No     |               |          | 116600       |              |              |              |              |              |              |
|--------------------|---------------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Chemtest LIMS ID   |               |          | AF84168      | AF84169      | AF84170      | AF84171      | AF84172      | AF84173      | AF84174      |
| Sample ID          |               |          |              |              |              |              |              |              |              |
| Sample Description |               |          | CL/1108622   | CL/1108623   | CL/1108624   | CL/1108625   | CL/1108626   | CL/1108627   | CL/1108628   |
| SOP↓               | Determinand↓  | CAS No↓  |              |              |              |              |              |              |              |
| 2190               | Actinolite    | 77536664 | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|                    | Amosite       | 12172735 | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|                    | Anthophyllite | 77536675 | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|                    | Chrysotile    | 12001295 | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|                    | Crocidolite   | 12001284 | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|                    | Tremolite     | 77536686 | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|                    | Material      |          | soil         | soil         | soil         | soil         | soil         | soil         | soil         |

All tests undertaken between 21-Mar-2011 and 21-Mar-2011

Signed

Albert Vella  
Senior Environmental Surveyor



2183

Notes to accompany report:

- The in-house procedure SOP 2190 is employed to identify fibres in soil
- Sample size is reduced by coning and quartering to obtain a representative sub-sample
- The bulk identification is in accordance with the requirements of the analyst guide (HSG 248)
- Samples associated with asbestos are retained for six months
- The results relate only to the items tested as supplied by the client
- Comments or interpretations are beyond the scope of UKAS accreditation

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FAO Rebecca Clamp

# LABORATORY TEST REPORT

Results of analysis of 46 samples for asbestos fibres in soil  
received 11 March 2011  
S111809 - 605735 - 50354

Report Date  
21 March 2011

## Login Batch No

Chemtest LIMS ID

Sample ID

Sample Description

SOP↓ Determinand↓

CAS No↓

| 116600 |               |            |              |              |              |              |              |              |              |
|--------|---------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|        |               | AF84175    | AF84176      | AF84177      | AF84178      | AF84179      | AF84180      | AF84181      |              |
|        |               | CL/1108629 | CL/1108630   | CL/1108631   | CL/1108632   | CL/1108633   | CL/1108634   | CL/1108635   |              |
| 2190   | Actinolite    | 77536664   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Amosite       | 12172735   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Anthophyllite | 77536675   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Chrysotile    | 12001295   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Crocidolite   | 12001284   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Tremolite     | 77536686   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Material      |            | soil         | soil         | soil         | soil         | soil         | soil         | soil         |

All tests undertaken between 21-Mar-2011 and 21-Mar-2011



2183

## Notes to accompany report:

- The in-house procedure SOP 2190 is employed to identify fibres in soil
- Sample size is reduced by coning and quartering to obtain a representative sub-sample
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S111809 - 605735 - 50354

Report Date  
21 March 2011

## Login Batch No

Chemtest LIMS ID

Sample ID

Sample Description

SOP↓ Determinand↓

CAS No↓

| 116600 |               |            |              |              |              |              |              |              |              |
|--------|---------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|        |               | AF84182    | AF84183      | AF84184      | AF84185      | AF84186      | AF84187      | AF84188      |              |
|        |               | CL/1108636 | CL/1108637   | CL/1108638   | CL/1108639   | CL/1108640   | CL/1108641   | CL/1108642   |              |
| 2190   | Actinolite    | 77536664   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Amosite       | 12172735   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Anthophyllite | 77536675   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Chrysotile    | 12001295   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Crocidolite   | 12001284   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Tremolite     | 77536686   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Material      |            | soil         | soil         | soil         | soil         | soil         | soil         | soil         |

All tests undertaken between 21-Mar-2011 and 21-Mar-2011



2183

## Notes to accompany report:

- The in-house procedure SOP 2190 is employed to identify fibres in soil
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received 11 March 2011  
S111809 - 605735 - 50354

Report Date  
21 March 2011

## Login Batch No

Chemtest LIMS ID

Sample ID

Sample Description

SOP↓ Determinand↓

CAS No↓

| 116600 |               |            |              |              |              |              |              |              |              |
|--------|---------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|        |               | AF84189    | AF84190      | AF84191      | AF84192      | AF84193      | AF84194      | AF84195      |              |
|        |               | CL/1108643 | CL/1108644   | CL/1108645   | CL/1108646   | CL/1108647   | CL/1108648   | CL/1108649   |              |
| 2190   | Actinolite    | 77536664   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Amosite       | 12172735   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Anthophyllite | 77536675   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Chrysotile    | 12001295   | Not detected | Detected     | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Crocidolite   | 12001284   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Tremolite     | 77536686   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Material      |            | soil         | soil         | soil         | soil         | soil         | soil         | soil         |

All tests undertaken between 21-Mar-2011 and 21-Mar-2011



2183

## Notes to accompany report:

- The in-house procedure SOP 2190 is employed to identify fibres in soil
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Report Date  
21 March 2011

## Login Batch No

Chemtest LIMS ID

Sample ID

Sample Description

SOP↓ Determinand↓

CAS No↓

| 116600 |               |            |              |              |              |              |              |              |              |
|--------|---------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|        |               | AF84196    | AF84197      | AF84198      | AF84199      | AF84200      | AF84201      | AF84202      |              |
|        |               | CL/1108650 | CL/1108651   | CL/1108652   | CL/1108653   | CL/1108654   | CL/1108655   | CL/1108656   |              |
| 2190   | Actinolite    | 77536664   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Amosite       | 12172735   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Anthophyllite | 77536675   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Chrysotile    | 12001295   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Crocidolite   | 12001284   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Tremolite     | 77536686   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|        | Material      |            | soil         | soil         | soil         | soil         | soil         | soil         | soil         |

All tests undertaken between 21-Mar-2011 and 21-Mar-2011



2183

## Notes to accompany report:

- The in-house procedure SOP 2190 is employed to identify fibres in soil
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- Samples associated with asbestos are retained for six months
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Report Date  
21 March 2011

## Login Batch No

Chemtest LIMS ID

Sample ID

Sample Description

SOP↓ Determinand↓

CAS No↓

|      |               | 116600     |              |              |              |              |              |              |              |
|------|---------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|      |               | AF84203    | AF84204      | AF84205      | AF84206      | AF84207      | AF84208      | AF84209      |              |
|      |               | CL/1108657 | CL/1108658   | CL/1108659   | CL/1108660   | CL/1108661   | CL/1108662   | CL/1108663   |              |
|      |               |            |              |              |              |              |              |              |              |
| 2190 | Actinolite    | 77536664   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|      | Amosite       | 12172735   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|      | Anthophyllite | 77536675   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|      | Chrysotile    | 12001295   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|      | Crocidolite   | 12001284   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|      | Tremolite     | 77536686   | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected | Not detected |
|      | Material      |            | soil         | soil         | soil         | soil         | soil         | soil         | soil         |

All tests undertaken between 21-Mar-2011 and 21-Mar-2011



2183

## Notes to accompany report:

- The in-house procedure SOP 2190 is employed to identify fibres in soil
- Sample size is reduced by coning and quartering to obtain a representative sub-sample
- The bulk identification is in accordance with the requirements of the analyst guide (HSG 248)
- Samples associated with asbestos are retained for six months
- The results relate only to the items tested as supplied by the client
- Comments or interpretations are beyond the scope of UKAS accreditation

# LABORATORY TEST REPORT

Results of analysis of 46 samples for asbestos fibres in soil  
received 11 March 2011  
S111809 - 605735 - 50354

Report Date  
21 March 2011

## Login Batch No

Chemtest LIMS ID

Sample ID

Sample Description

SOP↓ Determinand↓

CAS No↓

| 116600          |            |              |              |
|-----------------|------------|--------------|--------------|
| AF84210         | AF84211    | AF84212      | AF84213      |
|                 |            |              |              |
| CL/1108664      | CL/1108665 | CL/1108666   | CL/1108667   |
|                 |            |              |              |
| 2190 Actinolite | 77536664   | Not detected | Not detected |
| Amosite         | 12172735   | Not detected | Not detected |
| Anthophyllite   | 77536675   | Not detected | Not detected |
| Chrysotile      | 12001295   | Not detected | Not detected |
| Crocidolite     | 12001284   | Not detected | Not detected |
| Tremolite       | 77536686   | Not detected | Not detected |
| Material        |            | soil         | soil         |

All tests undertaken between 21-Mar-2011 and 21-Mar-2011



2183

## Notes to accompany report:

- The in-house procedure SOP 2190 is employed to identify fibres in soil
- Sample size is reduced by coning and quartering to obtain a representative sub-sample
- The bulk identification is in accordance with the requirements of the analyst guide (HSG 248)
- Samples associated with asbestos are retained for six months
- The results relate only to the items tested as supplied by the client
- Comments or interpretations are beyond the scope of UKAS accreditation

# LABORATORY TEST REPORT

Results of analysis of 46 samples for asbestos fibres in soil  
received 11 March 2011  
S111809 - 605735 - 50354

Report Date  
21 March 2011

Signed

Albert Vella  
Senior Environmental Surveyor



2183

Notes to accompany report:

- The in-house procedure SOP 2190 is employed to identify fibres in soil
- Sample size is reduced by coning and quartering to obtain a representative sub-sample
- The bulk identification is in accordance with the requirements of the analyst guide (HSG 248)
- Samples associated with asbestos are retained for six months
- The results relate only to the items tested as supplied by the client
- Comments or interpretations are beyond the scope of UKAS accreditation



# Method Descriptions

| Matrix | MethodID | Analysis Basis | Method Description                                                                                                                                |
|--------|----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Soil   | FOCS     | Air Dried      | Calculation of Soil Organic Matter content from Organic Carbon content of soil samples                                                            |
| Soil   | GROHSA   | As Received    | Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace GCFID                                                              |
| Soil   | ICPBOR   | Air Dried      | Determination of Boron in soil samples by hot water extraction followed by ICPOES detection                                                       |
| Soil   | ICPMSS   | Air Dried      | Determination of Metals in soil samples by aqua regia digestion followed by ICPMS                                                                 |
| Soil   | PAHMSUS  | As Received    | Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection                                   |
| Soil   | PHSOIL   | As Received    | Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.                                                                     |
| Soil   | SFAPI    | As Received    | Segmented flow analysis with colorimetric detection                                                                                               |
| Soil   | Subcon*  | *              | Contact Laboratory for details of the methodology used by the sub-contractor.                                                                     |
| Soil   | TPHUSSI  | As Received    | Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions. |
| Soil   | WSLM59   | Air Dried      | Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection                  |

Where individual results are flagged see report notes for status.

# Report Notes

## Generic Notes

### Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

### Waters Analysis

Unless stated otherwise results are expressed as mg/l

### Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm<sup>3</sup>@ 15°C

### Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

### Asbestos Analysis

**CH** Denotes Chrysotile

**CR** Denotes Crocidolite

**AM** Denotes Amosite

**NAIIS** No Asbestos Identified in Sample

## Symbol Reference

<sup>^</sup> Sub-contracted analysis. Note: The accreditation status is that assigned by the subcontract laboratory.

**\$\$** Unable to analyse due to the nature of the sample

**¶** Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

**¥** Results for guidance only due to possible interference

**&** Blank corrected result

**I.S** Insufficient sample to complete requested analysis

**I.S(g)** Insufficient sample to re-analyse, results for guidance only

**Intf** Unable to analyse due to interferences

**N.D** Not determined

**N.Det** Not detected

**Req** Analysis requested, see attached sheets for results

**▮** Raised detection limit due to nature of the sample

**\*** All accreditation has been removed by the laboratory for this result

**‡** MCERTS accreditation has been removed for this result

**Note:** The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

## END OF REPORT

Where individual results are flagged see report notes for status.

# TEST REPORT

## WATER SAMPLE ANALYSIS



Report No. EXR/118417 (Ver. 1)

Soil Mechanics  
Askern Road  
Carcroft  
Doncaster  
South Yorkshire  
DN6 8DG

**Site: Ferrybridge PowerStn Phase 2**

The 8 samples described in this report were logged for analysis by Scientifics on 07-Apr-2011. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 19-Apr-2011

Tests where the accreditation is set to N or No, and any individual data items marked with a \* are not UKAS accredited  
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 4)  
Table of PAH (MS-SIM) (10) Results (Pages 5 to 12)  
Table of TPH (Si) banding (0.01) (Page 13)  
GC-FID Chromatograms (Pages 14 to 29)  
Analytical and Deviating Sample Overview (Pages 30 to 31)  
Table of Method Descriptions (Page 32)  
Table of Report Notes (Page 33)

On behalf of  
Scientifics :  
Andrew Timms

Operations Manager

Date of Issue: 19-Apr-2011

Tests marked '^' have been subcontracted to another laboratory.

Scientifics accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

| Units :<br>Method Codes :<br>Method Reporting Limits :<br>UKAS Accredited : |                                   |                 |          | mg/l                    | mg/l                               | mg/l                    | mg/l                        | mg/l                      | mg/l                          | mg/l                   | mg/l                     | mg/l                 | mg/l                   | mg/l                  | ug/l            | mg/l                 | mg/l               | mg/l               |
|-----------------------------------------------------------------------------|-----------------------------------|-----------------|----------|-------------------------|------------------------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|--------------------------|----------------------|------------------------|-----------------------|-----------------|----------------------|--------------------|--------------------|
|                                                                             |                                   |                 | WSLM3    | Calc HD                 | ICPWATVAR                          | ICPWATVAR               | ICPWATVAR                   | ICPWATVAR                 | ICPWATVAR                     | ICPWATVAR              | ICPWATVAR                | ICPMSW               | ICPMSW                 | ICPMSW                | PAHMSW          | ICPMSW               | ICPMSW             | ICPMSW             |
|                                                                             |                                   |                 |          |                         | 3.0                                | 1.0                     | 1.0                         | 1.0                       | 1.0                           | 1.0                    | 1.0                      | 0.001                | 0.001                  | 0.0001                | 0.01            | 0.001                | 0.001              | 0.002              |
|                                                                             |                                   |                 | yes      | yes                     | yes                                | yes                     | yes                         | yes                       | yes                           | yes                    | yes                      | yes                  | yes                    | yes                   | yes             | yes                  | yes                | yes                |
| Laboratory ID Number EX/                                                    | Client Sample Description         | Sample Date     | pH units | Total Hardness as CaCO3 | Total Sulphur as SO4 (Dissolved) a | Calcium as Ca (Total) a | Calcium as Ca (Dissolved) a | Magnesium as Mg (Total) a | Magnesium as Mg (Dissolved) a | Sodium as Na (Total) a | Potassium as K (Total) a | Nickel as Ni (Total) | Chromium as Cr (Total) | Cadmium as Cd (Total) | PAH MS-SIM (16) | Copper as Cu (Total) | Lead as Pb (Total) | Zinc as Zn (Total) |
| 1113808                                                                     | WS606 EWM 18 2.96                 | 04-Apr-11 12:37 | 7.8      | 689                     | 122                                | 193                     | 226                         | 31                        | 30                            | 17                     | 12                       | 0.005                | 0.001                  | <0.0001               | Req             | 0.003                | 0.002              | 0.007              |
| 1113809                                                                     | BH601 EWM 9 3.60                  | 04-Apr-11 14:25 | 7.7      | 292                     | 77                                 | 85                      | 84                          | 21                        | 20                            | 75                     | 11                       | 0.003                | 0.006                  | <0.0001               | Req             | 0.004                | <0.001             | 0.005              |
| 1113810                                                                     | BH605 EWM 13 4.98                 | 04-Apr-11 10:35 | 7.3      | 695                     | 238                                | 169                     | 166                         | 70                        | 68                            | 107                    | 9                        | 0.002                | 0.001                  | <0.0001               | Req             | 0.002                | <0.001             | 0.008              |
| 1113811                                                                     | BH608 EWM 12 6.07                 | 04-Apr-11 08:12 | 7.6      | 283                     | 62                                 | 77                      | 67                          | 33                        | 28                            | 46                     | 5                        | 0.012                | 0.004                  | 0.001                 | Req             | 0.039                | 0.007              | 0.022              |
| 1113812                                                                     | BH609 EWM 10 7.08                 | 04-Apr-11 09:50 | 7.3      | 552                     | 116                                | 154                     | 150                         | 46                        | 43                            | 47                     | 22                       | 0.002                | 0.001                  | <0.0001               | Req             | 0.003                | <0.001             | 0.008              |
| 1113813                                                                     | BH611 EWM 28 4.10                 | 04-Apr-11 13:00 | 7.4      | 585                     | 199                                | 133                     | 145                         | 50                        | 54                            | 140                    | 6                        | 0.005                | 0.002                  | <0.0001               | Req             | 0.028                | 0.003              | 0.027              |
| 1113814                                                                     | Fryston Beck Upstream EW 1 0.00   | 04-Apr-11 15:45 | 8.1      | 736                     | 270                                | 166                     | 166                         | 81                        | 78                            | 135                    | 8                        | 0.004                | 0.001                  | <0.0001               | Req             | 0.002                | <0.001             | 0.011              |
| 1113815                                                                     | Fryston Beck Downstream EW 1 0.00 | 04-Apr-11 15:30 | 8.1      | 681                     | 247                                | 154                     | 152                         | 74                        | 73                            | 123                    | 7                        | 0.004                | 0.001                  | <0.0001               | Req             | 0.002                | <0.001             | 0.008              |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
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|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
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|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
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|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |
|                                                                             |                                   |                 |          |                         |                                    |                         |                             |                           |                               |                        |                          |                      |                        |                       |                 |                      |                    |                    |

[illegible]

[illegible]

# Polycyclic Aromatic Hydrocarbons

## GC/MS (SIM)

|                                   |                                              |                        |             |
|-----------------------------------|----------------------------------------------|------------------------|-------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 |                        |             |
| <b>Sample Details:</b>            | WS606 EWM 18 2.96                            | <b>Job Number:</b>     | W11_8417    |
| <b>LIMS ID Number:</b>            | EX1113808                                    | <b>Date Booked in:</b> | 07-Apr-11   |
| <b>QC Batch Number:</b>           | 110343                                       | <b>Date Extracted:</b> | 15-Apr-11   |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Date Analysed:</b>  | 16-Apr-11   |
| <b>Directory:</b>                 | 414PAH.MS10\                                 | <b>Matrix:</b>         | Water       |
| <b>Dilution:</b>                  | 1.0                                          | <b>Ext Method:</b>     | Sep. Funnel |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>ug/l | % Fit |
|------------------------|----------|---------------|-----------------------|-------|
| Naphthalene            | 91-20-3  | -             | < 0.010               | -     |
| Acenaphthylene         | 208-96-8 | -             | < 0.010               | -     |
| Acenaphthene           | 83-32-9  | -             | < 0.010               | -     |
| Fluorene               | 86-73-7  | -             | < 0.010               | -     |
| Phenanthrene           | 85-01-8  | 5.58          | 0.012                 | M     |
| Anthracene             | 120-12-7 | 5.63          | 0.014                 | M     |
| Fluoranthene           | 206-44-0 | 6.89          | 0.018                 | 65    |
| Pyrene                 | 129-00-0 | 7.18          | 0.072                 | 61    |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.010               | -     |
| Chrysene               | 218-01-9 | -             | < 0.010               | -     |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.010               | -     |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.010               | -     |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.010               | -     |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.010               | -     |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.010               | -     |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.010               | -     |
| Total (USEPA16) PAHs   | -        | -             | < 0.236               | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 102    |
| Acenaphthene-d10       | 110    |
| Phenanthrene-d10       | 128    |
| Chrysene-d12           | 139    |
| Perylene-d12           | 142    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 75    |
| Terphenyl-d14    | 98    |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons

## GC/MS (SIM)

|                                   |                                              |                        |             |
|-----------------------------------|----------------------------------------------|------------------------|-------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 |                        |             |
| <b>Sample Details:</b>            | BH601 EWM 9 3.60                             | <b>Job Number:</b>     | W11_8417    |
| <b>LIMS ID Number:</b>            | EX1113809                                    | <b>Date Booked in:</b> | 07-Apr-11   |
| <b>QC Batch Number:</b>           | 110343                                       | <b>Date Extracted:</b> | 15-Apr-11   |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Date Analysed:</b>  | 16-Apr-11   |
| <b>Directory:</b>                 | 414PAH.MS10\                                 | <b>Matrix:</b>         | Water       |
| <b>Dilution:</b>                  | 1.0                                          | <b>Ext Method:</b>     | Sep. Funnel |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T. (min) | Concentration ug/l | % Fit |
|------------------------|----------|------------|--------------------|-------|
| Naphthalene            | 91-20-3  | -          | < 0.010            | -     |
| Acenaphthylene         | 208-96-8 | -          | < 0.010            | -     |
| Acenaphthene           | 83-32-9  | -          | < 0.010            | -     |
| Fluorene               | 86-73-7  | -          | < 0.010            | -     |
| Phenanthrene           | 85-01-8  | -          | < 0.010            | -     |
| Anthracene             | 120-12-7 | -          | < 0.010            | -     |
| Fluoranthene           | 206-44-0 | 6.90       | 0.021              | 65    |
| Pyrene                 | 129-00-0 | 7.18       | 0.019              | 76    |
| Benzo[a]anthracene     | 56-55-3  | 8.85       | 0.022              | 65    |
| Chrysene               | 218-01-9 | 8.89       | 0.011              | 79    |
| Benzo[b]fluoranthene   | 205-99-2 | 10.37      | 0.012              | 74    |
| Benzo[k]fluoranthene   | 207-08-9 | -          | < 0.010            | -     |
| Benzo[a]pyrene         | 50-32-8  | -          | < 0.010            | -     |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -          | < 0.010            | -     |
| Dibenzo[a,h]anthracene | 53-70-3  | -          | < 0.010            | -     |
| Benzo[g,h,i]perylene   | 191-24-2 | -          | < 0.010            | -     |
| Total (USEPA16) PAHs   | -        | -          | < 0.195            | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 90     |
| Acenaphthene-d10       | 91     |
| Phenanthrene-d10       | 99     |
| Chrysene-d12           | 106    |
| Perylene-d12           | 106    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 84    |
| Terphenyl-d14    | 103   |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.



# Polycyclic Aromatic Hydrocarbons

## GC/MS (SIM)

|                                   |                                              |                        |             |
|-----------------------------------|----------------------------------------------|------------------------|-------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 |                        |             |
| <b>Sample Details:</b>            | BH605 EWM 13 4.98                            | <b>Job Number:</b>     | W11_8417    |
| <b>LIMS ID Number:</b>            | EX1113810                                    | <b>Date Booked in:</b> | 07-Apr-11   |
| <b>QC Batch Number:</b>           | 110343                                       | <b>Date Extracted:</b> | 15-Apr-11   |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Date Analysed:</b>  | 16-Apr-11   |
| <b>Directory:</b>                 | 414PAH.MS10\                                 | <b>Matrix:</b>         | Water       |
| <b>Dilution:</b>                  | 1.0                                          | <b>Ext Method:</b>     | Sep. Funnel |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T. (min) | Concentration ug/l | % Fit |
|------------------------|----------|------------|--------------------|-------|
| Naphthalene            | 91-20-3  | -          | < 0.010            | -     |
| Acenaphthylene         | 208-96-8 | 4.26       | 0.021              | 86    |
| Acenaphthene           | 83-32-9  | 4.37       | 0.012              | 92    |
| Fluorene               | 86-73-7  | 4.75       | 0.015              | 64    |
| Phenanthrene           | 85-01-8  | 5.58       | 0.225              | 98    |
| Anthracene             | 120-12-7 | 5.63       | 0.070              | 95    |
| Fluoranthene           | 206-44-0 | 6.90       | 0.707              | 91    |
| Pyrene                 | 129-00-0 | 7.18       | 0.594              | 91    |
| Benzo[a]anthracene     | 56-55-3  | 8.84       | 0.386              | 97    |
| Chrysene               | 218-01-9 | 8.89       | 0.342              | 99    |
| Benzo[b]fluoranthene   | 205-99-2 | 10.37      | 0.392              | 88    |
| Benzo[k]fluoranthene   | 207-08-9 | 10.40      | 0.160              | 88    |
| Benzo[a]pyrene         | 50-32-8  | 10.79      | 0.321              | 91    |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.16      | 0.228              | 91    |
| Dibenzo[a,h]anthracene | 53-70-3  | 12.19      | 0.040              | 60    |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.45      | 0.189              | 82    |
| Total (USEPA16) PAHs   | -        | -          | < 3.712            | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 104    |
| Acenaphthene-d10       | 106    |
| Phenanthrene-d10       | 118    |
| Chrysene-d12           | 126    |
| Perylene-d12           | 129    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 73    |
| Terphenyl-d14    | 88    |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons

## GC/MS (SIM)

|                                   |                                              |                        |             |
|-----------------------------------|----------------------------------------------|------------------------|-------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 |                        |             |
| <b>Sample Details:</b>            | BH608 EWM 12 6.07                            | <b>Job Number:</b>     | W11_8417    |
| <b>LIMS ID Number:</b>            | EX1113811                                    | <b>Date Booked in:</b> | 07-Apr-11   |
| <b>QC Batch Number:</b>           | 110343                                       | <b>Date Extracted:</b> | 15-Apr-11   |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Date Analysed:</b>  | 16-Apr-11   |
| <b>Directory:</b>                 | 414PAH.MS10\                                 | <b>Matrix:</b>         | Water       |
| <b>Dilution:</b>                  | 1.0                                          | <b>Ext Method:</b>     | Sep. Funnel |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T. (min) | Concentration ug/l | % Fit |
|------------------------|----------|------------|--------------------|-------|
| Naphthalene            | 91-20-3  | 3.21       | 0.024              | M     |
| Acenaphthylene         | 208-96-8 | 4.27       | 0.133              | M     |
| Acenaphthene           | 83-32-9  | 4.36       | 0.427              | M     |
| Fluorene               | 86-73-7  | 4.76       | 0.080              | M     |
| Phenanthrene           | 85-01-8  | 5.58       | 0.271              | 100   |
| Anthracene             | 120-12-7 | 5.63       | 0.102              | 94    |
| Fluoranthene           | 206-44-0 | 6.89       | 0.740              | 91    |
| Pyrene                 | 129-00-0 | 7.18       | 0.717              | 91    |
| Benzo[a]anthracene     | 56-55-3  | 8.84       | 0.412              | 98    |
| Chrysene               | 218-01-9 | 8.89       | 0.325              | 99    |
| Benzo[b]fluoranthene   | 205-99-2 | 10.36      | 0.354              | 90    |
| Benzo[k]fluoranthene   | 207-08-9 | 10.40      | 0.130              | 91    |
| Benzo[a]pyrene         | 50-32-8  | 10.79      | 0.296              | 88    |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.16      | 0.107              | 62    |
| Dibenzo[a,h]anthracene | 53-70-3  | 12.19      | 0.024              | 79    |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.45      | 0.098              | 93    |
| Total (USEPA16) PAHs   | -        | -          | 4.240              | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 107    |
| Acenaphthene-d10       | 117    |
| Phenanthrene-d10       | 132    |
| Chrysene-d12           | 140    |
| Perylene-d12           | 149    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 59    |
| Terphenyl-d14    | 66    |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons

## GC/MS (SIM)

|                                   |                                              |                        |             |
|-----------------------------------|----------------------------------------------|------------------------|-------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 |                        |             |
| <b>Sample Details:</b>            | BH609 EWM 10 7.08                            | <b>Job Number:</b>     | W11_8417    |
| <b>LIMS ID Number:</b>            | EX1113812                                    | <b>Date Booked in:</b> | 07-Apr-11   |
| <b>QC Batch Number:</b>           | 110343                                       | <b>Date Extracted:</b> | 15-Apr-11   |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Date Analysed:</b>  | 16-Apr-11   |
| <b>Directory:</b>                 | 414PAH.MS10\                                 | <b>Matrix:</b>         | Water       |
| <b>Dilution:</b>                  | 1.0                                          | <b>Ext Method:</b>     | Sep. Funnel |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T. (min) | Concentration ug/l | % Fit |
|------------------------|----------|------------|--------------------|-------|
| Naphthalene            | 91-20-3  | -          | < 0.010            | -     |
| Acenaphthylene         | 208-96-8 | -          | < 0.010            | -     |
| Acenaphthene           | 83-32-9  | -          | < 0.010            | -     |
| Fluorene               | 86-73-7  | -          | < 0.010            | -     |
| Phenanthrene           | 85-01-8  | 5.58       | 0.021              | 88    |
| Anthracene             | 120-12-7 | -          | < 0.010            | -     |
| Fluoranthene           | 206-44-0 | 6.90       | 0.072              | 65    |
| Pyrene                 | 129-00-0 | 7.18       | 0.070              | M     |
| Benzo[a]anthracene     | 56-55-3  | 8.84       | 0.053              | 96    |
| Chrysene               | 218-01-9 | 8.89       | 0.040              | 94    |
| Benzo[b]fluoranthene   | 205-99-2 | 10.36      | 0.060              | 89    |
| Benzo[k]fluoranthene   | 207-08-9 | 10.40      | 0.027              | 90    |
| Benzo[a]pyrene         | 50-32-8  | 10.79      | 0.044              | 87    |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.16      | 0.033              | 90    |
| Dibenzo[a,h]anthracene | 53-70-3  | -          | < 0.010            | -     |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.45      | 0.026              | 69    |
| Total (USEPA16) PAHs   | -        | -          | < 0.506            | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 112    |
| Acenaphthene-d10       | 115    |
| Phenanthrene-d10       | 128    |
| Chrysene-d12           | 140    |
| Perylene-d12           | 142    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 75    |
| Terphenyl-d14    | 92    |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons

## GC/MS (SIM)

|                                   |                                              |                        |             |
|-----------------------------------|----------------------------------------------|------------------------|-------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 |                        |             |
| <b>Sample Details:</b>            | BH611 EWM 28 4.10                            | <b>Job Number:</b>     | W11_8417    |
| <b>LIMS ID Number:</b>            | EX1113813                                    | <b>Date Booked in:</b> | 07-Apr-11   |
| <b>QC Batch Number:</b>           | 110343                                       | <b>Date Extracted:</b> | 15-Apr-11   |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Date Analysed:</b>  | 16-Apr-11   |
| <b>Directory:</b>                 | 414PAH.MS10\                                 | <b>Matrix:</b>         | Water       |
| <b>Dilution:</b>                  | 1.0                                          | <b>Ext Method:</b>     | Sep. Funnel |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>ug/l | % Fit |
|------------------------|----------|---------------|-----------------------|-------|
| Naphthalene            | 91-20-3  | -             | < 0.010               | -     |
| Acenaphthylene         | 208-96-8 | -             | < 0.010               | -     |
| Acenaphthene           | 83-32-9  | -             | < 0.010               | -     |
| Fluorene               | 86-73-7  | -             | < 0.010               | -     |
| Phenanthrene           | 85-01-8  | -             | < 0.010               | -     |
| Anthracene             | 120-12-7 | -             | < 0.010               | -     |
| Fluoranthene           | 206-44-0 | -             | < 0.010               | -     |
| Pyrene                 | 129-00-0 | -             | < 0.010               | -     |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.010               | -     |
| Chrysene               | 218-01-9 | -             | < 0.010               | -     |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.010               | -     |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.010               | -     |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.010               | -     |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.010               | -     |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.010               | -     |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.010               | -     |
| Total (USEPA16) PAHs   | -        | -             | < 0.160               | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 105    |
| Acenaphthene-d10       | 110    |
| Phenanthrene-d10       | 124    |
| Chrysene-d12           | 139    |
| Perylene-d12           | 137    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 75    |
| Terphenyl-d14    | 98    |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                              |                        |             |
|-----------------------------------|----------------------------------------------|------------------------|-------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 | <b>Job Number:</b>     | W11_8417    |
| <b>Sample Details:</b>            | Fryston Beck Upstream EW 1 0.00              | <b>Date Booked in:</b> | 07-Apr-11   |
| <b>LIMS ID Number:</b>            | EX1113814                                    | <b>Date Extracted:</b> | 15-Apr-11   |
| <b>QC Batch Number:</b>           | 110343                                       | <b>Date Analysed:</b>  | 16-Apr-11   |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Matrix:</b>         | Water       |
| <b>Directory:</b>                 | 414PAH.MS10\                                 | <b>Ext Method:</b>     | Sep. Funnel |
| <b>Dilution:</b>                  | 1.0                                          |                        |             |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>ug/l | % Fit |
|------------------------|----------|---------------|-----------------------|-------|
| Naphthalene            | 91-20-3  | 3.21          | 0.010                 | 77    |
| Acenaphthylene         | 208-96-8 | -             | < 0.010               | -     |
| Acenaphthene           | 83-32-9  | -             | < 0.010               | -     |
| Fluorene               | 86-73-7  | -             | < 0.010               | -     |
| Phenanthrene           | 85-01-8  | -             | < 0.010               | -     |
| Anthracene             | 120-12-7 | -             | < 0.010               | -     |
| Fluoranthene           | 206-44-0 | -             | < 0.010               | -     |
| Pyrene                 | 129-00-0 | -             | < 0.010               | -     |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.010               | -     |
| Chrysene               | 218-01-9 | -             | < 0.010               | -     |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.010               | -     |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.010               | -     |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.010               | -     |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.010               | -     |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.010               | -     |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.010               | -     |
| Total (USEPA16) PAHs   | -        | -             | < 0.160               | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 105    |
| Acenaphthene-d10       | 107    |
| Phenanthrene-d10       | 118    |
| Chrysene-d12           | 124    |
| Perylene-d12           | 120    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 76    |
| Terphenyl-d14    | 93    |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                              |                        |             |
|-----------------------------------|----------------------------------------------|------------------------|-------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 |                        |             |
| <b>Sample Details:</b>            | Fryston Beck Downstream EW 1 0.00            | <b>Job Number:</b>     | W11_8417    |
| <b>LIMS ID Number:</b>            | EX1113815                                    | <b>Date Booked in:</b> | 07-Apr-11   |
| <b>QC Batch Number:</b>           | 110343                                       | <b>Date Extracted:</b> | 15-Apr-11   |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Date Analysed:</b>  | 16-Apr-11   |
| <b>Directory:</b>                 | 414PAH.MS10\                                 | <b>Matrix:</b>         | Water       |
| <b>Dilution:</b>                  | 1.0                                          | <b>Ext Method:</b>     | Sep. Funnel |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>ug/l | % Fit |
|------------------------|----------|---------------|-----------------------|-------|
| Naphthalene            | 91-20-3  | 3.22          | 0.010                 | 78    |
| Acenaphthylene         | 208-96-8 | -             | < 0.010               | -     |
| Acenaphthene           | 83-32-9  | -             | < 0.010               | -     |
| Fluorene               | 86-73-7  | -             | < 0.010               | -     |
| Phenanthrene           | 85-01-8  | -             | < 0.010               | -     |
| Anthracene             | 120-12-7 | -             | < 0.010               | -     |
| Fluoranthene           | 206-44-0 | -             | < 0.010               | -     |
| Pyrene                 | 129-00-0 | -             | < 0.010               | -     |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.010               | -     |
| Chrysene               | 218-01-9 | -             | < 0.010               | -     |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.010               | -     |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.010               | -     |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.010               | -     |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.010               | -     |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.010               | -     |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.010               | -     |
| Total (USEPA16) PAHs   | -        | -             | < 0.160               | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 101    |
| Acenaphthene-d10       | 107    |
| Phenanthrene-d10       | 116    |
| Chrysene-d12           | 124    |
| Perylene-d12           | 124    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 72    |
| Terphenyl-d14    | 94    |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details:  
Job Number:  
QC Batch Number:  
Directory:  
Method:

Soil Mechanics : Ferrybridge PowerStn Phase 2  
W11\_8417  
110343  
D:\TES\DATA\Y2011\041811\TPH\_GC16\041811 2011-04-18 09-57-31\073B2601.D  
Separating Funnel

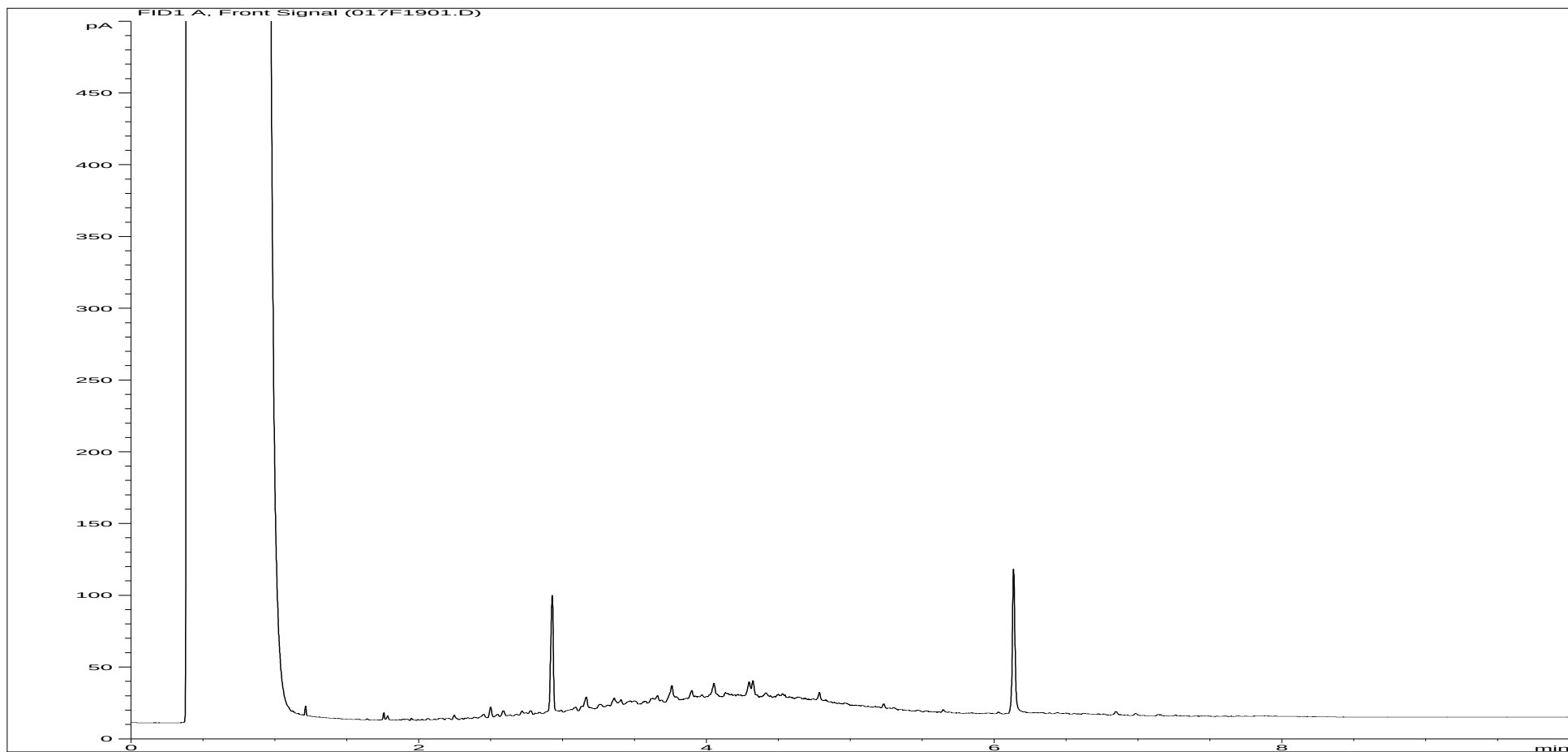
Separation: Silica gel  
Eluents: Hexane, DCM

Matrix: Water  
Date Booked in 07-Apr-11  
Date Extracted: 15-Apr-11  
Date Analysed: 18-Apr-11, 17:10:45

|           |                                   | Concentration, (mg/l) |           |            |           |            |           |            |           |            |           |            |           |
|-----------|-----------------------------------|-----------------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
|           |                                   | >C8 - C10             |           | >C10 - C12 |           | >C12 - C16 |           | >C16 - C21 |           | >C21 - C35 |           | >C8 - C40  |           |
| Sample ID | Client ID                         | Aliphatics            | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics | Aliphatics | Aromatics |
| EX1113808 | WS606 EWM 18 2.96                 | <0.01                 | <0.01     | <0.01      | <0.01     | 0.114      | 0.031     | 0.199      | 0.11      | 0.14       | 0.095     | 0.475      | 0.251     |
| EX1113809 | BH601 EWM 9 3.60                  | <0.01                 | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     |
| EX1113810 | BH605 EWM 13 4.98                 | <0.01                 | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | 0.01       | 0.017     | 0.013      | 0.029     |
| EX1113811 | BH608 EWM 12 6.07                 | <0.01                 | <0.01     | 0.309      | <0.01     | 15.7       | 0.45      | 0.218      | 0.017     | 0.034      | 0.062     | 16.3       | 0.544     |
| EX1113812 | BH609 EWM 10 7.08                 | <0.01                 | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | 0.01       | 0.015     |
| EX1113813 | BH611 EWM 28 4.10                 | <0.01                 | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | 0.012     |
| EX1113814 | Fryston Beck Upstream EW 1 0.00   | <0.01                 | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | 0.012     |
| EX1113815 | Fryston Beck Downstream EW 1 0.00 | <0.01                 | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | <0.01     | <0.01      | 0.012     |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |
|           |                                   |                       |           |            |           |            |           |            |           |            |           |            |           |

\* This sample data is not UKAS accredited.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.

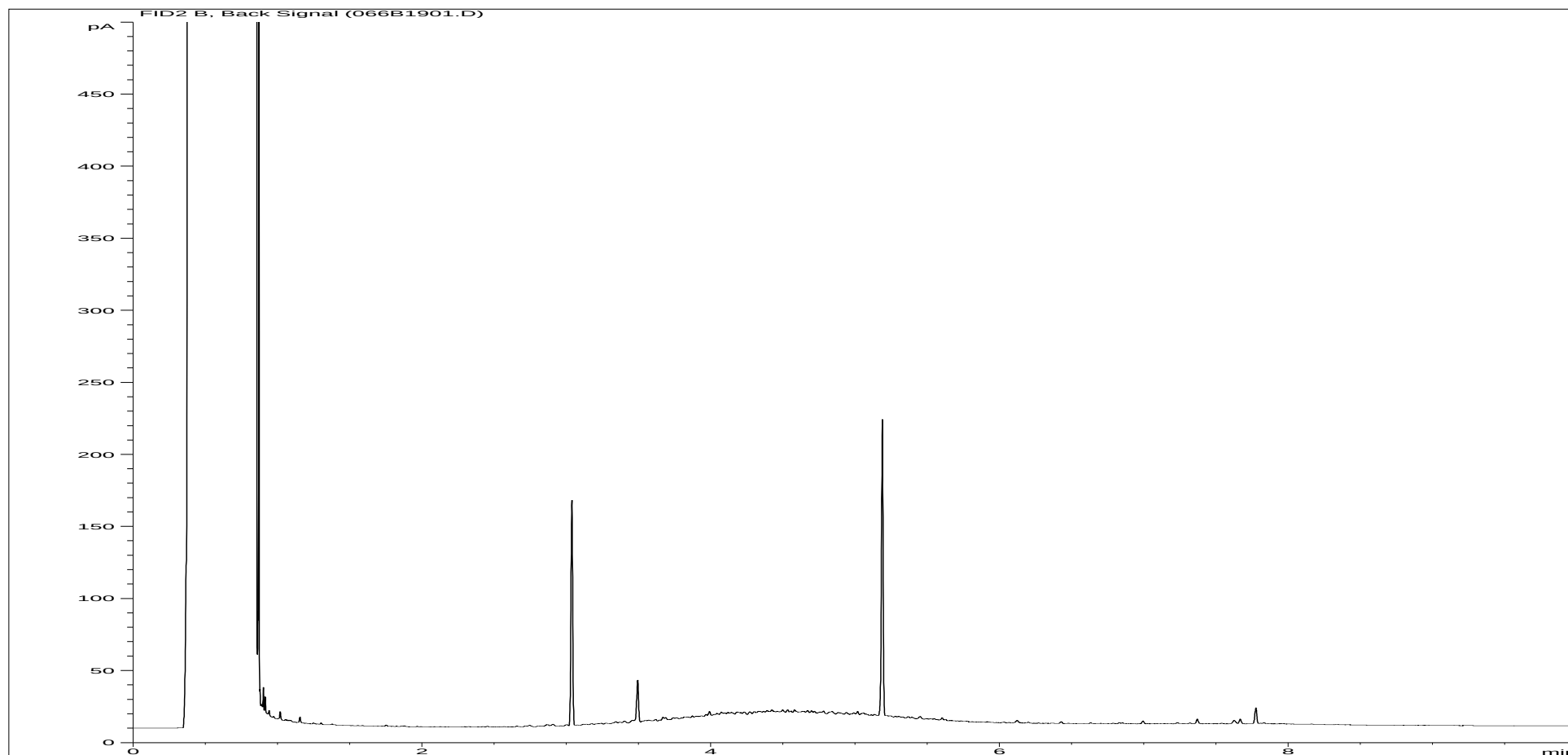


|                        |                                                                         |                    |                              |
|------------------------|-------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1113808ALI                                                            | Job Number:        | W11_8417                     |
| Multiplier:            | 0.019                                                                   | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | WS606 EWM 18 2.96            |
| Acquisition Date/Time: | 18-Apr-11, 15:09:15                                                     |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\041811\TPH_GC16\041811 2011-04-18 09-57-31\017F1901.D |                    |                              |

Where individual results are flagged see report notes for status.



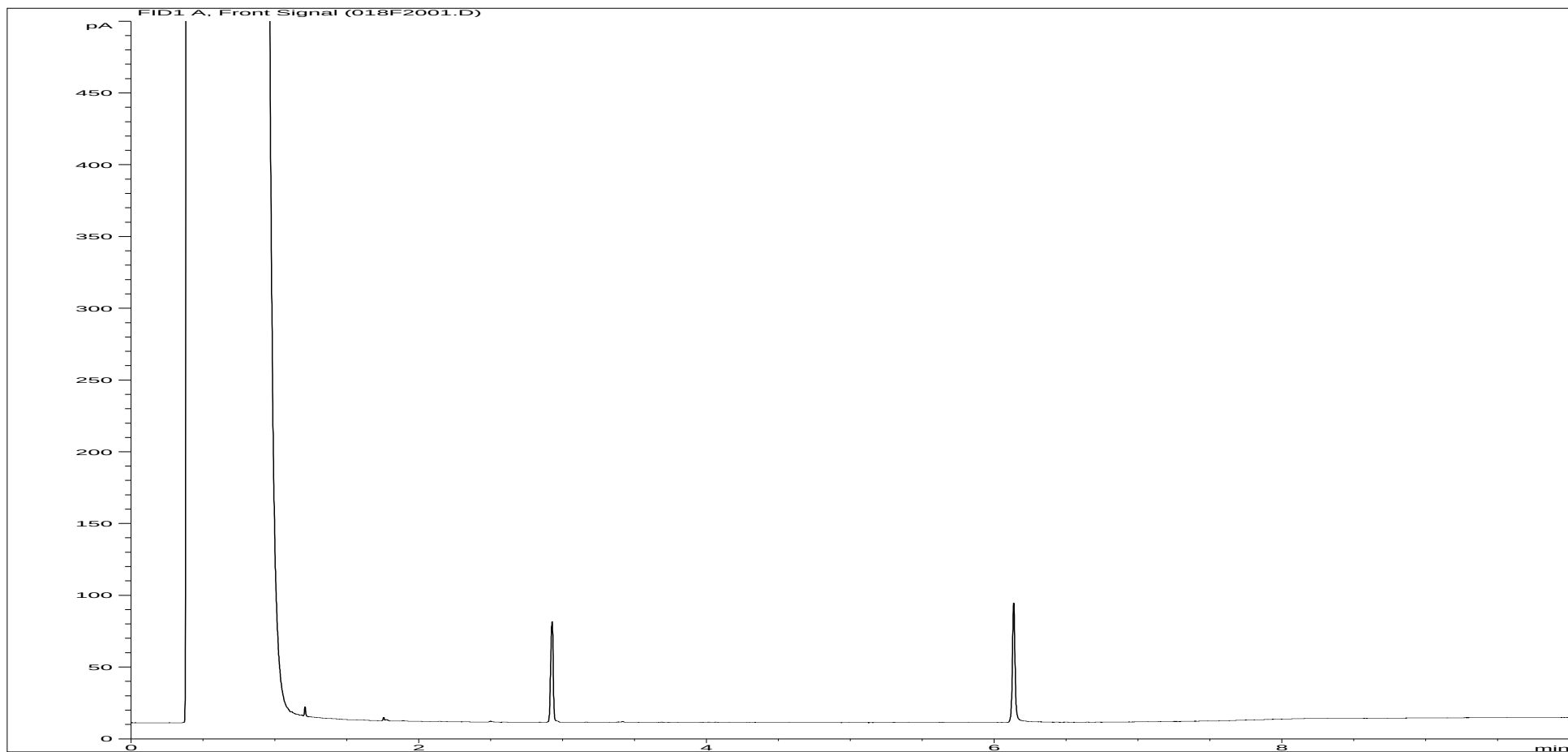
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



|                        |                                                                         |                    |                              |
|------------------------|-------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1113808ARO                                                            | Job Number:        | W11_8417                     |
| Multiplier:            | 0.015                                                                   | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | WS606 EWM 18 2.96            |
| Acquisition Date/Time: | 18-Apr-11, 15:09:15                                                     |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\041811\TPH_GC16\041811 2011-04-18 09-57-31\066B1901.D |                    |                              |

Where individual results are flagged see report notes for status.

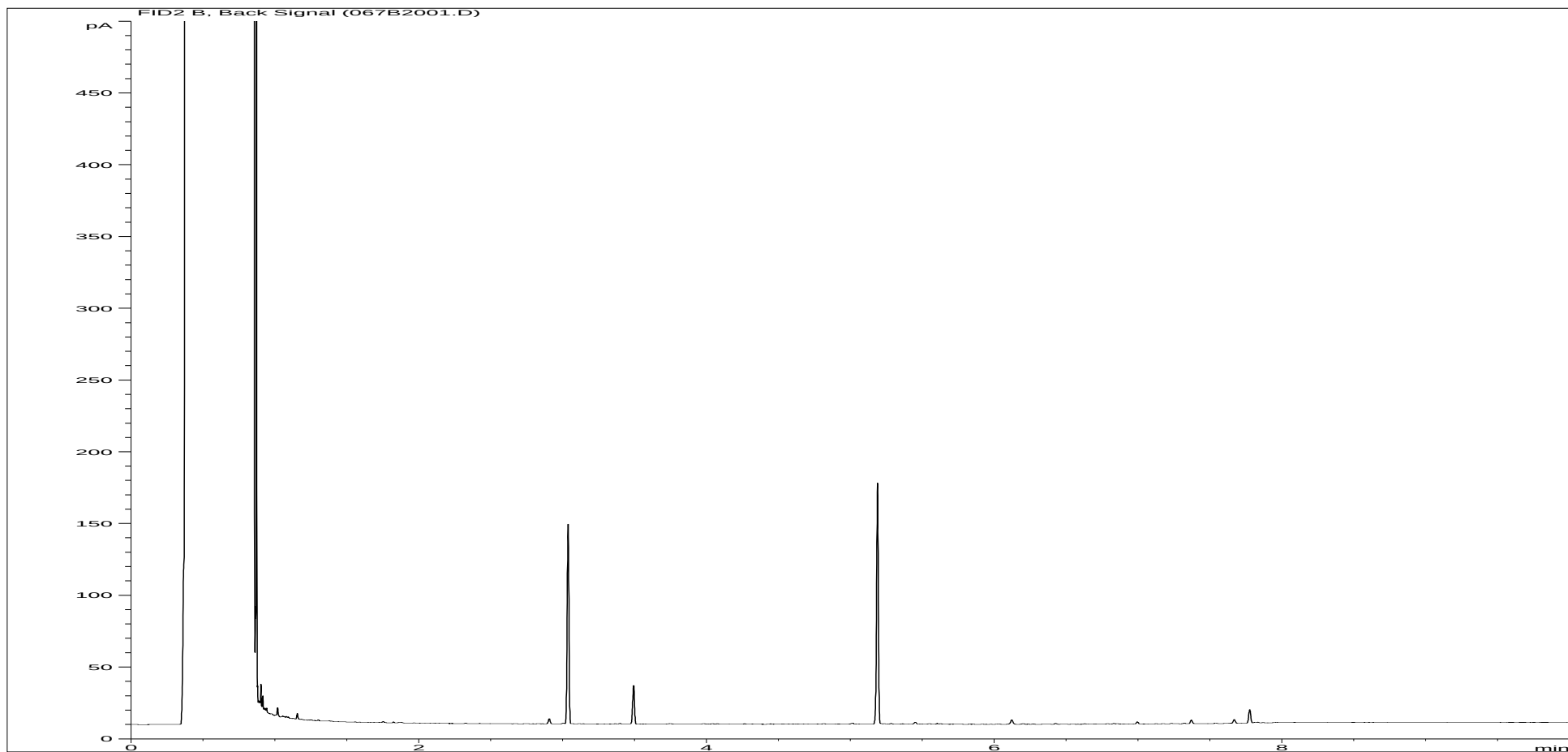
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                                        |                           |                              |
|-------------------------------|------------------------------------------------------------------------|---------------------------|------------------------------|
| <b>Sample ID:</b>             | EX1113809ALI                                                           | <b>Job Number:</b>        | W11_8417                     |
| <b>Multiplier:</b>            | 0.019                                                                  | <b>Client:</b>            | Soil Mechanics               |
| <b>Dilution:</b>              | 1                                                                      | <b>Site:</b>              | Ferrybridge PowerStn Phase 2 |
| <b>Acquisition Method:</b>    | TPH_RUNF.M                                                             | <b>Client Sample Ref:</b> | BH601 EWM 9 3.60             |
| <b>Acquisition Date/Time:</b> | 18-Apr-11, 15:26:39                                                    |                           |                              |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\041811TPH_GC16\041811 2011-04-18 09-57-31\018F2001.D |                           |                              |

Where individual results are flagged see report notes for status.

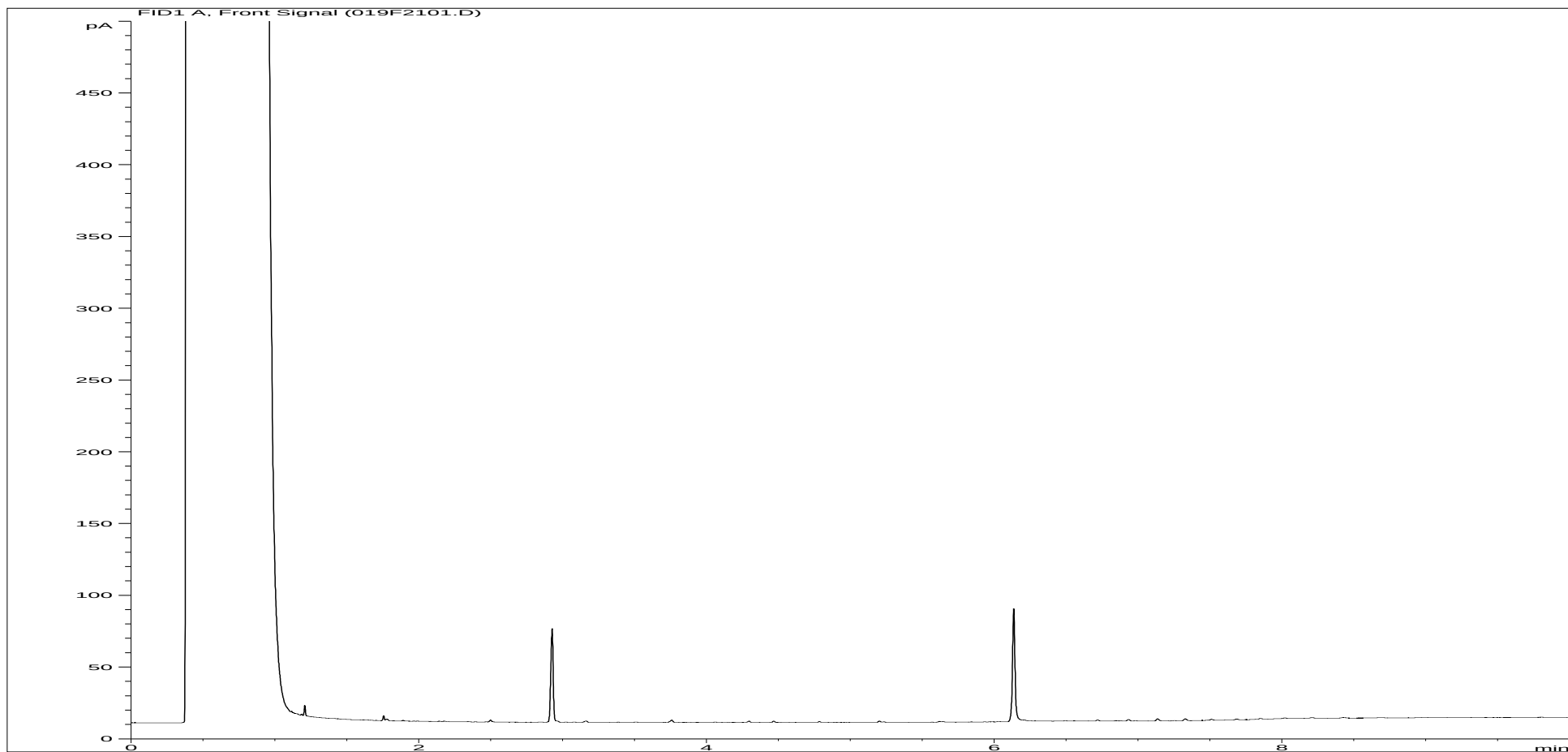
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



|                        |                                                                         |                    |                              |
|------------------------|-------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1113809ARO                                                            | Job Number:        | W11_8417                     |
| Multiplier:            | 0.015                                                                   | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | BH601 EWM 9 3.60             |
| Acquisition Date/Time: | 18-Apr-11, 15:26:39                                                     |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\041811\TPH_GC16\041811 2011-04-18 09-57-31\067B2001.D |                    |                              |

Where individual results are flagged see report notes for status.

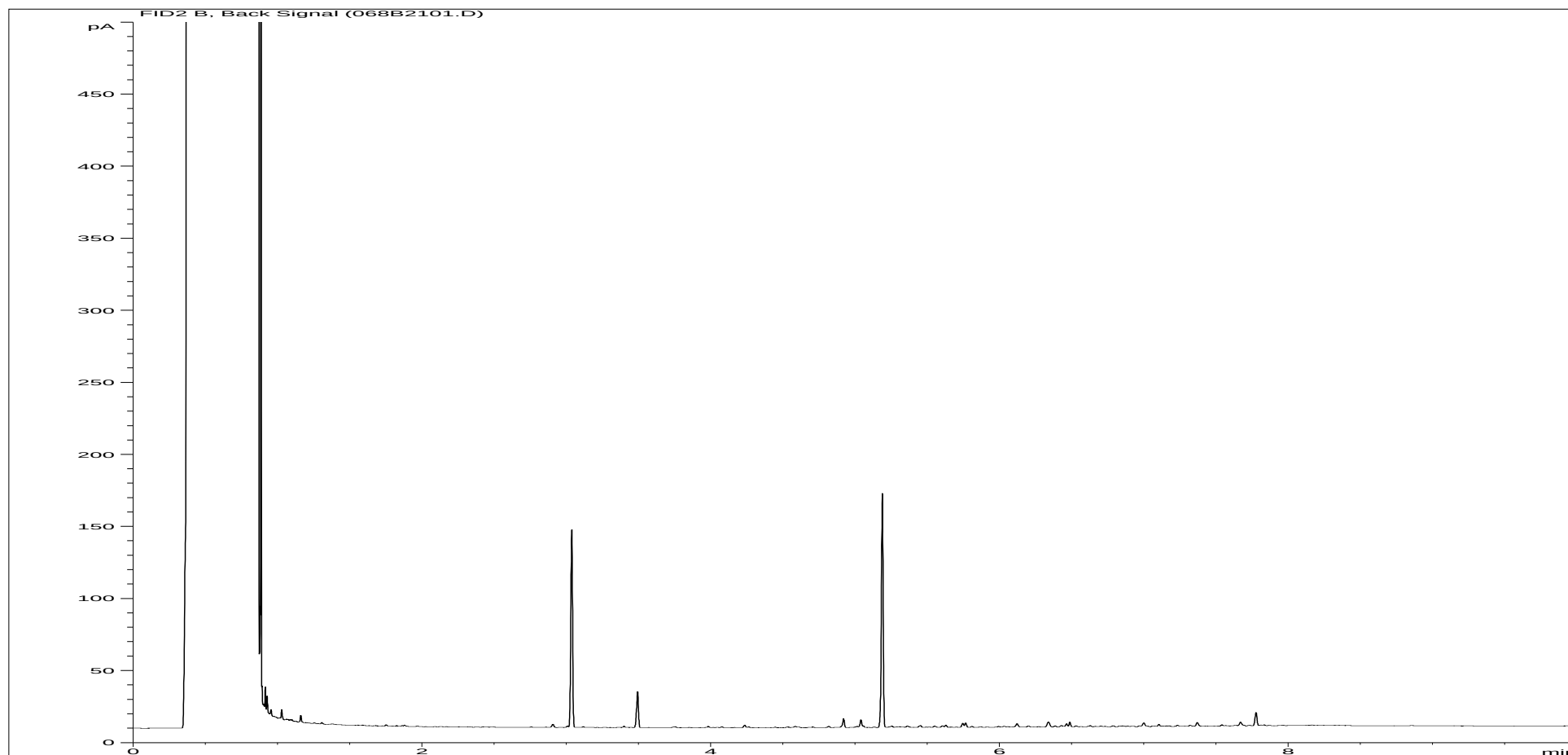
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



|                        |                                                                        |                    |                              |
|------------------------|------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1113810ALI                                                           | Job Number:        | W11_8417                     |
| Multiplier:            | 0.019                                                                  | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                      | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                             | Client Sample Ref: | BH605 EWM 13 4.98            |
| Acquisition Date/Time: | 18-Apr-11, 15:44:03                                                    |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\041811TPH_GC16\041811 2011-04-18 09-57-31\019F2101.D |                    |                              |

Where individual results are flagged see report notes for status.

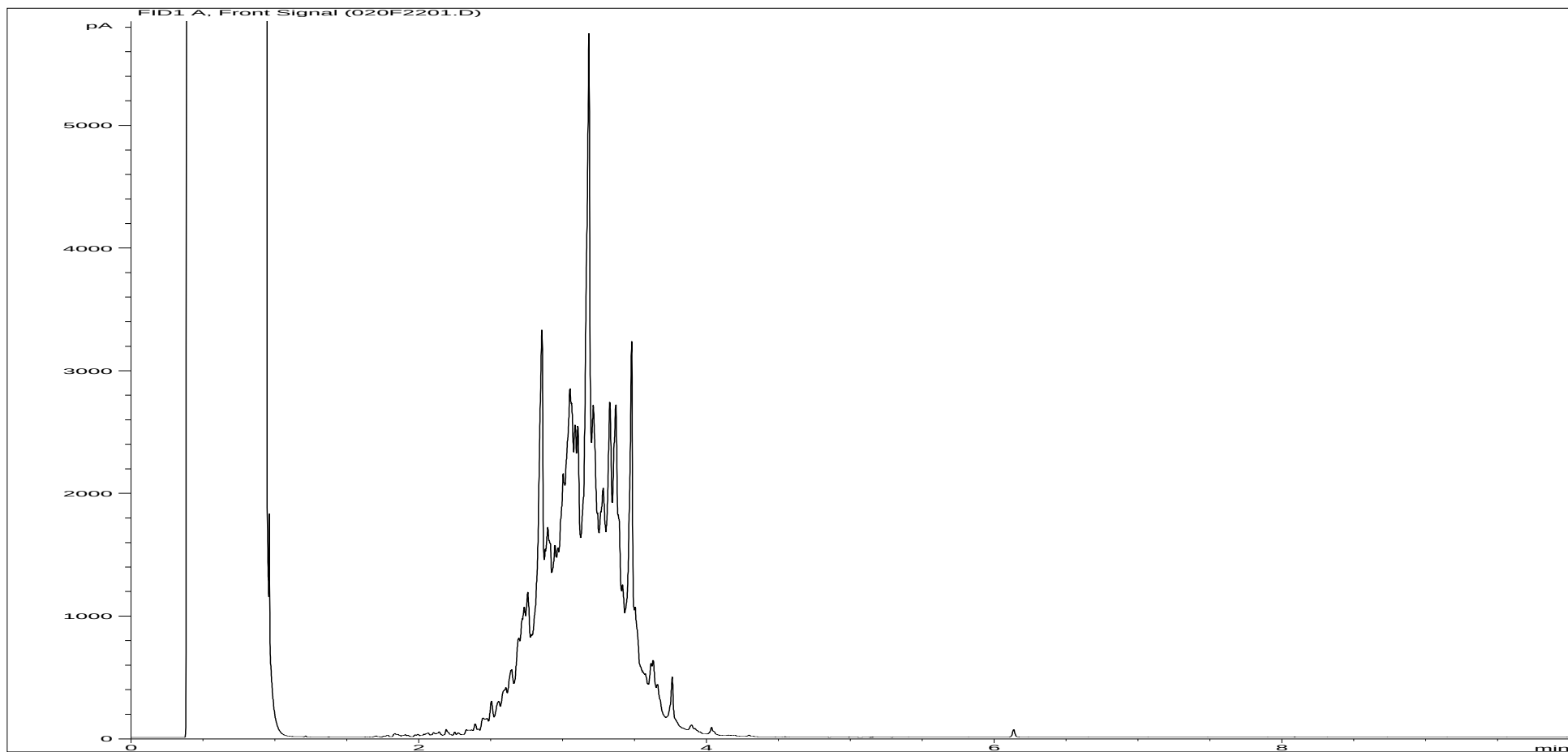
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



|                        |                                                                         |                    |                              |
|------------------------|-------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1113810ARO                                                            | Job Number:        | W11_8417                     |
| Multiplier:            | 0.015                                                                   | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | BH605 EWM 13 4.98            |
| Acquisition Date/Time: | 18-Apr-11, 15:44:03                                                     |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\041811\TPH_GC16\041811 2011-04-18 09-57-31\068B2101.D |                    |                              |

Where individual results are flagged see report notes for status.

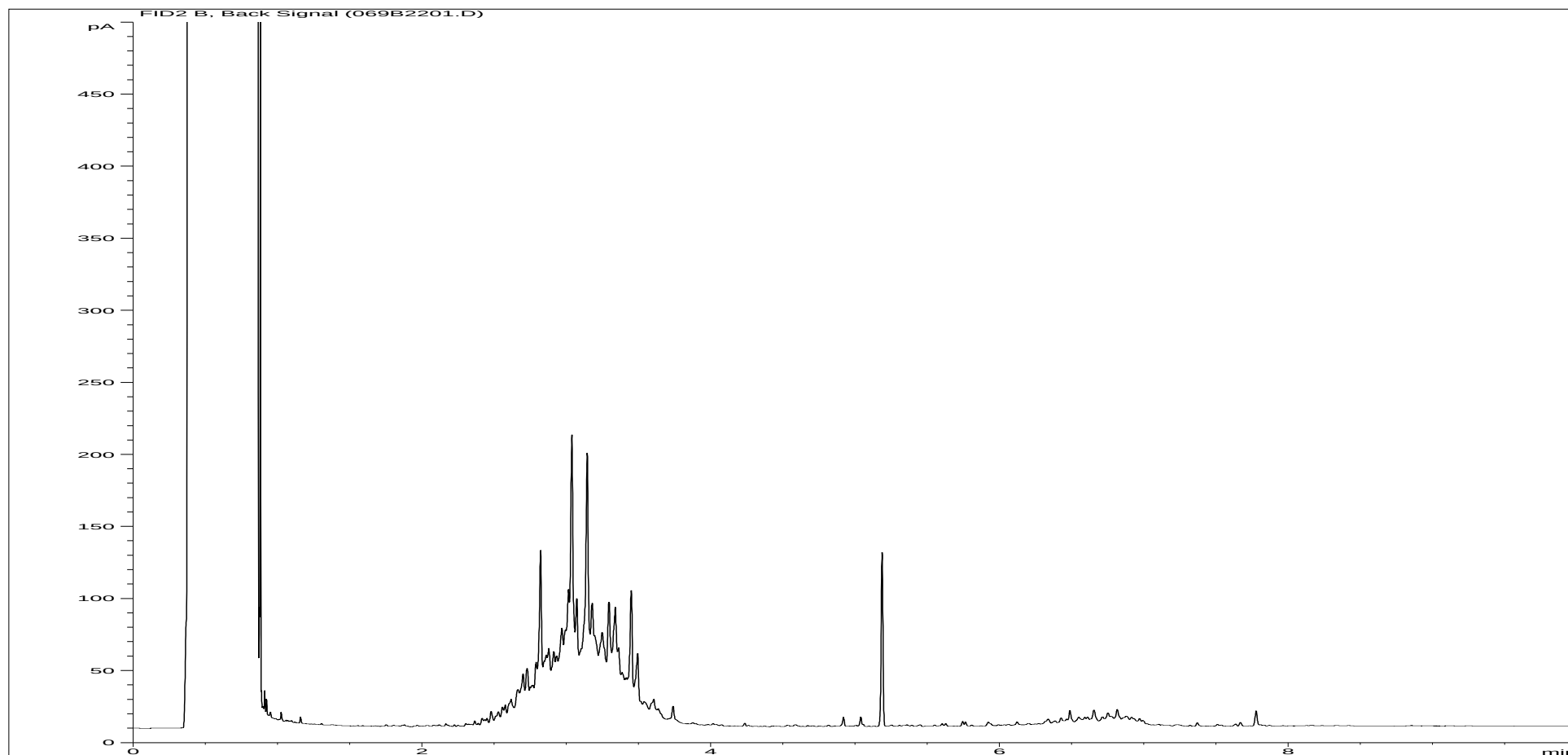
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                                         |                           |                              |
|-------------------------------|-------------------------------------------------------------------------|---------------------------|------------------------------|
| <b>Sample ID:</b>             | EX1113811ALI                                                            | <b>Job Number:</b>        | W11_8417                     |
| <b>Multiplier:</b>            | 0.019                                                                   | <b>Client:</b>            | Soil Mechanics               |
| <b>Dilution:</b>              | 1                                                                       | <b>Site:</b>              | Ferrybridge PowerStn Phase 2 |
| <b>Acquisition Method:</b>    | TPH_RUNF.M                                                              | <b>Client Sample Ref:</b> | BH608 EWM 12 6.07            |
| <b>Acquisition Date/Time:</b> | 18-Apr-11, 16:01:19                                                     |                           |                              |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\041811\TPH_GC16\041811 2011-04-18 09-57-31\020F2201.D |                           |                              |

Where individual results are flagged see report notes for status.

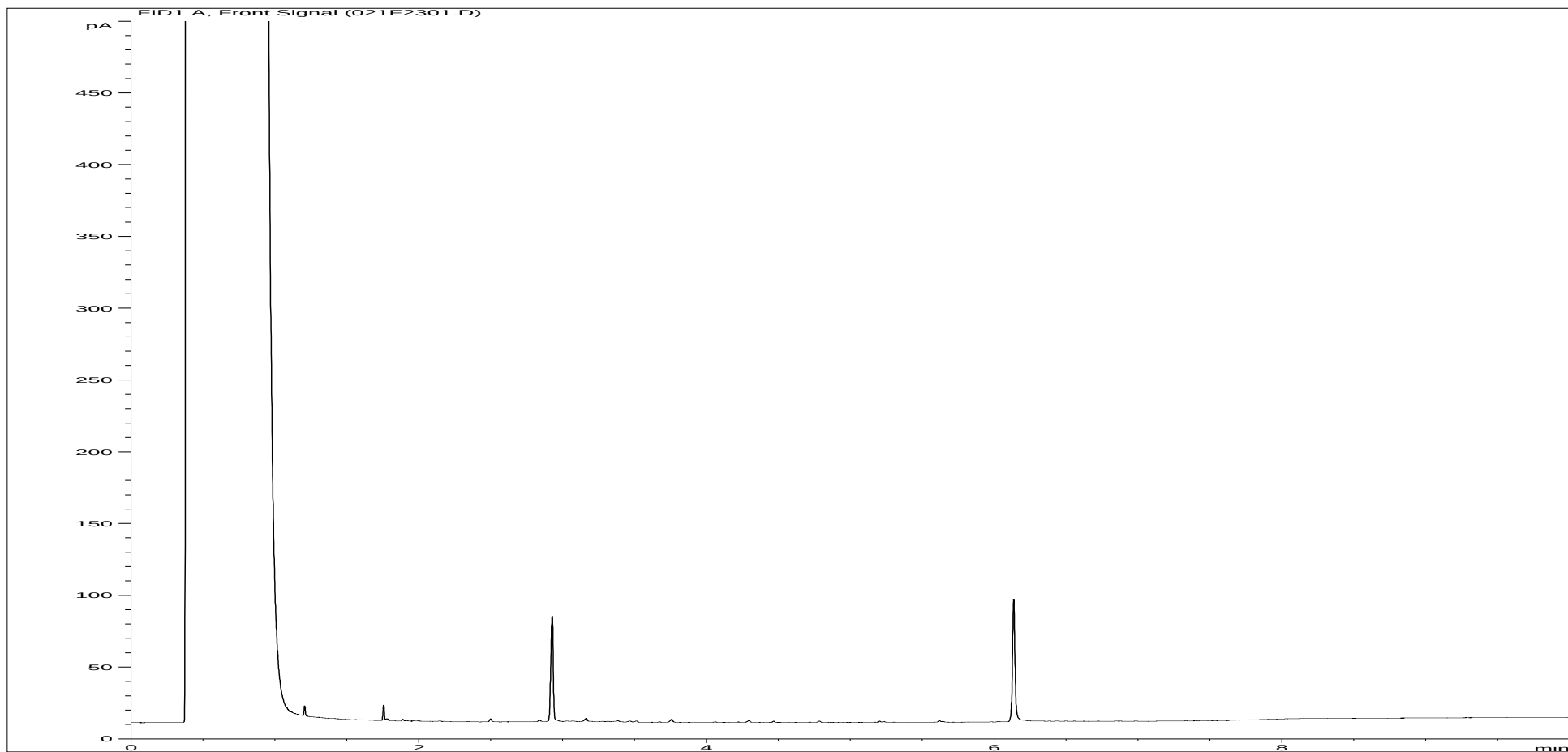
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



|                        |                                                                         |                    |                              |
|------------------------|-------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1113811ARO                                                            | Job Number:        | W11_8417                     |
| Multiplier:            | 0.015                                                                   | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | BH608 EWM 12 6.07            |
| Acquisition Date/Time: | 18-Apr-11, 16:01:19                                                     |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\041811\TPH_GC16\041811 2011-04-18 09-57-31\069B2201.D |                    |                              |

Where individual results are flagged see report notes for status.

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**

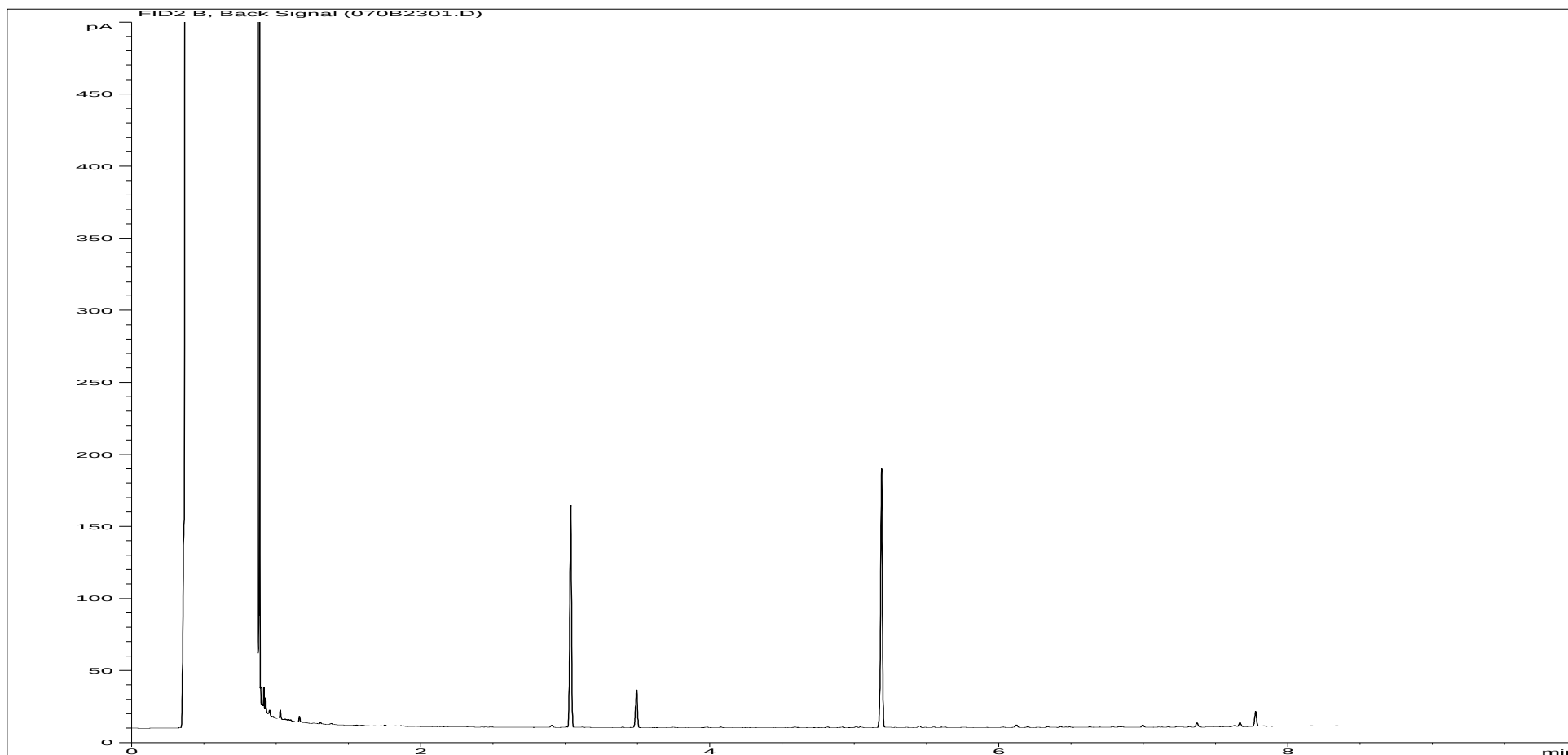


|                               |                                                                        |                           |                              |
|-------------------------------|------------------------------------------------------------------------|---------------------------|------------------------------|
| <b>Sample ID:</b>             | EX1113812ALI                                                           | <b>Job Number:</b>        | W11_8417                     |
| <b>Multiplier:</b>            | 0.019                                                                  | <b>Client:</b>            | Soil Mechanics               |
| <b>Dilution:</b>              | 1                                                                      | <b>Site:</b>              | Ferrybridge PowerStn Phase 2 |
| <b>Acquisition Method:</b>    | TPH_RUNF.M                                                             | <b>Client Sample Ref:</b> | BH609 EWM 10 7.08            |
| <b>Acquisition Date/Time:</b> | 18-Apr-11, 16:18:43                                                    |                           |                              |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\041811TPH_GC16\041811 2011-04-18 09-57-31\021F2301.D |                           |                              |

Where individual results are flagged see report notes for status.



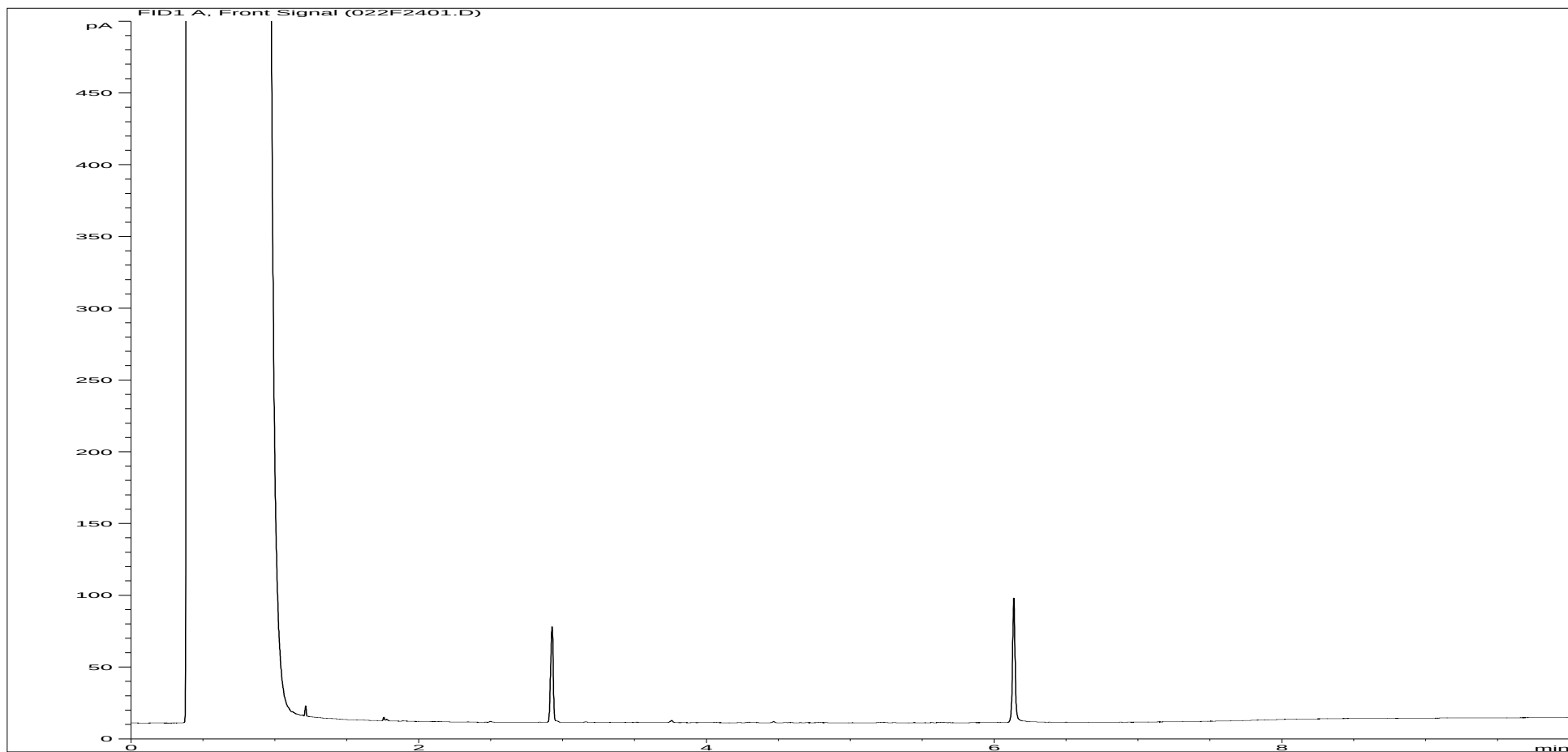
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



|                        |                                                                         |                    |                              |
|------------------------|-------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1113812ARO                                                            | Job Number:        | W11_8417                     |
| Multiplier:            | 0.015                                                                   | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | BH609 EWM 10 7.08            |
| Acquisition Date/Time: | 18-Apr-11, 16:18:43                                                     |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\041811\TPH_GC16\041811 2011-04-18 09-57-31\070B2301.D |                    |                              |

Where individual results are flagged see report notes for status.

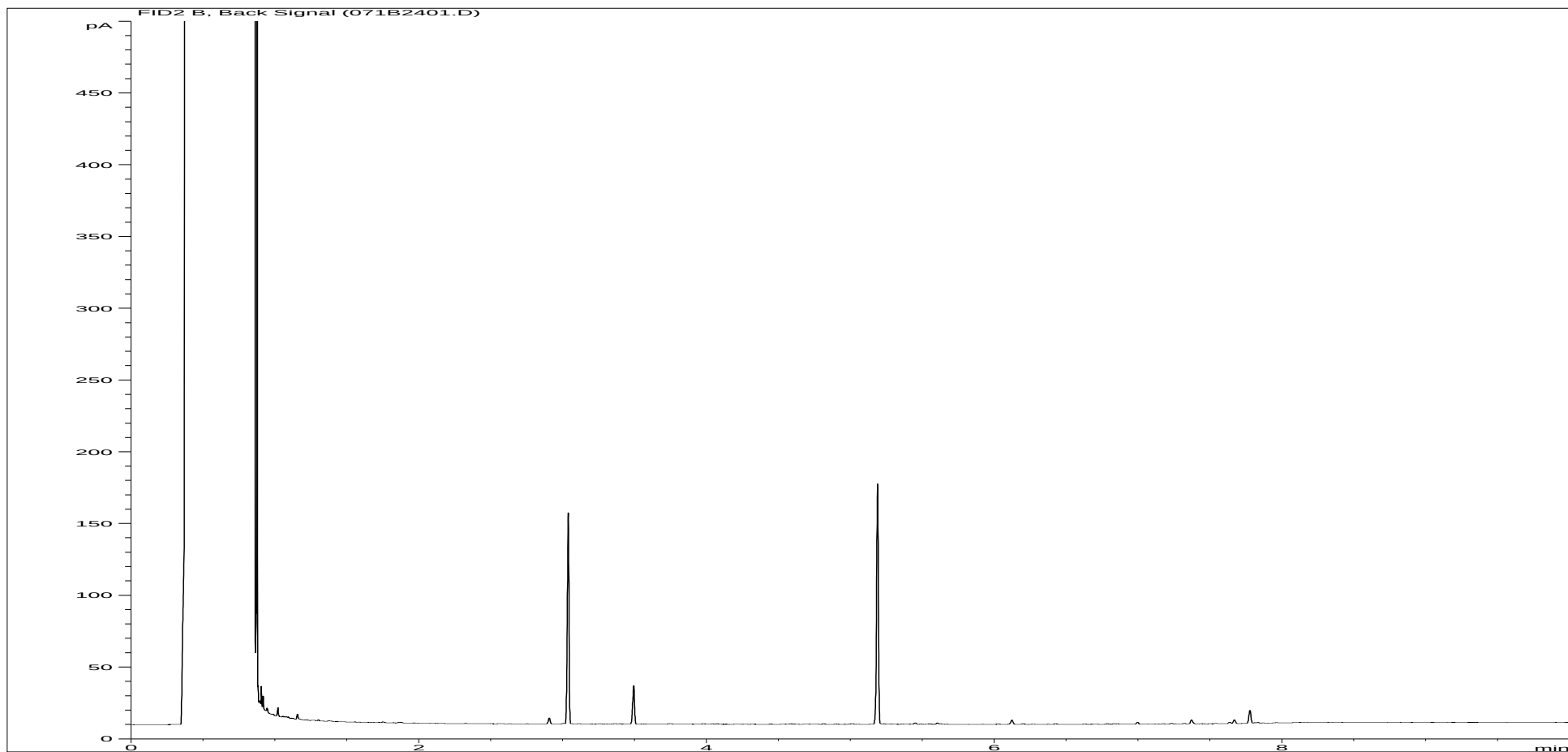
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                                        |                           |                              |
|-------------------------------|------------------------------------------------------------------------|---------------------------|------------------------------|
| <b>Sample ID:</b>             | EX1113813ALI                                                           | <b>Job Number:</b>        | W11_8417                     |
| <b>Multiplier:</b>            | 0.019                                                                  | <b>Client:</b>            | Soil Mechanics               |
| <b>Dilution:</b>              | 1                                                                      | <b>Site:</b>              | Ferrybridge PowerStn Phase 2 |
| <b>Acquisition Method:</b>    | TPH_RUNF.M                                                             | <b>Client Sample Ref:</b> | BH611 EWM 28 4.10            |
| <b>Acquisition Date/Time:</b> | 18-Apr-11, 16:36:09                                                    |                           |                              |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\041811TPH_GC16\041811 2011-04-18 09-57-31\022F2401.D |                           |                              |

Where individual results are flagged see report notes for status.

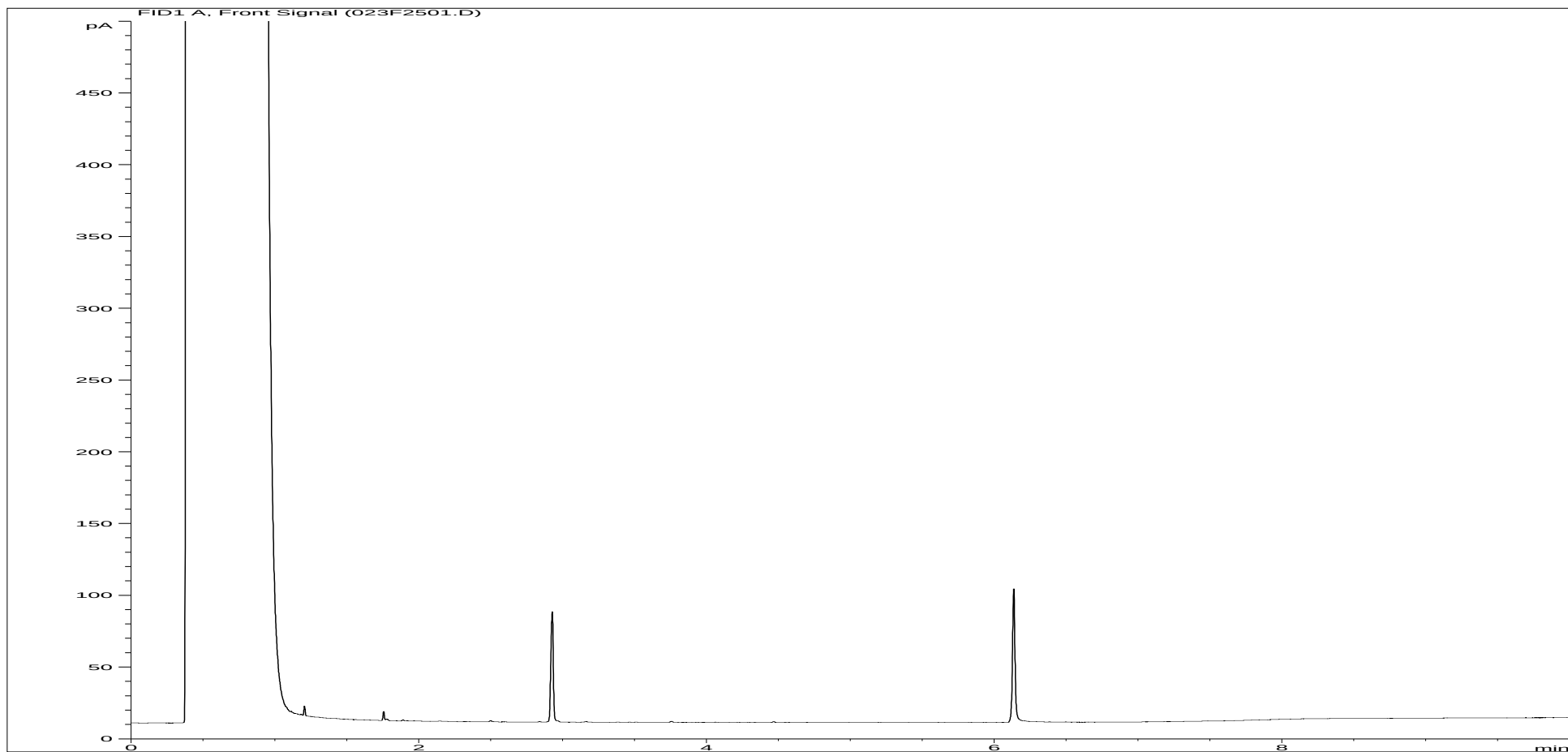
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



|                        |                                                                         |                    |                              |
|------------------------|-------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1113813ARO                                                            | Job Number:        | W11_8417                     |
| Multiplier:            | 0.015                                                                   | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | BH611 EWM 28 4.10            |
| Acquisition Date/Time: | 18-Apr-11, 16:36:09                                                     |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\041811\TPH_GC16\041811 2011-04-18 09-57-31\071B2401.D |                    |                              |

Where individual results are flagged see report notes for status.

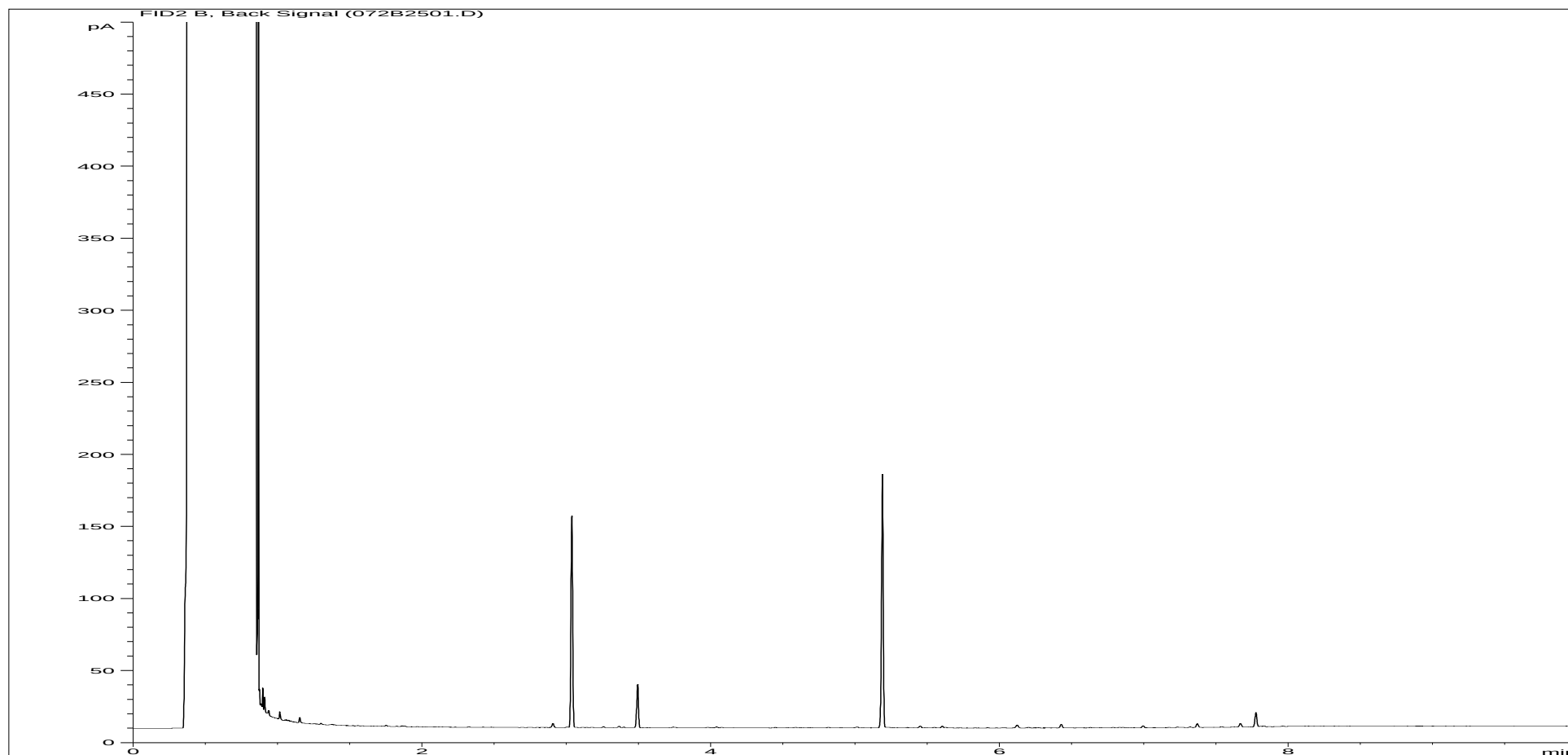
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



|                        |                                                                         |                    |                                 |
|------------------------|-------------------------------------------------------------------------|--------------------|---------------------------------|
| Sample ID:             | EX1113814ALI                                                            | Job Number:        | W11_8417                        |
| Multiplier:            | 0.019                                                                   | Client:            | Soil Mechanics                  |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2    |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | Fryston Beck Upstream EW 1 0.00 |
| Acquisition Date/Time: | 18-Apr-11, 16:53:28                                                     |                    |                                 |
| Datafile:              | D:\TES\DATA\Y2011\041811\TPH_GC16\041811 2011-04-18 09-57-31\023F2501.D |                    |                                 |

Where individual results are flagged see report notes for status.

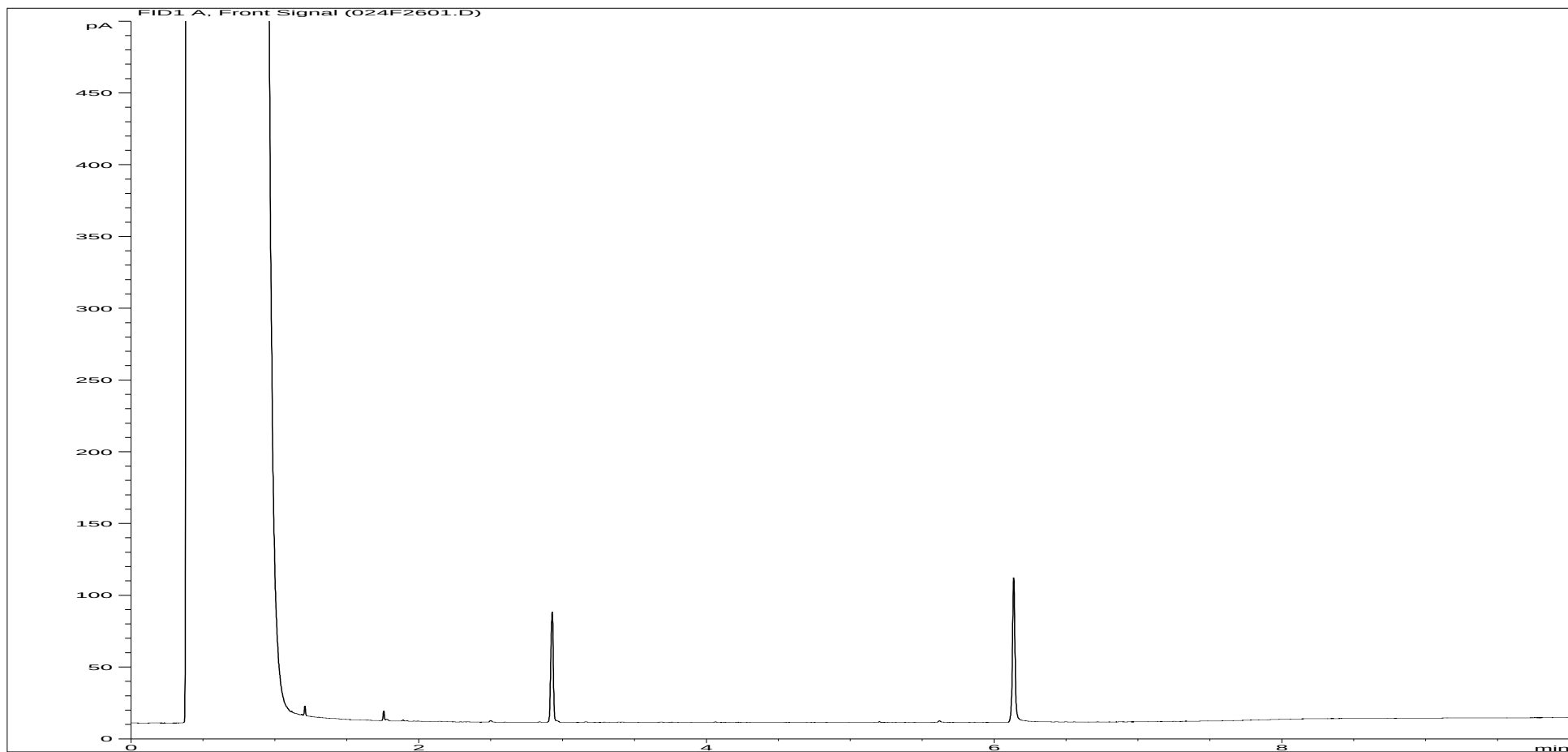
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



|                        |                                                                         |                    |                                 |
|------------------------|-------------------------------------------------------------------------|--------------------|---------------------------------|
| Sample ID:             | EX1113814ARO                                                            | Job Number:        | W11_8417                        |
| Multiplier:            | 0.015                                                                   | Client:            | Soil Mechanics                  |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2    |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | Fryston Beck Upstream EW 1 0.00 |
| Acquisition Date/Time: | 18-Apr-11, 16:53:28                                                     |                    |                                 |
| Datafile:              | D:\TES\DATA\Y2011\041811\TPH_GC16\041811 2011-04-18 09-57-31\072B2501.D |                    |                                 |

Where individual results are flagged see report notes for status.

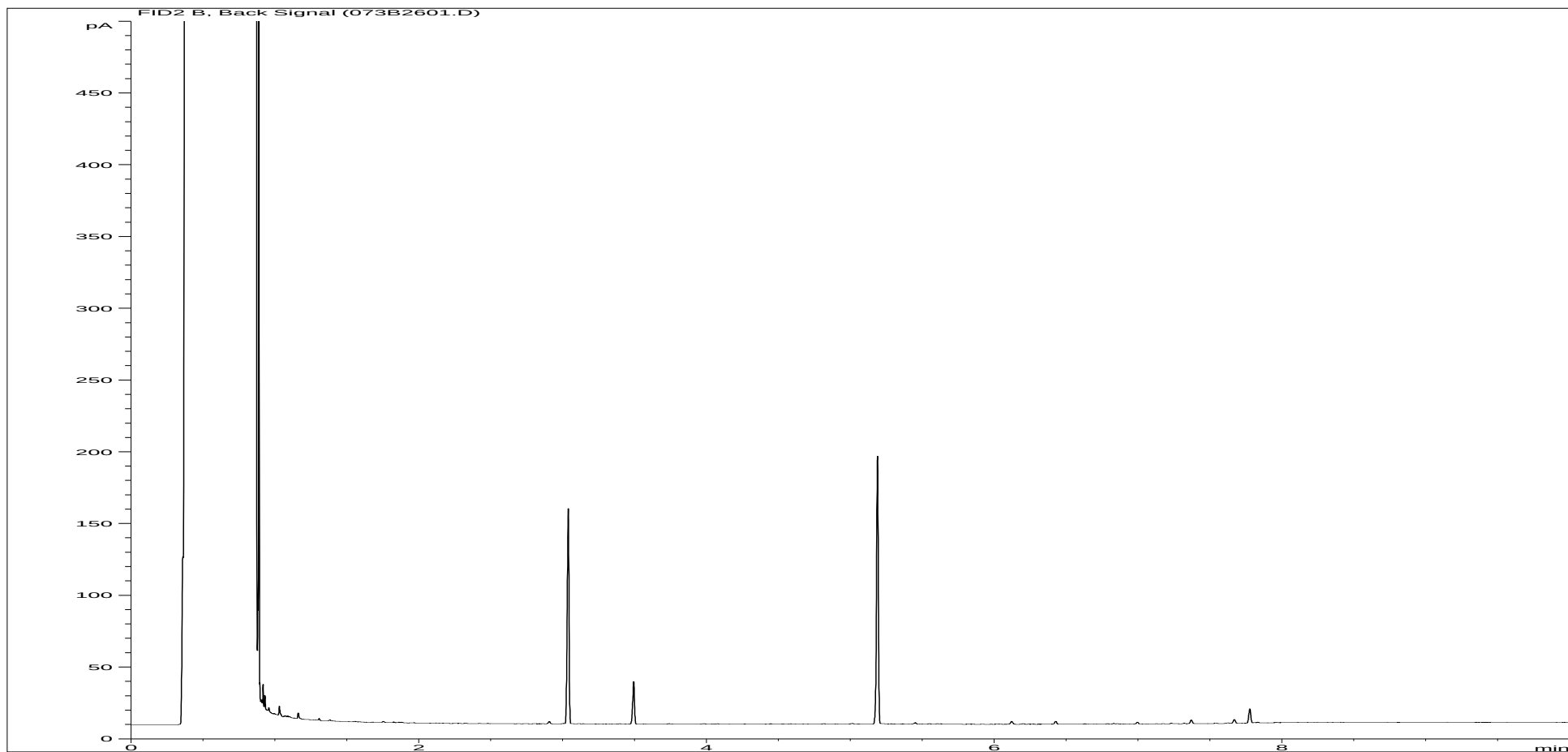
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



|                        |                                                                        |                    |                                   |
|------------------------|------------------------------------------------------------------------|--------------------|-----------------------------------|
| Sample ID:             | EX1113815ALI                                                           | Job Number:        | W11_8417                          |
| Multiplier:            | 0.019                                                                  | Client:            | Soil Mechanics                    |
| Dilution:              | 1                                                                      | Site:              | Ferrybridge PowerStn Phase 2      |
| Acquisition Method:    | TPH_RUNF.M                                                             | Client Sample Ref: | Fryston Beck Downstream EW 1 0.00 |
| Acquisition Date/Time: | 18-Apr-11, 17:10:45                                                    |                    |                                   |
| Datafile:              | D:\TES\DATA\Y2011\041811TPH_GC16\041811 2011-04-18 09-57-31\024F2601.D |                    |                                   |

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



|                        |                                                                         |                    |                                   |
|------------------------|-------------------------------------------------------------------------|--------------------|-----------------------------------|
| Sample ID:             | EX1113815ARO                                                            | Job Number:        | W11_8417                          |
| Multiplier:            | 0.015                                                                   | Client:            | Soil Mechanics                    |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2      |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | Fryston Beck Downstream EW 1 0.00 |
| Acquisition Date/Time: | 18-Apr-11, 17:10:45                                                     |                    |                                   |
| Datafile:              | D:\TES\DATA\Y2011\041811\TPH_GC16\041811 2011-04-18 09-57-31\073B2601.D |                    |                                   |

Where individual results are flagged see report notes for status.

Customer  
Site  
Report No

Soil Mechanics  
Ferrybridge PowerStn Phase 2  
W118417

Consignment No 25061  
Date Logged 07-Apr-2011  
Report Due 18-Apr-2011

Analytical and Deviating Sample Overview

| ID Number              | Description             | MethodID | Calc. HD | ICPMSW | ICPMATVAR | PAH MS (16)                    |          |                         |                           |                          |                         |                       |                       |                            |                          |                          |                           |                                 |                           |                               |                             | KONE NS |                                 |                          |                            |                        |                            |
|------------------------|-------------------------|----------|----------|--------|-----------|--------------------------------|----------|-------------------------|---------------------------|--------------------------|-------------------------|-----------------------|-----------------------|----------------------------|--------------------------|--------------------------|---------------------------|---------------------------------|---------------------------|-------------------------------|-----------------------------|---------|---------------------------------|--------------------------|----------------------------|------------------------|----------------------------|
|                        |                         |          |          |        |           | Total Hardness as CaCO3 (CALC) | Report B | Nickel as Ni MS (Total) | Chromium as Cr MS (Total) | Cadmium as Cd MS (Total) | Copper as Cu MS (Total) | Lead as Pb MS (Total) | Zinc as Zn MS (Total) | Manganese as Mn MS (Total) | Arsenic as As MS (Total) | Mercury as Hg MS (Total) | Selenium as Se MS (Total) | Total Sulphur as SO4 (Diss) VAR | Calcium as Ca (Total) VAR | Calcium as Ca (Dissolved) VAR | Magnesium as Mg (Total) VAR |         | Magnesium as Mg (Dissolved) VAR | Sodium as Na (Total) VAR | Potassium as K (Total) VAR | Iron as Fe (Total) VAR | Ammoniacal Nitrogen (Kone) |
| Accredited to ISO17025 |                         |          |          |        |           |                                |          |                         |                           |                          |                         |                       |                       |                            |                          |                          |                           |                                 |                           |                               |                             |         |                                 |                          |                            |                        |                            |
| EX/1113808             | WS606 2.96              | 04/04/11 |          |        |           |                                |          |                         |                           |                          |                         |                       |                       |                            |                          |                          |                           |                                 |                           |                               |                             |         |                                 |                          |                            |                        |                            |
| EX/1113809             | BH601 3.6               | 04/04/11 |          |        |           |                                |          |                         |                           |                          |                         |                       |                       |                            |                          |                          |                           |                                 |                           |                               |                             |         |                                 |                          |                            |                        |                            |
| EX/1113810             | BH605 4.98              | 04/04/11 |          |        |           |                                |          |                         |                           |                          |                         |                       |                       |                            |                          |                          |                           |                                 |                           |                               |                             |         |                                 |                          |                            |                        |                            |
| EX/1113811             | BH608 6.07              | 04/04/11 |          |        |           |                                |          |                         |                           |                          |                         |                       |                       |                            |                          |                          |                           |                                 |                           |                               |                             |         |                                 |                          |                            |                        |                            |
| EX/1113812             | BH609 7.08              | 04/04/11 |          |        |           |                                |          |                         |                           |                          |                         |                       |                       |                            |                          |                          |                           |                                 |                           |                               |                             |         |                                 |                          |                            |                        |                            |
| EX/1113813             | BH611 4.1               | 04/04/11 |          |        |           |                                |          |                         |                           |                          |                         |                       |                       |                            |                          |                          |                           |                                 |                           |                               |                             |         |                                 |                          |                            |                        |                            |
| EX/1113814             | Fryston Beck Upstream   | 04/04/11 |          |        |           |                                |          |                         |                           |                          |                         |                       |                       |                            |                          |                          |                           |                                 |                           |                               |                             |         |                                 |                          |                            |                        |                            |
| EX/1113815             | Fryston Beck Downstream | 04/04/11 |          |        |           |                                |          |                         |                           |                          |                         |                       |                       |                            |                          |                          |                           |                                 |                           |                               |                             |         |                                 |                          |                            |                        |                            |

**Note:** For analysis where the Report Due date is greater than 7 days (Volatiles, PAH, Pesticides, PCB, Phenols, Herbicides) or 2 days (BOD) after the sampling date, although we will do our utmost to prioritise your samples, they may become deviant whilst being processed in the Laboratory.

In this instance, please contact the Laboratory immediately should you wish to discuss how you would like us to proceed. If you do not respond within 24 hours, we will proceed as originally requested.

Deviating Sample Key

A The sample was received in an inappropriate container for this analysis  
B The sample was received without the correct preservation for this analysis  
C Headspace present in the sample container  
D The sampling date was not supplied so holding time may be compromised - applicable to all analysis  
E Sample processing did not commence within the appropriate holding time

Requested Analysis Key

Analysis Required

Analysis dependant upon trigger result - **Note: due date may be affected if triggered**

No analysis scheduled

Analysis Subcontracted



Customer  
Site  
Report No

Soil Mechanics  
Ferrybridge PowerStn Phase 2  
W118417

Consignment No 25061  
Date Logged 07-Apr-2011

Report Due 18-Apr-2011

| ID Number              | Description             | MethodID | Sampled | PHEPLC            | SFAP1 | TPHID-SI | VOCHSAW                | WSLM20                   | WSLM3                     |
|------------------------|-------------------------|----------|---------|-------------------|-------|----------|------------------------|--------------------------|---------------------------|
|                        |                         |          |         | Phenol HPLC (Low) |       |          | Thiocyanate as SCN SFA | Cyanide (Free) as CN SFA | Cyanide (Total) as CN SFA |
| Accredited to ISO17025 |                         |          |         |                   | ✓     | ✓        | ✓                      |                          | ✓                         |
| EX/1113808             | WS606 2.96              | 04/04/11 |         |                   |       |          |                        |                          |                           |
| EX/1113809             | BH601 3.6               | 04/04/11 |         |                   |       |          |                        |                          |                           |
| EX/1113810             | BH605 4.98              | 04/04/11 |         |                   |       |          |                        |                          |                           |
| EX/1113811             | BH608 6.07              | 04/04/11 |         |                   |       |          |                        |                          |                           |
| EX/1113812             | BH609 7.08              | 04/04/11 |         |                   |       |          |                        |                          |                           |
| EX/1113813             | BH611 4.1               | 04/04/11 |         |                   |       |          |                        |                          |                           |
| EX/1113814             | Fryston Beck Upstream   | 04/04/11 |         |                   |       |          |                        |                          |                           |
| EX/1113815             | Fryston Beck Downstream | 04/04/11 |         |                   |       |          |                        |                          |                           |

**Note: For analysis where the Report Due date is greater than 7 days (Volatiles, PAH, Pesticides, PCB, Phenols, Herbicides) or 2 days (BOD) after the sampling date, although we will do our utmost to prioritise your samples, they may become deviant whilst being processed in the Laboratory.**

**In this instance, please contact the Laboratory immediately should you wish to discuss how you would like us to proceed. If you do not respond within 24 hours, we will proceed as originally requested.**

| Deviating Sample Key |                                                                                                    |
|----------------------|----------------------------------------------------------------------------------------------------|
| A                    | The sample was received in an inappropriate container for this analysis                            |
| B                    | The sample was received without the correct preservation for this analysis                         |
| C                    | Headspace present in the sample container                                                          |
| D                    | The sampling date was not supplied so holding time may be compromised - applicable to all analysis |
| E                    | Sample processing did not commence within the appropriate holding time                             |

| Requested Analysis Key |                                                                                             |
|------------------------|---------------------------------------------------------------------------------------------|
|                        | Analysis Required                                                                           |
|                        | Analysis dependant upon trigger result - <b>Note: due date may be affected if triggered</b> |
|                        | No analysis scheduled                                                                       |
| ^                      | Analysis Subcontracted                                                                      |

# Method Descriptions

| Matrix | MethodID  | Analysis Basis | Method Description                                                                                  |
|--------|-----------|----------------|-----------------------------------------------------------------------------------------------------|
| Water  | Calc_HD   | As Received    | Calculation based on Dissolved metals analysis by ICPOES                                            |
| Water  | ICPMSW    | As Received    | Direct quantitative determination of Metals in water samples using ICPMS                            |
| Water  | ICPWATVAR | As Received    | Direct determination of Metals and Sulphate in water samples using ICPOES                           |
| Water  | KONENS    | As Received    | Direct analysis using discrete colorimetric analysis                                                |
| Water  | PAHMSW    | As Received    | Determination of PolyAromatic Hydrocarbons in water by pentane extraction GCMS quantitation         |
| Water  | PHEHPLC   | As Received    | Determination of Total Phenol by HPLC                                                               |
| Water  | SFAPI     | As Received    | Determination of Total Phenols by segmented flow analysis with colorimetric detection               |
| Water  | TPHFID-Si | As Received    | Determination of speciated pentane extractable hydrocarbons in water by GCFID                       |
| Water  | VOCHSAW   | As Received    | Determination of Volatile Organics Compounds or Gasoline Range Hydrocarbons (GRO) by Headspace GCMS |
| Water  | WSLM20    | As Received    | Determination of Biological Oxygen Demand using 5 day incubation and dissolved oxygen probe         |
| Water  | WSLM3     | As Received    | Determination of the pH of water samples by pH probe                                                |

Where individual results are flagged see report notes for status.

# Report Notes

## Generic Notes

### Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

### Waters Analysis

Unless stated otherwise results are expressed as mg/l

### Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm<sup>3</sup>@ 15°C

### Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

### Asbestos Analysis

**CH** Denotes Chrysotile

**CR** Denotes Crocidolite

**AM** Denotes Amosite

**NAIIS** No Asbestos Identified in Sample

## Symbol Reference

<sup>^</sup> Sub-contracted analysis. Note: The accreditation status is that assigned by the subcontract laboratory.

**\$\$** Unable to analyse due to the nature of the sample

**¶** Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

**¥** Results for guidance only due to possible interference

**&** Blank corrected result

**I.S** Insufficient sample to complete requested analysis

**I.S(g)** Insufficient sample to re-analyse, results for guidance only

**Intf** Unable to analyse due to interferences

**N.D** Not determined

**N.Det** Not detected

**Req** Analysis requested, see attached sheets for results

**▮** Raised detection limit due to nature of the sample

**\*** All accreditation has been removed by the laboratory for this result

**‡** MCERTS accreditation has been removed for this result

**Note:** The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

## END OF REPORT

Where individual results are flagged see report notes for status.

# TEST REPORT

## WATER SAMPLE ANALYSIS



Report No. EXR/119715 (Ver. 1)

Soil Mechanics  
Askern Road  
Carcroft  
Doncaster  
South Yorkshire  
DN6 8DG

**Site: Ferrybridge PowerStn Phase 2**

The 7 samples described in this report were logged for analysis by Scientifics on 06-May-2011. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 20-May-2011

Tests where the accreditation is set to N or No, and any individual data items marked with a \* are not UKAS accredited  
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)  
Table of PAH (MS-SIM) (10) Results (Pages 4 to 10)  
Table of TPH (Si) banding (0.01) (Page 11)  
GC-FID Chromatograms (Pages 12 to 25)  
Analytical and Deviating Sample Overview (Pages 26 to 27)  
Table of Method Descriptions (Page 28)  
Table of Report Notes (Page 29)

On behalf of  
Scientifics :  
Andrew Timms

A handwritten signature in black ink, appearing to read 'Andrew Timms', written over the printed name.

Operations Manager

Date of Issue: 20-May-2011

Tests marked '^' have been subcontracted to another laboratory.

Scientifics accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

[illegible]

[illegible]

# Polycyclic Aromatic Hydrocarbons

## GC/MS (SIM)

|                                   |                                              |                        |             |
|-----------------------------------|----------------------------------------------|------------------------|-------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 |                        |             |
| <b>Sample Details:</b>            | BH601 EWM 10 3.68                            | <b>Job Number:</b>     | W11_9715    |
| <b>LIMS ID Number:</b>            | EX1118515                                    | <b>Date Booked in:</b> | 06-May-11   |
| <b>QC Batch Number:</b>           | 110432                                       | <b>Date Extracted:</b> | 11-May-11   |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Date Analysed:</b>  | 13-May-11   |
| <b>Directory:</b>                 | 512PAH.MS10\                                 | <b>Matrix:</b>         | Water       |
| <b>Dilution:</b>                  | 1.0                                          | <b>Ext Method:</b>     | Sep. Funnel |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>ug/l | % Fit |
|------------------------|----------|---------------|-----------------------|-------|
| Naphthalene            | 91-20-3  | -             | < 0.010               | -     |
| Acenaphthylene         | 208-96-8 | -             | < 0.010               | -     |
| Acenaphthene           | 83-32-9  | -             | < 0.010               | -     |
| Fluorene               | 86-73-7  | -             | < 0.010               | -     |
| Phenanthrene           | 85-01-8  | -             | < 0.010               | -     |
| Anthracene             | 120-12-7 | -             | < 0.010               | -     |
| Fluoranthene           | 206-44-0 | 6.84          | 0.017                 | 80    |
| Pyrene                 | 129-00-0 | 7.12          | 0.017                 | 94    |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.010               | -     |
| Chrysene               | 218-01-9 | -             | < 0.010               | -     |
| Benzo[b]fluoranthene   | 205-99-2 | 10.30         | 0.016                 | 81    |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.010               | -     |
| Benzo[a]pyrene         | 50-32-8  | 10.72         | 0.010                 | 88    |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.010               | -     |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.010               | -     |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.010               | -     |
| Total (USEPA16) PAHs   | -        | -             | < 0.180               | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 93     |
| Acenaphthene-d10       | 94     |
| Phenanthrene-d10       | 94     |
| Chrysene-d12           | 92     |
| Perylene-d12           | 88     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 70    |
| Terphenyl-d14    | 80    |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons

## GC/MS (SIM)

|                                   |                                              |                        |             |
|-----------------------------------|----------------------------------------------|------------------------|-------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 |                        |             |
| <b>Sample Details:</b>            | BH605 EWM 14 5.10                            | <b>Job Number:</b>     | W11_9715    |
| <b>LIMS ID Number:</b>            | EX1118517                                    | <b>Date Booked in:</b> | 06-May-11   |
| <b>QC Batch Number:</b>           | 110432                                       | <b>Date Extracted:</b> | 13-May-11   |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Date Analysed:</b>  | 13-May-11   |
| <b>Directory:</b>                 | 512PAH.MS10\                                 | <b>Matrix:</b>         | Water       |
| <b>Dilution:</b>                  | 1.0                                          | <b>Ext Method:</b>     | Sep. Funnel |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T. (min) | Concentration ug/l | % Fit |
|------------------------|----------|------------|--------------------|-------|
| Naphthalene            | 91-20-3  | -          | < 0.010            | -     |
| Acenaphthylene         | 208-96-8 | 4.23       | 0.026              | 89    |
| Acenaphthene           | 83-32-9  | 4.34       | 0.014              | 87    |
| Fluorene               | 86-73-7  | 4.71       | 0.012              | 53    |
| Phenanthrene           | 85-01-8  | 5.53       | 0.220              | 99    |
| Anthracene             | 120-12-7 | 5.58       | 0.073              | 98    |
| Fluoranthene           | 206-44-0 | 6.83       | 0.811              | 98    |
| Pyrene                 | 129-00-0 | 7.11       | 0.707              | 100   |
| Benzo[a]anthracene     | 56-55-3  | 8.77       | 0.418              | 95    |
| Chrysene               | 218-01-9 | 8.83       | 0.398              | 99    |
| Benzo[b]fluoranthene   | 205-99-2 | 10.29      | 0.524              | 81    |
| Benzo[k]fluoranthene   | 207-08-9 | 10.33      | 0.201              | 65    |
| Benzo[a]pyrene         | 50-32-8  | 10.71      | 0.374              | 88    |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.09      | 0.291              | 71    |
| Dibenzo[a,h]anthracene | 53-70-3  | 12.11      | 0.055              | 80    |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.37      | 0.263              | 86    |
| Total (USEPA16) PAHs   | -        | -          | < 4.397            | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 78     |
| Acenaphthene-d10       | 74     |
| Phenanthrene-d10       | 74     |
| Chrysene-d12           | 80     |
| Perylene-d12           | 86     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 82    |
| Terphenyl-d14    | 99    |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.



# Polycyclic Aromatic Hydrocarbons

## GC/MS (SIM)

|                                   |                                              |                        |             |
|-----------------------------------|----------------------------------------------|------------------------|-------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 |                        |             |
| <b>Sample Details:</b>            | BH608 EWM 13 6.16                            | <b>Job Number:</b>     | W11_9715    |
| <b>LIMS ID Number:</b>            | EX1118518                                    | <b>Date Booked in:</b> | 06-May-11   |
| <b>QC Batch Number:</b>           | 110432                                       | <b>Date Extracted:</b> | 13-May-11   |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Date Analysed:</b>  | 13-May-11   |
| <b>Directory:</b>                 | 512PAH.MS10\                                 | <b>Matrix:</b>         | Water       |
| <b>Dilution:</b>                  | 1.0                                          | <b>Ext Method:</b>     | Sep. Funnel |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>ug/l | % Fit |
|------------------------|----------|---------------|-----------------------|-------|
| Naphthalene            | 91-20-3  | -             | < 0.010               | -     |
| Acenaphthylene         | 208-96-8 | -             | < 0.010               | -     |
| Acenaphthene           | 83-32-9  | -             | < 0.010               | -     |
| Fluorene               | 86-73-7  | -             | < 0.010               | -     |
| Phenanthrene           | 85-01-8  | -             | < 0.010               | -     |
| Anthracene             | 120-12-7 | -             | < 0.010               | -     |
| Fluoranthene           | 206-44-0 | 6.84          | 0.080                 | 74    |
| Pyrene                 | 129-00-0 | 7.12          | 0.095                 | 68    |
| Benzo[a]anthracene     | 56-55-3  | 8.77          | 0.041                 | 77    |
| Chrysene               | 218-01-9 | 8.83          | 0.023                 | 77    |
| Benzo[b]fluoranthene   | 205-99-2 | 10.29         | 0.043                 | 84    |
| Benzo[k]fluoranthene   | 207-08-9 | 10.33         | 0.017                 | 85    |
| Benzo[a]pyrene         | 50-32-8  | 10.72         | 0.033                 | 78    |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.09         | 0.013                 | 65    |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.010               | -     |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.37         | 0.019                 | 86    |
| Total (USEPA16) PAHs   | -        | -             | < 0.434               | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 93     |
| Acenaphthene-d10       | 96     |
| Phenanthrene-d10       | 96     |
| Chrysene-d12           | 97     |
| Perylene-d12           | 101    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 73    |
| Terphenyl-d14    | 83    |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons

## GC/MS (SIM)

|                                   |                                              |                        |             |
|-----------------------------------|----------------------------------------------|------------------------|-------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 |                        |             |
| <b>Sample Details:</b>            | BH609 EWM 11 7.20                            | <b>Job Number:</b>     | W11_9715    |
| <b>LIMS ID Number:</b>            | EX1118519                                    | <b>Date Booked in:</b> | 06-May-11   |
| <b>QC Batch Number:</b>           | 110432                                       | <b>Date Extracted:</b> | 13-May-11   |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Date Analysed:</b>  | 13-May-11   |
| <b>Directory:</b>                 | 512PAH.MS10\                                 | <b>Matrix:</b>         | Water       |
| <b>Dilution:</b>                  | 1.0                                          | <b>Ext Method:</b>     | Sep. Funnel |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T. (min) | Concentration ug/l | % Fit |
|------------------------|----------|------------|--------------------|-------|
| Naphthalene            | 91-20-3  | -          | < 0.010            | -     |
| Acenaphthylene         | 208-96-8 | 4.23       | 0.013              | 79    |
| Acenaphthene           | 83-32-9  | -          | < 0.010            | -     |
| Fluorene               | 86-73-7  | -          | < 0.010            | -     |
| Phenanthrene           | 85-01-8  | 5.53       | 0.090              | 98    |
| Anthracene             | 120-12-7 | 5.58       | 0.030              | 94    |
| Fluoranthene           | 206-44-0 | 6.84       | 0.356              | 95    |
| Pyrene                 | 129-00-0 | 7.12       | 0.323              | 77    |
| Benzo[a]anthracene     | 56-55-3  | 8.78       | 0.202              | 99    |
| Chrysene               | 218-01-9 | 8.82       | 0.198              | 99    |
| Benzo[b]fluoranthene   | 205-99-2 | 10.29      | 0.275              | 75    |
| Benzo[k]fluoranthene   | 207-08-9 | 10.33      | 0.124              | 89    |
| Benzo[a]pyrene         | 50-32-8  | 10.72      | 0.206              | 61    |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | 12.08      | 0.156              | 91    |
| Dibenzo[a,h]anthracene | 53-70-3  | 12.12      | 0.032              | 79    |
| Benzo[g,h,i]perylene   | 191-24-2 | 12.37      | 0.146              | 88    |
| Total (USEPA16) PAHs   | -        | -          | < 2.181            | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 91     |
| Acenaphthene-d10       | 86     |
| Phenanthrene-d10       | 87     |
| Chrysene-d12           | 95     |
| Perylene-d12           | 102    |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 78    |
| Terphenyl-d14    | 90    |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                              |                        |             |
|-----------------------------------|----------------------------------------------|------------------------|-------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 |                        |             |
| <b>Sample Details:</b>            | Fryston BK Downstream EWM 2 0.00             | <b>Job Number:</b>     | W11_9715    |
| <b>LIMS ID Number:</b>            | EX1118520                                    | <b>Date Booked in:</b> | 06-May-11   |
| <b>QC Batch Number:</b>           | 110432                                       | <b>Date Extracted:</b> | 13-May-11   |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Date Analysed:</b>  | 13-May-11   |
| <b>Directory:</b>                 | 512PAH.MS10\                                 | <b>Matrix:</b>         | Water       |
| <b>Dilution:</b>                  | 1.0                                          | <b>Ext Method:</b>     | Sep. Funnel |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>ug/l | % Fit |
|------------------------|----------|---------------|-----------------------|-------|
| Naphthalene            | 91-20-3  | -             | < 0.010               | -     |
| Acenaphthylene         | 208-96-8 | -             | < 0.010               | -     |
| Acenaphthene           | 83-32-9  | -             | < 0.010               | -     |
| Fluorene               | 86-73-7  | -             | < 0.010               | -     |
| Phenanthrene           | 85-01-8  | -             | < 0.010               | -     |
| Anthracene             | 120-12-7 | -             | < 0.010               | -     |
| Fluoranthene           | 206-44-0 | -             | < 0.010               | -     |
| Pyrene                 | 129-00-0 | -             | < 0.010               | -     |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.010               | -     |
| Chrysene               | 218-01-9 | -             | < 0.010               | -     |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.010               | -     |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.010               | -     |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.010               | -     |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.010               | -     |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.010               | -     |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.010               | -     |
| Total (USEPA16) PAHs   | -        | -             | < 0.160               | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 93     |
| Acenaphthene-d10       | 94     |
| Phenanthrene-d10       | 96     |
| Chrysene-d12           | 97     |
| Perylene-d12           | 93     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 78    |
| Terphenyl-d14    | 94    |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

|                                   |                                              |                                  |
|-----------------------------------|----------------------------------------------|----------------------------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 |                                  |
| <b>Sample Details:</b>            | Fryston BK Upstream EWM 2 0.00               | <b>Job Number:</b> W11_9715      |
| <b>LIMS ID Number:</b>            | EX1118521                                    | <b>Date Booked in:</b> 06-May-11 |
| <b>QC Batch Number:</b>           | 110432                                       | <b>Date Extracted:</b> 13-May-11 |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Date Analysed:</b> 13-May-11  |
| <b>Directory:</b>                 | 512PAH.MS10\                                 | <b>Matrix:</b> Water             |
| <b>Dilution:</b>                  | 1.0                                          | <b>Ext Method:</b> Sep. Funnel   |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>ug/l | % Fit |
|------------------------|----------|---------------|-----------------------|-------|
| Naphthalene            | 91-20-3  | -             | < 0.010               | -     |
| Acenaphthylene         | 208-96-8 | -             | < 0.010               | -     |
| Acenaphthene           | 83-32-9  | -             | < 0.010               | -     |
| Fluorene               | 86-73-7  | -             | < 0.010               | -     |
| Phenanthrene           | 85-01-8  | -             | < 0.010               | -     |
| Anthracene             | 120-12-7 | -             | < 0.010               | -     |
| Fluoranthene           | 206-44-0 | -             | < 0.010               | -     |
| Pyrene                 | 129-00-0 | -             | < 0.010               | -     |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.010               | -     |
| Chrysene               | 218-01-9 | -             | < 0.010               | -     |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.010               | -     |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.010               | -     |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.010               | -     |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.010               | -     |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.010               | -     |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.010               | -     |
| Total (USEPA16) PAHs   | -        | -             | < 0.160               | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 94     |
| Acenaphthene-d10       | 91     |
| Phenanthrene-d10       | 90     |
| Chrysene-d12           | 89     |
| Perylene-d12           | 87     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 75    |
| Terphenyl-d14    | 88    |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

# Polycyclic Aromatic Hydrocarbons

## GC/MS (SIM)

|                                   |                                              |                        |             |
|-----------------------------------|----------------------------------------------|------------------------|-------------|
| <b>Customer and Site Details:</b> | Soil Mechanics: Ferrybridge PowerStn Phase 2 |                        |             |
| <b>Sample Details:</b>            | WS606 EWM 19 3.21                            | <b>Job Number:</b>     | W11_9715    |
| <b>LIMS ID Number:</b>            | EX1118522                                    | <b>Date Booked in:</b> | 06-May-11   |
| <b>QC Batch Number:</b>           | 110432                                       | <b>Date Extracted:</b> | 13-May-11   |
| <b>Quantitation File:</b>         | Initial Calibration                          | <b>Date Analysed:</b>  | 13-May-11   |
| <b>Directory:</b>                 | 512PAH.MS10\                                 | <b>Matrix:</b>         | Water       |
| <b>Dilution:</b>                  | 1.0                                          | <b>Ext Method:</b>     | Sep. Funnel |

UKAS accredited?: Yes

| Target Compounds       | CAS #    | R.T.<br>(min) | Concentration<br>ug/l | % Fit |
|------------------------|----------|---------------|-----------------------|-------|
| Naphthalene            | 91-20-3  | -             | < 0.010               | -     |
| Acenaphthylene         | 208-96-8 | -             | < 0.010               | -     |
| Acenaphthene           | 83-32-9  | -             | < 0.010               | -     |
| Fluorene               | 86-73-7  | -             | < 0.010               | -     |
| Phenanthrene           | 85-01-8  | -             | < 0.010               | -     |
| Anthracene             | 120-12-7 | -             | < 0.010               | -     |
| Fluoranthene           | 206-44-0 | -             | < 0.010               | -     |
| Pyrene                 | 129-00-0 | -             | < 0.010               | -     |
| Benzo[a]anthracene     | 56-55-3  | -             | < 0.010               | -     |
| Chrysene               | 218-01-9 | -             | < 0.010               | -     |
| Benzo[b]fluoranthene   | 205-99-2 | -             | < 0.010               | -     |
| Benzo[k]fluoranthene   | 207-08-9 | -             | < 0.010               | -     |
| Benzo[a]pyrene         | 50-32-8  | -             | < 0.010               | -     |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | -             | < 0.010               | -     |
| Dibenzo[a,h]anthracene | 53-70-3  | -             | < 0.010               | -     |
| Benzo[g,h,i]perylene   | 191-24-2 | -             | < 0.010               | -     |
| Total (USEPA16) PAHs   | -        | -             | < 0.160               | -     |

"M" denotes that % fit has been manually interpreted

| Internal Standards     | % Area |
|------------------------|--------|
| 1,4-Dichlorobenzene-d4 | NA     |
| Naphthalene-d8         | 85     |
| Acenaphthene-d10       | 84     |
| Phenanthrene-d10       | 85     |
| Chrysene-d12           | 86     |
| Perylene-d12           | 82     |

| Surrogates       | % Rec |
|------------------|-------|
| Nitrobenzene-d5  | NA    |
| 2-Fluorobiphenyl | 77    |
| Terphenyl-d14    | 96    |

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

## ALIPHATIC / AROMATIC FRACTION BY GC/FID

Soil Mechanics : Ferrybridge PowerStn Phase 2

W11 9715

110441

D:\TES\DATA\Y2011\051811TPH GC15\051811 2011-05-18 08-32-28\062B1501.D

### Separating Funnel

**Separation:** Silica gel

**Eluents:** Hexane, DCM

**Matrix:** Water

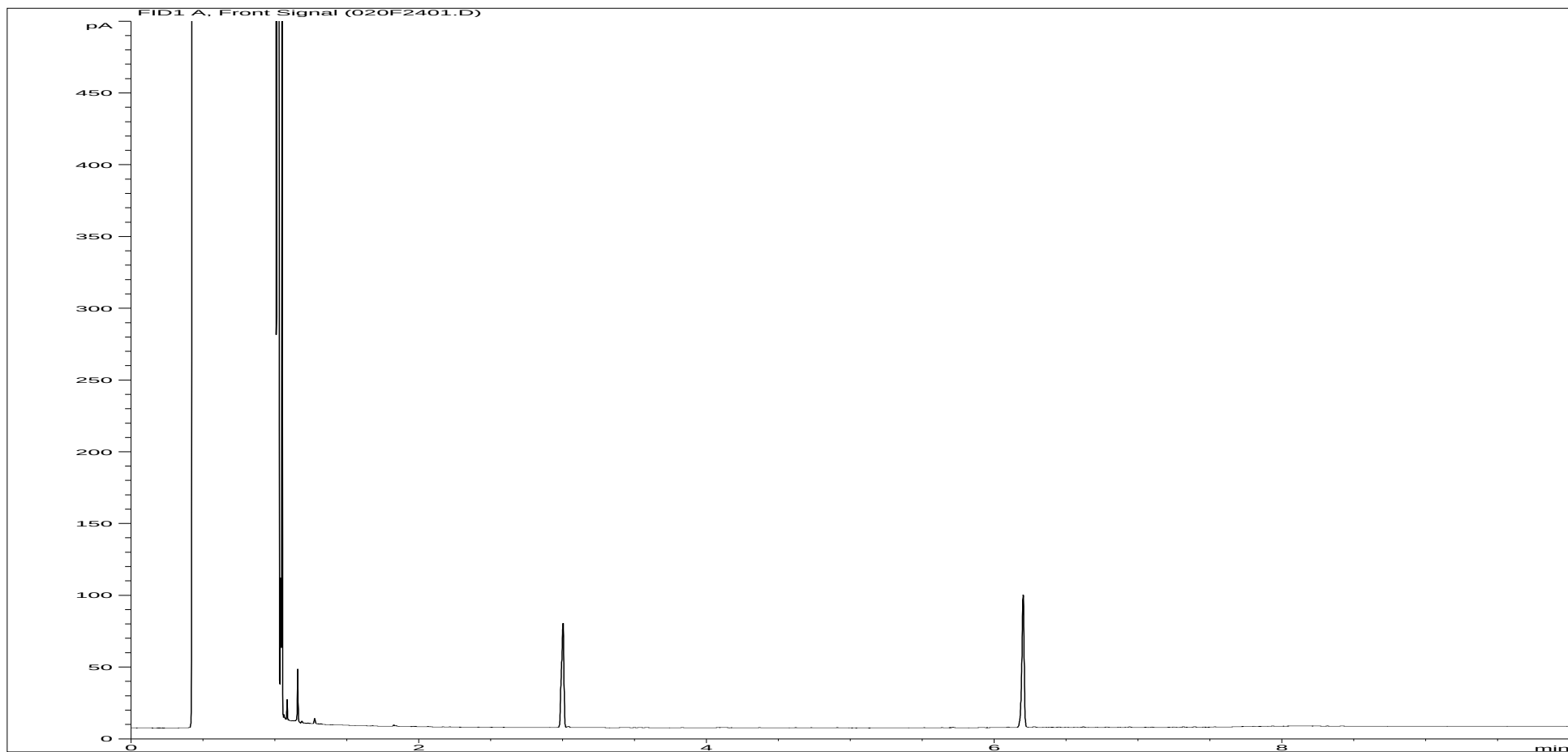
**Date Booked in** 06-May-11

**Date Extracted:** 17-May-11

**Date Analysed:** 18-May-11, 15:58:18

[illegible]

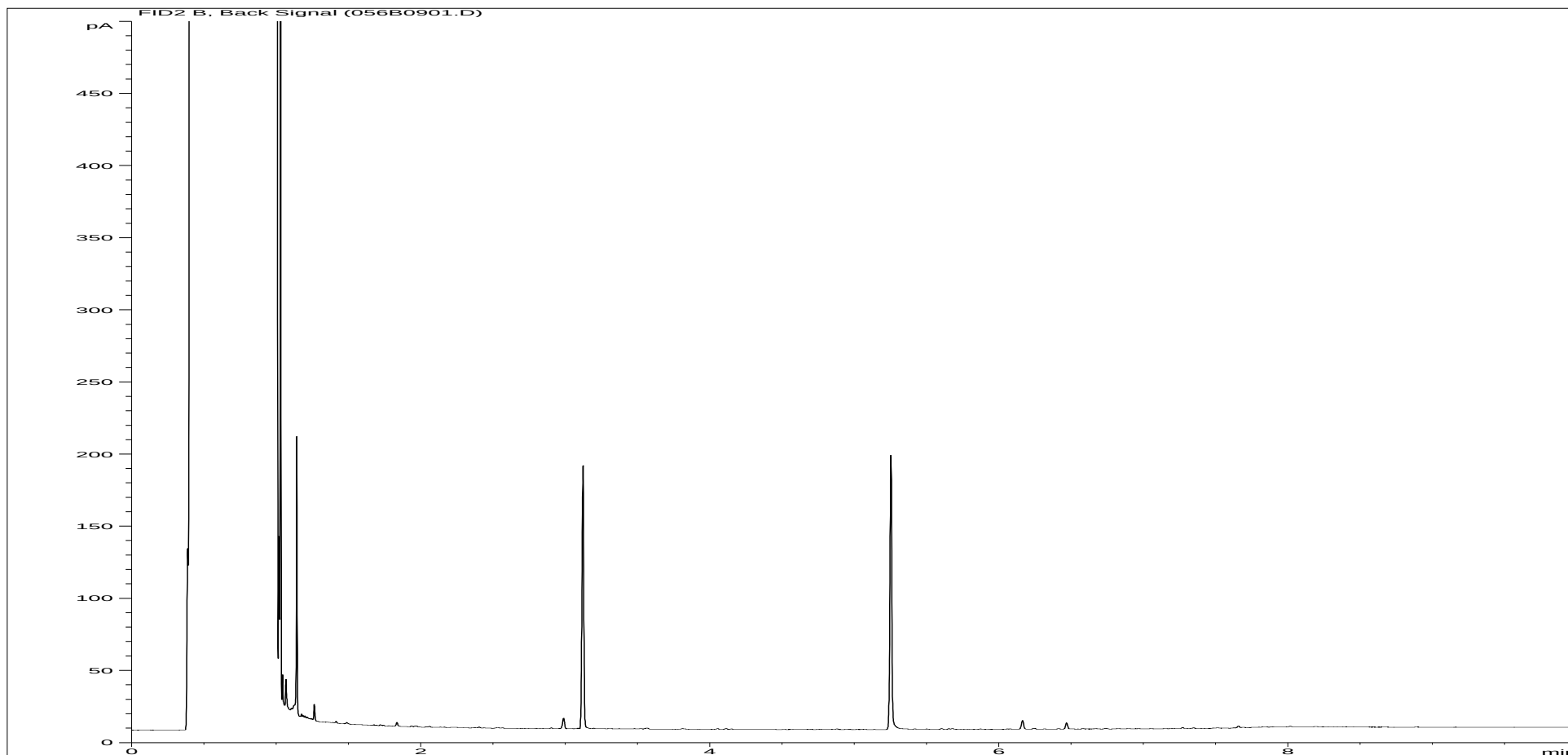
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



|                        |                                                                         |                    |                              |
|------------------------|-------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1118515ALI                                                            | Job Number:        | W11_9715                     |
| Multiplier:            | 0.02                                                                    | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | BH601 EWM 10 3.68            |
| Acquisition Date/Time: | 16-May-11, 17:17:33                                                     |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\051611\TPH_GC15\051611 2011-05-16 10-40-09\020F2401.D |                    |                              |

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.

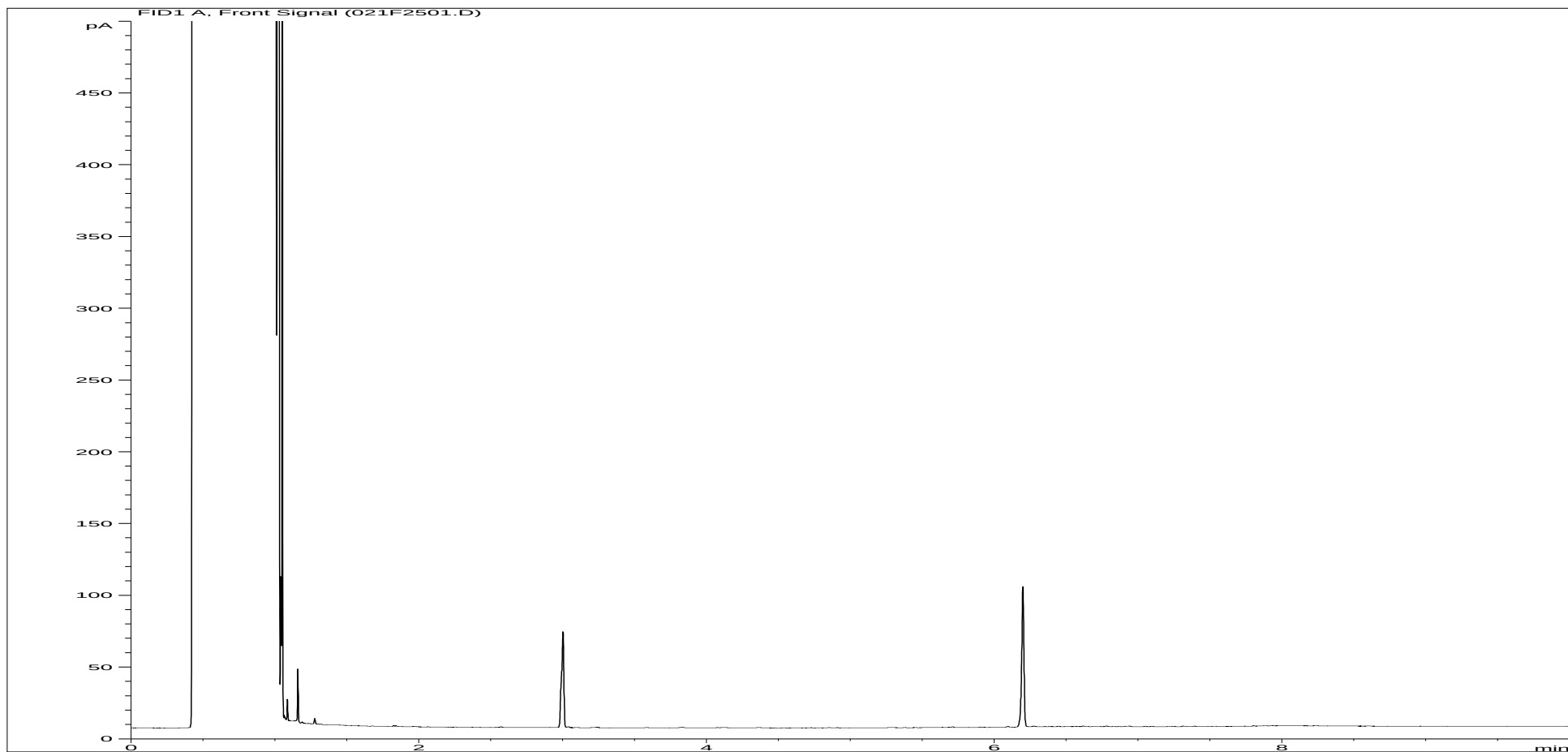


|                        |                                                                         |                    |                              |
|------------------------|-------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1118515ARO                                                            | Job Number:        | W11_9715                     |
| Multiplier:            | 0.015                                                                   | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | BH601 EWM 10 3.68            |
| Acquisition Date/Time: | 18-May-11, 14:15:51                                                     |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\051811\TPH_GC15\051811 2011-05-18 08-32-28\056B0901.D |                    |                              |

Where individual results are flagged see report notes for status.



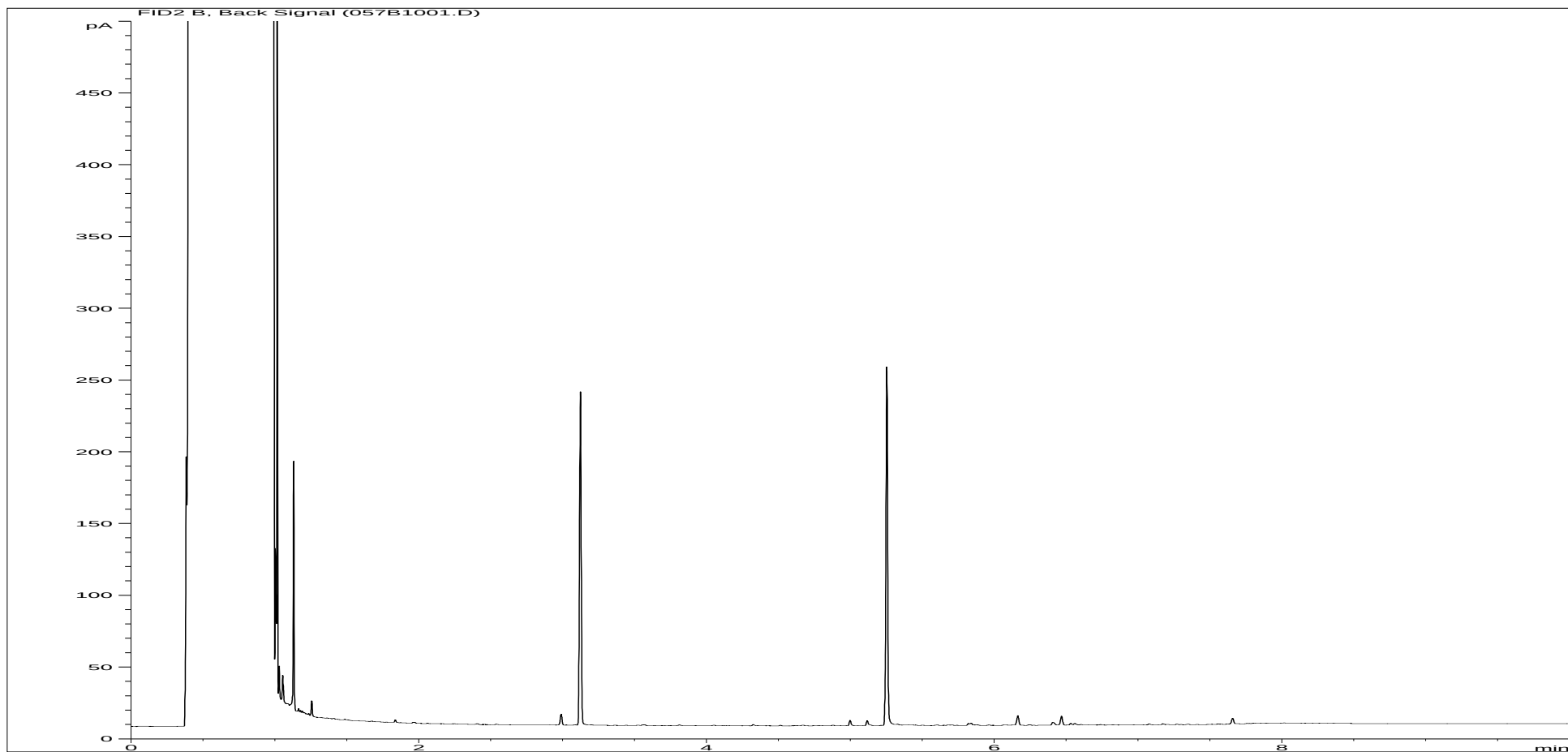
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



|                        |                                                                        |                    |                              |
|------------------------|------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1118517ALI                                                           | Job Number:        | W11_9715                     |
| Multiplier:            | 0.02                                                                   | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                      | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                             | Client Sample Ref: | BH605 EWM 14 5.10            |
| Acquisition Date/Time: | 16-May-11, 17:34:53                                                    |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\051611TPH_GC15\051611 2011-05-16 10-40-09\021F2501.D |                    |                              |

Where individual results are flagged see report notes for status.

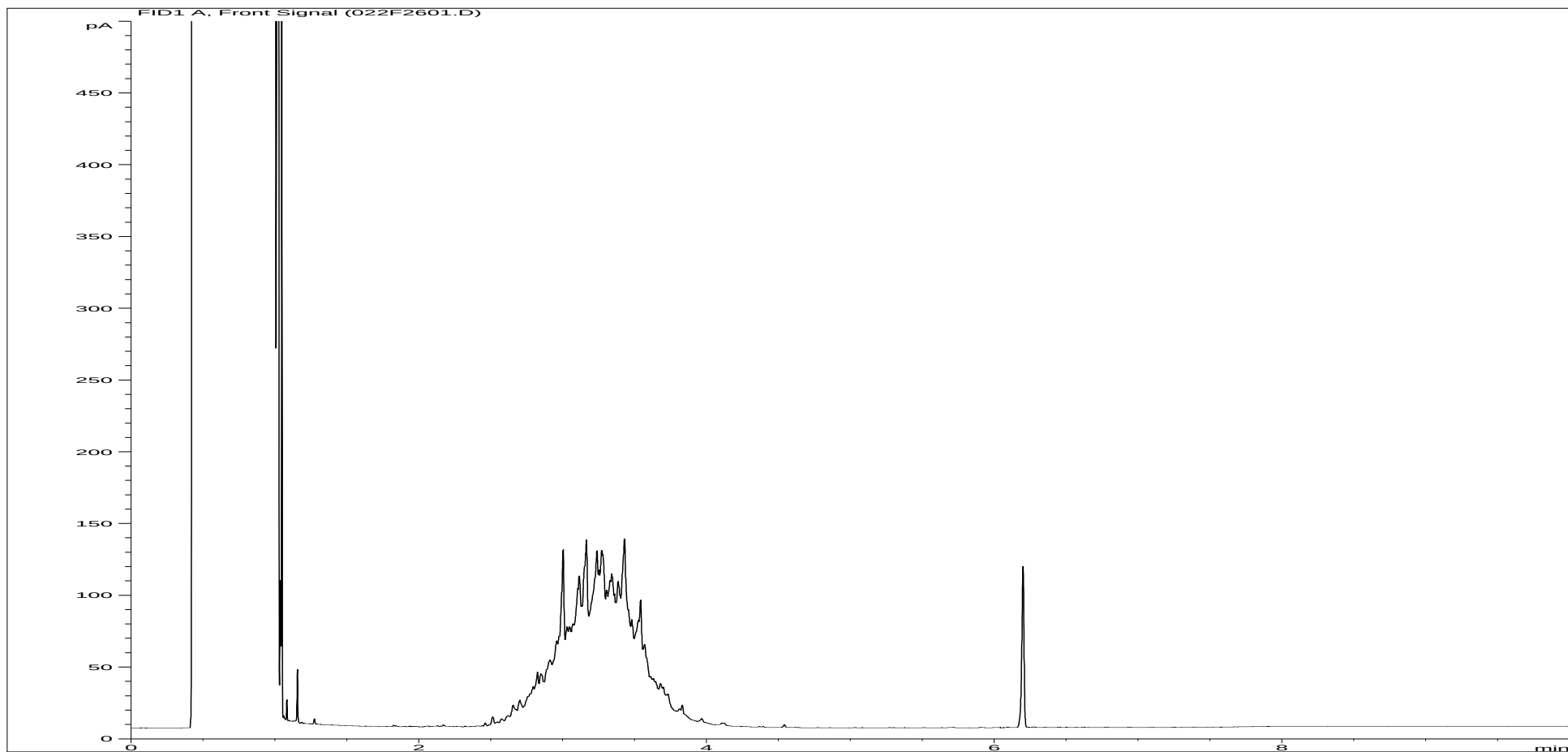
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



|                               |                                                                        |                           |                              |
|-------------------------------|------------------------------------------------------------------------|---------------------------|------------------------------|
| <b>Sample ID:</b>             | EX1118517ARO                                                           | <b>Job Number:</b>        | W11_9715                     |
| <b>Multiplier:</b>            | 0.015                                                                  | <b>Client:</b>            | Soil Mechanics               |
| <b>Dilution:</b>              | 1                                                                      | <b>Site:</b>              | Ferrybridge PowerStn Phase 2 |
| <b>Acquisition Method:</b>    | TPH_RUNF.M                                                             | <b>Client Sample Ref:</b> | BH605 EWM 14 5.10            |
| <b>Acquisition Date/Time:</b> | 18-May-11, 14:32:50                                                    |                           |                              |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\051811TPH_GC15\051811 2011-05-18 08-32-28\057B1001.D |                           |                              |

Where individual results are flagged see report notes for status.

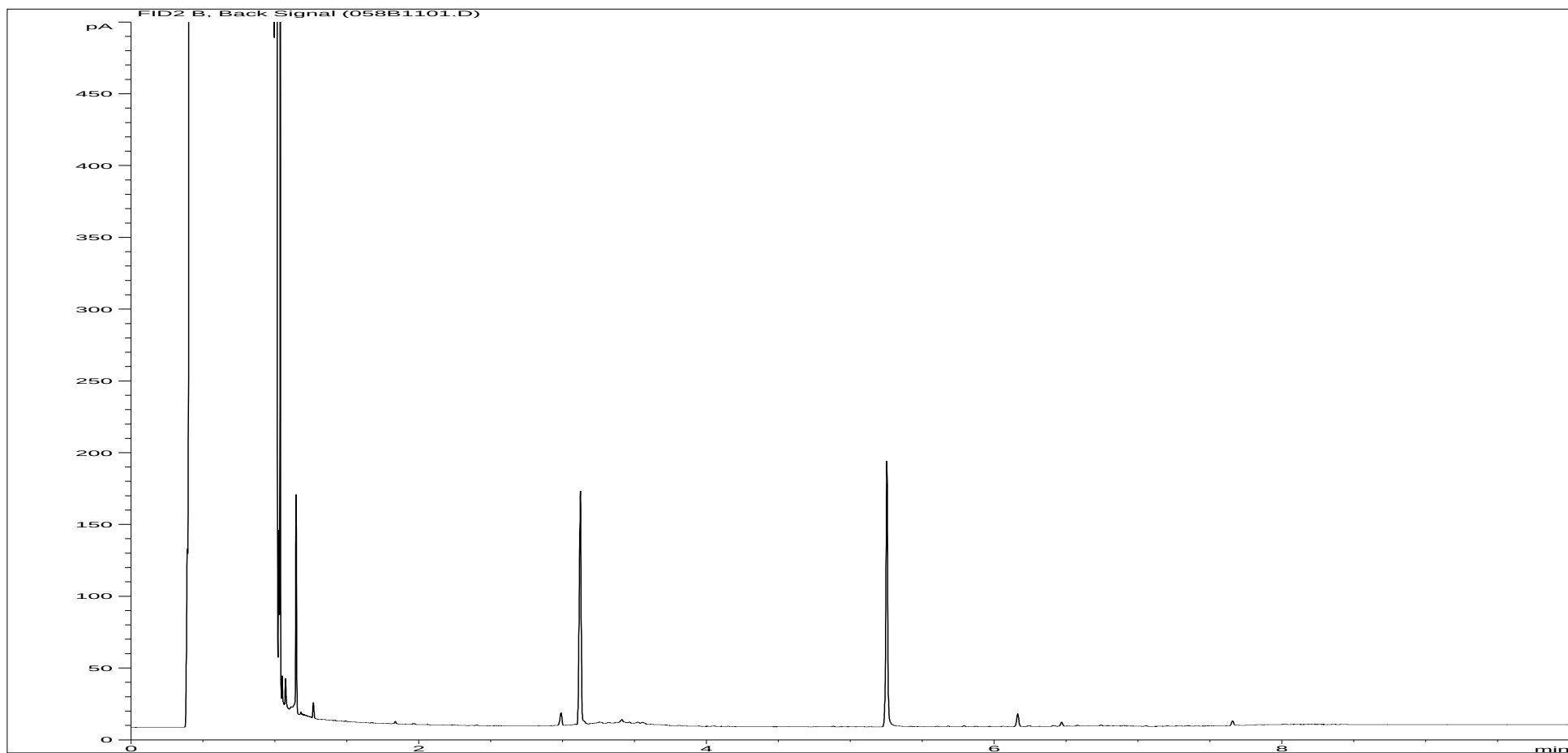
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



|                        |                                                                         |                    |                              |
|------------------------|-------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1118518ALI                                                            | Job Number:        | W11_9715                     |
| Multiplier:            | 0.02                                                                    | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | BH608 EWM 13 6.16            |
| Acquisition Date/Time: | 16-May-11, 17:52:04                                                     |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\051611\TPH_GC15\051611 2011-05-16 10-40-09\022F2601.D |                    |                              |

Where individual results are flagged see report notes for status.

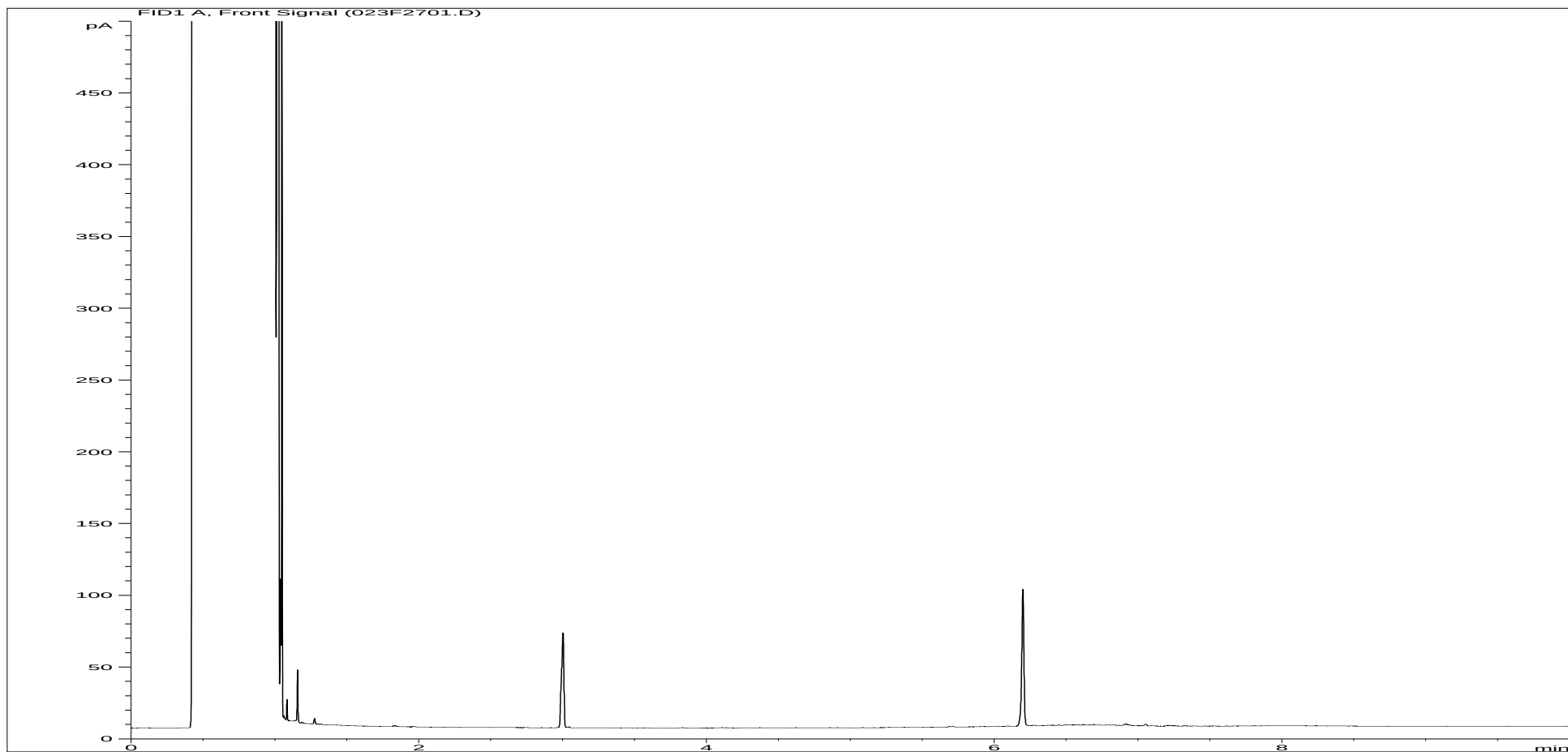
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



|                        |                                                                         |                    |                              |
|------------------------|-------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1118518ARO                                                            | Job Number:        | W11_9715                     |
| Multiplier:            | 0.015                                                                   | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | BH608 EWM 13 6.16            |
| Acquisition Date/Time: | 18-May-11, 14:50:01                                                     |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\051811\TPH_GC15\051811 2011-05-18 08-32-28\058B1101.D |                    |                              |

Where individual results are flagged see report notes for status.

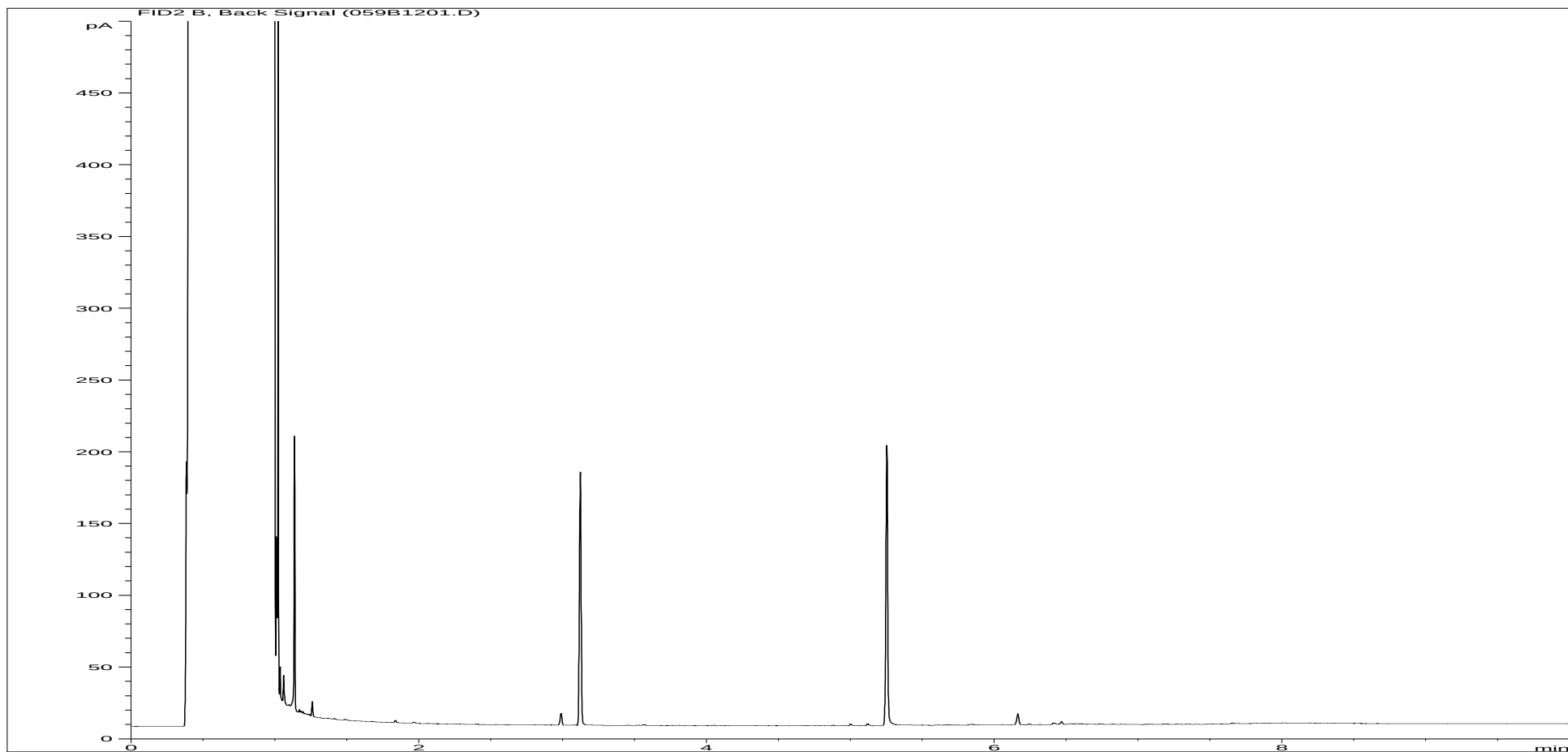
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.**



|                               |                                                                        |                           |                              |
|-------------------------------|------------------------------------------------------------------------|---------------------------|------------------------------|
| <b>Sample ID:</b>             | EX1118519ALI                                                           | <b>Job Number:</b>        | W11_9715                     |
| <b>Multiplier:</b>            | 0.02                                                                   | <b>Client:</b>            | Soil Mechanics               |
| <b>Dilution:</b>              | 1                                                                      | <b>Site:</b>              | Ferrybridge PowerStn Phase 2 |
| <b>Acquisition Method:</b>    | TPH_RUNF.M                                                             | <b>Client Sample Ref:</b> | BH609 EWM 11 7.20            |
| <b>Acquisition Date/Time:</b> | 16-May-11, 18:09:14                                                    |                           |                              |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\051611TPH_GC15\051611 2011-05-16 10-40-09\023F2701.D |                           |                              |

Where individual results are flagged see report notes for status.

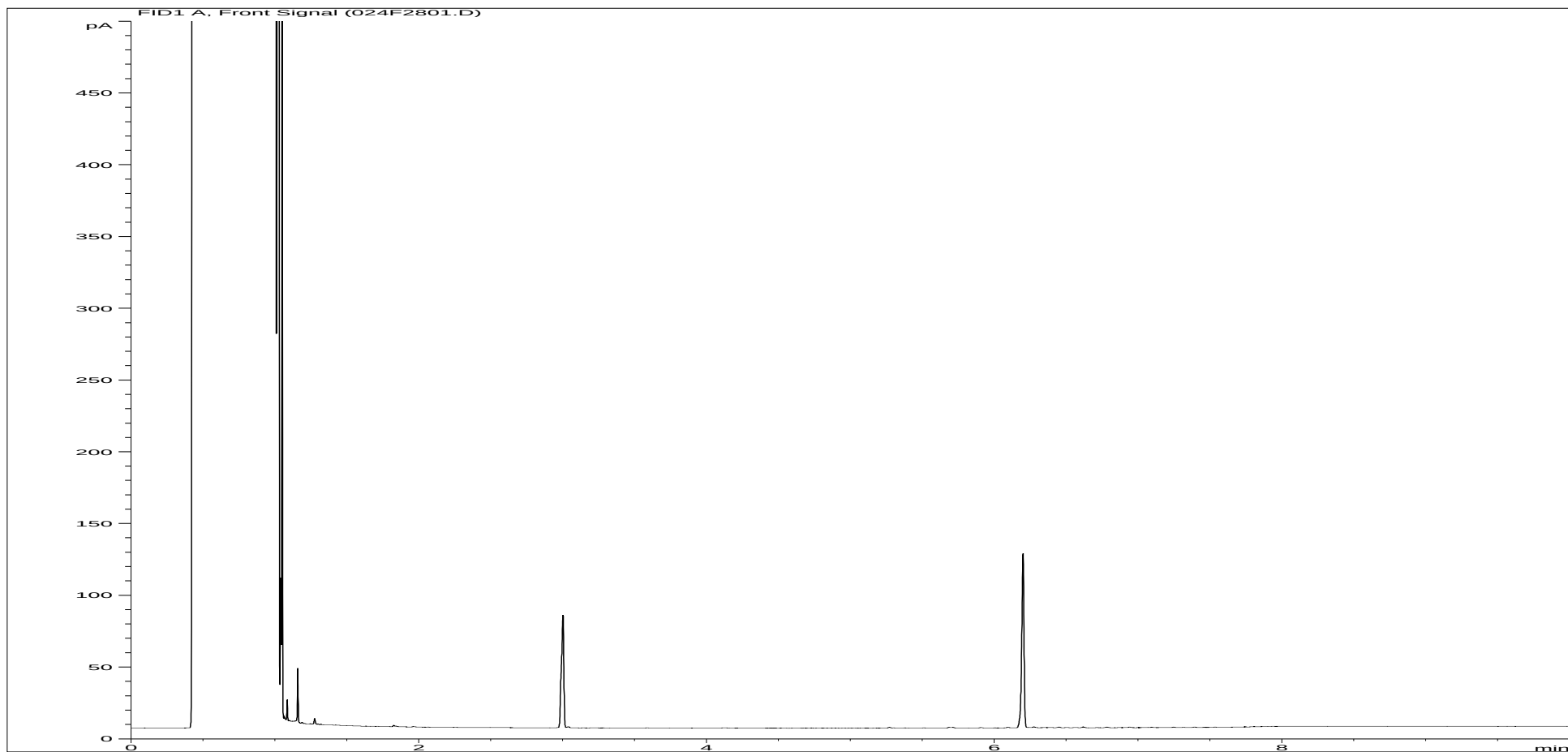
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



|                        |                                                                        |                    |                              |
|------------------------|------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1118519ARO                                                           | Job Number:        | W11_9715                     |
| Multiplier:            | 0.015                                                                  | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                      | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                             | Client Sample Ref: | BH609 EWM 11 7.20            |
| Acquisition Date/Time: | 18-May-11, 15:07:02                                                    |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\051811TPH_GC15\051811 2011-05-18 08-32-28\059B1201.D |                    |                              |

Where individual results are flagged see report notes for status.

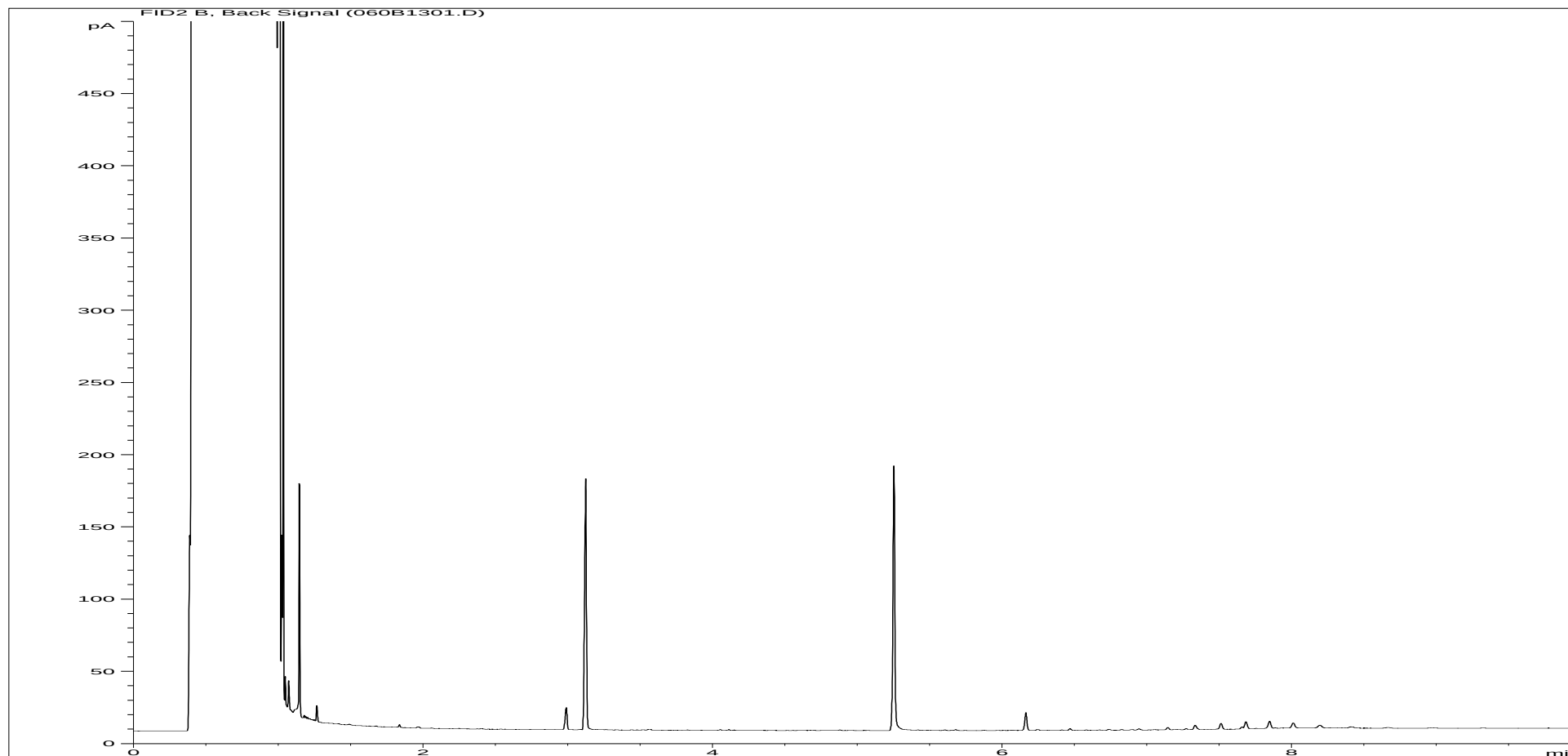
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



|                               |                                                                         |                           |                                  |
|-------------------------------|-------------------------------------------------------------------------|---------------------------|----------------------------------|
| <b>Sample ID:</b>             | EX1118520ALI                                                            | <b>Job Number:</b>        | W11_9715                         |
| <b>Multiplier:</b>            | 0.019                                                                   | <b>Client:</b>            | Soil Mechanics                   |
| <b>Dilution:</b>              | 1                                                                       | <b>Site:</b>              | Ferrybridge PowerStn Phase 2     |
| <b>Acquisition Method:</b>    | TPH_RUNF.M                                                              | <b>Client Sample Ref:</b> | Fryston BK Downstream EWM 2 0.00 |
| <b>Acquisition Date/Time:</b> | 16-May-11, 18:26:18                                                     |                           |                                  |
| <b>Datafile:</b>              | D:\TES\DATA\Y2011\051611\TPH_GC15\051611 2011-05-16 10-40-09\024F2801.D |                           |                                  |

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.

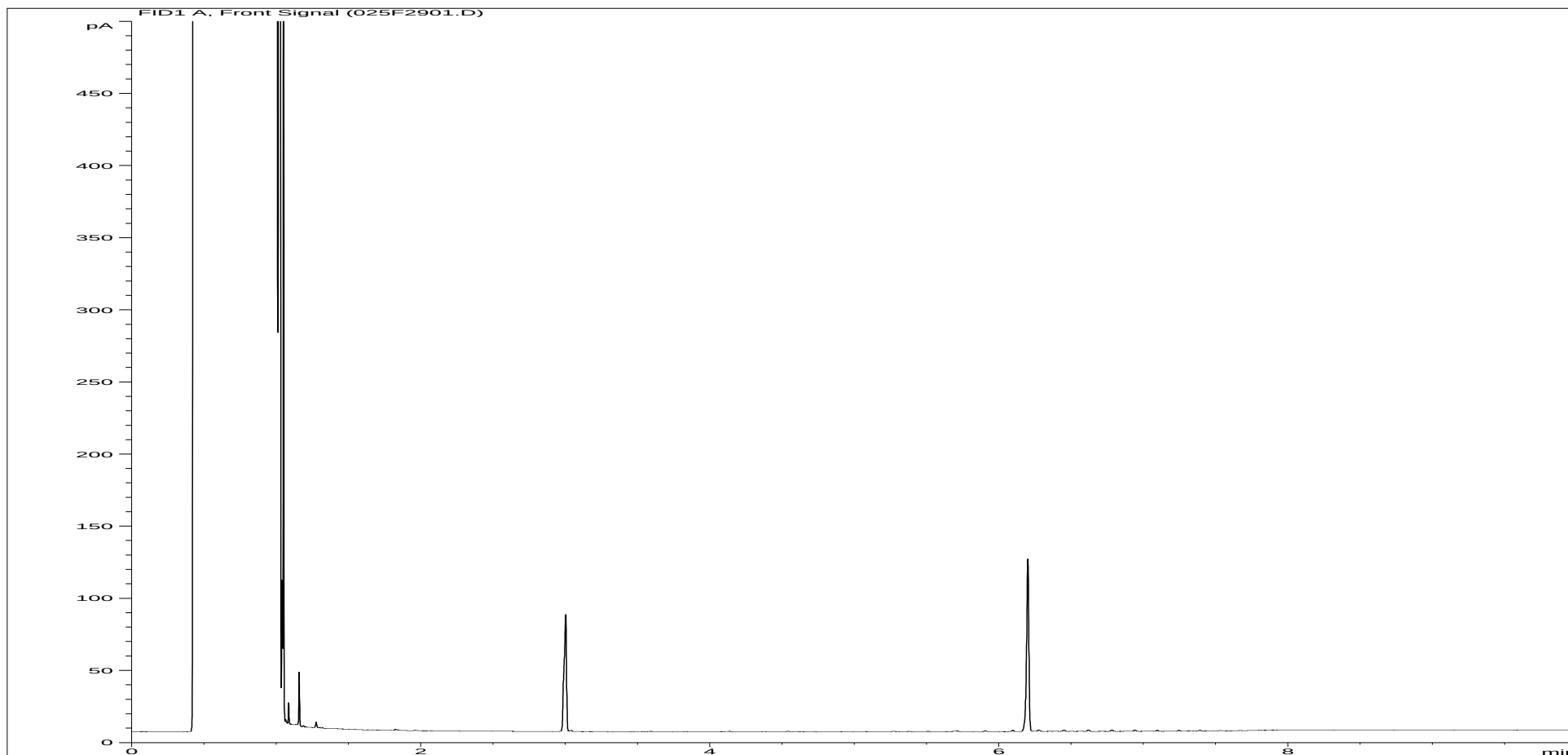


|                        |                                                                        |                    |                                  |
|------------------------|------------------------------------------------------------------------|--------------------|----------------------------------|
| Sample ID:             | EX1118520ARO                                                           | Job Number:        | W11_9715                         |
| Multiplier:            | 0.015                                                                  | Client:            | Soil Mechanics                   |
| Dilution:              | 1                                                                      | Site:              | Ferrybridge PowerStn Phase 2     |
| Acquisition Method:    | TPH_RUNF.M                                                             | Client Sample Ref: | Fryston BK Downstream EWM 2 0.00 |
| Acquisition Date/Time: | 18-May-11, 15:24:03                                                    |                    |                                  |
| Datafile:              | D:\TES\DATA\Y2011\051811TPH_GC15\051811 2011-05-18 08-32-28\060B1301.D |                    |                                  |

Where individual results are flagged see report notes for status.



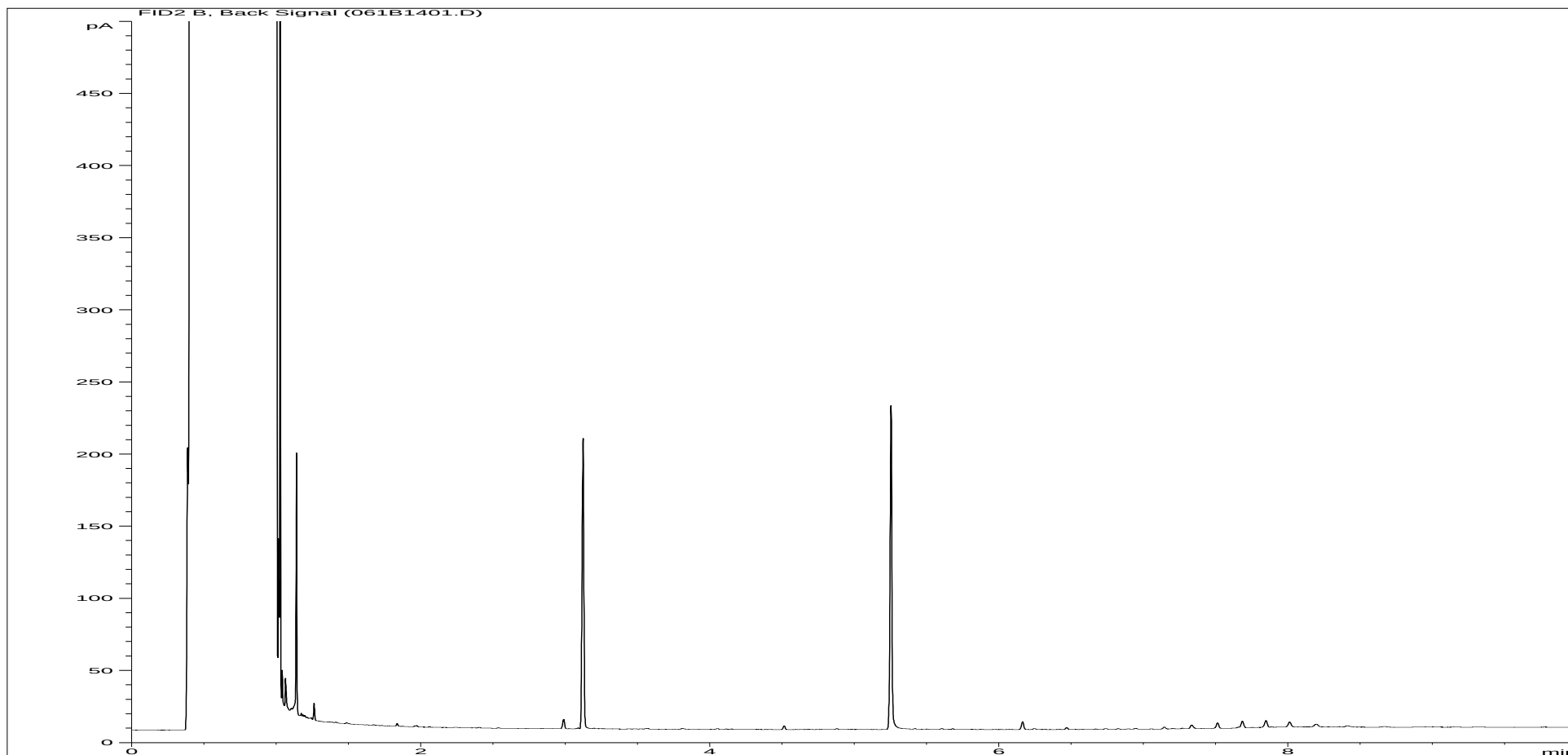
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



|                        |                                                                         |                    |                                |
|------------------------|-------------------------------------------------------------------------|--------------------|--------------------------------|
| Sample ID:             | EX1118521ALI                                                            | Job Number:        | W11_9715                       |
| Multiplier:            | 0.019                                                                   | Client:            | Soil Mechanics                 |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2   |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | Fryston BK Upstream EWM 2 0.00 |
| Acquisition Date/Time: | 16-May-11, 18:43:37                                                     |                    |                                |
| Datafile:              | D:\TES\DATA\Y2011\051611\TPH_GC15\051611 2011-05-16 10-40-09\025F2901.D |                    |                                |

Where individual results are flagged see report notes for status.

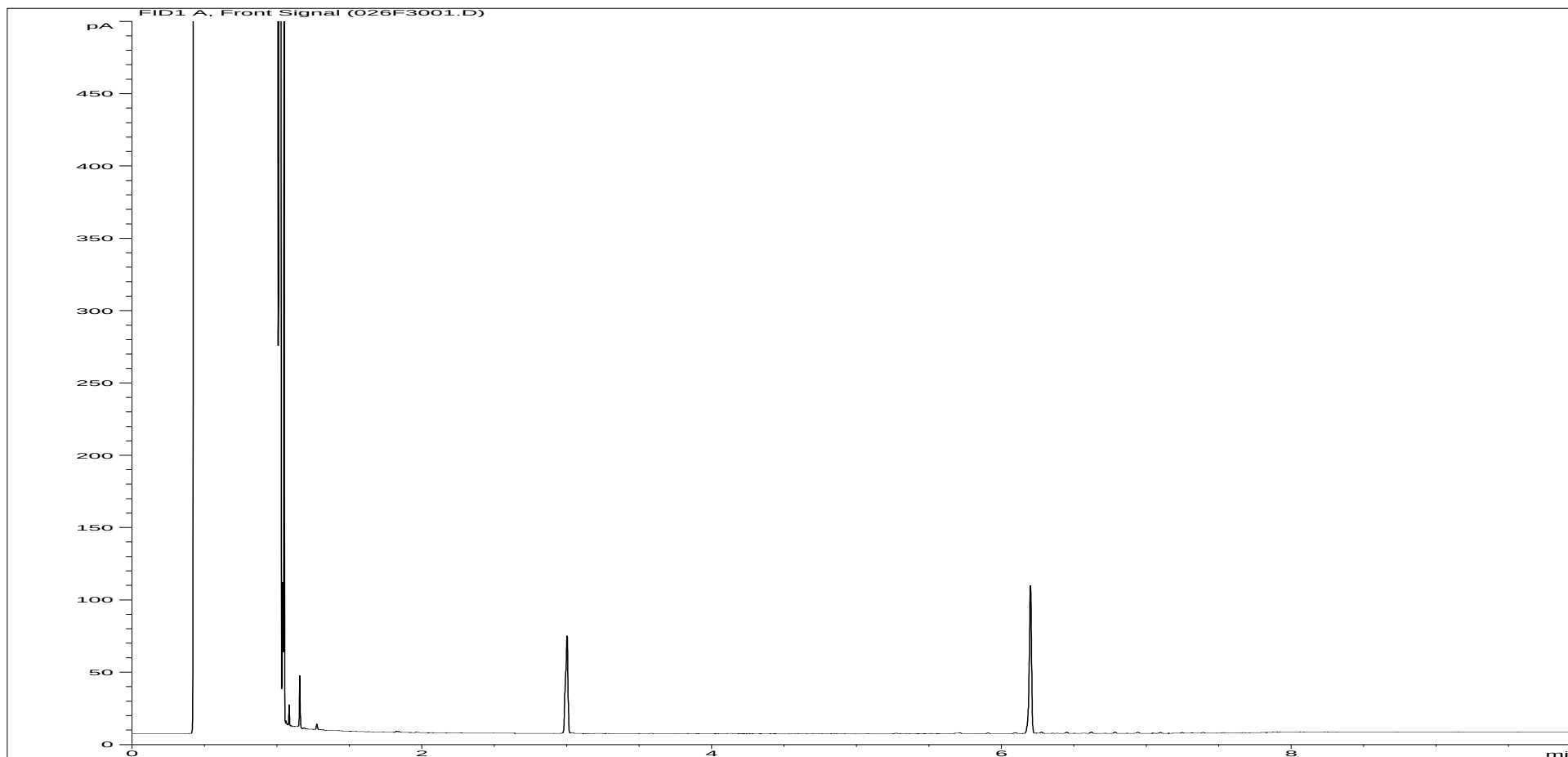
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



|                        |                                                                         |                    |                                |
|------------------------|-------------------------------------------------------------------------|--------------------|--------------------------------|
| Sample ID:             | EX1118521ARO                                                            | Job Number:        | W11_9715                       |
| Multiplier:            | 0.015                                                                   | Client:            | Soil Mechanics                 |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2   |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | Fryston BK Upstream EWM 2 0.00 |
| Acquisition Date/Time: | 18-May-11, 15:41:04                                                     |                    |                                |
| Datafile:              | D:\TES\DATA\Y2011\051811\TPH_GC15\051811 2011-05-18 08-32-28\061B1401.D |                    |                                |

Where individual results are flagged see report notes for status.

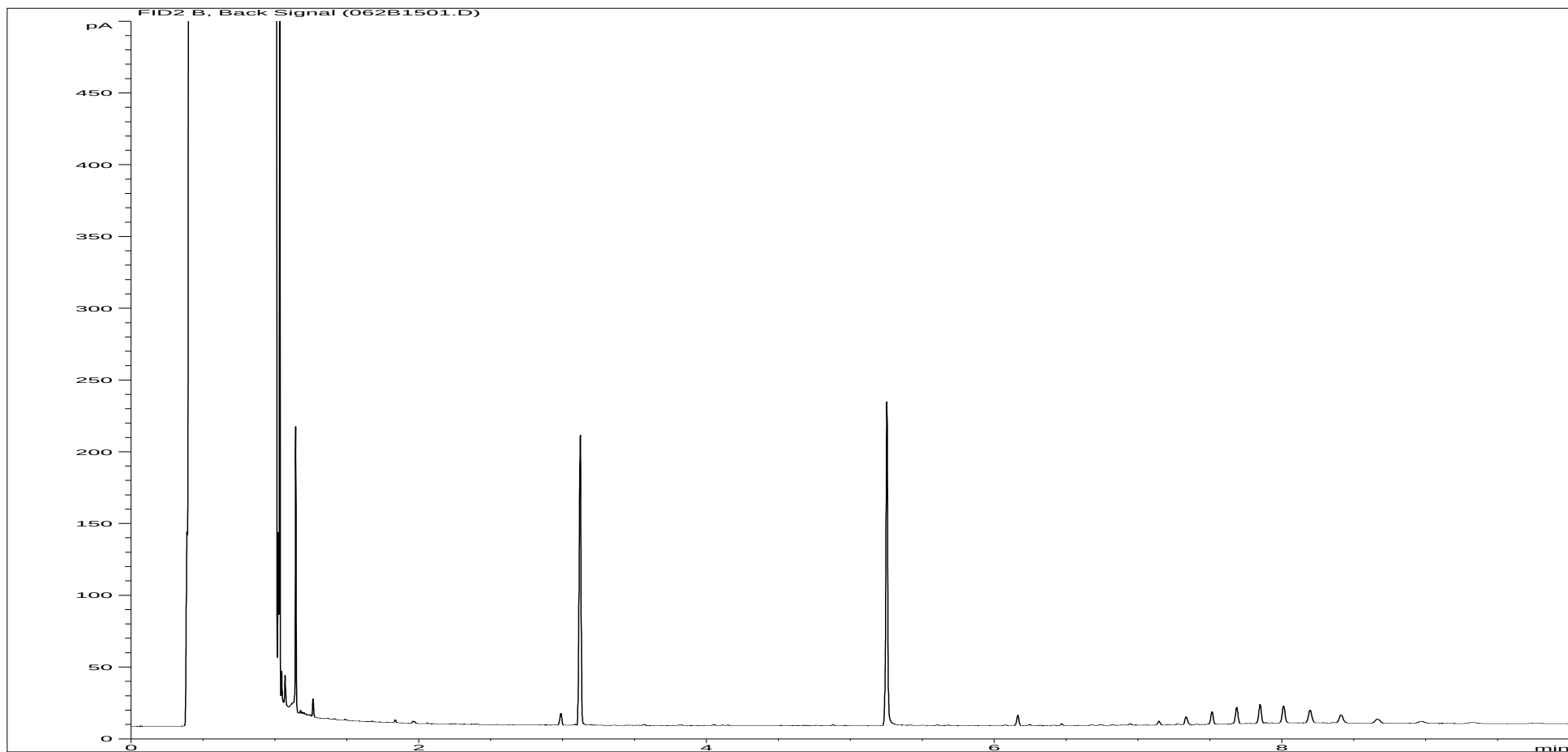
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



|                        |                                                                         |                    |                              |
|------------------------|-------------------------------------------------------------------------|--------------------|------------------------------|
| Sample ID:             | EX1118522ALI                                                            | Job Number:        | W11_9715                     |
| Multiplier:            | 0.02                                                                    | Client:            | Soil Mechanics               |
| Dilution:              | 1                                                                       | Site:              | Ferrybridge PowerStn Phase 2 |
| Acquisition Method:    | TPH_RUNF.M                                                              | Client Sample Ref: | WS606 EWM 19 3.21            |
| Acquisition Date/Time: | 16-May-11, 19:00:44                                                     |                    |                              |
| Datafile:              | D:\TES\DATA\Y2011\051611\TPH_GC15\051611 2011-05-16 10-40-09\026F3001.D |                    |                              |

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID: EX1118522ARO  
Multiplier: 0.015  
Dilution: 1  
Acquisition Method: TPH\_RUNF.M  
Acquisition Date/Time: 18-May-11, 15:58:18  
Datafile: D:\TES\DATA\Y2011\051811\TPH\_GC15\051811 2011-05-18 08-32-28\062B1501.D

Job Number: W11\_9715  
Client: Soil Mechanics  
Site: Ferrybridge PowerStn Phase 2  
Client Sample Ref: WS606 EWM 19 3.21

Where individual results are flagged see report notes for status.

Customer Soil Mechanics  
Site Ferrybridge PowerStn Phase 2  
Report No W119715

Consignment No 25905  
Date Logged 06-May-2011

Report Due 19-May-2011

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**Note: For analysis where the Report Due date is greater than 7 days (Volatiles, PAH, Pesticides, PCB, Phenols, Herbicides) or 2 days (BOD) after the sampling date, although we will do our utmost to prioritise your samples, they may become deviant whilst being processed in the Laboratory.**

**In this instance, please contact the Laboratory immediately should you wish to discuss how you would like us to proceed. If you do not respond within 24 hours, we will proceed as originally requested.**

#### Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time

#### Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - **Note: due date may be affected if triggered**
- No analysis scheduled
- Analysis Subcontracted

Customer Soil Mechanics  
 Site Ferrybridge PowerStn Phase 2  
 Report No W119715

Consignment No 25905  
 Date Logged 06-May-2011

Report Due 19-May-2011

| ID Number              | Description           | MethodID | VOCHSAM              | WSLM20                    | WSLM3    |
|------------------------|-----------------------|----------|----------------------|---------------------------|----------|
|                        |                       | Sampled  | BTEX Analysis HSA MS | Biochemical Oxygen Demand | pH units |
| Accredited to ISO17025 |                       |          |                      |                           | ✓        |
| EX/1118515             | BH601 3.68            | 04/05/11 |                      |                           |          |
| EX/1118517             | BH605 5.10            | 03/05/11 |                      |                           |          |
| EX/1118518             | BH608 6.16            | 03/05/11 |                      |                           |          |
| EX/1118519             | BH609 7.20            | 03/05/11 |                      |                           |          |
| EX/1118520             | Fryston BK Upstream   | 03/05/11 |                      |                           |          |
| EX/1118521             | Fryston BK Downstream | 03/05/11 |                      |                           |          |
| EX/1118522             | WS606 3.21            | 04/05/11 |                      |                           |          |

**Note: For analysis where the Report Due date is greater than 7 days (Volatiles, PAH, Pesticides, PCB, Phenols, Herbicides) or 2 days (BOD) after the sampling date, although we will do our utmost to prioritise your samples, they may become deviant whilst being processed in the Laboratory.**

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#### Requested Analysis Key

- Analysis Required
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- Analysis Subcontracted

# Method Descriptions

| Matrix | MethodID  | Analysis Basis | Method Description                                                                                  |
|--------|-----------|----------------|-----------------------------------------------------------------------------------------------------|
| Water  | Calc HD   | As Received    | Calculation based on Dissolved metals analysis by ICPOES                                            |
| Water  | ICPMSW    | As Received    | Direct quantitative determination of Metals in water samples using ICPMS                            |
| Water  | ICPWATVAR | As Received    | Direct determination of Metals and Sulphate in water samples using ICPOES                           |
| Water  | KONENS    | As Received    | Direct analysis using discrete colorimetric analysis                                                |
| Water  | PAHMSW    | As Received    | Determination of PolyAromatic Hydrocarbons in water by pentane extraction GCMS quantitation         |
| Water  | SFAPI     | As Received    | Determination of Total Phenols by segmented flow analysis with colorimetric detection               |
| Water  | TPHFID-Si | As Received    | Determination of speciated pentane extractable hydrocarbons in water by GCFID                       |
| Water  | VOCHSAW   | As Received    | Determination of Volatile Organics Compounds or Gasoline Range Hydrocarbons (GRO) by Headspace GCMS |
| Water  | WSLM20    | As Received    | Determination of Biological Oxygen Demand using 5 day incubation and dissolved oxygen probe         |
| Water  | WSLM3     | As Received    | Determination of the pH of water samples by pH probe                                                |

Where individual results are flagged see report notes for status.

# Report Notes

## Generic Notes

### Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

### Waters Analysis

Unless stated otherwise results are expressed as mg/l

**Nil:** Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

### Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm<sup>3</sup>@ 15°C

### Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

### Asbestos Analysis

**CH** Denotes Chrysotile

**CR** Denotes Crocidolite

**AM** Denotes Amosite

**NAIIS** No Asbestos Identified in Sample

## Symbol Reference

**^** Sub-contracted analysis. Note: The accreditation status is that assigned by the subcontract laboratory.

**\$\$** Unable to analyse due to the nature of the sample

**¶** Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

**¥** Results for guidance only due to possible interference

**&** Blank corrected result

**I.S** Insufficient sample to complete requested analysis

**I.S(g)** Insufficient sample to re-analyse, results for guidance only

**Intf** Unable to analyse due to interferences

**N.D** Not determined

**N.Det** Not detected

**Req** Analysis requested, see attached sheets for results

**▮** Raised detection limit due to nature of the sample

**\*** All accreditation has been removed by the laboratory for this result

**‡** MCERTS accreditation has been removed for this result

**Note:** The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

## END OF REPORT

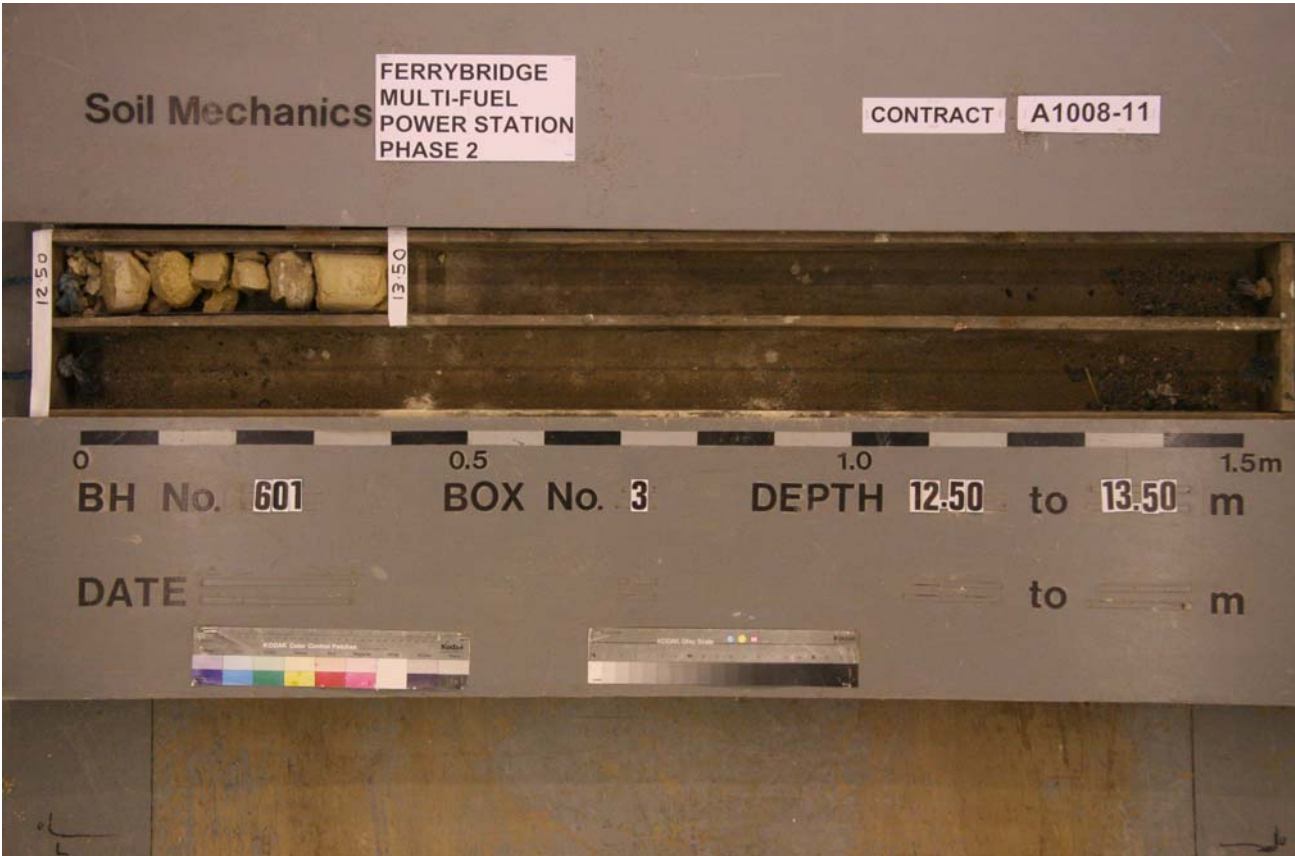
Where individual results are flagged see report notes for status.



**ENCLOSURE E**  
**PHOTOGRAPHS**

Rotary Cores

Plate 1 to 20



Notes:

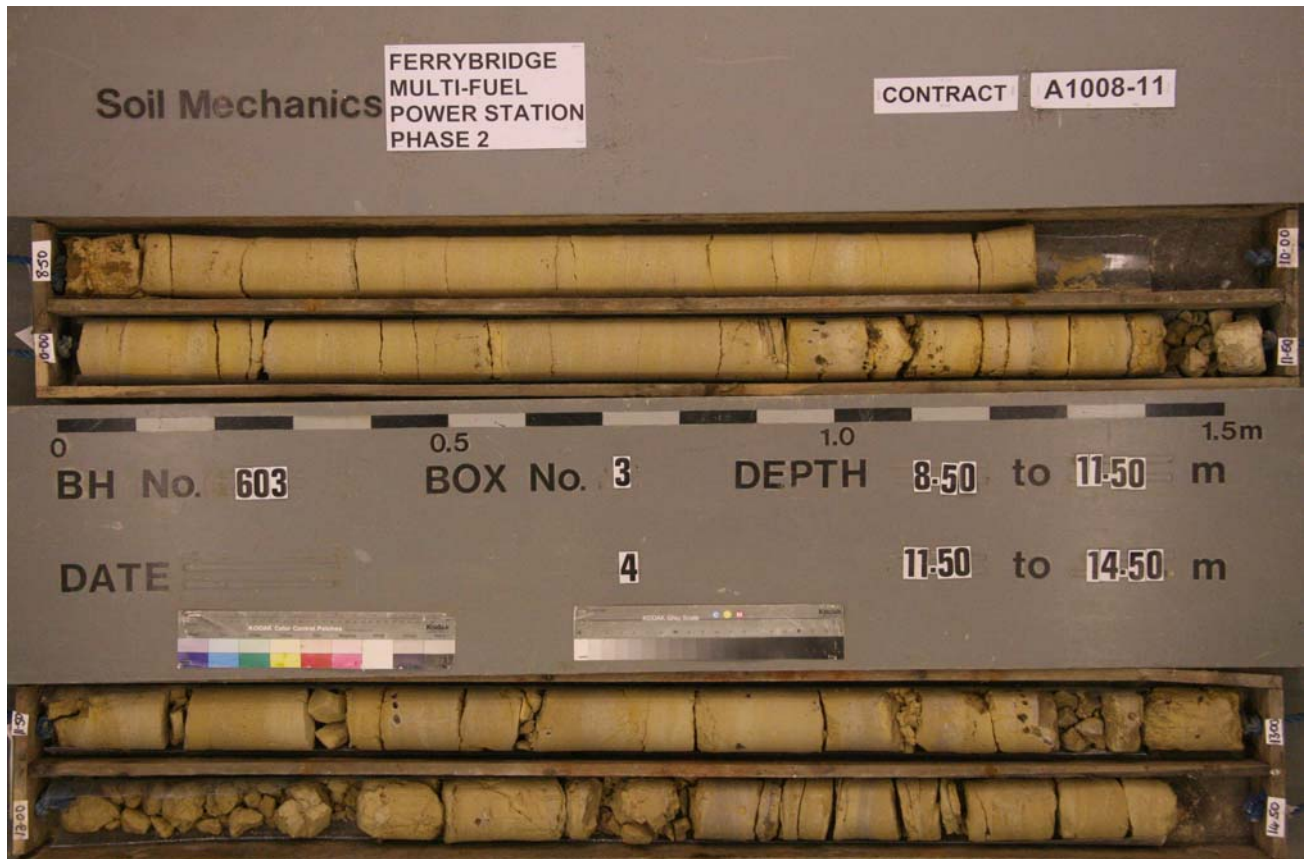
Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
Project No. A1008-10  
Carried out for Scottish and Southern Energy PLC

Plate 1



|        |                 |                                                |                |
|--------|-----------------|------------------------------------------------|----------------|
| Notes: | Project         | FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2 | Plate<br><br>2 |
|        | Project No.     | A1008-10                                       |                |
|        | Carried out for | Scottish and Southern Energy PLC               |                |

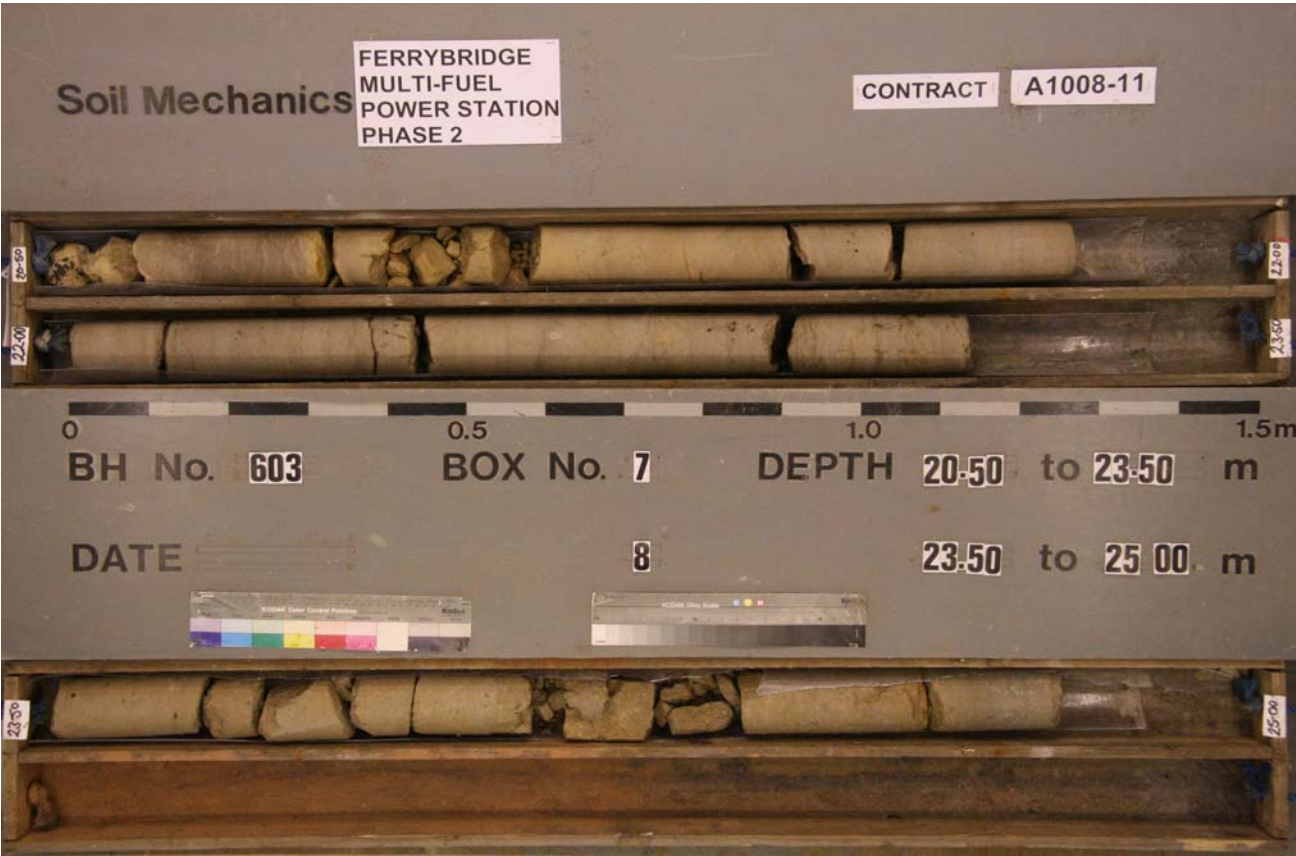




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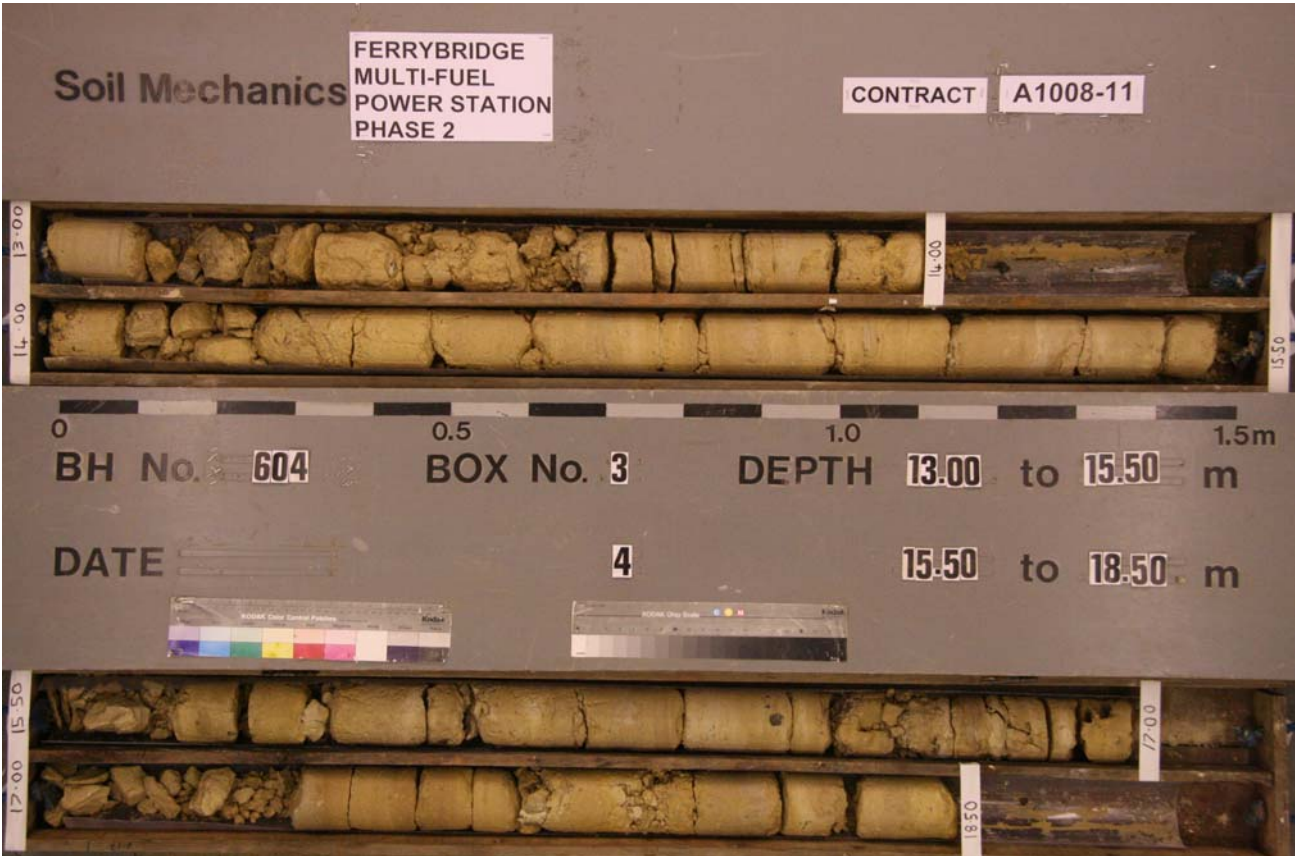
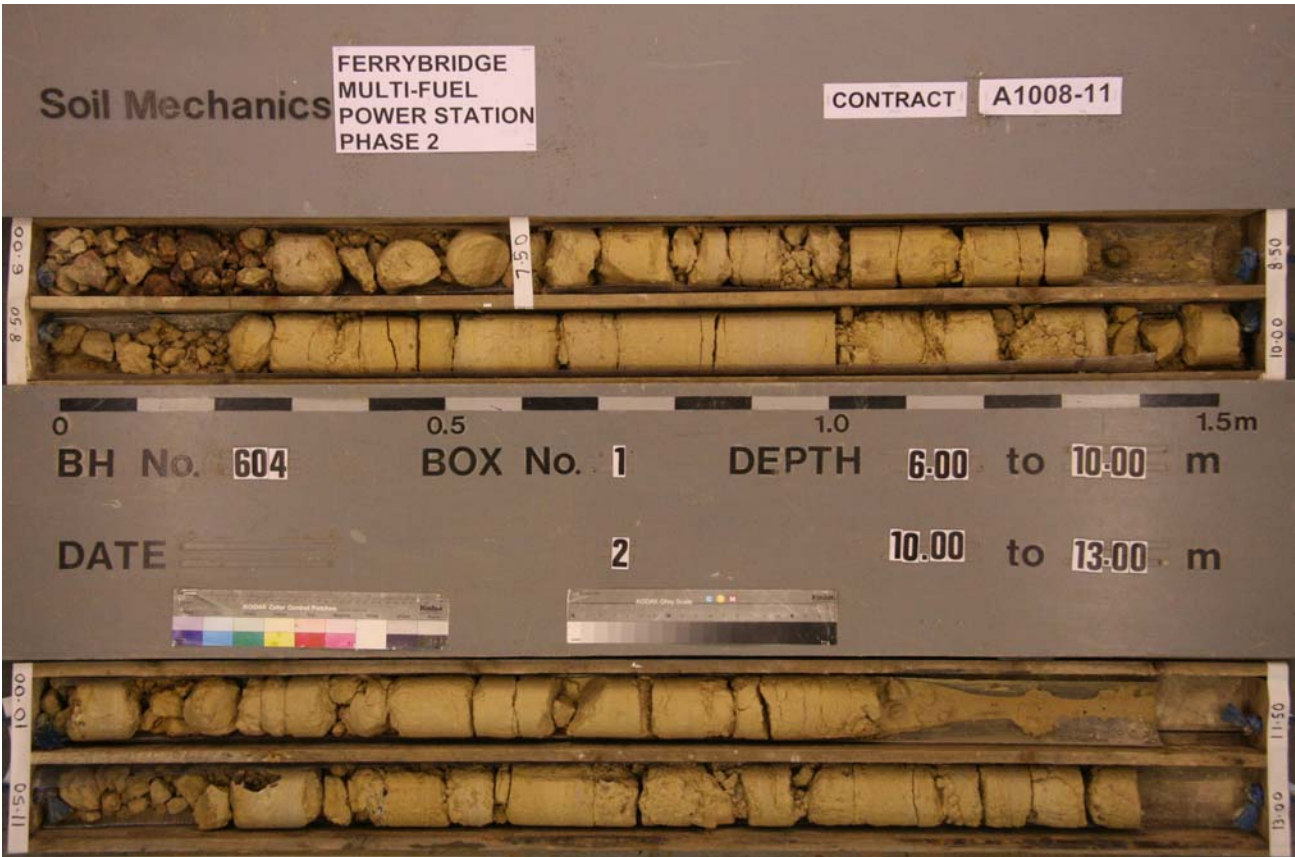
Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
Project No. A1008-10  
Carried out for Scottish and Southern Energy PLC

Plate 3



|        |                 |                                                |            |
|--------|-----------------|------------------------------------------------|------------|
| Notes: | Project         | FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2 | Plate<br>4 |
|        | Project No.     | A1008-10                                       |            |
|        | Carried out for | Scottish and Southern Energy PLC               |            |





Notes:

Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
Project No. A1008-10  
Carried out for Scottish and Southern Energy PLC

Plate 5



Notes:

Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
Project No. A1008-10  
Carried out for Scottish and Southern Energy PLC

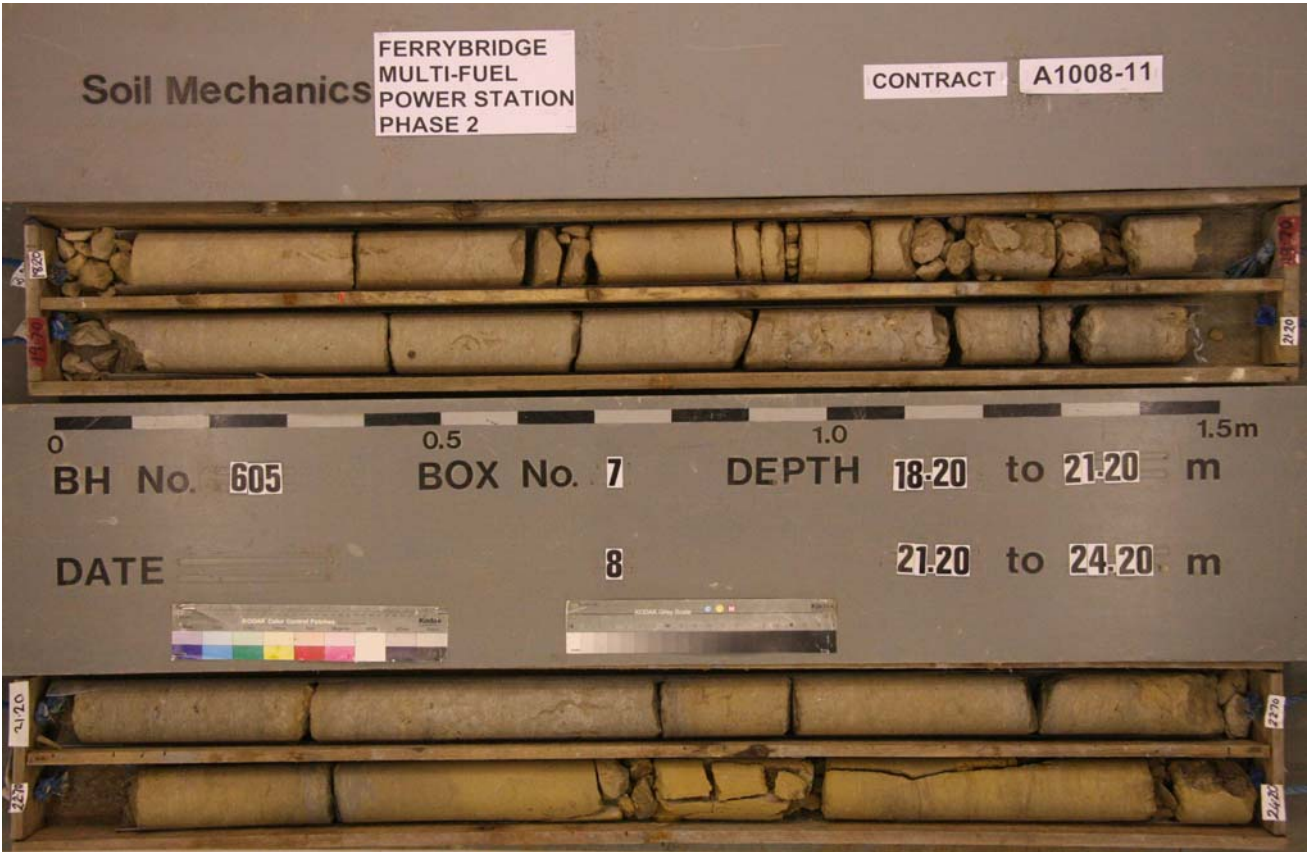
Plate 6





|        |                 |                                                |            |
|--------|-----------------|------------------------------------------------|------------|
| Notes: | Project         | FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2 | Plate<br>7 |
|        | Project No.     | A1008-10                                       |            |
|        | Carried out for | Scottish and Southern Energy PLC               |            |





Notes:

Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
Project No. A1008-10  
Carried out for Scottish and Southern Energy PLC

Plate 8

# Photographs



Soil Mechanics

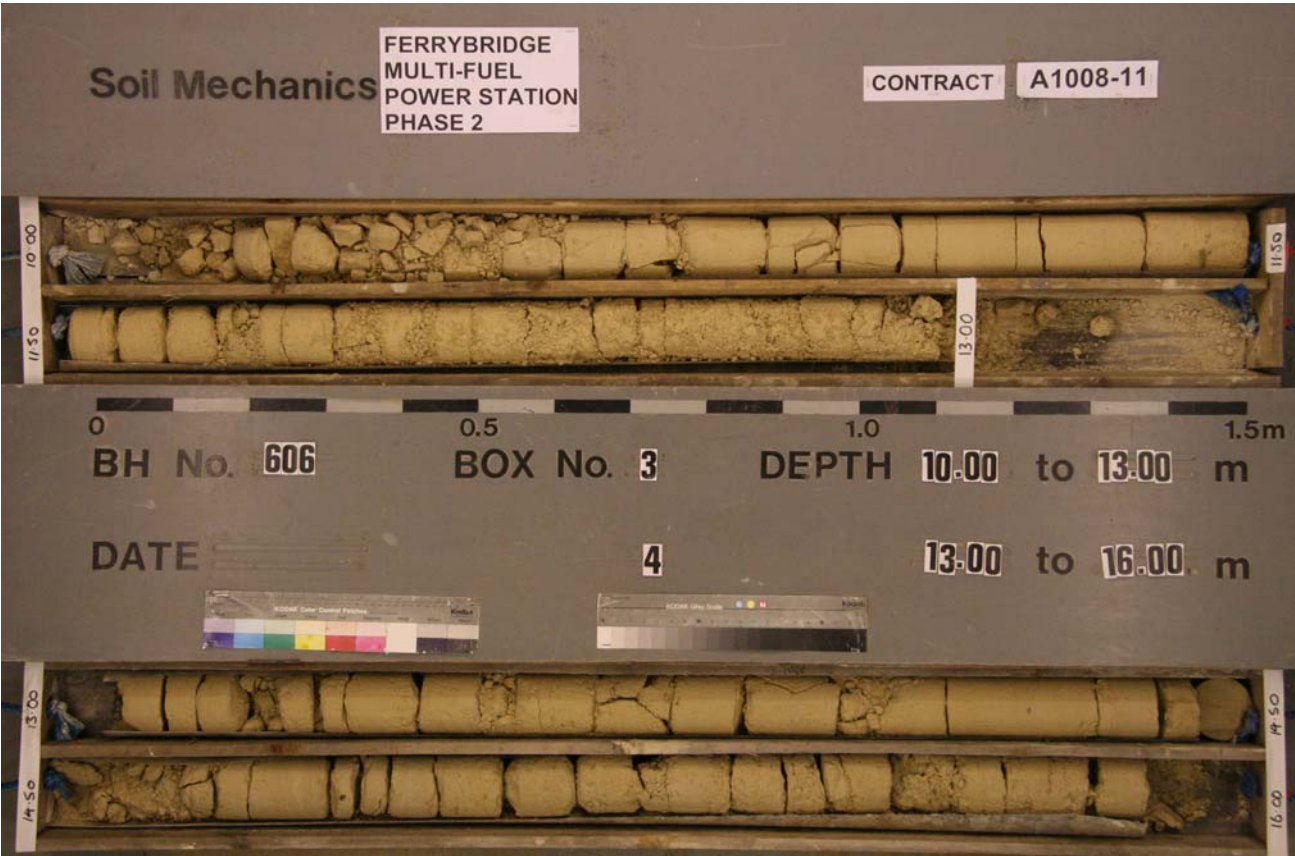


Notes:

Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
Project No. A1008-10  
Carried out for Scottish and Southern Energy PLC

Plate 9

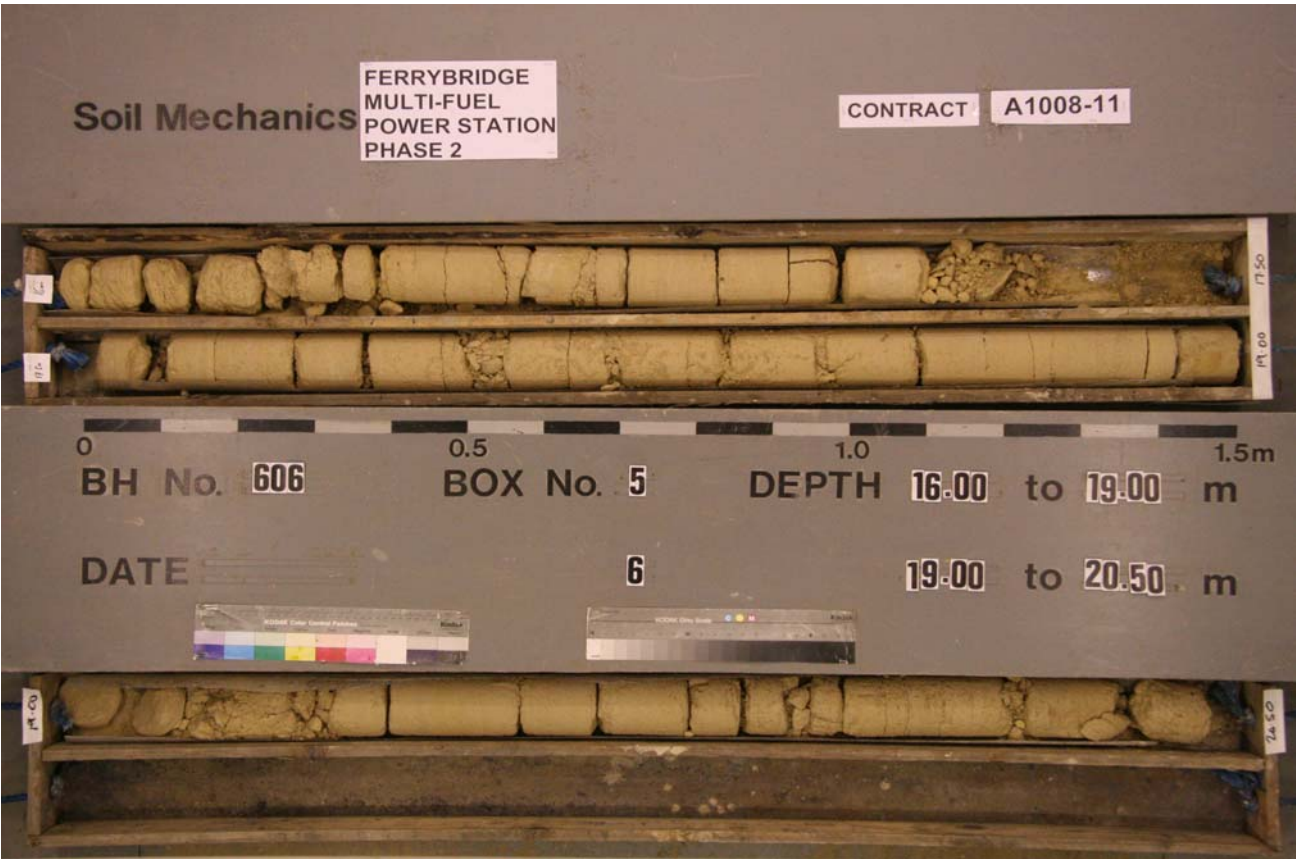




Notes:

Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
Project No. A1008-10  
Carried out for Scottish and Southern Energy PLC

Plate 10

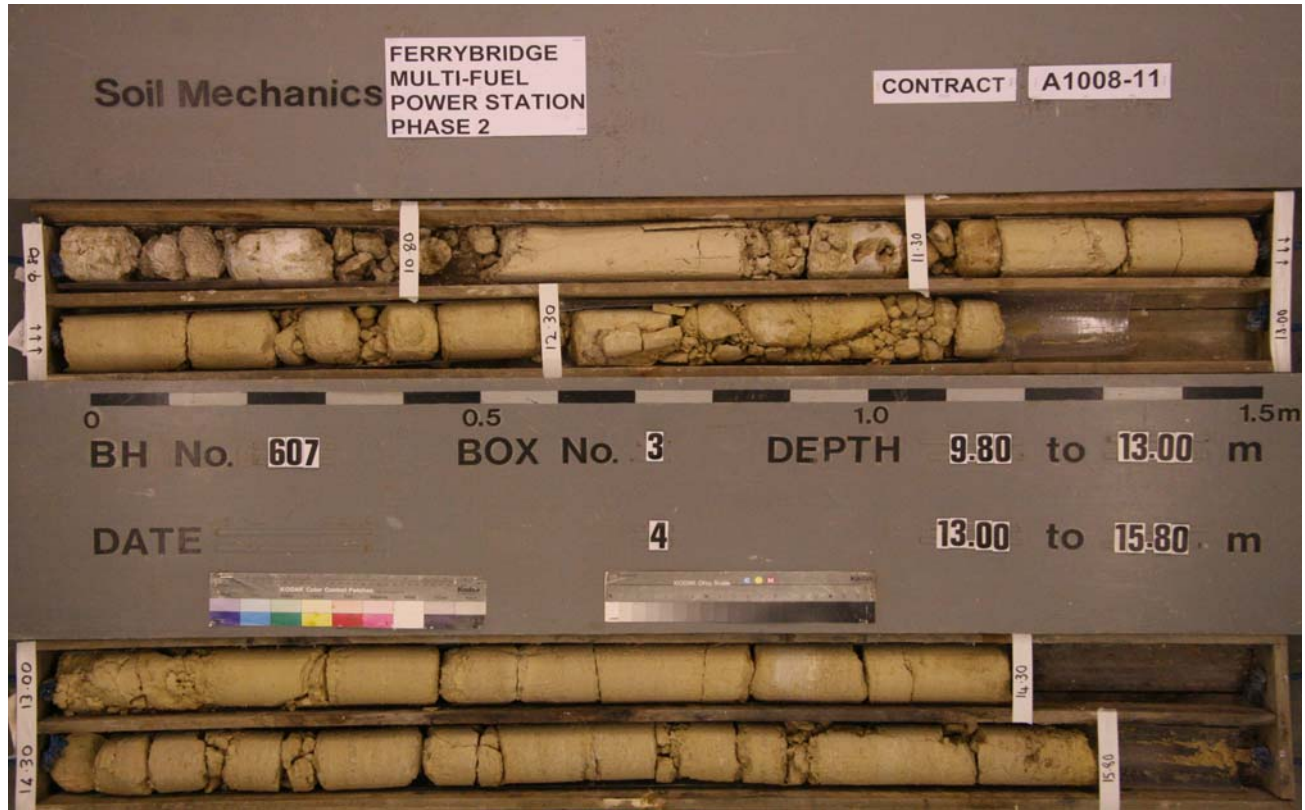


Notes:

Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
Project No. A1008-10  
Carried out for Scottish and Southern Energy PLC

Plate 11



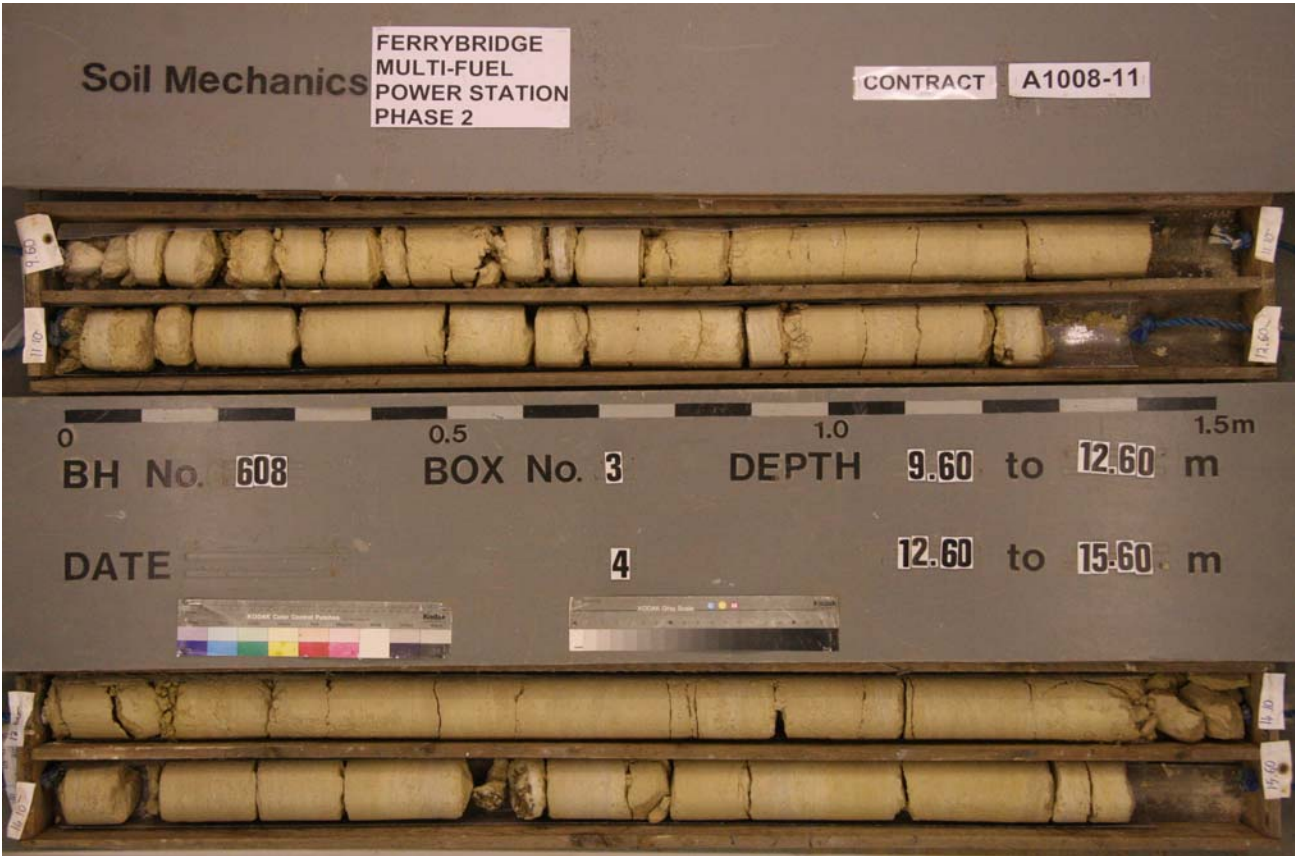
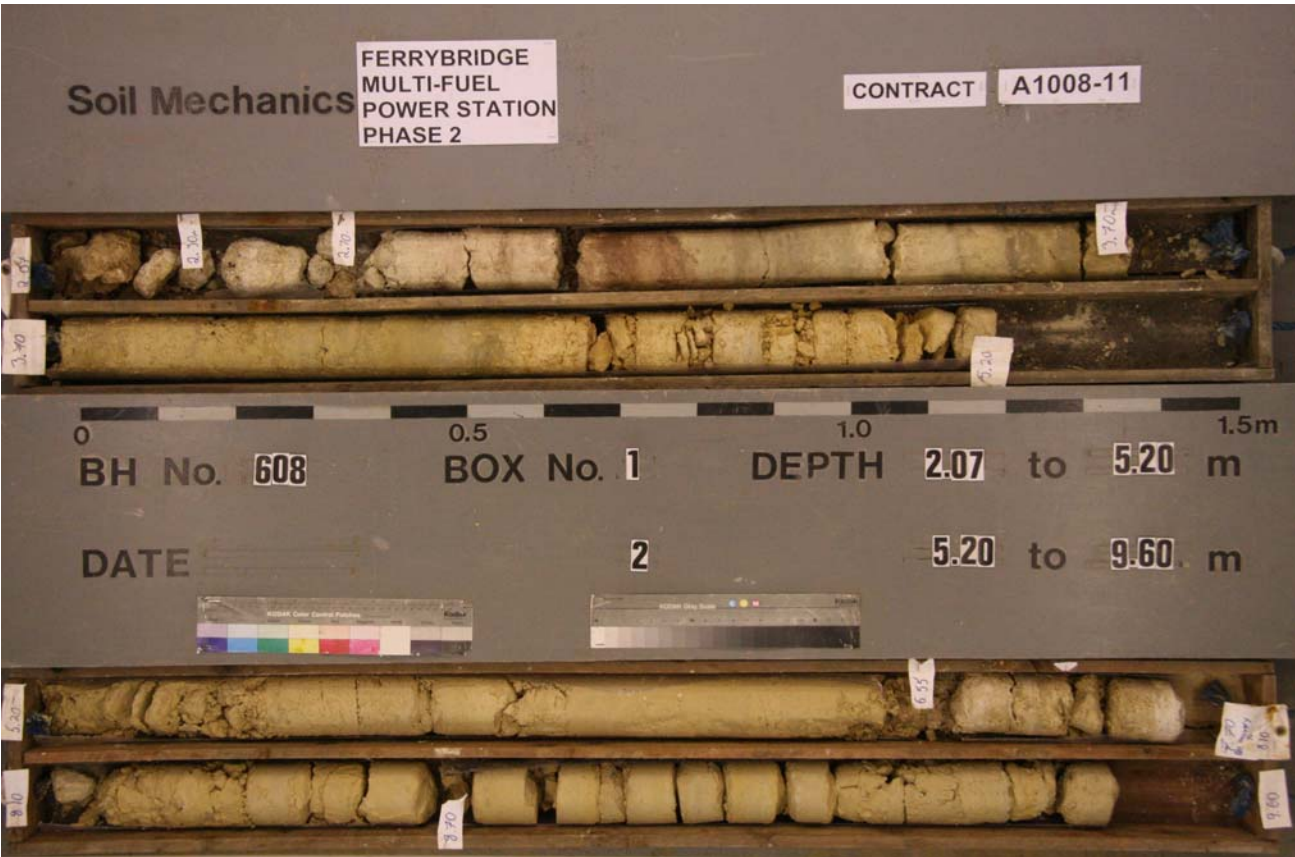


Notes:

Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
Project No. A1008-10  
Carried out for Scottish and Southern Energy PLC

Plate 12

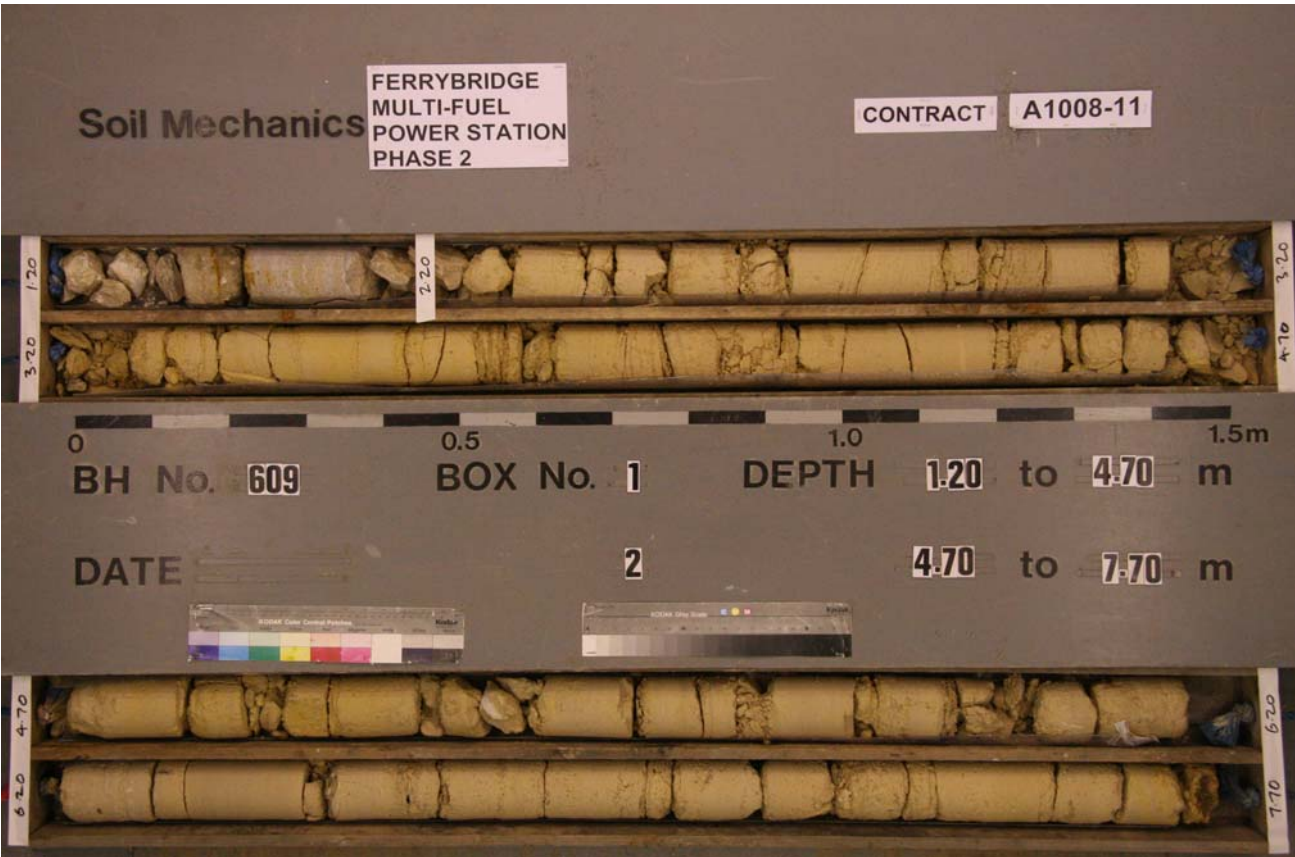




Notes:

Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
Project No. A1008-10  
Carried out for Scottish and Southern Energy PLC

Plate 13

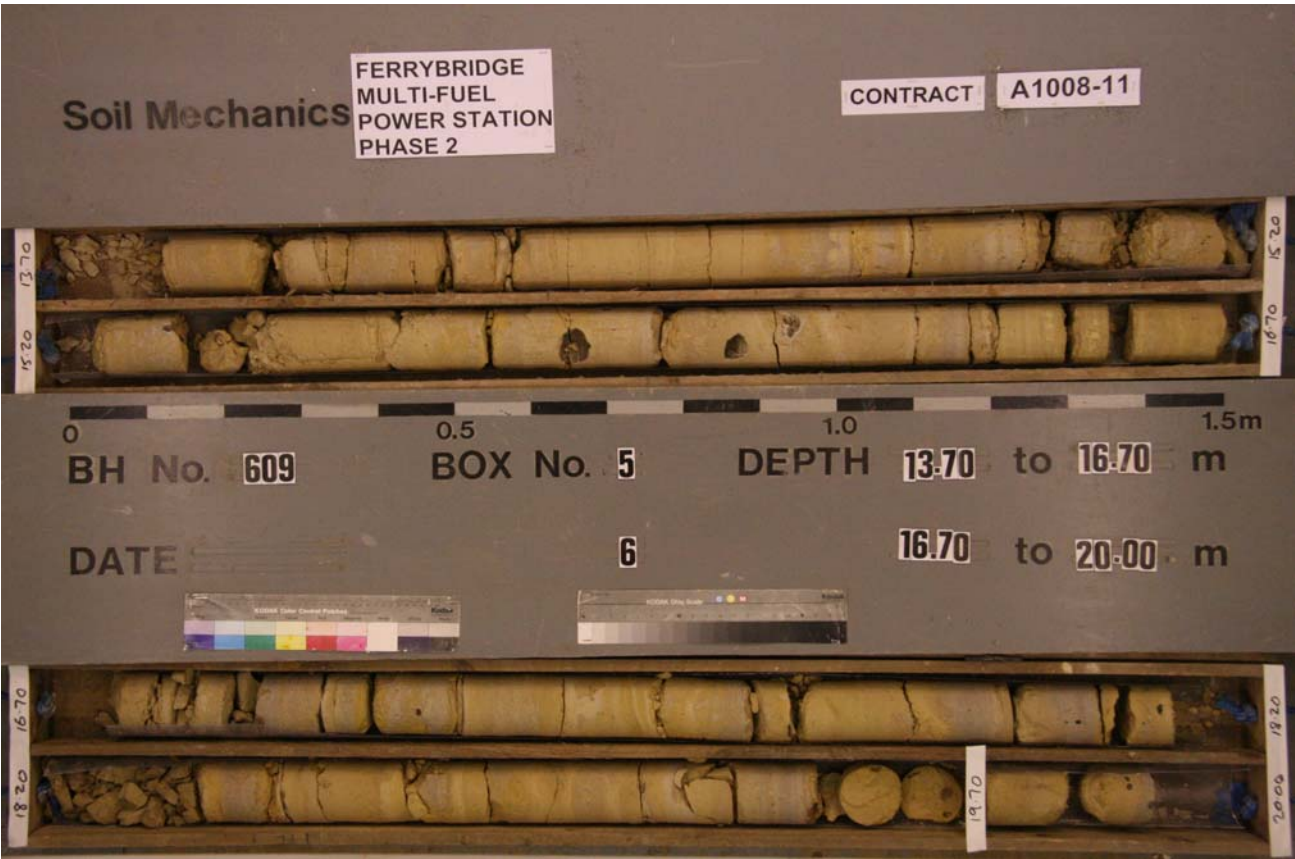


Notes:

Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
Project No. A1008-10  
Carried out for Scottish and Southern Energy PLC

Plate 14





Notes:

Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
Project No. A1008-10  
Carried out for Scottish and Southern Energy PLC

Plate 15





Notes:

Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
Project No. A1008-10  
Carried out for Scottish and Southern Energy PLC

Plate 16



|        |                 |                                                |                 |
|--------|-----------------|------------------------------------------------|-----------------|
| Notes: | Project         | FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2 | Plate<br><br>17 |
|        | Project No.     | A1008-10                                       |                 |
|        | Carried out for | Scottish and Southern Energy PLC               |                 |





|        |                 |                                                |                 |
|--------|-----------------|------------------------------------------------|-----------------|
| Notes: | Project         | FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2 | Plate<br><br>18 |
|        | Project No.     | A1008-10                                       |                 |
|        | Carried out for | Scottish and Southern Energy PLC               |                 |

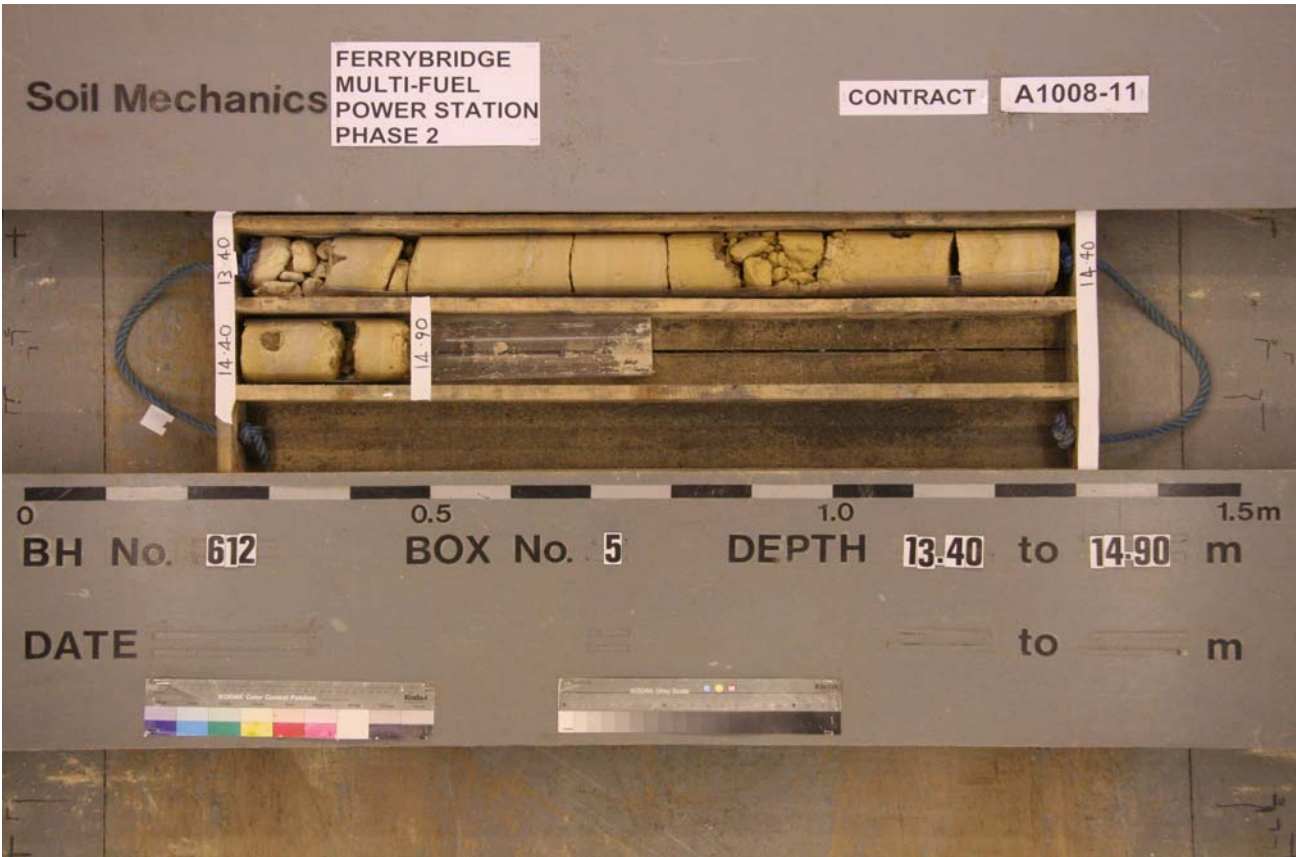


Notes:

Project FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2  
Project No. A1008-10  
Carried out for Scottish and Southern Energy PLC

Plate 19





Notes:

|                 |                                                |
|-----------------|------------------------------------------------|
| Project         | FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2 |
| Project No.     | A1008-10                                       |
| Carried out for | Scottish and Southern Energy PLC               |

|       |    |
|-------|----|
| Plate | 20 |
|-------|----|

**ENCLOSURE F**  
**DRAWINGS**

Site Location Plan  
Site Plan

F1  
F2



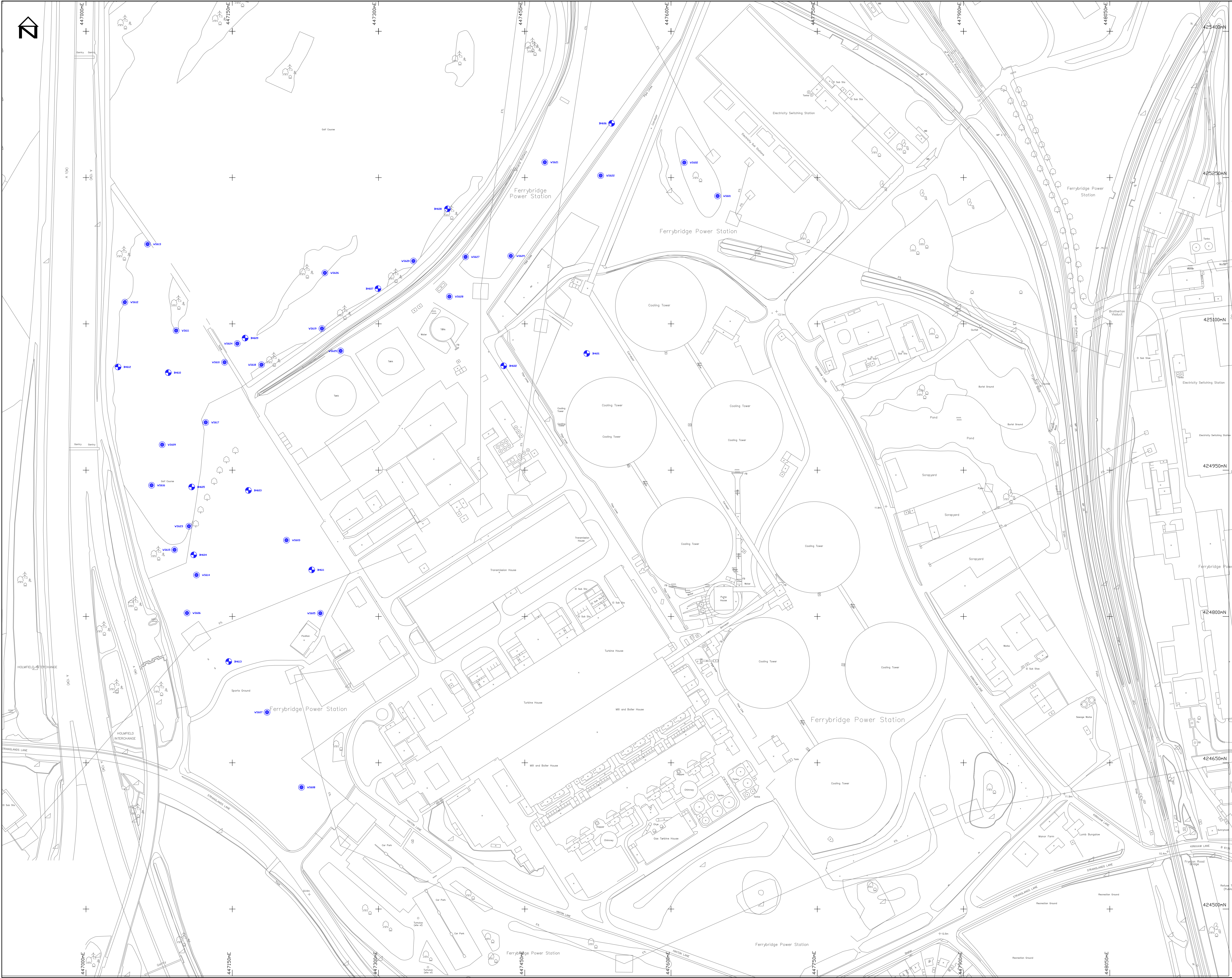
# Site Location Plan



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|                                 |                                                                                                                                                         |                            |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <b>Notes:</b><br>Scale 1:50 000 | <b>Project</b> FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2<br><b>Project No.</b> A1008-11<br><b>Carried out for</b> Scottish and Southern Energy PLC | <b>Figure</b><br><b>F1</b> |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|





GENERAL NOTES

1) Coordinates and levels related to Ordnance Survey National Grid and Datum using Leica's VIVA dual frequency geodetic GPS receiver and Smartnet RTK correction. WGS84 position transformed using the Ordnance Survey OSTN02/OSGM02 definitive transformation for the United Kingdom.

2) Background mapping provided in digital format by client. Reproduced with the Permission of Ordnance Survey on the behalf of The Controller of Her Majesty's Stationery Office. Crown Copyright. All Rights Reserved. Licence No. 10000660.

CO-ORDINATES

| Reference | East      | North     | Elevation |
|-----------|-----------|-----------|-----------|
| BH601     | 447513.60 | 425069.65 | 12.69     |
| BH602     | 447428.36 | 425056.98 | 14.62     |
| BH603     | 447166.58 | 424929.26 | 14.13     |
| BH604     | 447110.46 | 424863.18 | 14.54     |
| BH605     | 447108.39 | 424932.79 | 14.66     |
| BH606     | 447539.06 | 425305.63 | 13.26     |
| BH607     | 447299.44 | 425136.13 | 14.30     |
| BH608     | 447370.75 | 425217.95 | 15.04     |
| BH609     | 447163.18 | 425085.46 | 16.46     |
| BH610     | 447084.39 | 425050.00 | 18.09     |
| BH611     | 447231.55 | 424847.77 | 13.66     |
| BH612     | 447032.86 | 425055.82 | 20.56     |
| BH613     | 447146.37 | 424793.79 | 16.25     |
| WS601     | 447647.76 | 425231.13 | 12.14     |
| WS602     | 447613.59 | 425265.45 | 12.52     |
| WS603     | 447205.60 | 424878.21 | 13.84     |
| WS605     | 447420.33 | 424803.30 | 14.02     |
| WS606     | 447103.56 | 424803.56 | 15.77     |
| WS607     | 447103.56 | 424701.78 | 17.03     |
| WS608     | 447221.03 | 424624.84 | 19.33     |
| WS609     | 447078.11 | 424976.15 | 17.79     |
| WS610     | 447142.13 | 425060.66 | 16.70     |
| WS611     | 447092.44 | 425093.11 | 18.20     |
| WS612     | 447039.82 | 425122.27 | 22.05     |
| WS613     | 447063.15 | 425181.77 | 21.32     |
| WS614     | 447113.29 | 424842.51 | 15.02     |
| WS615     | 447090.78 | 424868.36 | 13.87     |
| WS616     | 447067.27 | 424934.49 | 15.77     |
| WS617     | 447122.78 | 424998.99 | 16.45     |
| WS618     | 447179.97 | 425058.10 | 15.02     |
| WS619     | 447241.97 | 425095.23 | 14.63     |
| WS620     | 447335.81 | 425164.50 | 14.47     |
| WS621     | 447470.53 | 425265.73 | 14.26     |
| WS622     | 447527.84 | 425252.09 | 12.97     |
| WS623     | 447105.49 | 424892.52 | 14.23     |
| WS624     | 447155.14 | 425072.80 | 17.20     |
| WS625     | 447261.14 | 425072.30 | 14.21     |
| WS626     | 447244.97 | 425152.30 | 15.37     |
| WS627     | 447389.28 | 425168.69 | 15.18     |
| WS628     | 447372.68 | 425128.02 | 14.85     |
| WS629     | 447435.66 | 425169.67 | 15.23     |

LEGEND TO SYMBOLS

Denotes Borehole Location

Denotes Window Sample Location

Scale: 1:1250

0

12.5m

25

50

75

100

125

|     |       |         |        |         |                      |
|-----|-------|---------|--------|---------|----------------------|
| 1   | AW    | MAR '11 | JH     | MAR '11 | Phase 2 positions    |
| 0   | DPJ   | OCT '10 | PMJ    | OCT '10 | Approved             |
| Rev | Drawn | Date    | Apprv. | Date    | Modification Details |

AMENDMENTS

| Title |
|-------|
|       |

SITE PLAN

Project

FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2

Client

Scottish and Southern Energy PLC

Soil Mechanics

Date

11/10/10

Drawn By

PMJ

Apprv. By

MT

Sheet Size

A0

Scale

1:1250

Project No

A1008-11

Figure No

F2

Rev

1