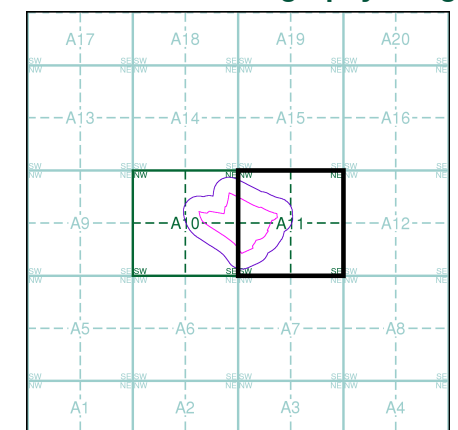


Historical Aerial Photography

Published 2001

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A11



Order Details

Order Number: 310553660_1_1
Customer Ref: 14209/LP
National Grid Reference: 305020, 208310
Slice: A
Site Area (Ha): 9.34
Search Buffer (m): 100

Site Details

Pen-Y-Dre High Comprehensive School, Gurnos, MERTHYR
TYDFIL, CF47 9BY

Envirocheck[®] Report:

Mining and Ground Stability Datasheet

Order Details:

Order Number:

310553660_1_1

Customer Reference:

14209/LP

National Grid Reference:

305020, 208310

Slice:

A

Site Area (Ha):

9.34

Search Buffer (m):

1000

Site Details:

Pen-Y-Dre High Comprehensive School,
Gurnos

MERTHYR TYDFIL

CF47 9BY

Client Details:

MR H Pritchard

Integral Geotechnique

Integral House

7 Beddau Way

Castlegate Business Park

Caerphilly

CF83 2AX

Report Section and Details	Page Number
Summary	-
The Summary section provides an overview of the data contained within the report, detailing the number of data set features or the existence of a data set in relation to the buffer selected. For ease of reference, the report is broken down into 4 sections of data; Mining and Natural Cavities Data, Historical Land Use Information (1:2,500), Historical Land Use Information (1:10,000) and Ground Stability Data (1:50,000).	
Mining and Natural Cavities Data	1
The Mining and Natural Cavities Data section features data sets related to the existence of mining areas and their potential hazards; and details of naturally formed cavities. Data sets within this section are not plotted, with the exception of BGS Recorded Mineral Sites and Potential Mining Areas which feature on the Historical Land Use Information (1:10,000) map.	
Historical Land Use Information (1:2,500)	5
The Historical Land Use Information (1:2,500) section contains data captured from analysis carried out by Landmark of 1:1,250 and 1:2,500 scale historical Ordnance Survey mapping, identifying areas where, historically, the land uses were potentially contaminative. For the purpose of this Envirocheck module, only historical data relating to mining and ground stability has been included and plotted on the corresponding Historical Land Use Information (1:2,500) map. This section also includes the Subterranean Features data set, which details various man-made and man-used underground spaces obtained from the Subterranea Britannica society.	
Historical Land Use Information (1:10,000)	6
The Historical Land Use (1:10,000) section covers data captured from the systematic analysis carried out by Landmark of 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th century, identifying potentially contaminative past industrial land uses. For the purpose of this Envirocheck module, only data relating to mining and ground stability has been included and plotted on the accompanying Historical Land Use Information (1:10,000) map.	
Ground Stability Data (1:50,000)	9
The Ground Stability (1:50,000) section includes the BGS Geosure data suite, reporting features to 250m and plotted onto 3 separate maps. Also reported is brine subsidence, brine mining and salt mining data sets, of which Brine Pumping and Salt Mining Related Features are plotted, and subsidence insurance claims and insurance investigations data, which is not plotted.	
Historical Map List	11
The Historical Map List section details the historical mapping that has been analysed for your site, in relation to the Historical Land Use Information sections.	
Data Currency	13
Data Suppliers	14
Useful Contacts	15

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The brine subsidence data relating to the Droitwich area as provided in this report is derived from JPB studies and physical monitoring undertaken annually over more than 35 years. For more detailed interpretation contact enquiries@jpb.co.uk. JPB retain the copyright and intellectual rights to this data and accept no liability for any loss or damage, including in direct or consequential loss, arising from the use of this data.

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Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Mining and Natural Cavities Data					
BGS Recorded Mineral Sites	pg 1				9
Coal Mining Affected Areas	pg 2	Yes	n/a	n/a	n/a
Man Made Mining Cavities					
Mining Instability	pg 2	Yes	n/a	n/a	n/a
Natural Cavities	pg 2	1			
Non Coal Mining Areas of Great Britain	pg 2	Yes	Yes	n/a	n/a
Potential Mining Areas	pg 3	1		1	2
Historical Land Use Information (1:2,500)					
Extractive Industries or Potential Excavations from 1855-1909 (100m)	pg 5	1		n/a	n/a
Extractive Industries or Potential Excavations from 1893-1915 (100m)	pg 5	1		n/a	n/a
Extractive Industries or Potential Excavations from 1906-1937 (100m)	pg 5	1		n/a	n/a
Extractive Industries or Potential Excavations from 1924-1949 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1950-1980 (100m)	pg 5	1		n/a	n/a
Subterranean Features (100m)				n/a	n/a
Historical Land Use Information (1:10,000)					
Air Shafts	pg 6			1	
Disturbed Ground					
General Quarrying	pg 6			1	4
Heap, unknown constituents	pg 6			3	3
Mineral Railway	pg 6		1		5
Mining & quarrying general	pg 6				1
Mining of coal & lignite	pg 6			1	1
Quarrying of sand & clay, operation of sand & gravel pits					
Former Marshes					
Potentially Infilled Land (Non-Water)	pg 7			3	3
Potentially Infilled Land (Water)	pg 7	4	6	2	18
Ground Stability Data (1:50,000)					
CBSCB Compensation District			n/a	n/a	n/a
Brine Pumping Related Features					
Brine Subsidence Solution Area					
Potential for Collapsible Ground Stability Hazards	pg 9	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 9	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 9	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 9	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 9	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 9	Yes		n/a	n/a
Salt Mining Related Features					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	BGS Recorded Mineral Sites Site Name: Pen-Y-Bryn Location: Merthyr Tydfil, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 125675 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: South Wales Lower Coal Measures Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A11SE (SE)	541	1	305679 207971
2	BGS Recorded Mineral Sites Site Name: Bryniau Quarries Location: Bryniau, Merthyr Tydfil, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 26523 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Twrch Sandstone Formation Commodity: Silica rock Positional Accuracy: Located by supplier to within 10m	A15SE (NE)	701	1	305660 208940
3	BGS Recorded Mineral Sites Site Name: Bryniau Quarries Location: Bryniau, Merthyr Tydfil, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 26520 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Twrch Sandstone Formation Commodity: Silica rock Positional Accuracy: Located by supplier to within 10m	A15NW (N)	734	1	305300 209145
4	BGS Recorded Mineral Sites Site Name: Careg Ifan Location: Vaynor, Merthyr Tydfil, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 125660 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Oxwich Head Limestone Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A15NW (N)	787	1	305085 209269
5	BGS Recorded Mineral Sites Site Name: Bryniau Quarries Location: Bryniau, Merthyr Tydfil, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 26524 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Twrch Sandstone Formation Commodity: Silica rock Positional Accuracy: Located by supplier to within 10m	A15NE (NE)	794	1	305600 209080
6	BGS Recorded Mineral Sites Site Name: Bryniau Quarries Location: Bryniau, Merthyr Tydfil, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 26521 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Twrch Sandstone Formation Commodity: Silica rock Positional Accuracy: Located by supplier to within 10m	A15NE (NE)	842	1	305570 209145

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	BGS Recorded Mineral Sites Site Name: Bryniau Quarries Location: Bryniau, Merthyr Tydfil, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 2894 Type: Opencast Status: Dormant Operator: Guest, Keen, Baldwins Iron & Steel Co., Ltd. Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Twrch Sandstone Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A16NW (NE)	892	1	305850 209035
8	BGS Recorded Mineral Sites Site Name: Morlais Castle Quarries Location: Pant, Merthyr Tydfil, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 9745 Type: Opencast Status: Ceased Operator: Guest, Keen, Baldwins Iron & Steel Co., Ltd. Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Dowlais Limestone Formation (Cil-Yr-Ychen Limestone) Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A18SE (N)	965	1	304855 209450
9	BGS Recorded Mineral Sites Site Name: Bryniau Quarries Location: Bryniau, Merthyr Tydfil, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 26522 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Twrch Sandstone Formation Commodity: Silica rock Positional Accuracy: Located by supplier to within 10m	A16NW (NE)	984	1	305780 209200
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A11NW (N)	0	2	305022 208311
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A11NW (N)	0	3	305022 208311
	Natural Cavities Cavity Type: Phreatic Cave, Sinkhole, Solution Pipe, Solution Widened Joint or Fissure, Swallow Hole Solid Geology Detail: Carboniferous Limestone Supergroup, Lower Carboniferous Limestone, Millstone Grit Group, Upper Carboniferous Limestone Superficial Geology Detail: Glacial sand	A10NE (NW)	0	4	304942 208471
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A11NW (N)	0	1	305022 208311
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A10NE (W)	0	1	305000 208311
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	304898 208221
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A11NW (NE)	11	1	305236 208435
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A14SE (N)	195	1	305000 208683
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A15SW (N)	242	1	305103 208693

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	Potential Mining Areas Name: Merthyr Tydfil Ceased Operation: Not Supplied Commodity: Coal and Ironstone Reference: Not Supplied Alternate Name/Mine: Not Supplied Custodian: Not Supplied	A10SE (S)	0	5	305017 208116
11	Potential Mining Areas Name: Gwaunfarren Ceased Operation: 1897 Commodity: Coal; Lower Four Feet Reference: 3622 Alternate Name/Mine: Not Supplied Custodian: Not Supplied	A7NW (S)	433	5	305222 207709
12	Potential Mining Areas Name: Dowlais (Water Leveles) Ceased Operation: 1924 Commodity: Coal and Ironstone Reference: 8194 Alternate Name/Mine: Black Ball Alternate Name/Mine: Blaen Dowlais Alternate Name/Mine: Brewhouse Alternate Name/Mine: Buxton's Alternate Name/Mine: Carno Alternate Name/Mine: Coslet Alternate Name/Mine: Cwmcenol Alternate Name/Mine: Morgan's Alternate Name/Mine: Nos. 2, 4, 7 Alternate Name/Mine: Pant-Y-Wain Alternate Name/Mine: Pennydarren Alternate Name/Mine: Penyard Alternate Name/Mine: Pen-Yr-Heol Alternate Name/Mine: Price's Alternate Name/Mine: Rhas-Las Alternate Name/Mine: Tyla Dowlais Alternate Name/Mine: Vanwain Custodian: Not Supplied	A7SE (SE)	976	5	305615 207298

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	Potential Mining Areas Name: Dowlais Ceased Operation: 1878 Commodity: Coal and Ironstone; Black Pin Soap; Three Coals and Clay; Upper Little; Lower Four Feet; Spotted; Red; Blue; Lumpy; Rosser Reference: 837 Alternate: Banwain Name/Mine: Black Ball Alternate: Blaen Rhas Name/Mine: Carno Alternate: Cwmcenol Name/Mine: Meadow Alternate: Nos. 1, 2 Name/Mine: Nos. 1, 2, 4, 6, 7 Alternate: Pant-Y-wain Name/Mine: Penrheol (Pen-Yr-heol) Alternate: Penydarren Name/Mine: Tyla Dowlais Name/Mine: Not Supplied Custodian:	A7SE (SE)	976	5	305615 207298

Historical Land Use Information (1:2,500)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	Extractive Industries or Potential Excavations from 1855-1909 Use: Goitre Pond First Map Published 1875 Date: Last Map Published 1887 Date:	A11NW (S)	0	-	305021 208305
15	Extractive Industries or Potential Excavations from 1893-1915 Use: Goitre Pond First Map Published 1900 Date: Last Map Published 1904 Date:	A11NW (S)	0	-	305020 208304
16	Extractive Industries or Potential Excavations from 1906-1937 Use: Goitre Pond First Map Published 1919 Date: Last Map Published Not Applicable Date:	A11NW (S)	0	-	305020 208304
17	Extractive Industries or Potential Excavations from 1950-1980 Use: Goitre Pond First Map Published 1956 Date: Last Map Published 1964 Date:	A11NW (S)	0	-	305021 208308

Historical Land Use Information (1:10,000)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	Air Shafts Use: Not Supplied Date of Mapping: 1891	A7NE (SE)	490	-	305366 207715
19	General Quarrying Use: Not Supplied Date of Mapping: 1891 - 1951	A7NE (SE)	494	-	305610 207953
20	General Quarrying Use: Not Supplied Date of Mapping: 1891	A7NE (SE)	503	-	305621 207952
21	General Quarrying Use: Not Supplied Date of Mapping: 1891 - 1951	A15NW (N)	648	-	305267 209066
22	General Quarrying Use: Not Supplied Date of Mapping: 1891	A14NE (N)	665	-	304939 209156
23	General Quarrying Use: Not Supplied Date of Mapping: 1890	A9NW (W)	998	-	303775 208459
24	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1891 - 1965	A11NE (E)	420	-	305678 208452
25	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1884	A7NW (S)	428	-	305217 207710
26	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1965	A11SE (SE)	463	-	305587 207975
27	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1965	A15SE (NE)	535	-	305649 208735
28	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1885	A7SW (S)	639	-	305181 207480
29	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1965	A3NW (S)	890	-	305235 207235
30	Mineral Railway Use: Not Supplied Date of Mapping: 1884	A10SE (SW)	3	-	304941 208185
31	Mineral Railway Use: Not Supplied Date of Mapping: 1922	A15SE (NE)	506	-	305436 208836
32	Mineral Railway Use: Not Supplied Date of Mapping: 1922	A15NW (N)	629	-	305213 209069
33	Mineral Railway Use: Not Supplied Date of Mapping: 1891 - 1965	A16NW (NE)	945	-	305987 208973
34	Mineral Railway Use: Not Supplied Date of Mapping: 1885	A3NW (S)	947	-	305190 207168
35	Mineral Railway Use: Not Supplied Date of Mapping: 1891	A16NW (NE)	949	-	305913 209056
36	Mining & quarrying general Use: Not Supplied Date of Mapping: 1891	A15NW (N)	795	-	305079 209278
37	Mining of coal & lignite Use: Not Supplied Date of Mapping: 1891	A7NW (SE)	299	-	305223 207857
38	Mining of coal & lignite Use: Not Supplied Date of Mapping: 1885	A7SE (SE)	835	-	305501 207395

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
39	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A7NW (SE)	299	-	305223 207857
40	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A7NE (SE)	490	-	305366 207715
41	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A11SE (SE)	494	-	305626 207975
42	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A15NW (N)	665	-	305282 209077
43	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A15SE (NE)	681	-	305642 208932
44	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1992	A7SE (SE)	835	-	305501 207395
45	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A11NW (N)	0	-	305022 208311
46	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A10NE (W)	0	-	304847 208304
47	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A11NW (E)	0	-	305183 208370
48	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A10NE (W)	0	-	305001 208319
49	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A10NE (N)	21	-	304991 208502
50	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A10SE (W)	107	-	304701 208254
51	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A11SW (S)	114	-	305111 208009
52	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1891	A14SE (N)	150	-	304986 208640
53	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A10SW (W)	181	-	304606 208278
54	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A10SW (W)	246	-	304535 208247
55	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A10NW (NW)	279	-	304619 208605
56	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A6NE (S)	458	-	305001 207647
57	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A6SE (S)	502	-	304938 207613
58	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A6NW (SW)	605	-	304518 207762
59	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A12NW (E)	612	-	305867 208487

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
60	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1922	A12SW (E)	621	-	305884 208242
61	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A7SW (S)	628	-	305085 207477
62	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A6NW (SW)	637	-	304560 207678
63	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A7SW (S)	665	-	305097 207441
64	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SW (S)	682	-	305085 207423
65	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A12SW (E)	747	-	306008 208217
66	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SW (S)	758	-	305226 207368
67	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A7SW (S)	816	-	305058 207287
68	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A6SE (S)	827	-	304862 207296
69	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A12SE (E)	864	-	306116 208159
70	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A9SW (W)	865	-	303971 208022
71	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A12SE (E)	887	-	306120 208080
72	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A9SW (W)	905	-	303906 208090
73	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1885	A2NE (S)	936	-	304893 207179
74	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1905	A8NE (E)	965	-	306133 207902

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	CBSCB Compensation District The site does not fall within the brine compensation area.				
	Brine Subsidence Solution Area The site does not fall within the brine subsidence solution area.				
75	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10NE (W)	0	1	305000 208311
76	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11NW (N)	0	1	305022 208311
77	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A7NW (SE)	220	1	305218 207942
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A10NE (W)	0	1	305000 208311
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11NW (N)	0	1	305022 208311
78	Potential for Ground Dissolution Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A15SW (N)	232	1	305114 208679
79	Potential for Ground Dissolution Stability Hazards Hazard Potential: High Source: British Geological Survey, National Geoscience Information Service	A15SW (N)	242	1	305103 208693
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A10NE (W)	0	1	305000 208311
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11NW (N)	0	1	305022 208311
80	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11NW (N)	0	1	305022 208311
81	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10NE (W)	0	1	305000 208311
82	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A11SW (SE)	0	1	305112 208153
83	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A11NW (NE)	0	1	305066 208349
84	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A11NW (NE)	193	1	305152 208613
85	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	249	1	305359 208030
86	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10NE (W)	0	1	305000 208311
87	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11NW (N)	0	1	305022 208311
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SW (SE)	144	1	305310 208133
88	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10NE (W)	0	1	305000 208311

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
89	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11NW (N)	0	1	305022 208311

The following mapping has been analysed for Historical Land Use Information (1:2,500):

1:2,500	Mapsheet	Published Date
Glamorganshire	006_13	1875
Glamorganshire	006_13	1875
Brecknockshire	046_13	1887
Brecknockshire	046_13	1887
Glamorganshire	006_13	1900
Glamorganshire	006_13	1900
Brecknockshire	046_13	1904
Brecknockshire	046_13	1904
Brecknockshire	046_13	1919
Brecknockshire	046_13	1919
Ordnance Survey Plan	SO0407	1963
Ordnance Survey Plan	SO0408	1964
Ordnance Survey Plan	SO0508	1964
Ordnance Survey Plan	SO0508	1964

The following mapping has been analysed for Historical Land Use Information (1:10,000):

1:10,560	Mapsheet	Published Date
Monmouthshire	010_00	1884
Glamorganshire	012_00	1885
Monmouthshire	016_00	1885
Brecknockshire	051_NW	1889
Brecknockshire	046_SW	1891
Glamorganshire	012_NW	1901
Glamorganshire	006_SW	1905
Brecknockshire	046_SW	1905
Brecknockshire	051_NW	1905
Glamorganshire	006_SW	1922
Glamorganshire	012_NW	1922
Brecknockshire	046_00	1922
Brecknockshire	051_00	1922
Brecknockshire	051_NW	1938
Glamorganshire	006_SW	1951
Glamorganshire	012_NW	1951
Brecknockshire	046_SW	1951
Ordnance Survey Plan	SO00NE	1965
Ordnance Survey Plan	SO00NW	1965
1:10,000	Mapsheet	Published Date
Ordnance Survey Plan	SO00NE	1992
Ordnance Survey Plan	SO00NW	1992

Mining and Cavities Data	Version	Update Cycle
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2022	Bi-Annually
Coal Mining Affected Areas The Coal Authority - Property Searches	February 2023	Annual Rolling Update
Man Made Mining Cavities Stantec UK Ltd	December 2022	Bi-Annually
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Natural Cavities Stantec UK Ltd	December 2022	Bi-Annually
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Historical Land Use Information (1:2,500)	Version	Update Cycle
Subterranean Features Landmark Information Group Limited	June 2022	Bi-Annually
Ground Stability Data (1:50,000)	Version	Update Cycle
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Brine Subsidence Solution Area Johnson Poole & Bloomer	December 2020	

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
British Geological Survey	 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
The Coal Authority	 The Coal Authority
Ove Arup	
Stantec UK Ltd	
Wardell Armstrong	 wardell armstrong your earth our world
Johnson Poole & Bloomer	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	The Coal Authority - Property Searches 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
3	Ove Arup & Partners Central Square, Forth Street, Newcastle upon Tyne, Tyne and Wear, NE1 3PL	Telephone: 0191 261 6080 Fax: 0191 261 7879
4	Stantec UK Ltd Caversham Bridge House, Waterman Place, Reading, RG1 8DN	Telephone: 0118 950 0761 Email: pba.reading@stantec.com Website: www.stantec.com
5	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9960 Fax: 0844 844 9951 Email: customerservice@promap.co.uk Website: www.landmarkinfo.co.uk
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Historical Land Use Information (1:2,500)

General

- Specified Site Specified Buffer(s) Bearing Reference Point Map ID
Several of Type at Location

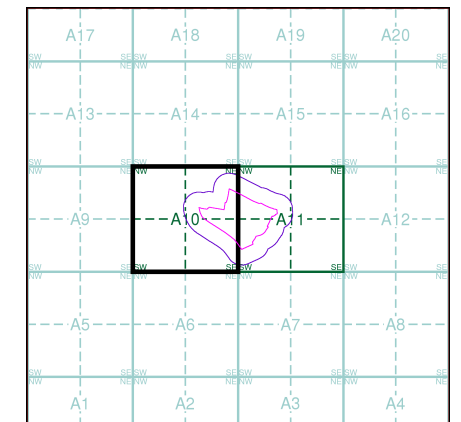
Potentially Contaminative Industrial Uses
(Extractive Industries Activity)

	Point	Line	Polygon
Extractive Industries Activity from 1855 - 1909	▲	—	■
Extractive Industries Activity from 1893 - 1915	▲	—	■
Extractive Industries Activity from 1906 - 1937	▲	—	■
Extractive Industries Activity from 1924 - 1949	▲	—	■
Extractive Industries Activity from 1950 - 1980	▲	—	■

Subterranean Features

	Point	Line	Polygon
Subterranean Features	▼	---	■

Mining and Ground Stability - Segment A10

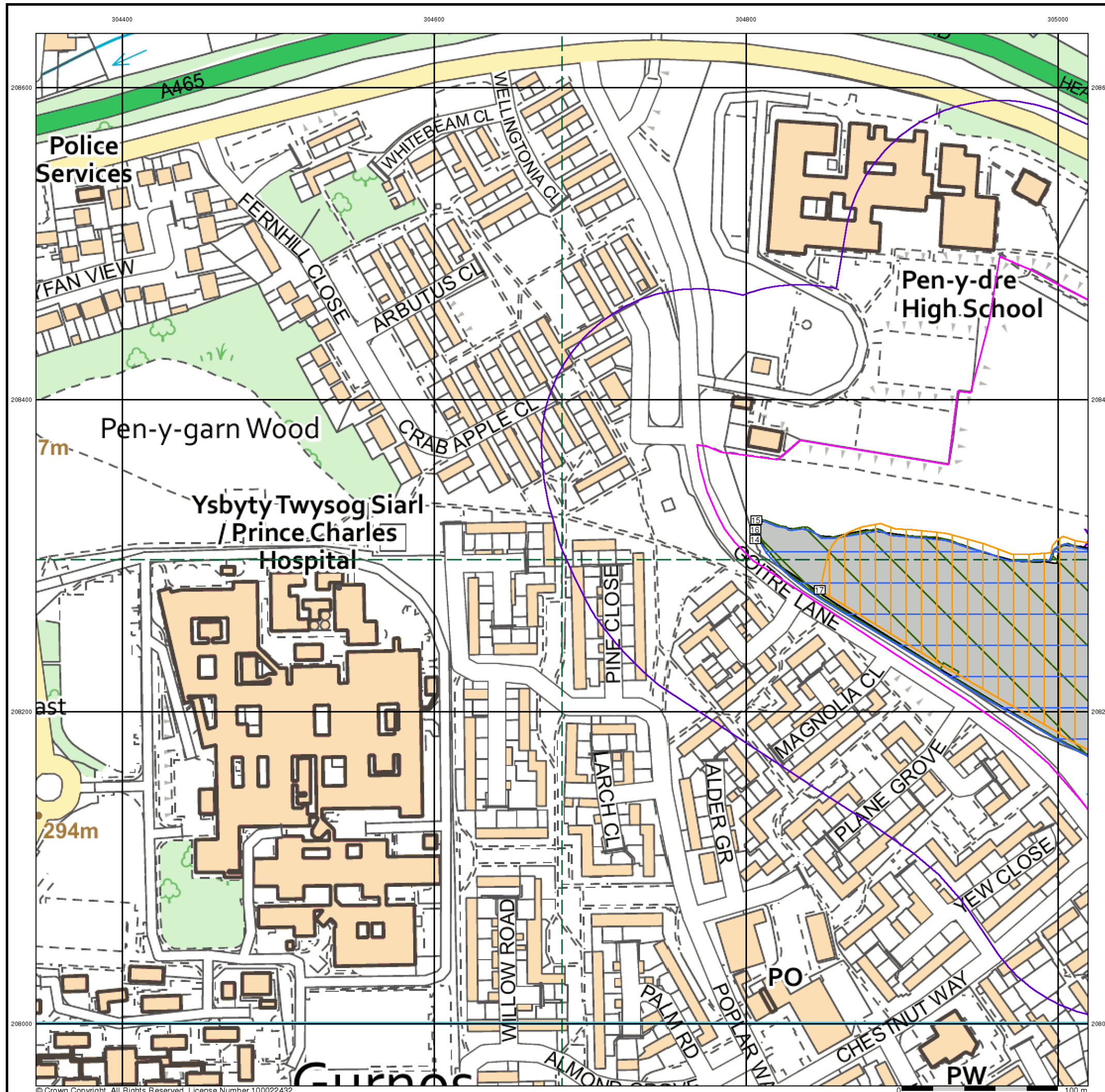


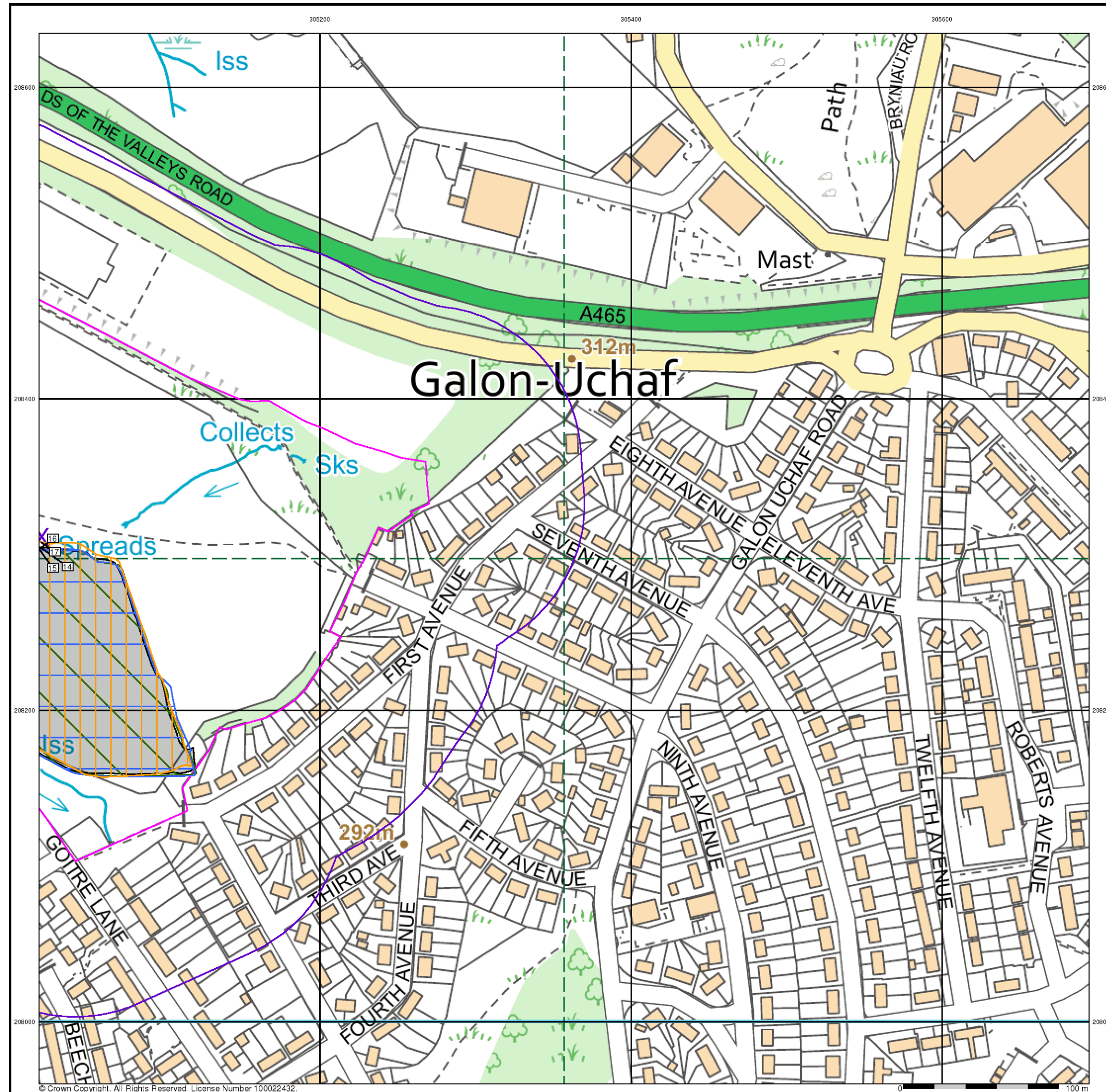
Order Details

Order Number: 310553660_1_1
Customer Ref: 14209/LP
National Grid Reference: 305020, 208310
Slice: A
Site Area (Ha): 9.34
Plot Buffer (m): 100

Site Details

Pen-Y-Dre High Comprehensive School, Gurnos, MERTHYR
TYDFIL, CF47 9BY





Intégral

Géotechnique

Historical Land Use Information (1:2,500)

General

 Specified Site
 Specified Buffer(s)
 Bearing Reference Point
 Map ID
 Several of Type at Location

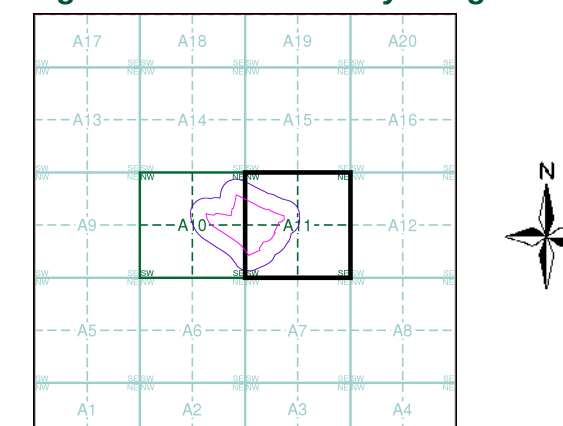
Potentially Contaminative Industrial Uses (Extractive Industries Activity)

	Point	Line	Polygon
Extractive Industries Activity from 1855 - 1909			
Extractive Industries Activity from 1893 - 1915			
Extractive Industries Activity from 1906 - 1937			
Extractive Industries Activity from 1924 - 1949			
Extractive Industries Activity from 1950 - 1980			

Subterranean Features

	Point	Line	Polygon
Subterranean Features			

Mining and Ground Stability - Segment A11



Order Details

Order Number: 310553660_1_1
Customer Ref: 14209/LP
National Grid Reference: 305020, 208310
Slice: A
Site Area (Ha): 9.34
Plot Buffer (m): 100

Site Details

Pen-Y-Dre High Comprehensive School, Gurnos, MERTHYR
TYDFIL, CF47 9BY

Landmark®
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Historical Land Use Information (1:10,000)

General

Specified Site Specified Buffer(s) X Bearing Reference Point Map ID
Several of Type at Location

Potentially Contaminative Industrial Uses (Past Land Uses - Mining)

	Point	Line	Polygon
Air Shafts			
Disturbed Ground			
General Quarrying			
Heap, unknown constituents			
Mineral Railway			
Mining and Quarrying General			
Mining of Coal & Lignite			
Quarrying of Sand and Clay, Operation of Sand and Gravel Pits			

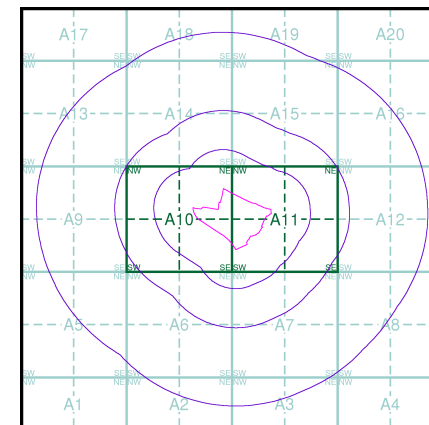
Historical Land Use

	Point	Line	Polygon
Potentially Infilled Land (Non-Water)			
Potentially Infilled Land (Water)			
Former Marsh			

Mining Data

Potential Mining Area
BGS Recorded Mineral Site

Mining and Ground Stability - Slice A

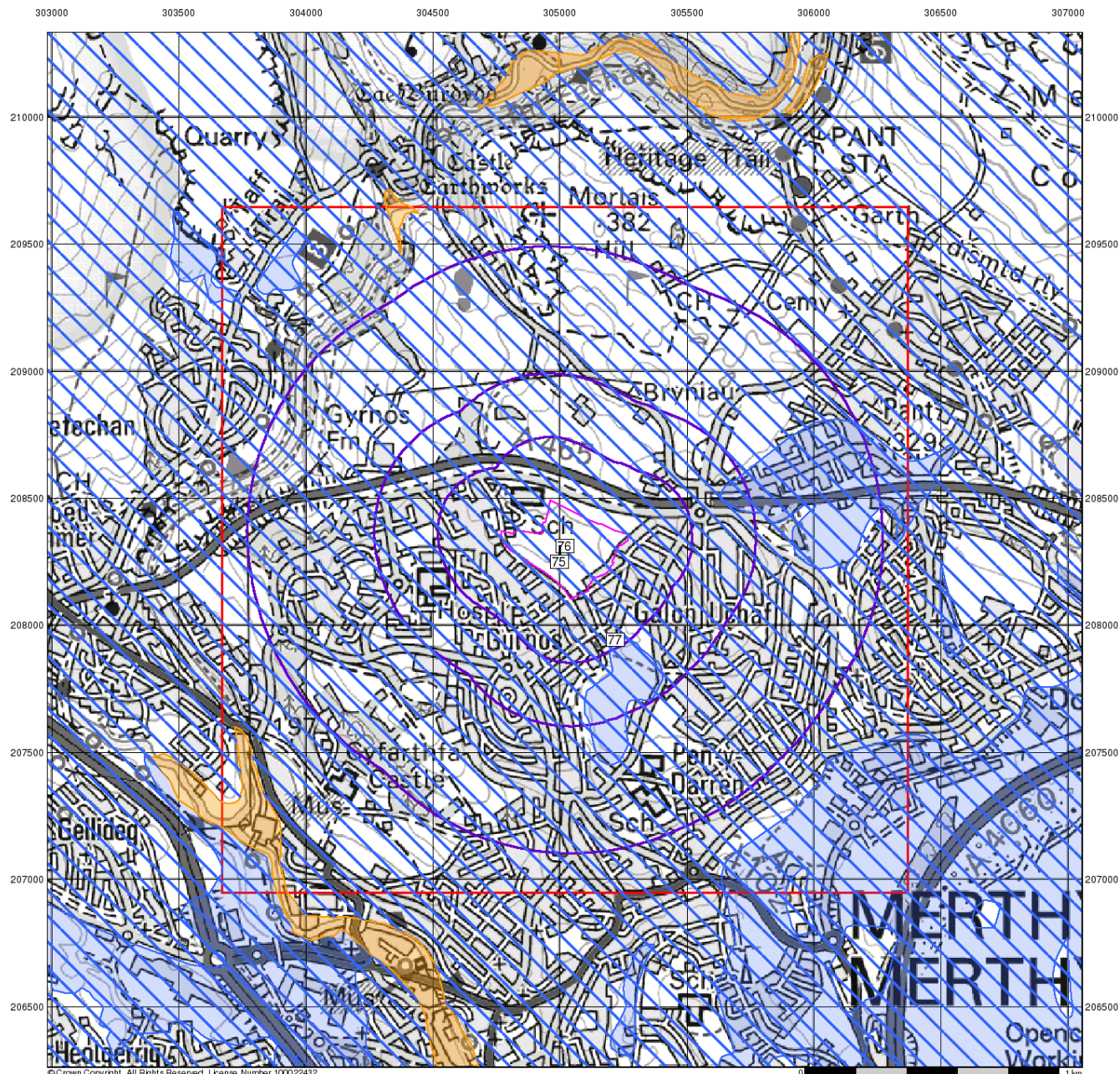


Order Details

Order Number: 310553660_1_1
Customer Ref: 14209/LP
National Grid Reference: 305020, 208310
Slice: A
Site Area (Ha): 9.34
Search Buffer (m): 1000

Site Details

Pen-Y-Dre High Comprehensive School, Gurnos, MERTHYR TYDFIL, CF47 9BY



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0 1 km

Intégral Géotechnique

Ground Stability Data (1:50,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Potential for Compressible Ground Stability Hazards

- High
- Moderate
- Low
- Very Low

Potential for Collapsible Ground Stability Hazards

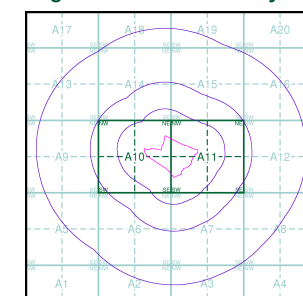
- High
- Moderate
- Low
- Very Low

Brine Pumping and Salt Mining

- Brine Pumping Related Feature
- Salt Mining Related Feature

- Point
- Polygon

Mining and Ground Stability - Slice A



Order Details

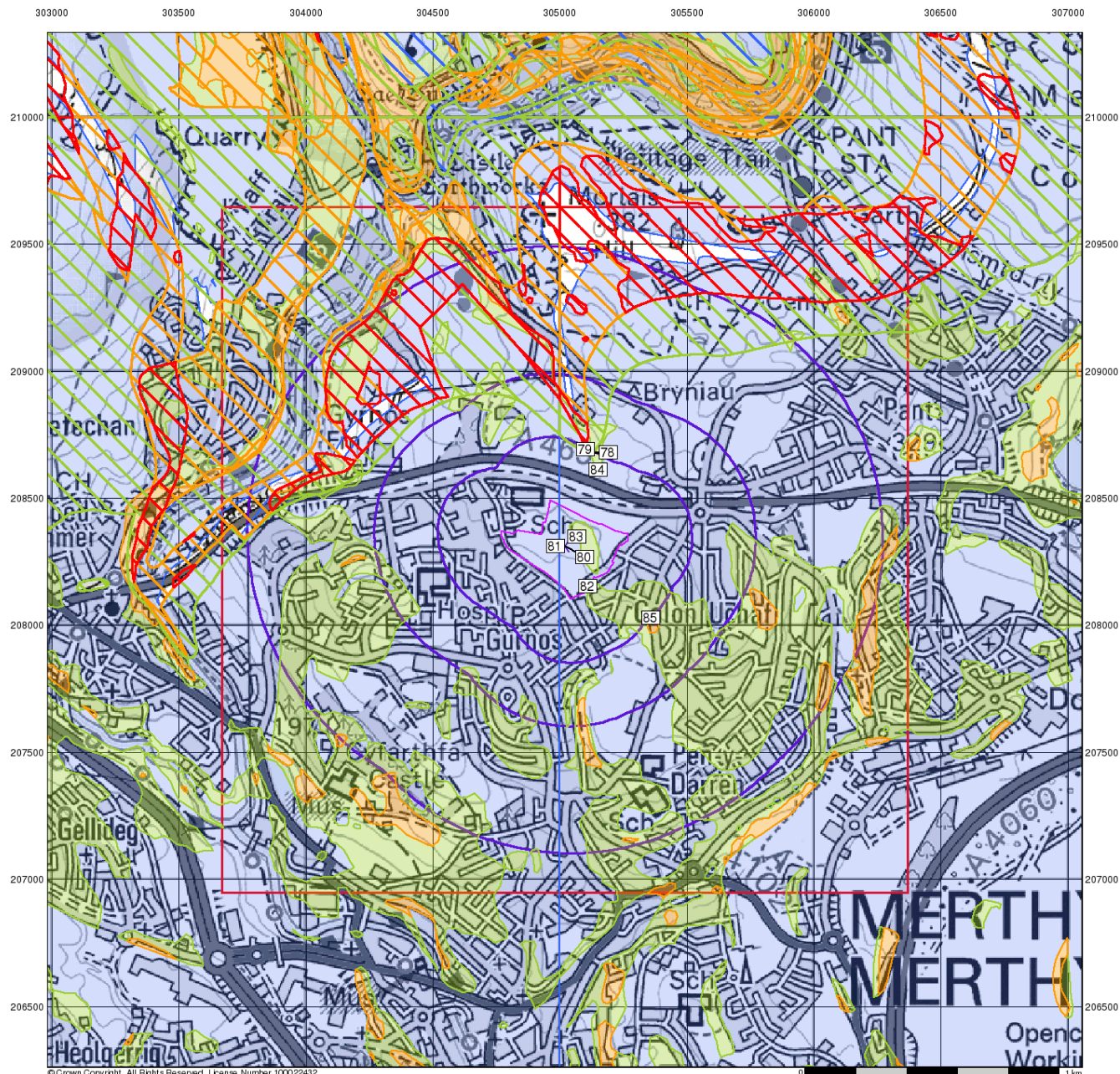
Order Number: 310553660_1_1
Customer Ref: 14209/LP
National Grid Reference: 305020, 208310
Slice: A
Site Area (Ha): 9.34
Search Buffer (m): 1000

Site Details

Pen-Y-dre High Comprehensive School, Gurnos, MERTHYR TYDFIL, CF47 9BY

Landmark
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.ernirocheck.co.uk



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Intégral Géotechnique

Ground Stability Data (1:50,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

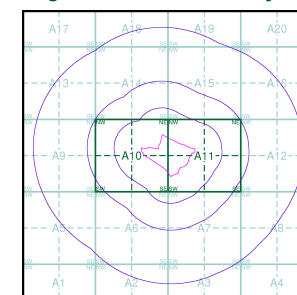
Potential for Landslide Ground Stability Hazards

- High
- Moderate
- Low
- Very Low

Potential for Ground Dissolution Stability Hazards

- High
- Moderate
- Low
- Very Low

Mining and Ground Stability - Slice A



Order Details

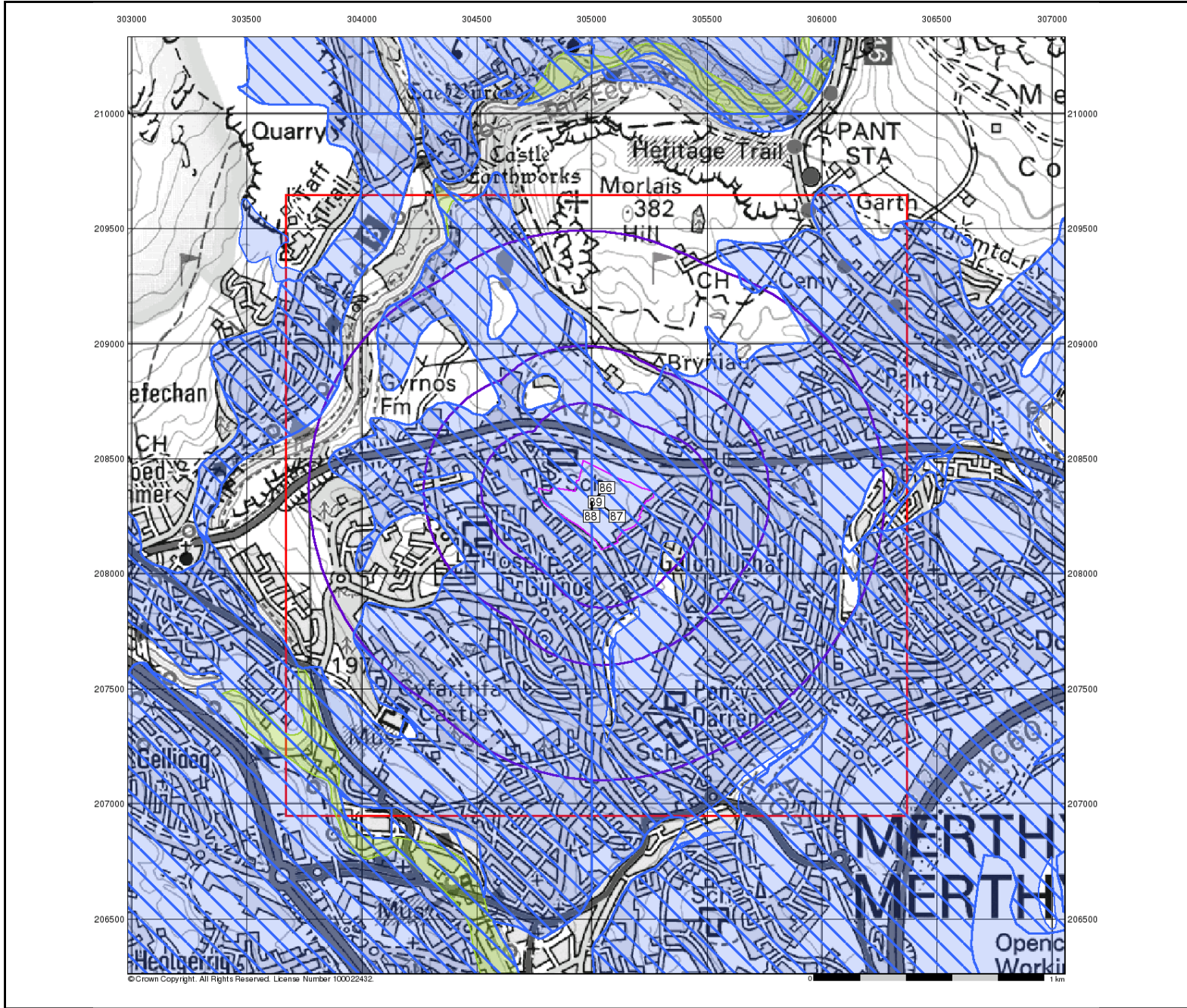
Order Number: 310553660_1_1
 Customer Ref: 14209/LP
 National Grid Reference: 305020, 208310
 Slice: A
 Site Area (Ha): 9.34
 Search Buffer (m): 1000

Site Details

Pen-Y-Dre High Comprehensive School, Gurnos, MERTHYR TYDFIL, CF47 9BY

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 INFORMATION GROUP

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 Web: www.envirocheck.co.uk



Intégral Géotechnique

Ground Stability Data (1:50,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

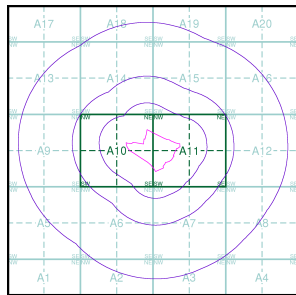
Potential for Running Sand Ground Stability Hazards

- High
- Moderate
- Low
- Very Low

Potential for Shrinking or Swelling Clay Ground Stability Hazards

- High
- Moderate
- Low
- Very Low

Mining and Ground Stability - Slice A



Order Details

Order Number: 310553660_1_1
Customer Ref: 14209/LP
National Grid Reference: 305020, 208310
Slice: A
Site Area (Ha): 9.34
Search Buffer (m): 1000

Site Details

Pen-Y-Dre High Comprehensive School, Gurnos, MERTHYR TYDFIL, CF47 9BY

Landmark
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.ernwcheck.co.uk

Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:



Envirocheck reports are compiled from 136 different sources of data.

Client Details

MR H Pritchard, Integral Geotechnique, Integral House, 7
Beddau Way, Castlegate Business Park, Caerphilly, CF83
2AX

Order Details

Order Number: 310553660_1_1
Customer Ref: 14209/LP
National Grid Reference: 305030, 208300
Site Area (Ha): 9.34
Search Buffer (m): 1000

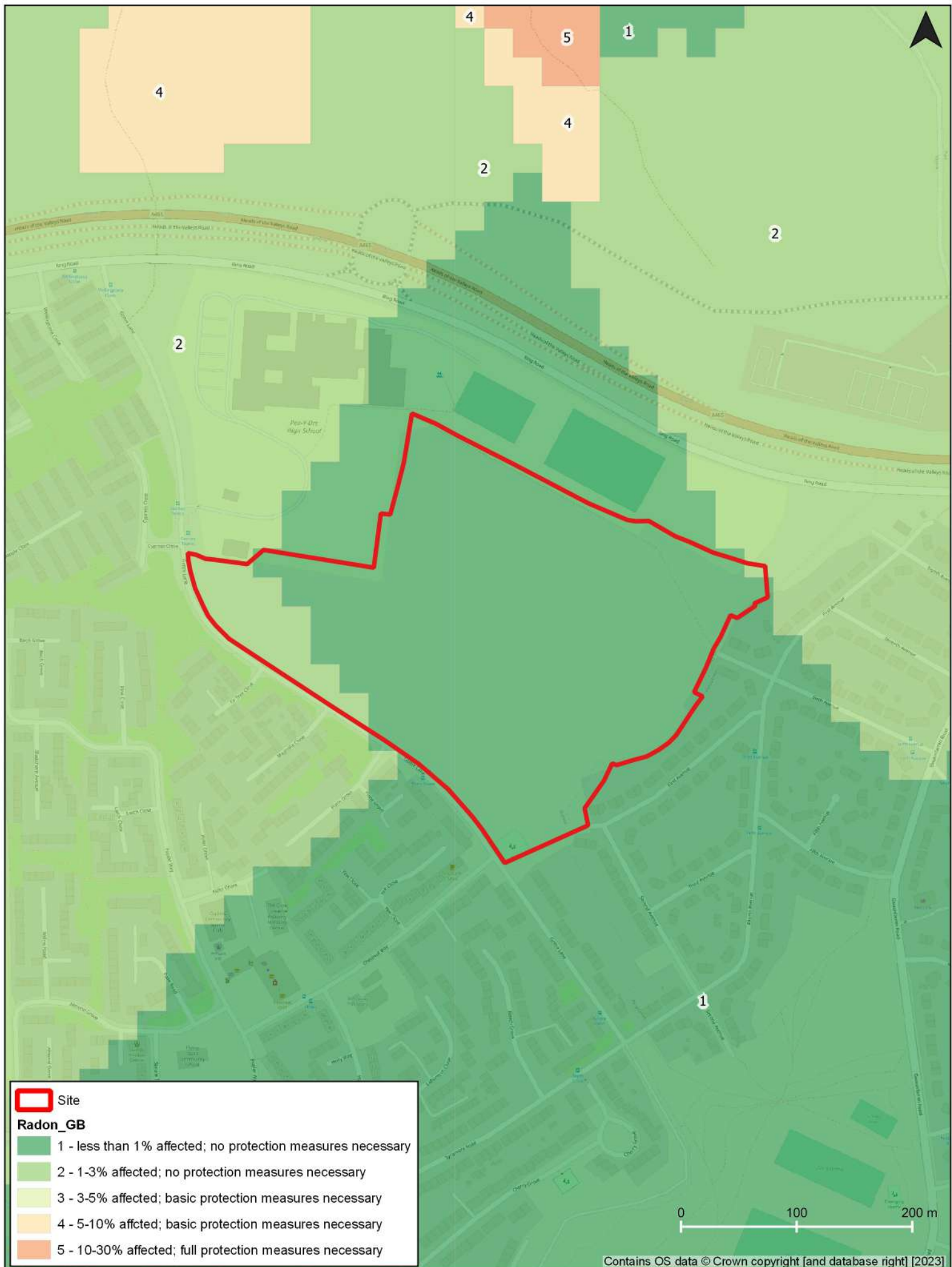
Site Details

Pen-Y-Dre High Comprehensive School, Gurnos, MERTHYR
TYDFIL, CF47 9BY

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/Terms/Show/515>

APPENDIX B

LANDMARK GEODATA RADON INFORMATION MAP



APPENDIX C

CONSULTANTS COAL MINING REPORT FROM THE COAL AUTHORITY



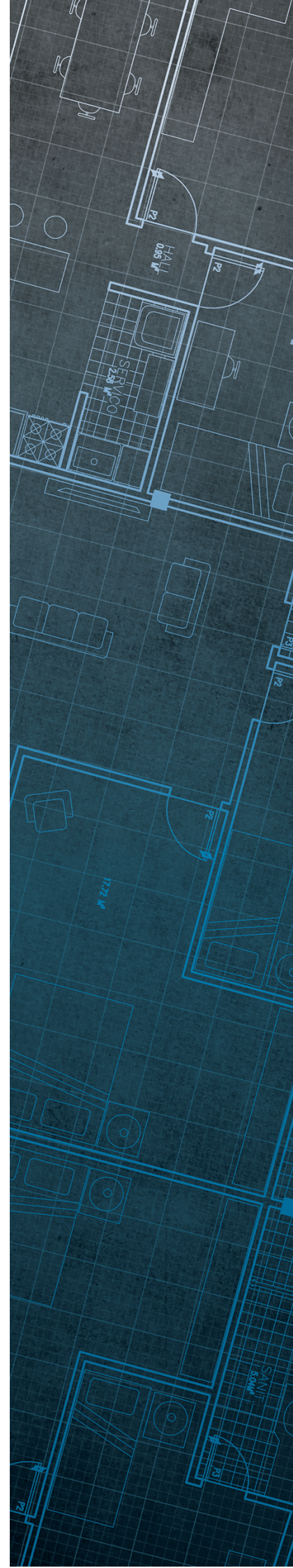
The Coal
Authority

Consultants Coal Mining Report

Pen Y Dre High School
Goitre Lane
Gurnos
Merthyr Tydfil
CF47 9BY

Date of enquiry:	27 April 2023
Date enquiry received:	27 April 2023
Issue date:	27 April 2023

Our reference:	51003352027001
Your reference:	14209/LP



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

INTEGRAL GEOTECHNIQUE (WALES) LTD.

Enquiry address

Pen Y Dre High School
Goitre Lane
Gurnos
Merthyr Tydfil
CF47 9BY

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

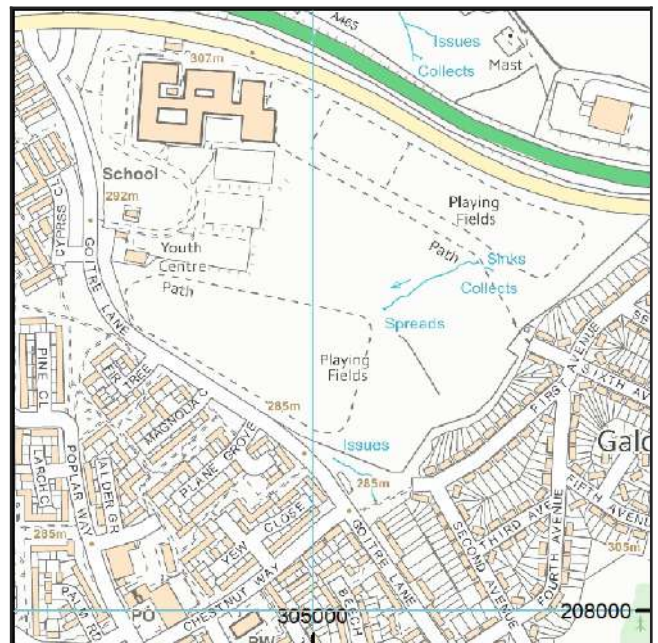
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

No past mining recorded.

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

PO0	SWR2510	
-----	---------	--

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

Based on the responses in this report, no further information has been highlighted.

Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

MINE GAS: Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

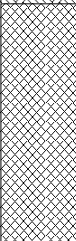
Approximate position of the enquiry boundary shown 

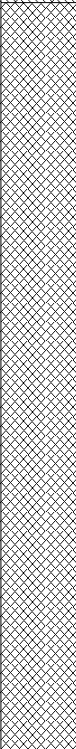
How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com

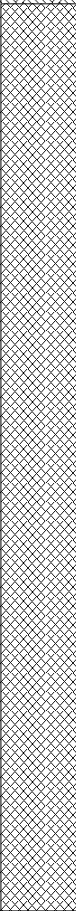


APPENDIX D

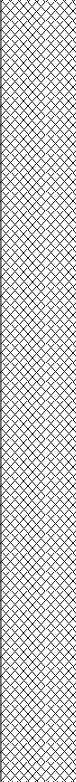
TRIAL PIT LOGS

 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Geotre Primary School			Project No.: 14209		Trial Pit No.: SA01 Sheet 1 of 1	
Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Logged By: FG		Scale 1:25	
Equipment: JCB 4CX			Coordinates:			Dimensions 2.50m			
Date Excavated: 22/05/2023			Level:			Depth : 3.00m 0.60m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.10	ES		0.30			Grass over soft brown and black mottled orange silty slightly gravelly CLAY with low cobble content of sub-angular and sub-rounded sandstone and limestone. Gravel is fine to coarse sub-angular limestone and sandstone.			
			1.10			MADE GROUND: Soft to firm brown mottled orange and grey very clayey slightly gravelly SILT with low cobble content of sub-rounded limestone and sandstone. Gravel is fine to coarse sub-angular and sub-rounded of limestone and sandstone.			
2.00	B		3.00			Firm brown mottled grey silty slightly gravelly CLAY with low cobble and boulder content of sub-angular and sub-rounded sandstone and limestone. Gravel is fine to coarse sub-angular and sub-rounded of limestone and sandstone.			
						End of Trialpit at 3.00 m			
Remarks: 1. Trial pit terminated at 3.0m below existing ground level. 2. Soil infiltration testing undertaken within trial pit.						Groundwater: 1. No groundwater encountered.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample	
						Stability: 1. Generally stable in the short term with local instability associated with cobble and boulder removal.			

 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Geotre Primary School			Project No.: 14209		Trial Pit No.: SA02 Sheet 1 of 1	
Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Logged By: FG		Scale 1:25	
Equipment: JCB 4CX			Coordinates:			Dimensions 3.00m			
Date Excavated: 22/05/2023			Level:			Depth : 3.00m 0.60m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.40	ES		0.20			Grass over soft brown mottled orange brown silty gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse angular to sub-rounded of sandstone and limestone. MADE GROUND: Soft to firm brown and greyish brown silty gravelly CLAY with low cobble content of sub-angular and sub-rounded sandstone, limestone and brick. Gravel is fine to coarse sub-angular and sub-rounded of sandstone, limestone, bituminous material and fine ash.			
1.50	B								
			2.70			Firm becoming stiff brown mottled grey silty gravelly CLAY. Gravel is fine to coarse sub-angular and sub-rounded of sandstone and limestone.			
			3.00						
Remarks: 1. Trial pit terminated at 3.0m below existing ground level. 2. Soil infiltration testing undertaken within trial pit.			Groundwater: 1. No groundwater encountered.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			

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Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Logged By: FG		Scale 1:25	
Equipment: JCB 4CX			Coordinates:			Dimensions 2.30m			
Date Excavated: 22/05/2023			Level:			Depth : 3.50m 0.60m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.40	ES		0.30			Grass over soft brown silty slightly gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular of limestone.			
1.50	B					MADE GROUND: Soft to firm greyish brown and grey silty gravelly CLAY with moderate cobble and boulder content of sub-angular and sub-rounded sandstone and brick. Gravel is fine to coarse sub-angular and sub-rounded of sandstone, limestone, concrete and brick.			
			3.30			Firm brown mottled grey sandy gravelly CLAY with moderate cobble and boulder content of sub-rounded sandstone. Gravel is fine to coarse sub-rounded of sandstone.			
			3.50			End of Trialpit at 3.50 m			
Remarks: 1. Trial pit terminated at 3.5m below existing ground level. 2. Soil infiltration testing undertaken within trial pit.			Groundwater: 1. Moderate seepage encountered below 1.1m depth.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: 1. Generally stable in the short term with local instability associated with cobble and boulder removal.						

 Integral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Geotre Primary School			Project No.: 14209		Trial Pit No.: SA04 Sheet 1 of 1	
Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Logged By: FG		Scale 1:25	
Equipment: JCB 4CX			Coordinates:			Dimensions 2.70m			
Date Excavated: 23/05/2023			Level:			Depth : 3.00m 0.60m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description			
0.40	ES		0.20			Grass over soft brown silty slightly gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular of limestone and sandstone.			
0.70	ES		0.40			MADE GROUND: Soft greyish brown clayey slightly gravelly SILT. Gravel is fine to coarse sub-angular of fine ash, limestone and sandstone.			
1.00	B		3.00			MADE GROUND: Loose black clayey sandy GRAVEL. Gravel is fine to coarse sub-angular of fine ash and clinker.			
						End of Trialpit at 3.00 m			
Remarks: 1. Trial pit terminated at 3.0m below existing ground level. 2. Soil infiltration testing undertaken within trial pit.			Groundwater: 1. No groundwater encountered.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: 1. Generally stable in the short term with local instability associated with cobble and boulder removal.						

 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Geotre Primary School			Project No.: 14209		Trial Pit No.: SA05 Sheet 1 of 1	
Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Logged By: FG		Scale 1:25	
Equipment: JCB 4CX			Coordinates:			Dimensions 2.70m			
Date Excavated: 23/05/2023			Level:			Depth : 3.80m 0.60m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.35	ES		0.30			Grass over soft brown slightly silty gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular and sub-rounded sandstone and limestone.			
						MADE GROUND: Soft grey locally black silty gravelly CLAY with high cobble and boulder content of sub-angular and sub-rounded concrete, brick and sandstone. Gravel is fine to coarse angular to sub-rounded of sandstone, limestone, brick, concrete, fine ash and rare clinker. Inclusions of glass, timber and metal scrap.			
3.50	B		2.90			Soft blackish brown spongy fibrous PEAT.			
			3.40			Soft greyish brown clayey very sandy slightly gravelly SILT with moderate cobble and boulder content of sub-rounded sandstone and limestone. Gravel is fine to coarse sub-rounded of sandstone and limestone.			
			3.80		End of Trialpit at 3.80 m				
Remarks: 1. Trial pit terminated at 3.8m below existing ground level. 2. Soil infiltration testing undertaken within trial pit.			Groundwater: 1. Minor seepages encountered below 3.4m depth.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: 11. Generally stable in the short term with local instability associated with cobble and boulder removal.						

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Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Logged By: FG		Scale 1:25	
Equipment: JCB 4CX			Coordinates:			Dimensions 2.80m			
Date Excavated: 23/05/2023			Level:			Depth : 3.60m 0.60m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.40	ES		0.20			Grass over soft brown silty gravelly CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular and sub-rounded of sandstone.			
			0.30			MADE GROUND: Loose to medium dense grey clayey silty GRAVEL. Gravel is fine to coarse sub-angular limestone and brick.			
						MADE GROUND: Soft grey and brownish grey silty slightly sandy gravelly CLAY with moderate cobble and boulder content of sub-angular and sub-rounded sandstone, limestone and brick. Gravel is fine to coarse angular to sub-rounded of sandstone, limestone, brick, concrete, vitreous slag and fine ash and clinker.			
			3.00			Soft blackish brown spongy fibrous PEAT.			
			3.30			Soft grey mottled blue, red and yellow clayey sandy gravelly SILT with moderate cobble and boulder content of sub-angular to rounded sandstone and limestone. Gravel is fine to coarse sub-angular to rounded of sandstone and, limestone.			
			3.60			End of Trialpit at 3.60 m			
Remarks: 1. Trial pit terminated at 3.6m below existing ground level. 2. Soil infiltration testing undertaken within trial pit.			Groundwater: 1. Minor seepages encountered below 3.3m depth.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: 1. Generally stable in the short term with local instability associated with cobble and boulder removal.						

 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Geotre Primary School			Project No.: 14209		Trial Pit No.: SA07 Sheet 1 of 1	
Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Logged By: FG		Scale 1:25	
Equipment: JCB 4CX			Coordinates:			Dimensions 2.60m			
Date Excavated: 22/05/2023			Level:			Depth : 0.60m 0.60m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
			0.30			Grass over soft brown silty gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular and sub-rounded of sandstone and limestone.			
			0.60			MADE GROUND: Loose to medium dense grey and black silty sandy GRAVEL with high cobble and boulder content of sub-angular brick sandstone and limestone. Gravel is fine to coarse sub-angular brick sandstone and limestone.			
						End of Trialpit at 0.60 m			
						1			
						2			
						3			
						4			
						5			
Remarks: 1. Trial pit terminated at 0.6m below existing ground level due to extremely fast groundwater inflow. 2. Soil infiltration testing not undertaken in pit.			Groundwater: 1. Extremely fast groundwater inflow encountered below 0.3m depth.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			

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Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Logged By: FG		Scale 1:25	
Equipment: JCB 4CX			Coordinates:			Dimensions 1.80m			
Date Excavated: 22/05/2023			Level:			Depth : 0.50m 0.60m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
			0.20			Grass over soft brown silty gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular and sub-rounded of sandstone and limestone.			
			0.50			MADE GROUND: Loose to medium dense grey and black silty sandy GRAVEL with high cobble and boulder content of sub-angular brick sandstone and limestone. Gravel is fine to coarse sub-angular brick sandstone and limestone.			
						End of Trialpit at 0.50 m			
						1			
						2			
						3			
						4			
						5			
Remarks: 1. Trial pit terminated at 0.5m below existing ground level due to extremely fast groundwater inflows.			Groundwater: 1. Extremely fast groundwater inflow encountered below 0.2m depth.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: 1. Generally unstable below 0.2m depth associated with highly saturated granular soils.						

Intégral Géotechnique Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Geotre Primary School			Project No.: 14209		Trial Pit No.: TP02 Sheet 1 of 1	
Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Logged By: FG		Scale 1:25	
Equipment: JCB 4CX			Coordinates:			Dimensions 2.20m			
Date Excavated: 22/05/2023			Level:			Depth : 3.50m 0.60m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.10	ES		0.30			Grass over soft brown slightly silty slightly gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse angular and sub-rounded of sandstone and limestone.			
0.20	ES					MADE GROUND: Soft grey and brownish grey very silty gravelly CLAY with high cobble and boulder content of sub-angular and sub-rounded sandstone, limestone and brick. Gravel is fine to coarse sub-angular and sub-rounded sandstone and limestone and brick. ... Mexecon CBR at 0.5m depth = 0.5% / 4.8% / 1.1%			
1.00	B		1.80			SUSPECTED MADE GROUND: Firm grey mottled brown silty gravelly CLAY with moderate cobble and boulder content of sub-angular limestone. Gravel is fine to coarse angular to sub-rounded of limestone.			
			3.00			Soft black fibrous spongy PEAT			
			3.30			Firm grey mottled brown silty gravelly CLAY with moderate cobble and boulder content of sub-angular limestone. Gravel is fine to coarse angular to sub-rounded of limestone.			
			3.50		----- End of Trialpit at 3.50 m -----				
Remarks: 1. Trial pit terminated at 3.5m below existing ground level.			Groundwater: 1. Minor seepage encountered at 3.5m depth.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: 1. Generally stable in the short term with local instability associated with cobble and boulder removal.						

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Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Logged By: FG		Scale 1:25	
Equipment: JCB 4CX			Coordinates:			Dimensions 2.80m			
Date Excavated: 22/05/2023			Level:			Depth : 3.30m 0.60m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.30	ES		0.40			Grass over soft brown slightly silty slightly gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular and sub-rounded limestone and sandstone.			
						MADE GROUND: Soft orangish brown and greyish brown clayey gravelly SILT with low cobble and boulder content of sub-angular sandstone. Gravel is fine to coarse angular to sub-rounded of sandstone and limestone. ... Mexecon CBR at 0.5m depth = 1.5% / 1.7% / 0.9%			
						MADE GROUND: Soft grey silty very gravelly CLAY with moderate cobble and boulder content of sub-angular and sub-rounded sandstone. Gravel is fine to coarse sub-angular and sub-rounded of sandstone, brick and fine ash.			
2.30			2.60			Soft brownish black spongy pseudofibrous PEAT			
						Soft grey silty very gravelly CLAY with moderate cobble and Boulder content of sub-angular and sub-rounded sandstone. Gravel is fine to coarse sub-angular and sub-rounded of sandstone.			
3.30			3.30			End of Trialpit at 3.30 m			
Remarks: 1. Trial pit terminated at 3.3m below existing ground level.						Groundwater: 1. No groundwater encountered.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample	
						Stability: 1. Generally stable in the short term with local instability associated with cobble and boulder removal.			

[illegible]

 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Geotre Primary School			Project No.: 14209		Trial Pit No.: TP05 Sheet 1 of 1	
Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Logged By: FG		Scale 1:25	
Equipment: JCB 4CX			Coordinates:			Dimensions 2.40m			
Date Excavated: 23/05/2023			Level:			Depth : 4.10m 0.60m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.40	ES		0.20			Grass over soft brown slightly silty slightly sandy slightly gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular and sub-rounded of sandstone and limestone. MADE GROUND: Soft grey silty slightly gravelly CLAY. Gravel is fine to coarse sub-angular of sandstone and brick. MADE GROUND: Loose black sandy GRAVEL. Gravel is fine to coarse angular and sub-angular of charcoal, fine ash and clinker ... Mexecon CBR at 0.5m depth = 4.8% / 2.9% / 4.4% MADE GROUND: Firm grey and brownish grey silty gravelly CLAY with moderate cobble and boulder content of sub-angular and sub-rounded sandstone, limestone and brick. Gravel is fine to coarse sub-angular and sub-rounded of sandstone, limestone, brick, concrete, fine ash and clinker. Near surface inclusions of fabric, timber, glass and plastic.			
			0.30						
									
			0.60						
			4.10			End of Trialpit at 4.10 m			
Remarks: 1. Trial pit terminated at 4.1m below existing ground level.			Groundwater: 1. Minor seepages encountered at below 2.9m below existing ground level.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: 1. Generally stable in the short term with local instability associated with cobble and boulder removal.						

 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Geotre Primary School			Project No.: 14209		Trial Pit No.: TP06 Sheet 1 of 1	
Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Logged By: FG		Scale 1:25	
Equipment: JCB 4CX			Coordinates:			Dimensions 2.60m			
Date Excavated: 23/05/2023			Level:			Depth : 3.30m 0.60m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
			0.20		 Grass over soft brown slightly silty gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular and sub-rounded of sandstone.				
					 MADE GROUND: Soft becoming firm grey and brownish grey slightly silty gravelly slightly sandy CLAY with moderate cobble and boulder content of sub-angular concrete, brick and sandstone. Gravel is fine to coarse sub-angular and sub-rounded of sandstone, limestone concrete, brick and vitreous slag. Near surface inclusions of glass, timber and fabric.				
					... Mexecon CBR at 0.5m depth = 1.1% / 1.3% / 1.2%				
			3.30		 End of Trialpit at 3.30 m				
Remarks: 1. Trial pit terminated at 3.3m below existing ground level due to suspected boulder obstruction.			Groundwater: 1. No groundwater encountered.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: 1. Generally stable in the short term with local instability associated with cobble and boulder removal.						

 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Geotre Primary School			Project No.: 14209		Trial Pit No.: TP07 Sheet 1 of 1	
Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Logged By: FG		Scale 1:25	
Equipment: JCB 4CX			Coordinates:			Dimensions 2.80m			
Date Excavated: 23/05/2023			Level:			Depth : 4.00m 0.60m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.10	ES		0.20			Grass over soft brown slightly silty slightly gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular and sub-rounded of sandstone and limestone.			
						MADE GROUND: Soft grey slightly silty very gravelly CLAY with moderate cobble and boulder content of sub-angular and sub-rounded sandstone and limestone. Gravel is fine to coarse sub-angular and sub-rounded of sandstone, limestone, concrete and brick. Inclusions of timber, rebar, cables and glass.			
						... Mexecon CBR at 0.5m depth = 1.2% / 0.8% / 1.4%			
			3.40			MADE GROUND: Soft blackish brown spongy fibrous PEAT.			
			3.60			MADE GROUND: Firm grey slightly silty very gravelly CLAY with moderate cobble and boulder content of sub-angular and sub-rounded sandstone and limestone. Gravel is fine to coarse sub-angular and sub-rounded of sandstone, limestone, concrete and brick.			
			3.90			Soft to firm yellowish brown mottled grey and red clayey sandy slightly gravelly SILT with moderate cobble and boulder content of sub-angular to rounded sandstone and limestone.			
			4.00			Gravel is fine to coarse sub-angular to rounded of limestone and sandstone.			
End of Trialpit at 4.00 m									
Remarks: 1. Trial pit terminated at 4.0m below existing ground level.						Groundwater: 1. Minor seepage encountered below 2.2m depth.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample	
Stability: 1. Generally stable in the short term with local instability associated with cobble and boulder removal.									

 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Geotre Primary School			Project No.: 14209		Trial Pit No.: TP08 Sheet 1 of 1	
Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Logged By: FG		Scale: 1:25	
Equipment: JCB 4CX			Coordinates:			Dimensions: 2.40m			
Date Excavated: 23/05/2023			Level:			Depth : 4.00m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
			0.20			Grass over soft brown silty slightly gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular of sandstone and limestone.			
						MADE GROUND: Loose grey and brownish grey slightly silty slightly sandy very gravelly CLAY with moderate cobble and boulder content of sub-angular sandstone and brick. Gravel is fine to coarse sub-angular and sub-rounded of sandstone, limestone, concrete, and brick.			
						... Mexecon CBR at 0.5m depth = 1.2% / 0.8% / 3.2%			
			1.20			MADE GROUND: Loose blackish grey slightly clayey gravelly SAND. Gravel is fine to coarse sub-angular and sub-rounded of sandstone, fine ash and clinker.			
			1.40			MADE GROUND: Medium dense grey slightly silty slightly sandy very gravelly CLAY with moderate cobble and boulder content of sub-angular sandstone and brick. Gravel is fine to coarse sub-angular and sub-rounded of sandstone, limestone, concrete, and brick.			
			1.90			MADE GROUND: Medium dense grey and brownish grey very silty sandy GRAVEL with high cobble and boulder content of sub-angular and sub-rounded sandstone and limestone. Gravel is fine to coarse sub-angular and sub-rounded of sandstone, limestone and brick.			
			4.00			End of Trialpit at 4.00 m			
Remarks: 1. Trial pit terminated at 4.0m below existing ground level.			Groundwater: 1. Multiple moderate seepages below 2.0m depth.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: 1. Generally stable in the short term with local instability associated with cobble and boulder removal.						

APPENDIX E

WINDOWLESS SAMPLE BOREHOLE LOGS

Intégral Géotechnique Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: WS01 Sheet 1 of 1			
Location: Merthyr Tydfil		Client: Morgan Sindall PLC		Coordinates:		Hole Type: WLS			
Equipment: DART 554		Diameter of Casing:		Level:		Scale 1:25			
Diameter of Boring: 101+86+76+64mm		Depth of Casing:		Dates 18/05/2023 -		Logged By: FG			
Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30	ES		0.20			Grass over soft brown slightly silty slightly gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular of limestone.	
					0.80			MADE GROUND: Soft brown locally mottled orange silty gravelly CLAY. Gravel is fine to coarse angular and sub-angular of limestone and vitreous slag.	
		1.00	C	N=5 (1,1/2,1,1,1)				MADE GROUND: Soft to firm brown mottled orange slightly silty gravelly CLAY. Gravel is fine to coarse sub-angular of limestone.	1
					1.50			Firm brown mottled grey silty slightly gravelly CLAY with low cobble and boulder content of sub-angular and sub-rounded sandstone and limestone. Gravel is fine to coarse sub-angular and sub-rounded of limestone and sandstone.	
		2.00	C	N=10 (1,2/2,2,3,3)					2
		3.00	C	N=13 (2,2/3,3,3,4)					3
		3.80	C	50 (22,24/50 for 40mm)	3.80			End of Borehole at 3.80 m	4
									5
Remarks:						Key:			
1. Refusal of windowless sampler at 3.8m below existing ground level.						D - Small disturbed sample			
2. Water strike encountered between 3.0m - 3.8m depth.						B - Bulk disturbed sample			
3. Water standing in borehole at 3.4m depth.						ES - Environmental soil sample			
4. Installation of ground gas monitoring well within borehole.						SPT - Standard Penetration Test (split spoon)			
						CPT - Standard Penetration Test (solid cone)			
						W - Water sample			
						U - Undisturbed sample			
						TCR - Total Core Recovery			
						SCR - Solid Core Recovery			
						RQD - Rock Quality Designation			



Intégral Géotechnique Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School			Project No.: 14209		Borehole No.: WS02 Sheet 1 of 1	
Location: Merthyr Tydfil			Client: Morgan Sindall PLC			Coordinates:		Hole Type: WLS
Equipment: DART 554			Diameter of Casing:			Level:		Scale 1:25
Diameter of Boring: 101+86+76+64+56mm			Depth of Casing:			Dates 18/05/2023 -		Logged By: FG
Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES		0.20			Grass over soft brown slightly silty slightly gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular limestone.
								MADE GROUND: Soft brown silty gravelly CLAY with low cobble content of sub-angular limestone. Gravel is fine to coarse sub-angular of limestone.
		1.00	C	N=7 (1,1/2,2,2,1)	1.00			MADE GROUND: Soft brownish grey locally mottled red silty very slightly gravelly very slightly peaty CLAY. Gravel is fine to coarse sub-angular limestone and sandstone.
		2.00	C	N=15 (3,4/4,3,4,4)				
					2.50			Soft brown slightly sandy gravelly CLAY. Gravel is fine to coarse sub-angular of limestone and sandstone.
		3.00	C	N=6 (1,1/1,2,1,2)				
		4.00	C	N=24 (1,1/2,4,8,10)				
		4.70						
		4.90	C	N=50 (8,8/50 for 230mm)	4.90			End of Borehole at 4.90 m
Remarks: 1. Refusal of windowless sampler at 4.9m below existing ground level. 2. Water strike encountered between 4.0m - 4.9m depth. 3. Water standing in borehole at 4.7m depth.						Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone) W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		



		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: WS03 Sheet 1 of 1	
Location: Merthyr Tydfil				Client: Morgan Sindall PLC		Coordinates:		Hole Type: WLS	
Equipment: DART 554				Diameter of Casing:		Level:		Scale 1:25	
Diameter of Boring: 101+86+76mm				Depth of Casing:		Dates 18/05/2023 -		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.35	ES		0.30		Grass over soft brown slightly silty slightly gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular of limestone.		
		1.00	C	N=24 (2,3/2,2,3,17)			Firm becoming stiff orangish brown slightly silty slightly gravelly locally friable CLAY. Gravel is fine to coarse sub-angular of sandstone and limestone.	1	
		1.45	C	50 (18,4/50 for 60mm)				2	
					2.30		End of Borehole at 2.30 m	3	
								4	
								5	

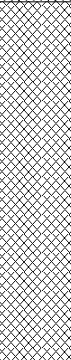
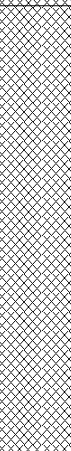
Remarks: 1. Refusal of windowless sampler at 2.3m below existing ground level. 2. No groundwater encountered.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: WS04 Sheet 1 of 1	
Location: Merthyr Tydfil				Client: Morgan Sindall PLC		Coordinates:		Hole Type: WLS	
Equipment: DART 554				Diameter of Casing:		Level:		Scale 1:25	
Diameter of Boring: 101+96+86+76+64mm				Depth of Casing:		Dates 18/05/2023 -		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
	0.60 				0.20			Grass over soft brown slightly silty slightly gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular of limestone.	
								MADE GROUND: Soft blackish brown mottled black slightly silty slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to sub-rounded of limestone, vitreous slag, fine ash and brick.	
		1.00	ES		1.00			MADE GROUND: Medium dense black sandy GRAVEL. Gravel is fine to coarse angular of vitreous and vesicular slag, fine ash, clinker and brick.	1
		1.00	C	N=13 (2,2/2,3,4,4)					
		2.00	C	N=23 (7,5/6,5,6,6)	1.80			Stiff brownish grey silty slightly gravelly CLAY. Gravel is fine to coarse sub-angular and sub-rounded of sandstone and limestone.	2
3.00	C	N=6 (1,2/2,2,1,1)	3.00			Poor recovery within liner between 3.0m - 4.0m depth.		3	
		4.00	C	N=9 (2,1/2,1,2,4)	4.00			Poor recovery within liner between 4.0m - 4.7m depth.	4
		5.00	C	50 (11,15/50 for 105mm)	5.00			End of Borehole at 5.00 m	5

Remarks: 1. Refusal of windowless sampler at 5.0m below existing ground level. 2. Water strike encountered between 1.0m - 1.45m depth. 3. Water standing in borehole at 0.6m depth.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: WS05 Sheet 1 of 1	
Location: Merthyr Tydfil				Client: Morgan Sindall PLC		Coordinates:		Hole Type: WLS	
Equipment: DART 554				Diameter of Casing:		Level:		Scale 1:25	
Diameter of Boring: 101+96+86+76+64mm				Depth of Casing:		Dates 18/05/2023 -		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description				
		Depth (m)	Type	Results								
		0.40	ES		0.30			Soft brown slightly silty slightly gravelly CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular of limestone.	1			
		1.00	C	N=4 (2,1/1,1,1,1)	1.50						MADE GROUND: Very soft to soft brownish grey and grey slightly silty slightly sandy slightly gravelly CLAY. Gravel is fine to coarse sub-angular and sub-rounded of sandstone, limestone, brick and fine ash and clinker.	
		2.00	C	N=1 (1,0/0,1,0,0)	3.00			MADE GROUND: Very soft to soft grey gravelly CLAY. Gravel is fine to coarse sub-angular of limestone and sandstone.	2			
		3.00	C	N=7 (3,2/1,2,2,2)	5.00							
		4.00	C	N=5 (2,2/1,2,1,1)						4		
		5.00	C	N=11 (2,2/2,3,3,3)	5.00		End of Borehole at 5.00 m		5			

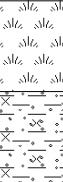
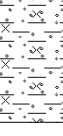
Remarks: 1. Refusal of windowless sampler at 5.0m below existing ground level. 2. Water strike encountered between 2.0m - 3.0m depth. 3. Water standing in borehole at 2.3m depth.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: WS06 Sheet 1 of 1	
Location: Merthyr Tydfil				Client: Morgan Sindall PLC		Coordinates:		Hole Type: WLS	
Equipment: DART 554				Diameter of Casing:		Level:		Scale 1:25	
Diameter of Boring: 101+96+86+76+64mm				Depth of Casing:		Dates 18/05/2023 -		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
	0.60 	0.40	ES		0.30			Grass over soft brown silty gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular of limestone.	
		1.00	C	N=8 (2,1/1,2,3,2)	1.00				MADE GROUND: Soft grey very gravelly CLAY. Gravel is fin to coarse angular and sub-angular of sandstone, limestone, fine ash, clinker, vitreous and vesicular slag.
		2.00	C	N=4 (1,1/1,1,1,1)					MADE GROUND: Soft to firm grey and brownish grey silty slightly gravelly CLAY. Gravel is fine and coarse sub-angular of sandstone and limestone.
		3.00	C	N=6 (1,2/1,2,1,2)	3.00				Soft brown and grey slightly gravelly CLAY. Gravel is fine to coarse sub-angular and sub-rounded of limestone.
		4.00	C	N=6 (2,2/1,2,2,1)					
5.00	C	N=50 (5,6/7,15,15,13)	5.00		End of Borehole at 5.00 m			5	

Remarks: 1. Refusal of windowless sampler at 5.0m below existing ground level. 2. Water strike encountered between 1.0m - 2.0m depth. 3. Water standing in borehole at 0.6m depth.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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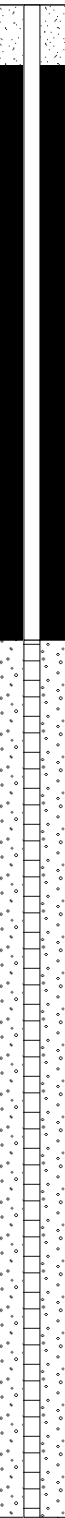
		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School			Project No.: 14209		Borehole No.: WS07 Sheet 1 of 1	
Location: Merthyr Tydfil				Client: Morgan Sindall PLC			Coordinates:		Hole Type: WLS	
Equipment: DART 554				Diameter of Casing:			Level:		Scale 1:25	
Diameter of Boring: 101+96+86+76+64mm				Depth of Casing:			Dates 18/05/2023 -		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30			Grass over soft brown silty gravelly CLAY with frequent roots and rootlets. Gravel is fine to coarse of limestone.	
					0.60			MADE GROUND: Soft brown slightly silty slightly gravelly CLAY. Gravel is fine to coarse sub-angular of limestone, fine ash and rare clinker.	
		0.65	ES						
		1.00	C	N=10 (3,2/4,3,1,2)					1
		2.00	C	N=4 (1,1/1,0,2,1)					2
		3.00	C	N=15 (2,2/5,4,3,3)	3.00				3
		4.00	C	N=12 (3,2/2,3,3,4)	4.00				
					4.30				
		4.50	C	N=25 (8,7/8,5,6,6)					4
		4.95	C	N=50 (9,9/50 for 235mm)	5.00				
									5

Remarks: 1. Refusal of windowless sampler at 5.0m below existing ground level. 2. Water strike encountered between 1.0m - 2.0m depth. 3. Water standing in borehole at 0.6m depth.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation			
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 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: WS08 Sheet 1 of 1	
Location: Merthyr Tydfil		Client: Morgan Sindall PLC		Coordinates:		Hole Type: WLS	
Equipment: DART 554		Diameter of Casing:		Level:		Scale 1:25	
Diameter of Boring: 101+96+86+76+64mm		Depth of Casing:		Dates 19/05/2023 -		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30		Vegetation over soft brown slightly silty slightly gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular of limestone.		
		0.40	ES				MADE GROUND: Soft black, brownish grey ad grey sandy very gravelly CLAY with occasional cobbles of sub-angular brick. Gravel is fine to coarse sub-angular brick. Gravel is fine to coarse sub-angular of sandstone, brick, fine ash and clinker, and vitreous and vesicular slag.		
		1.00	C	N=13 (3,2/2,3,4,4)	1.00		Very poor recovery between 1.0m and 2.0m. (Recovered as firm clayey gravelly cobble of fine to coarse sub-angular fine ash and clinker)	1	
		2.00	C	N=10 (3,1/3,2,2,3)	2.00		MADE GROUND: Firm locally soft greyish brown sandy slightly gravelly CLAY. Gravel is fine and medium sub-rounded sandstone and limestone.	2	
		3.00	C	N=13 (2,3/2,4,4,3)				3	
		4.00	C	N=5 (1,1/1,2,1,1)				4	
					4.80		Soft purplish black spongy fibrous PEAT.		
		5.00	C	N=19 (2,2/3,4,5,7)	5.00		End of Borehole at 5.00 m	5	

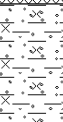
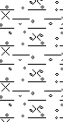
Remarks: 1. Refusal of windowless sampler at 5.0m below existing ground level. 2. Water strike encountered between 4.0m - 5.0m depth. 3. Water standing in borehole at 3.5m depth. 4. Installation of ground gas monitoring well within borehole.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: WS09 Sheet 1 of 1	
Location: Merthyr Tydfil				Client: Morgan Sindall PLC		Coordinates:		Hole Type: WLS	
Equipment: DART 554				Diameter of Casing:		Level:		Scale 1:25	
Diameter of Boring: 101+96+86mm				Depth of Casing:		Dates 19/05/2023 -		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
	 2.20	0.30			0.30			Grass over soft brown silty slightly sandy gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular of limestone.	
		0.50	ES					MADE GROUND: Soft brown mottled orange and red slightly silty slightly gravelly slightly sandy CLAY. Gravel is fine to coarse sub-angular of brick, concrete and limestone.	
		0.80							
		1.00	C	N=5 (2,1/1,2,0,2)	1.00			MADE GROUND: Soft brownish grey silty sandy gravelly CLAY with low cobble content of sub-angular concrete and limestone. Gravel is fine to coarse sub-angular of limestone, concrete, fine ash and rare clinker.	1
								MADE GROUND: Soft greyish brown silty slightly gravelly CLAY. Gravel is fine to coarse sub-angular of sandstone and limestone.	
		1.70			1.70			Firm grey locally black slightly silty slightly gravelly peaty CLAY with frequent decaying fibrous organic matter. Gravel is fine to coarse sub-angular and sub-rounded of limestone.	
		2.00	C	N=9 (1,2/1,3,3,2)	2.00			Firm grey and brown slightly silty slightly sandy gravelly CLAY. Gravel is fine to coarse sub-angular and sub-rounded of sandstone and limestone.	2
		3.00	C	50 (10,18/50 for 10mm)	3.00			End of Borehole at 3.00 m	3
									4
									5

Remarks: 1. Refusal of windowless sampler at 3.0m below existing ground level. 2. Water strike encountered between 2.0m - 3.0m depth. 3. Water standing in borehole at 2.2m depth.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: WS10 Sheet 1 of 1	
Location: Merthyr Tydfil				Client: Morgan Sindall PLC		Coordinates:		Hole Type: WLS	
Equipment: DART 554				Diameter of Casing:		Level:		Scale 1:25	
Diameter of Boring: 101+96+86+76mm				Depth of Casing:		Dates 19/05/2023 -		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.40	ES		0.20			Soft brown silty slightly gravelly organic rich CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular of limestone.	
								MADE GROUND: Soft brown mottled orangish brown silty very slightly sandy CLAY.	
		1.00	C	N=7 (1,1/1,2,2,2)	0.80			Soft becoming stiff greyish brown slightly silty slightly gravelly CLAY. Gravel is fine to coarse sub-angular of limestone and sandstone.	1
		2.00	C	N=14 (3,6/3,4,4,3)					2
		3.00	C	N=33 (4,5/6,8,8,11)					3
		3.45	C	50 (12,15/50 for 105mm)	3.40			End of Borehole at 3.40 m	4
									5

Remarks: 1. Refusal of windowless sampler at 3.4m below existing ground level. 2. No groundwater encountered.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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APPENDIX F

SHELL AND AUGER BOREHOLE LOGS

		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: BH01 Sheet 1 of 2	
Location: Merthyr Tydfil				Client: Morgan Sindall PLC		Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 200mm		Level:		Scale 1:25	
Diameter of Boring: 115mm				Depth of Casing: 5.00m		Dates 07/06/2023 - 08/06/2023		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
	1.00	1.00	B	N=4 (3,2/1,0,1,2)	1.50		MADE GROUND: Grass over very soft to soft brown slightly silty gravelly CLAY with frequent rootlets and high cobble and boulder content of sub-angular and sub-rounded sandstone, mudstone, concrete and brick. Gravel is fine to coarse angular to sub-rounded of sandstone, mudstone, concrete, brick, fine ash and clinker. Inclusions of metal reinforcement bar. ... chiselling between 0.4m and 0.6m depth for 30 minutes on obstruction.	1	
	1.20	1.00	C						
		2.00	2.00	B	N=11 (2,2/3,2,3,3)	1.90		Soft becoming firm dark brown slightly sandy slightly gravelly peaty CLAY with occasional fibrous organic matter. Gravel is fine and medium angular of mudstone.	2
		2.00	C						
		3.00	3.00	B	N=6 (1,2/1,1,2,2)	3.40		Firm becoming soft greyish brown silty gravelly CLAY with moderate cobble and boulder content of sub-angular to rounded sandstone. Gravel is fine to coarse sub-angular to rounded sandstone and mudstone.	3
	3.00	C							
	4.00	4.00	B	N=35 (3,4/8,12,8,7)			Soft becoming stiff dark brown and greyish brown silty gravelly CLAY with high cobble and boulder content of sub-angular and sub-rounded sandstone. Gravel is fine to coarse sub-angular to rounded of sandstone and mudstone.	4	
	4.00	C							
		5.00	B				... chiselling between 4.5m and 4.7m depth for 2 hours on obstruction.	5	

Remarks: 1. Refusal of shell and auger borehole on suspected boulder obstruction or sandstone bedrock at 5.3m depth. 2. Water strike encountered at 1.2m depth rising to 1.0m depth after 20 minutes.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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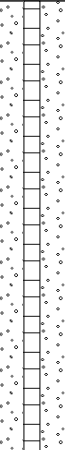
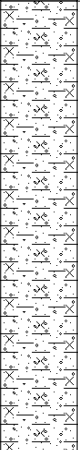
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: BH02 Sheet 1 of 2	
Location: Merthyr Tydfil				Client: Morgan Sindall PLC		Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 200mm		Level:		Scale 1:25	
Diameter of Boring: 115mm				Depth of Casing: 6.50m		Dates 08/06/2023 - 09/06/2023		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
	0.40						MADE GROUND: Grass over soft becoming stiff greyish brown very silty gravelly CLAY with high cobble and boulder content of sandstone and brick. Gravel is fine to coarse angular to sub-rounded of sandstone and brick. Inclusions of timber. <i>... chiselling between 0.4m and 0.8m depth for 2 hours on obstruction.</i>		
		1.00 1.00	B C	N=21 (4,10/5,11,1,4)				1	
		1.30							
		2.00 2.00	B C	N=32 (1,1/11,11,6,4)				2	
		2.80							
		3.00 3.00	B C	N=7 (1,0/1,2,2,2)			Firm greyish brown silty sandy gravelly CLAY with moderate cobble and boulder content of sub-angular to rounded sandstone. Gravel is fine to coarse sub-angular and sub-rounded of sandstone and mudstone.	3	
		4.00 4.00	B C	N=10 (1,1/2,2,3,3)				4	
		4.60							
		5.00	B				Firm becoming stiff dark brown and greyish brown silty sandy gravelly CLAY with high cobble and boulder content of sub-angular to rounded sandstone. Gravel is fine to coarse sub-angular to rounded sandstone and mudstone.	5	

Remarks: 1. Refusal of shell and auger borehole on suspected boulder obstruction or sandstone bedrock at 6.5m depth. 2. Installation of ground gas/water monitoring well within borehole. 3. Water strike encountered at 1.3m depth rising to 0.4m depth after 20 minutes.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: BH02 Sheet 2 of 2	
Location: Merthyr Tydfil				Client: Morgan Sindall PLC		Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 200mm		Level:		Scale 1:25	
Diameter of Boring: 115mm				Depth of Casing: 6.50m		Dates 08/06/2023 - 09/06/2023		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		5.00	C	N=16 (2,4/4,3,4,5)					
		6.50	B		6.50				
		6.50	C	50 (7,21/50 for 70mm)				End of Borehole at 6.50 m	

Remarks: 1. Refusal of shell and auger borehole on suspected boulder obstruction or sandstone bedrock at 6.5m depth. 2. Installation of ground gas/water monitoring well within borehole. 3. Water strike encountered at 1.3m depth rising to 0.4m depth after 20 minutes.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation			
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: BH03 Sheet 1 of 1	
Location: Merthyr Tydfil				Client: Morgan Sindall PLC		Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 200mm		Level:		Scale 1:25	
Diameter of Boring: 115mm				Depth of Casing: 4.10m		Dates 12/06/2023 - 12/06/2023		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
	1.00  1.10	1.00 1.00	B C	N=25 (1,0/1,6,7,11)			MADE GROUND: Grass over soft brown slightly silty slightly sandy gravelly CLAY with frequent rootlets and high cobble and boulder content of sub-angular sandstone and vesicular slag. Gravel is fine to coarse sub-angular to rounded of sandstone, mudstone, concrete and vesicular slag.	1	
		2.00 2.00	B C	50 (25 for 50mm/50 for 10mm)			... chiselling between 2.0m and 2.4m depth for 1 hour on obstruction.	2	
		3.00 3.00	B C	N=69 (3,4/7,15,21,26)	2.50 2.90		Soft to firm greyish brown silty gravelly CLAY with moderate cobble and boulder content of sub-rounded sandstone. Gravel is fine to coarse angular to sub-rounded of sandstone and mudstone.	3	
		4.00 4.00	B C	50 (6,6/50 for 50mm)	4.10		Firm to stiff brown slightly silty slightly sandy gravelly CLAY with high cobble and boulder content of sub-angular and sub-rounded sandstone. Gravel is fine to coarse sub-angular and sub-rounded of sandstone and mudstone. ... chiselling between 3.2m and 3.6m depth for 1 hour on obstruction.	4	
							End of Borehole at 4.10 m	5	

Remarks: 1. Refusal of shell and auger borehole on suspected boulder obstruction obstruction or sandstone bedrock at 4.1m depth. 2. Water strike encountered at 1.1m depth rising to 1.0m depth after 20 minutes.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation	
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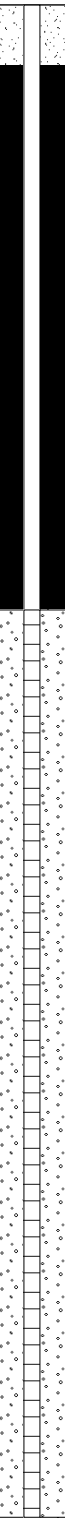


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Location: Merthyr Tydfil				Client: Morgan Sindall PLC		Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 200mm		Level:		Scale 1:25	
Diameter of Boring: 115mm				Depth of Casing: 4.00m		Dates 13/06/2023 - 14/06/2023		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		1.00 1.00	B C	N=7 (2,3/1,1,3,2)				1	
							... chiselling between 1.6m and 1.8m depth for 30 minutes on obstruction.		
		2.00 2.00	B C	50 (50 for 75mm/50 for 60mm)	2.40		... chiselling between 2.0m and 2.4m depth for 1 hour and 30 minutes on obstruction.	2	
					2.80		Soft brown silty slightly gravelly peaty CLAY. Gravel is fine to coarse sub-angular and sub-rounded sandstone and mudstone.		
		3.00 3.00	B C	N=15 (2,2/3,3,4,5)			Firm brownish grey silty gravelly CLAY with high cobble and boulder content of sub-angular to rounded sandstone. Gravel is fine to coarse sub-angular and sub-rounded of sandstone and mudstone.	3	
		4.00 4.00	B C	50 (50 for 75mm/50 for 5mm)	4.00		End of Borehole at 4.00 m	4	
								5	

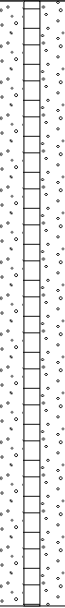
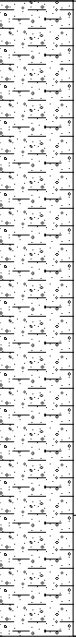
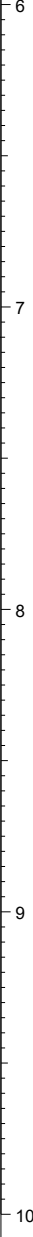
Remarks: 1. Refusal of shell and auger borehole on suspected boulder obstruction or sandstone bedrock at 4.0m depth. 2. No groundwater encountered.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: BH05 Sheet 1 of 2	
Location: Merthyr Tydfil				Client: Morgan Sindall PLC		Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 200mm		Level:		Scale 1:25	
Diameter of Boring: 115mm				Depth of Casing: 6.70m		Dates 14/06/2023 - 15/06/2023		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		1.00 1.00	B C	N=15 (4,5/4,3,4,4)			MADE GROUND: Grass over soft becoming firm brown silty slightly sandy gravelly CLAY with common roots and rootlets and high cobble and boulder content of sub-angular sandstone and brick. Gravel is fine to coarse sub-angular and sub-rounded of sandstone, mudstone, brick, and vitreous and vesicular slag. Inclusions of timber.	1	
		2.00 2.00	B C	N=56 (1,5/3,17,21,15)			... chiselling between 1.6m and 2.0m depth for 1 hour and 30 minutes on obstruction.	2	
		3.00 3.00	B C	N=4 (1,1/1,1,1,1)	2.70		Soft brown silty slightly gravelly peaty CLAY. Gravel is fine to coarse sub-angular and sub-rounded sandstone and mudstone.	3	
		4.00 4.00	B C	N=10 (1,2/3,2,3,2)	3.40		Firm brown slightly sandy gravelly CLAY with high cobble and boulder content of sub-angular and sub-rounded sandstone. Gravel is fine to coarse sub-angular to rounded of sandstone and mudstone.	4	
		5.00	B					5	

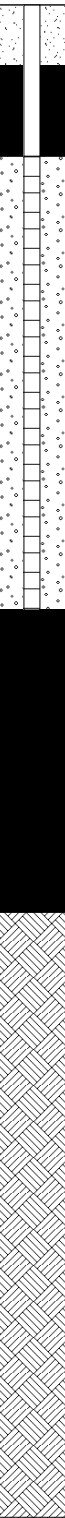
Remarks: 1. Refusal of shell and auger borehole on suspected boulder obstruction or sandstone bedrock at 7.1m depth. 2. Installation of ground gas/water monitoring well within borehole. 3. No groundwater encountered.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School			Project No.: 14209		Borehole No.: BH05 Sheet 2 of 2	
		Location: Merthyr Tydfil			Client: Morgan Sindall PLC		Coordinates:	
Equipment: Dando 2000		Diameter of Casing: 200mm			Level:		Scale 1:25	
Diameter of Boring: 115mm		Depth of Casing: 6.70m			Dates 14/06/2023 - 15/06/2023		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		5.00	C	N=14 (2,3/3,4,3,4)					
		6.50	B						
		6.50	C	68 (4,4/68 for 145mm)					
					7.10			... chiselling between 6.7m and 7.1m depth for 2 hour on obstruction. End of Borehole at 7.10 m	

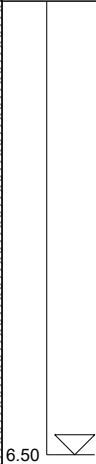
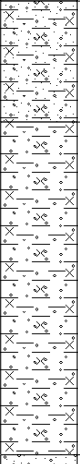
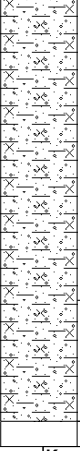
Remarks: 1. Refusal of shell and auger borehole on suspected boulder obstruction or sandstone bedrock at 7.1m depth. 2. Installation of ground gas/water monitoring well within borehole. 3. No groundwater encountered.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: BH06 Sheet 1 of 3	
Location: Merthyr Tydfil				Client: Morgan Sindall PLC		Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 200mm		Level:		Scale 1:25	
Diameter of Boring: 115mm				Depth of Casing: 10.00m		Dates 16/06/2023 - 19/06/2023		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		1.00 1.00	B C	N=4 (8,3/1,1,1,1)	2.50		MADE GROUND: Grass over soft becoming stiff brown and greyish brown slightly silty slightly sandy gravelly CLAY with moderate cobble and boulder content of sub-angular sandstone and brick. Gravel is fine to coarse sub-angular to rounded of sandstone, mudstone, brick, fine ash and vesicular slag. Inclusions of timber. ... chiselling between 0.4m and 0.7m depth for 30 minutes on obstruction.	1	
		2.00 2.00	B C	N=24 (1,1/1,7,4,12)				2	
		3.00 3.00	B C	50 (50 for 75mm/50 for 10mm)				3	
		4.00 4.00	B C	N=7 (1,2/1,2,2,2)				4	
		5.00	B					5	

Remarks: 1. Refusal of shell and auger borehole on suspected boulder obstruction or sandstone bedrock at 10.0m depth. 2. Installation of ground gas/water monitoring well within borehole. 3. Water strike encountered at 6.5m depth rising to 1.8m depth after 20 minutes.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Geotre Primary School		Project No.: 14209		Borehole No.: BH06 Sheet 2 of 3	
Location: Merthyr Tydfil				Client: Morgan Sindall PLC		Coordinates:		Hole Type: CP	
Equipment: Dando 2000				Diameter of Casing: 200mm		Level:		Scale 1:25	
Diameter of Boring: 115mm				Depth of Casing: 10.00m		Dates 16/06/2023 - 19/06/2023		Logged By: FG	

Well	Water Strikes	Samples & In situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		5.00	C	N=4 (1,0/1,1,1,1)	5.40		Firm brown silty gravelly CLAY with high cobble and boulder content of sub-rounded sandstone. Gravel is fine to coarse sub-angular to rounded of sandstone and mudstone.	6	
		6.50	B	N=25 (2,4/4,6,6,9)	6.50				
		6.50	C						
		8.00	B	N=23 (3,5/4,6,5,8)	8.60				
		8.00	C						
	9.50	B	N=21 (3,4/5,5,5,6)	10.00		Stiff greyish brown silty sandy gravelly CLAY with high cobble and boulder content of sub-angular and sub-rounded sandstone. Gravel is fine to coarse sub-angular to rounded of sandstone and mudstone.	9		
	9.50	C							
							... chiselling between 9.6m and 10.0m depth for 2 hours on obstruction.	10	

Remarks: 1. Refusal of shell and auger borehole on suspected boulder obstruction or sandstone bedrock at 10.0m depth. 2. Installation of ground gas/water monitoring well within borehole. 3. Water strike encountered at 6.5m depth rising to 1.8m depth after 20 minutes.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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APPENDIX G

SOIL INFILTRATION TEST CALCULATION SHEETS

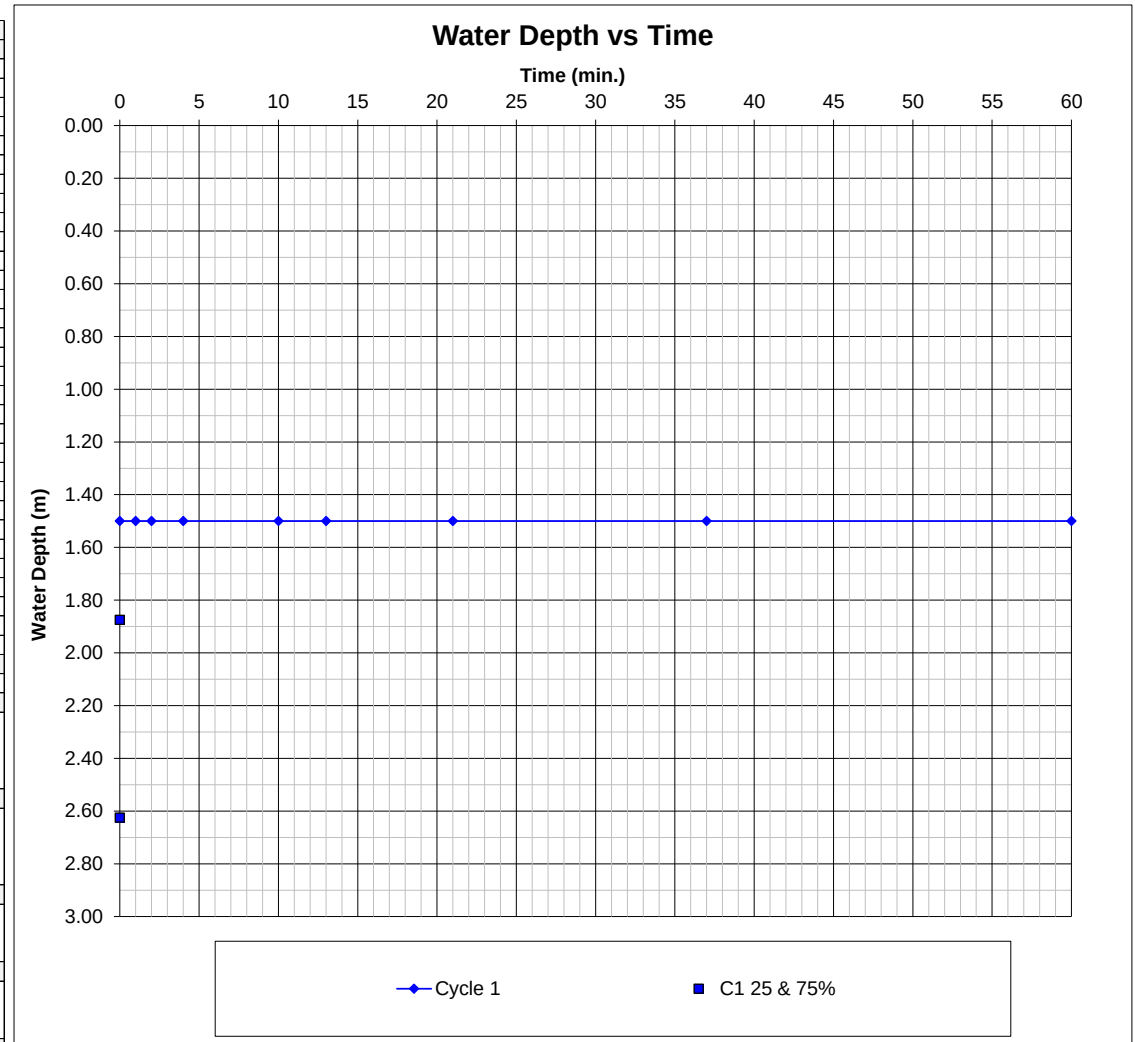
BRE365 SOIL INFILTRATION RATE TEST - SA01

14209 - Proposed Geotre Primary School, Merthyr Tydfil

Trial Pit Information	
Length (m)	2.50
Width (m)	0.60
Depth (m)	3.00
Groundwater	Dry
Weather Conditions	Cloudy
Date	22.05.2023

Remarks
1. Insufficient infiltration to calculate design infiltration rate. Test failed.

	Cycle 1	Cycle 2	Cycle 3
Final Excavation Depth (m)			
At end of testing cycle	3.00		
Water Depths (m)			
Water depth at start of test	1.50		
Water depth at end of test	1.50		
Effective depth (measured)	0.00		
% Effective storage depth	0.00		
Effective Storage Depths (m)			
Effective storage depth (100%)	1.50		
Effective storage depth (75%)	1.13		
Effective storage depth (50%)	0.75		
Effective storage depth (25%)	0.38		
Outflow Time (min)			
Time for measured outflow	60		
Time for 100% outflow			
Time for 75-25% outflow			
Volume of Outflow (m³)			
Over measured effective depth	0.00		
Over 100% effective depth	2.25		
From 75% - 25% effective depth	1.13		
Surface Area (m²)			
For 100% effective storage	10.80		
For 50% effective storage	6.15		
Over measured depth	1.50		
Soil Infiltration Rate (m/s)			
Over 100% effective depth			
Over measured depth			
Over 75% - 25% effective depth			



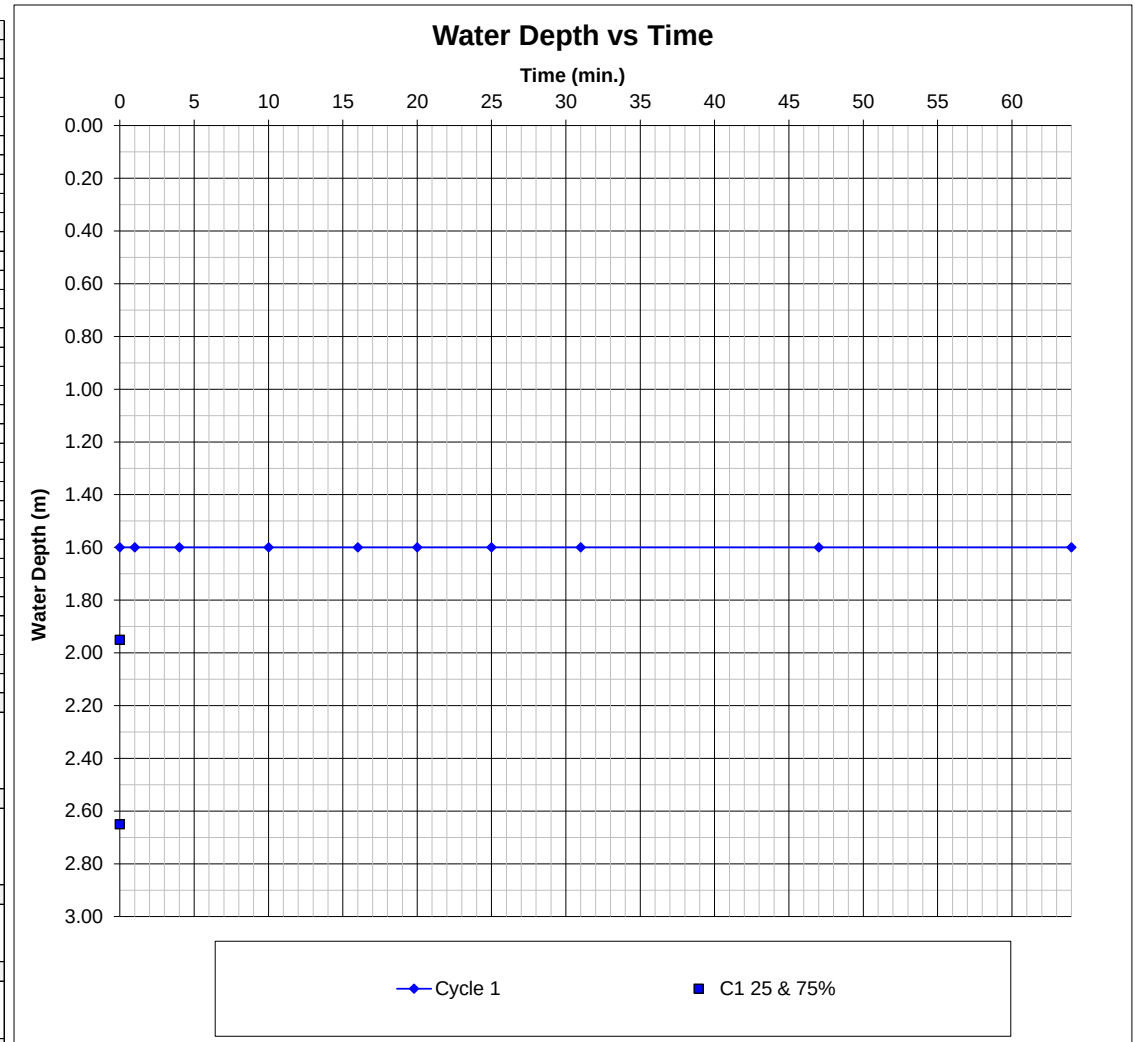
BRE365 SOIL INFILTRATION RATE TEST - SA02

14209 - Proposed Geotre Primary School, Merthyr Tydfil

Trial Pit Information	
Length (m)	3.00
Width (m)	0.60
Depth (m)	3.00
Groundwater	Dry
Weather Conditions	Cloudy
Date	22.05.2023

Remarks
1. Insufficient infiltration in order to calculate design infiltration rate. Test failed.

	Cycle 1	Cycle 2	Cycle 3
Final Excavation Depth (m)			
At end of testing cycle	3.00		
Water Depths (m)			
Water depth at start of test	1.60		
Water depth at end of test	1.60		
Effective depth (measured)	0.00		
% Effective storage depth	0.00		
Effective Storage Depths (m)			
Effective storage depth (100%)	1.40		
Effective storage depth (75%)	1.05		
Effective storage depth (50%)	0.70		
Effective storage depth (25%)	0.35		
Outflow Time (min)			
Time for measured outflow	64		
Time for 100% outflow			
Time for 75-25% outflow			
Volume of Outflow (m³)			
Over measured effective depth	0.00		
Over 100% effective depth	2.52		
From 75% - 25% effective depth	1.26		
Surface Area (m²)			
For 100% effective storage	11.88		
For 50% effective storage	6.84		
Over measured depth	1.80		
Soil Infiltration Rate (m/s)			
Over 100% effective depth			
Over measured depth			
Over 75% - 25% effective depth			



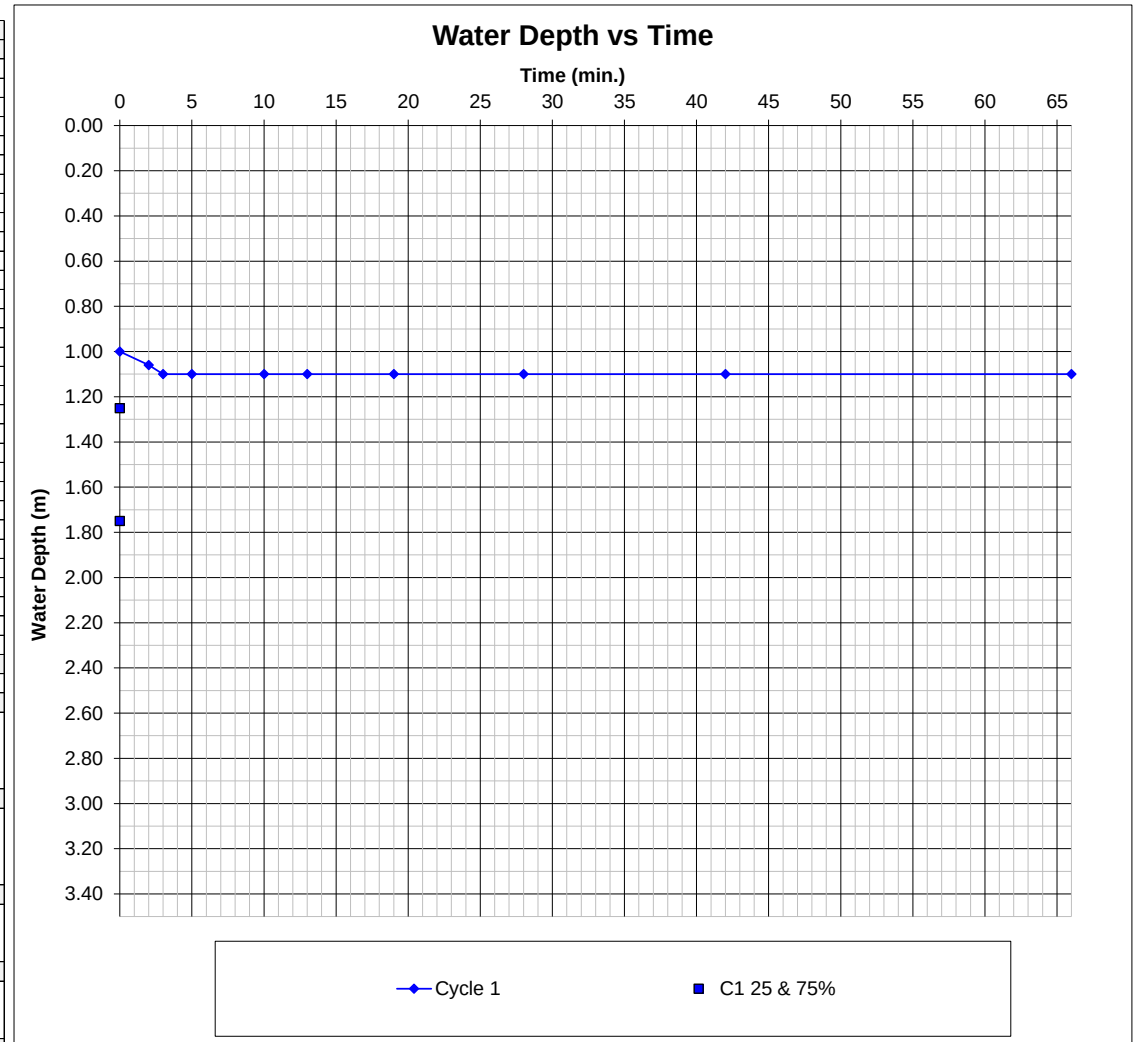
BRE365 SOIL INFILTRATION RATE TEST - SA03

14209 - Proposed Geotre Primary School, Merthyr Tydfil

Trial Pit Information	
Length (m)	2.30
Width (m)	0.60
Depth (m)	3.50
Groundwater	Seepage at 1.1m
Weather Conditions	Sunny
Date	22.05.2023

Remarks
1. Insufficient infiltration in order to calculate design infiltration rate. Test failed.

Final Excavation Depth (m)	Cycle 1	Cycle 2	Cycle 3
At end of testing cycle	2.00		
Water Depths (m)			
Water depth at start of test	1.00		
Water depth at end of test	1.10		
Effective depth (measured)	0.10		
% Effective storage depth	0.10		
Effective Storage Depths (m)			
Effective storage depth (100%)	1.00		
Effective storage depth (75%)	0.75		
Effective storage depth (50%)	0.50		
Effective storage depth (25%)	0.25		
Outflow Time (min)			
Time for measured outflow	66		
Time for 100% outflow			
Time for 75-25% outflow			
Volume of Outflow (m ³)			
Over measured effective depth	0.14		
Over 100% effective depth	1.38		
From 75% - 25% effective depth	0.69		
Surface Area (m ²)			
For 100% effective storage	7.18		
For 50% effective storage	4.28		
Over measured depth	1.96		
Soil Infiltration Rate (m/s)	Cycle 1	Cycle 2	Cycle 3
Over 100% effective depth			
Over measured depth			
Over 75% - 25% effective depth			



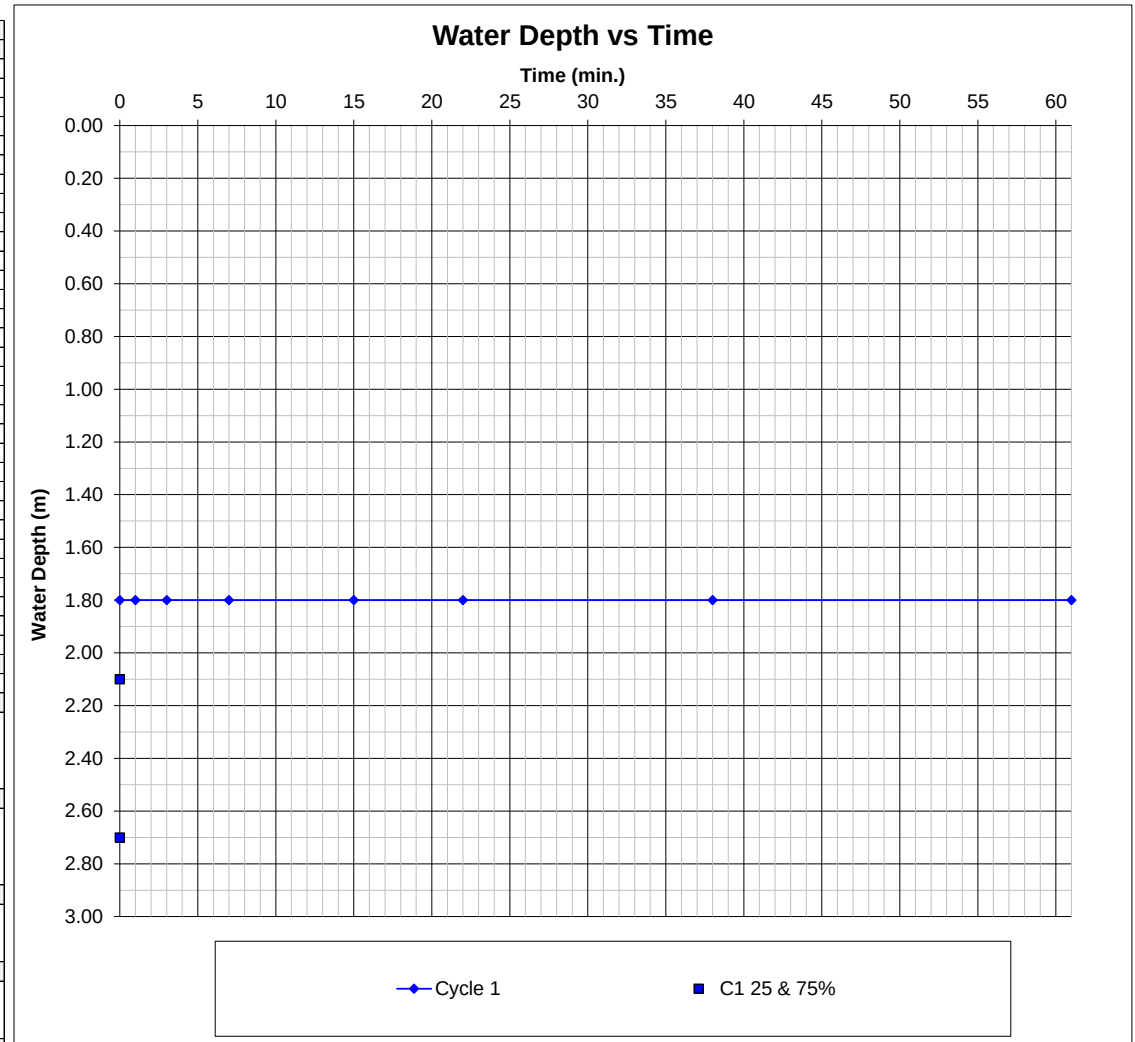
BRE365 SOIL INFILTRATION RATE TEST - SA04

14209 - Proposed Geotre Primary School, Merthyr Tydfil

Trial Pit Information	
Length (m)	2.70
Width (m)	0.60
Depth (m)	3.00
Groundwater	Dry
Weather Conditions	Sunny
Date	23.05.2023

Remarks
1. Insufficient infiltration in order to calculate design infiltration rate. Test failed.

	Cycle 1	Cycle 2	Cycle 3
Final Excavation Depth (m)			
At end of testing cycle	3.00		
Water Depths (m)			
Water depth at start of test	1.80		
Water depth at end of test	1.80		
Effective depth (measured)	0.00		
% Effective storage depth	0.00		
Effective Storage Depths (m)			
Effective storage depth (100%)	1.20		
Effective storage depth (75%)	0.90		
Effective storage depth (50%)	0.60		
Effective storage depth (25%)	0.30		
Outflow Time (min)			
Time for measured outflow	61		
Time for 100% outflow			
Time for 75-25% outflow			
Volume of Outflow (m³)			
Over measured effective depth	0.00		
Over 100% effective depth	1.94		
From 75% - 25% effective depth	0.97		
Surface Area (m²)			
For 100% effective storage	9.54		
For 50% effective storage	5.58		
Over measured depth	1.62		
Soil Infiltration Rate (m/s)			
Over 100% effective depth			
Over measured depth			
Over 75% - 25% effective depth			



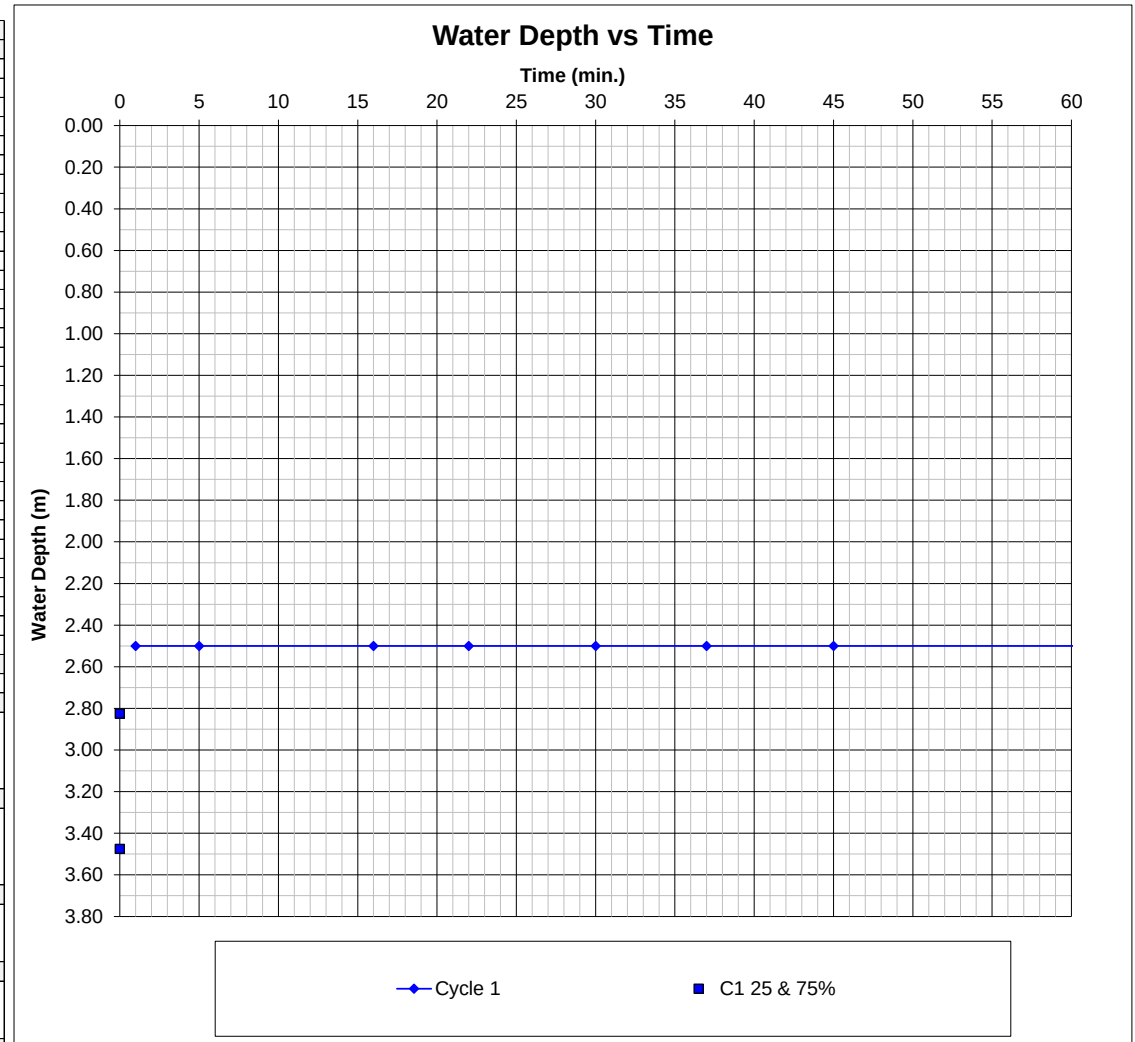
BRE365 SOIL INFILTRATION RATE TEST - SA05

14209 - Proposed Geotre Primary School, Merthyr Tydfil

Trial Pit Information	
Length (m)	2.70
Width (m)	0.60
Depth (m)	3.80
Groundwater	Seeage at 3.4m
Weather Conditions	Sunny
Date	23.05.2023

Remarks
1. Insufficient infiltration in order to calculate design infiltration rate. Test failed.

	Cycle 1	Cycle 2	Cycle 3
Final Excavation Depth (m)			
At end of testing cycle	3.80		
Water Depths (m)			
Water depth at start of test	2.50		
Water depth at end of test	2.50		
Effective depth (measured)	0.00		
% Effective storage depth	0.00		
Effective Storage Depths (m)			
Effective storage depth (100%)	1.30		
Effective storage depth (75%)	0.98		
Effective storage depth (50%)	0.65		
Effective storage depth (25%)	0.33		
Outflow Time (min)			
Time for measured outflow	65		
Time for 100% outflow			
Time for 75-25% outflow			
Volume of Outflow (m³)			
Over measured effective depth	0.00		
Over 100% effective depth	2.11		
From 75% - 25% effective depth	1.05		
Surface Area (m²)			
For 100% effective storage	10.20		
For 50% effective storage	5.91		
Over measured depth	1.62		
Soil Infiltration Rate (m/s)			
Over 100% effective depth			
Over measured depth			
Over 75% - 25% effective depth			



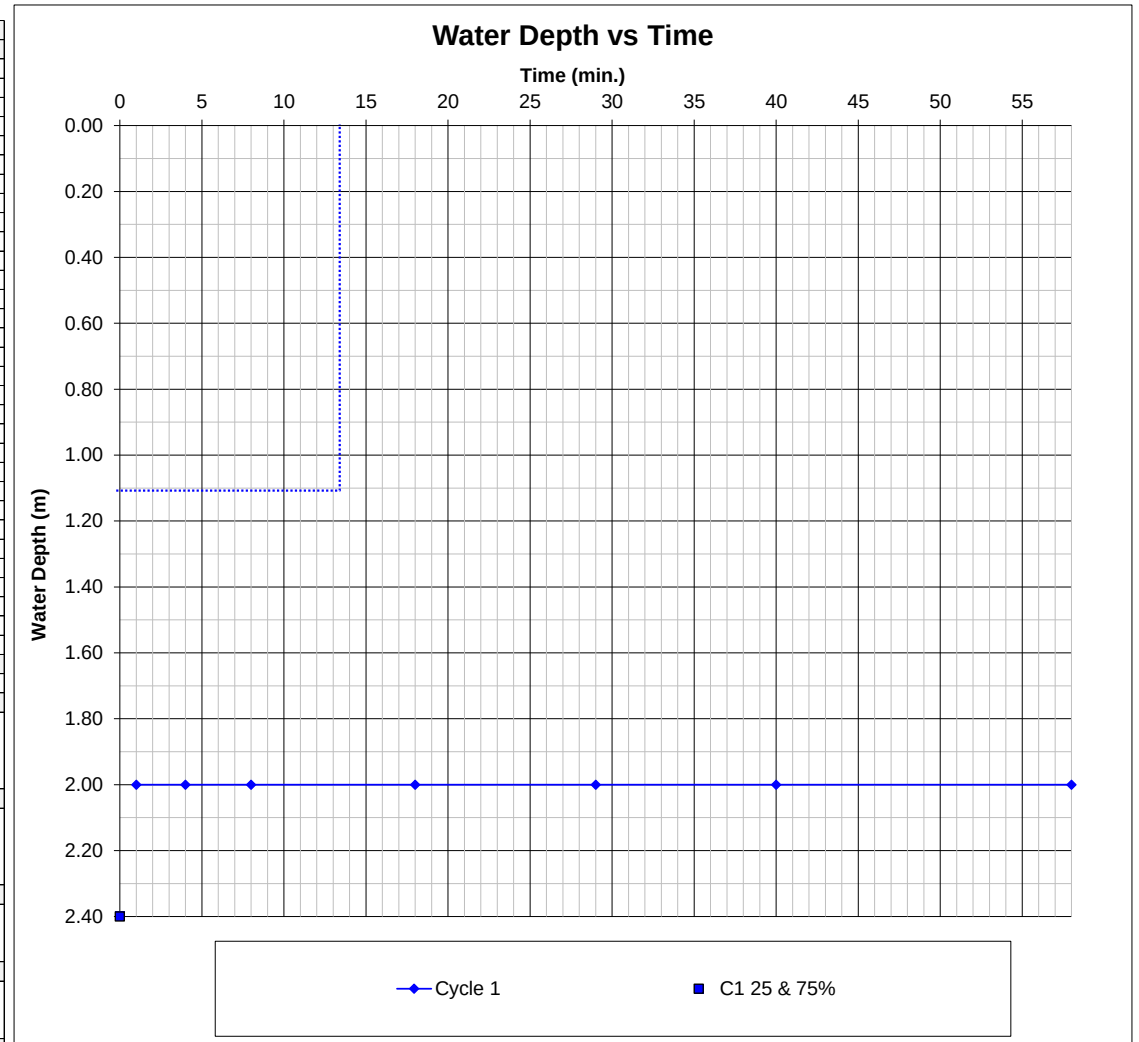
BRE365 SOIL INFILTRATION RATE TEST - SA06

14209 - Proposed Geotre Primary School, Merthyr Tydfil

Trial Pit Information	
Length (m)	2.80
Width (m)	0.60
Depth (m)	3.60
Groundwater	Seeages at 3.3m
Weather Conditions	Sunny
Date	23.05.2023

Remarks
1. Insufficient infiltration in order to calculate design infiltration rate. Test failed.

	Cycle 1	Cycle 2	Cycle 3
Final Excavation Depth (m)			
At end of testing cycle	3.60		
Water Depths (m)			
Water depth at start of test	2.00		
Water depth at end of test	2.00		
Effective depth (measured)	0.00		
% Effective storage depth	0.00		
Effective Storage Depths (m)			
Effective storage depth (100%)	1.60		
Effective storage depth (75%)	1.20		
Effective storage depth (50%)	0.80		
Effective storage depth (25%)	0.40		
Outflow Time (min)			
Time for measured outflow	58		
Time for 100% outflow			
Time for 75-25% outflow			
Volume of Outflow (m³)			
Over measured effective depth	0.00		
Over 100% effective depth	2.69		
From 75% - 25% effective depth	1.34		
Surface Area (m²)			
For 100% effective storage	12.56		
For 50% effective storage	7.12		
Over measured depth	1.68		
Soil Infiltration Rate (m/s)			
Over 100% effective depth			
Over measured depth			
Over 75% - 25% effective depth			



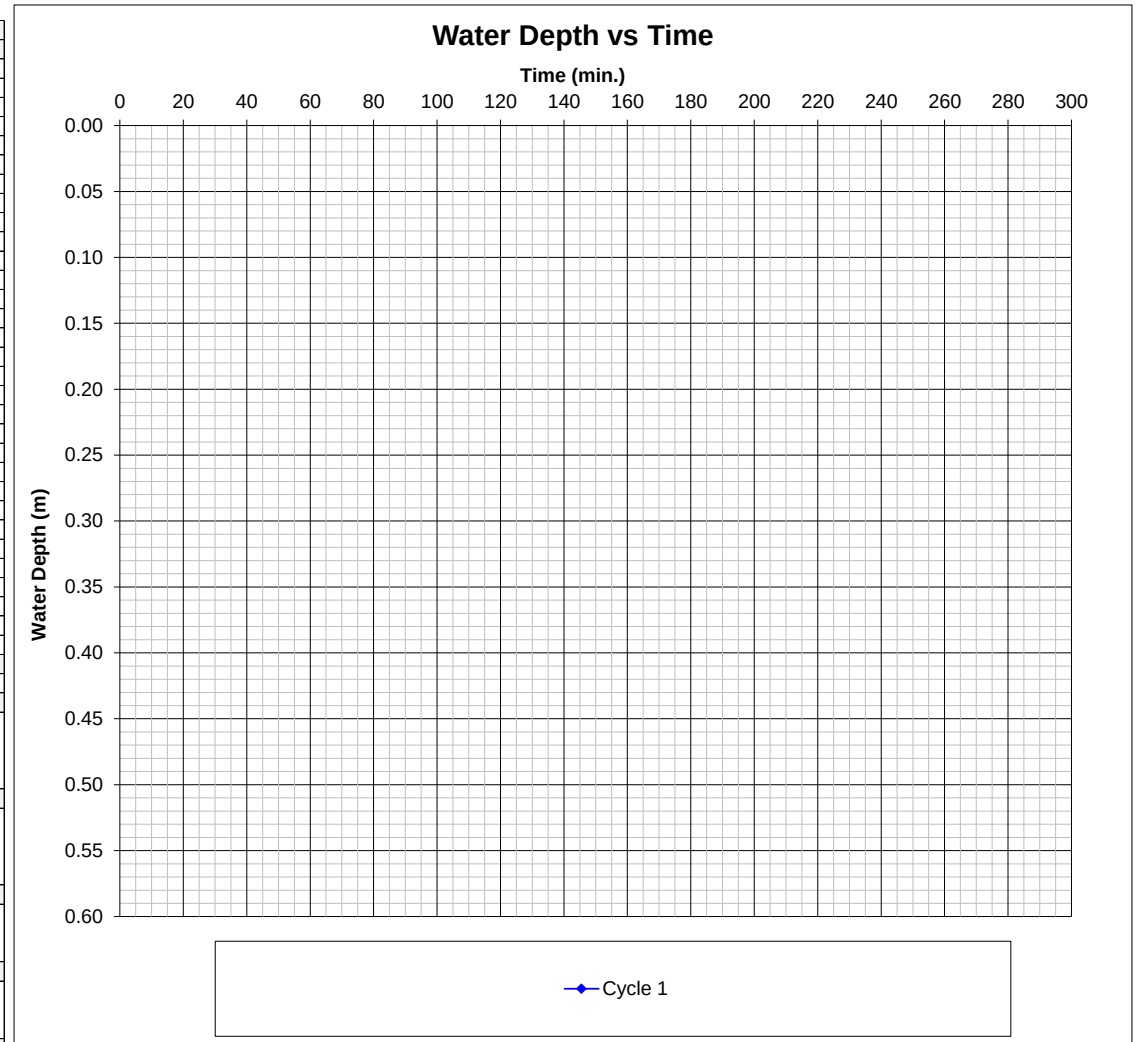
BRE365 SOIL INFILTRATION RATE TEST - SA07

14209 - Proposed Geotre Primary School, Merthyr Tydfil

Trial Pit Information	
Length (m)	2.60
Width (m)	0.60
Depth (m)	0.60
Groundwater	Inflow at 0.3m
Weather Conditions	Light Rain
Date	22.05.2023

Remarks
1. Insufficient infiltration in order to calculate design infiltration rate. Test failed.
2. Extremely fast groundwater inflow at 0.3m. Trial pit and soil infiltration testing abandoned.

Final Excavation Depth (m)	Cycle 1	Cycle 2	Cycle 3
At end of testing cycle			
Water Depths (m)			
Water depth at start of test			
Water depth at end of test			
Effective depth (measured)			
% Effective storage depth			
Effective Storage Depths (m)			
Effective storage depth (100%)			
Effective storage depth (75%)			
Effective storage depth (50%)			
Effective storage depth (25%)			
Outflow Time (min)			
Time for measured outflow			
Time for 100% outflow			
Time for 75-25% outflow			
Volume of Outflow (m ³)			
Over measured effective depth			
Over 100% effective depth			
From 75% - 25% effective depth			
Surface Area (m ²)			
For 100% effective storage			
For 50% effective storage			
Over measured depth			
Soil Infiltration Rate (m/s)	Cycle 1	Cycle 2	Cycle 3
Over 100% effective depth			
Over measured depth			
Over 75% - 25% effective depth			



APPENDIX H

LABORATORY CHEMICAL TEST RESULTS

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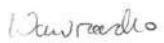
Analytical Report Number : 23-37687

Replaces Analytical Report Number: 23-37687, issue no. 1

Additional analysis undertaken.

Asbestos Quantification added to sample 2703584 as per clients request

Project / Site name:	Proposed Geotre Primary School Marthyr Tydfill	Samples received on:	25/05/2023
Your job number:	14209	Samples instructed on/ Analysis started on:	06/06/2023
Your order number:	14209-FG	Analysis completed by:	19/06/2023
Report Issue Number:	2	Report issued on:	23/06/2023
Samples Analysed:	14 soil samples		


Signed:

Joanna Wawrzeczko
 Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
 leachates - 2 weeks from reporting
 waters - 2 weeks from reporting
 asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
 Application of uncertainty of measurement would provide a range within which the true result lies.
 An estimate of measurement uncertainty can be provided on request.

Sample Deviation Report



Analytical Report Number: 23-37687

Project / Site name: Proposed Geotre Primary School Marthyr Tydfill

Your Order No: 14209-FG

Lab Sample Number				2703580	2703581	2703582	2703583	2703584
Sample Reference				WS01	WS02	WS03	WS04	WS05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.10	0.35	1.00	0.40
Date Sampled				18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
Time Taken				0900	0930	1030	1100	1130
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	92	< 0.1
Moisture Content	%	0.01	NONE	6.8	52	14	2.6	14
Total mass of sample received	kg	0.001	NONE	0.9	0.9	0.9	0.9	0.9

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	Chrysotile & Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	< 0.001
Asbestos Analyst ID	N/A	N/A	N/A	IZJ	IZJ	IZJ	IZJ	SCA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.3	6.3	5.8	10.1	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	620	1800	420	560	960
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.059	0.12	0.017	0.31	0.029
Sulphide	mg/kg	1	MCERTS	1000	1.7	5.7	U/S**	86
Total Sulphur	mg/kg	50	MCERTS	2800	720	290	9600	1000
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.7	-	1.1	0.3	2
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	8.1	-	-	-
Loss on Ignition @ 450oC	%	0.2	MCERTS	2.1	17.2	3.9	0.6	10

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.1	< 0.05	< 0.05	0.14
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.11	< 0.05	< 0.05	0.08
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.11	< 0.05	< 0.05	0.08
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.29	0.05	< 0.05	0.92
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.05	< 0.05	< 0.05	0.21
Fluoranthene	mg/kg	0.05	MCERTS	0.06	0.3	0.07	< 0.05	1.8
Pyrene	mg/kg	0.05	MCERTS	0.07	0.26	0.05	< 0.05	1.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.05	0.23	< 0.05	< 0.05	1.2
Chrysene	mg/kg	0.05	MCERTS	0.07	0.27	< 0.05	< 0.05	1.2
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.09	0.45	< 0.05	< 0.05	1.6
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.12	< 0.05	< 0.05	0.46
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.06	0.24	< 0.05	< 0.05	0.9
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.16	< 0.05	< 0.05	0.51
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.07	< 0.05	< 0.05	0.2
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.21	< 0.05	< 0.05	0.62

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	2.97	< 0.80	< 0.80	11.2
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Sample Deviation Report



Analytical Report Number: 23-37687

Project / Site name: Proposed Geotre Primary School Marthyr Tydfill

Your Order No: 14209-FG

Lab Sample Number				2703580	2703581	2703582	2703583	2703584
Sample Reference				WS01	WS02	WS03	WS04	WS05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.10	0.35	1.00	0.40
Date Sampled				18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
Time Taken				0900	0930	1030	1100	1130
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.2	10	13	4.3	18
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	2.3	0.51	0.41	5.4	1.6
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	1.3	0.3	0.3	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.6	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	2.1	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16	11	16	14	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	16	22	17	8.3	76
Lead (aqua regia extractable)	mg/kg	1	MCERTS	23	58	41	3.6	130
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	0.6
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14	13	15	3.7	29
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27	15	22	30	31
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	39	77	67	7.9	150

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Sample Deviation Report



Analytical Report Number: 23-37687

Project / Site name: Proposed Geotre Primary School Marthyr Tydfill

Your Order No: 14209-FG

Lab Sample Number				2703585	2703586	2703587	2703588	2703589
Sample Reference				WS06	WS09	WS10	SA03	TP03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.50	0.40	0.40	0.30
Date Sampled				18/05/2023	19/05/2023	19/05/2023	22/05/2023	22/05/2023
Time Taken				1200	1000	1100	1130	1430
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	19	9.9	20	15	14
Total mass of sample received	kg	0.001	NONE	0.9	0.9	0.9	0.9	0.9

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	IZJ	IZJ	IZJ	IZJ	IZJ

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.7	8.5	7	8.5	8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	1900	450	550	600	310
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.1	0.055	0.0065	0.043	0.018
Sulphide	mg/kg	1	MCERTS	6.6	34	8.5	43	14
Total Sulphur	mg/kg	50	MCERTS	900	340	330	700	310
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.4	0.5	2	1.3	1.3
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	-	-	-	-
Loss on Ignition @ 450oC	%	0.2	MCERTS	12	2.2	5	4.9	3.9

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.15	< 0.05	< 0.05	1.1	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.19	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.25	< 0.05	1.1	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.28	< 0.05	1	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.32	1	0.09	7.3	0.11
Anthracene	mg/kg	0.05	MCERTS	0.05	0.35	< 0.05	2	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.49	1.3	0.12	14	0.18
Pyrene	mg/kg	0.05	MCERTS	0.41	0.97	0.09	12	0.14
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.41	0.79	0.06	6.4	0.09
Chrysene	mg/kg	0.05	MCERTS	0.67	0.81	0.06	6	0.11
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.71	0.81	< 0.05	8.7	0.15
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.21	0.3	< 0.05	2.7	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.29	0.54	< 0.05	5	0.08
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.23	0.27	< 0.05	2.7	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.14	< 0.05	< 0.05	0.75	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.31	0.28	< 0.05	2.7	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	4.39	7.95	< 0.80	74.1	0.86
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Sample Deviation Report



Analytical Report Number: 23-37687

Project / Site name: Proposed Geotre Primary School Marthyr Tydfill

Your Order No: 14209-FG

Lab Sample Number				2703585	2703586	2703587	2703588	2703589
Sample Reference				WS06	WS09	WS10	SA03	TP03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.50	0.40	0.40	0.30
Date Sampled				18/05/2023	19/05/2023	19/05/2023	22/05/2023	22/05/2023
Time Taken				1200	1000	1100	1130	1430
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	11	27	14	13
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.2	0.76	0.39	1.3	0.79
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.6	0.7	0.4	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	16	14	30	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	180	19	18	33	26
Lead (aqua regia extractable)	mg/kg	1	MCERTS	180	27	48	57	51
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	23	17	12	19	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	28	24	23	50	24
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	140	49	73	86	95

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Sample Deviation Report



Analytical Report Number: 23-37687

Project / Site name: Proposed Geotre Primary School Marthyr Tydfill

Your Order No: 14209-FG

Lab Sample Number				2703590	2703591	2703592	2703593
Sample Reference				SA04	SA06	TP04	TP05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	0.40	0.30	0.40
Date Sampled				23/05/2023	23/05/2023	23/05/2023	23/05/2023
Time Taken				0930	1130	1215	1300
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	27	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	18	13	18
Total mass of sample received	kg	0.001	NONE	0.9	0.9	0.9	0.9

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	MWI	MWI	MWI	MWI

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	12.1	9.1	7.9	7.5
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	6600	720	410	1300
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0095	0.41	0.13	0.18
Sulphide	mg/kg	1	MCERTS	49	56	43	12
Total Sulphur	mg/kg	50	MCERTS	2900	1200	760	940
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.6	1	0.9	5.1
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	-	-	-
Loss on Ignition @ 450oC	%	0.2	MCERTS	3.9	2.8	2.5	21.3

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.15
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.14	0.11	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.15	0.07	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.16	0.31	0.42	0.72
Anthracene	mg/kg	0.05	MCERTS	0.05	0.05	0.1	0.12
Fluoranthene	mg/kg	0.05	MCERTS	0.18	0.12	0.61	0.96
Pyrene	mg/kg	0.05	MCERTS	0.17	0.12	0.48	0.85
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.09	< 0.05	0.35	0.56
Chrysene	mg/kg	0.05	MCERTS	0.12	0.06	0.37	0.71
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.12	< 0.05	0.41	0.8
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.06	< 0.05	0.18	0.25
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.07	< 0.05	0.29	0.53
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.18	0.33
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.05	0.09
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.19	0.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1.02	0.95	3.81	6.47
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Sample Deviation Report



Analytical Report Number: 23-37687

Project / Site name: Proposed Geotre Primary School Marthyr Tydfill

Your Order No: 14209-FG

Lab Sample Number				2703590	2703591	2703592	2703593
Sample Reference				SA04	SA06	TP04	TP05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	0.40	0.30	0.40
Date Sampled				23/05/2023	23/05/2023	23/05/2023	23/05/2023
Time Taken				0930	1130	1215	1300
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	11	12	35
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.87	0.76	0.77	1.3
Boron (water soluble)	mg/kg	0.2	MCERTS	1.7	1.2	0.8	1.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	16	13	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	18	17	24	120
Lead (aqua regia extractable)	mg/kg	1	MCERTS	27	28	46	220
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	0.6
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	16	20	34
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	28	24	17	38
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	43	49	57	170

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-37687
Project / Site name: Proposed Geotre Primary School Marthyr Tydfill
Your Order No: 14209-FG

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2703584	WS05	0.40	121	Loose Fibres	Chrysotile & Amosite	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Sample Deviation Report



Analytical Report Number : 23-37687

Project / Site name: Proposed Geotre Primary School Marthyr Tydfil

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2703580	WS01	None Supplied	0.3	Brown clay and sand with gravel.
2703581	WS02	None Supplied	0.1	Brown loam and clay with gravel and vegetation.
2703582	WS03	None Supplied	0.35	Brown loam and clay with gravel and vegetation.
2703583	WS04	None Supplied	1	Brown sand with gravel and stones.
2703584	WS05	None Supplied	0.4	Brown clay and sand with gravel.
2703585	WS06	None Supplied	0.4	Brown clay and sand with gravel and brick.
2703586	WS09	None Supplied	0.5	Brown loam and clay with gravel and vegetation.
2703587	WS10	None Supplied	0.4	Brown loam and clay with gravel and vegetation.
2703588	SA03	None Supplied	0.4	Brown clay and sand with gravel.
2703589	TP03	None Supplied	0.3	Brown loam and clay with gravel and vegetation.
2703590	SA04	None Supplied	0.7	Brown clay and sand with gravel and stones.
2703591	SA06	None Supplied	0.4	Brown clay and sand with gravel.
2703592	TP04	None Supplied	0.3	Brown clay and sand with gravel.
2703593	TP05	None Supplied	0.4	Brown sand with gravel.

Sample Deviation Report



Analytical Report Number : 23-37687

Project / Site name: Proposed Geotre Primary School Marthyr Tydfil

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS

Analytical Report Number : 23-37687

Project / Site name: Proposed Geotre Primary School Marthyr Tydfil

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

****Despite repeating the analysis, the results remain contradictory.**

Sample Deviation Report

Analytical Report Number : 23-37687

Project / Site name: Proposed Geotre Primary School Marthyr Tydfill

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SA03	None Supplied	S	2703588	c	Sulphide in soil	L010-PL	c
SA03	None Supplied	S	2703588	c	Total cyanide in soil	L080-PL	c
SA04	None Supplied	S	2703590	c	Sulphide in soil	L010-PL	c
SA04	None Supplied	S	2703590	c	Total cyanide in soil	L080-PL	c
SA06	None Supplied	S	2703591	c	Sulphide in soil	L010-PL	c
SA06	None Supplied	S	2703591	c	Total cyanide in soil	L080-PL	c
TP03	None Supplied	S	2703589	c	Sulphide in soil	L010-PL	c
TP03	None Supplied	S	2703589	c	Total cyanide in soil	L080-PL	c
TP04	None Supplied	S	2703592	c	Sulphide in soil	L010-PL	c
TP04	None Supplied	S	2703592	c	Total cyanide in soil	L080-PL	c
TP05	None Supplied	S	2703593	c	Sulphide in soil	L010-PL	c
TP05	None Supplied	S	2703593	c	Total cyanide in soil	L080-PL	c
WS01	None Supplied	S	2703580	c	Sulphide in soil	L010-PL	c
WS01	None Supplied	S	2703580	c	Total cyanide in soil	L080-PL	c
WS02	None Supplied	S	2703581	c	Sulphide in soil	L010-PL	c
WS02	None Supplied	S	2703581	c	Total cyanide in soil	L080-PL	c
WS03	None Supplied	S	2703582	c	Sulphide in soil	L010-PL	c
WS03	None Supplied	S	2703582	c	Total cyanide in soil	L080-PL	c
WS04	None Supplied	S	2703583	c	Sulphide in soil	L010-PL	c
WS04	None Supplied	S	2703583	c	Total cyanide in soil	L080-PL	c
WS05	None Supplied	S	2703584	c	Sulphide in soil	L010-PL	c
WS05	None Supplied	S	2703584	c	Total cyanide in soil	L080-PL	c
WS06	None Supplied	S	2703585	c	Sulphide in soil	L010-PL	c
WS06	None Supplied	S	2703585	c	Total cyanide in soil	L080-PL	c
WS09	None Supplied	S	2703586	c	Sulphide in soil	L010-PL	c
WS09	None Supplied	S	2703586	c	Total cyanide in soil	L080-PL	c
WS10	None Supplied	S	2703587	c	Sulphide in soil	L010-PL	c
WS10	None Supplied	S	2703587	c	Total cyanide in soil	L080-PL	c

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Analytical Report Number : 23-37691

Project / Site name:	Proposed Geotre Primary School Marthyr Tydfill	Samples received on:	25/05/2023
Your job number:	14209	Samples instructed on/ Analysis started on:	06/06/2023
Your order number:	14209-FG	Analysis completed by:	15/06/2023
Report Issue Number:	1	Report issued on:	15/06/2023
Samples Analysed:	2 10:1 WAC samples		


Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

i2 Analytical

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Waste Acceptance Criteria Analytical Results

Report No:	23-37691						
					Client: INTEGCEO		
Location	Proposed Geotre Primary School Marthyr Tydfill						
Lab Reference (Sample Number)	2703610 / 2703611				Landfill Waste Acceptance Criteria		
					Limits		
Sampling Date	22/05/2023				Inert Waste Landfill	Stable Non- reactive HAZARDOUS waste in non- hazardous Landfill	Hazardous Waste Landfill
Sample ID	TP02						
Depth (m)	0.10						
Solid Waste Analysis							
TOC (%)**	1.7				3%	5%	6%
Loss on Ignition (%) **	-				--	--	10%
BTEX (µg/kg)**##	< 5.0				6000	--	--
Sum of PCBs (mg/kg)**	< 0.007				1	--	--
Mineral Oil (mg/kg) EH, ID, CU, AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	-				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	-				--	To be evaluated	To be evaluated
Eluate Analysis		10:1		10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)		mg/l		mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.0010			< 0.0100	0.5	2	25
Barium *	0.0118			0.0860	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	< 0.0004			< 0.0040	0.5	10	70
Copper *	0.0071			0.052	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0008			0.0058	0.5	10	30
Nickel *	0.0023			0.017	0.4	10	40
Lead *	0.0044			0.032	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0070			0.051	4	50	200
Chloride *	1.1			8.1	800	15000	25000
Fluoride*	0.20			1.5	10	150	500
Sulphate *	4.7			34	1000	20000	50000
TDS*	36			260	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	14.0			102	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.30						
Dry Matter (%)	83						
Moisture (%)	17						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.							
* = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation							
** = MCERTS accredited							

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



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Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.

This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Analytical Report Number : 23-37691

Project / Site name: Proposed Geotre Primary School Marthyr Tydfill

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2703610	TP02	None Supplied	0.1	Brown loam and clay with gravel and vegetation.
2703612	SA04	None Supplied	0.45	Brown clay and sand with gravel.

Analytical Report Number : 23-37691

Project / Site name: Proposed Geotre Primary School Marthyr Tydfill

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270.	L064-PL	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil"	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031	W	ISO 17025
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025

Analytical Report Number : 23-37691

Project / Site name: Proposed Geotre Primary School Marthyr Tydfill

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

Sample Deviation Report



Analytical Report Number : 23-37691

Project / Site name: Proposed Geotre Primary School Marthyr Tydfill

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SA04	None Supplied	S	2703612	c	BTEX in soil (Monoaromatics)	L073B-PL	c
SA04	None Supplied	S	2703612	c	Total BTEX in soil (Poland)	L073-PL	c
TP02	None Supplied	S	2703610	c	BTEX in soil (Monoaromatics)	L073B-PL	c
TP02	None Supplied	S	2703610	c	Total BTEX in soil (Poland)	L073-PL	c

APPENDIX I

LABORATORY GEOTECHNICAL TEST RESULTS



Results Summary

Apex Testing Solutions Limited

Sturmi Way
Village Farm Industrial Estate
Pyle
Bridgend
CF33 6BZ

Telephone: 01656 746762

E-mail: andrew.grogan@apex-drilling.com

laura.davis@apex-drilling.com

<u>Reporting Details</u>		<u>Key Information</u>	
Company Name:	Integral Geotechnique	Site Name:	Proposed Geotre Primary School
Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX	Job Number:	D23259
Contact Name:	Finn	Date Received:	08/06/2023
Contact Number:		Job Coordinator:	L. Davies

Item No.	Tests Undertaken	Number of Tests
1	Water Content - ISO 17892 2014+A1:2022	6
2	Atterburg Limits (4 point) - BS1377-2: 1990	6
3	Particle Size Distribution - BS1377-2: 1990	4
4	OMC - BS1377-4: 1990 using 2.5kg Rammer in 1L mould	4

Results Issued: 14/06/2023

Comments

Results herein relate only to samples received in the laboratory and where not sampled by Apex Testing Solutions personnel relate to the samples as received.

Where tests are UKAS accredited any Opinion and/or Interpretation expressed herein are outside the scope of the UKAS Accreditation. The reports shall not be reproduced in full without the written approval of the laboratory.

Please contact the job coordinator should any further information be required.

TEST REPORT

Determination Of Water Content

ISO 17892-1: 2014+A1:2022

Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33174		

Site Ref / Hole ID:	SA01	Depth (m):	2.00
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Brown slightly sandy slightly gravelly CLAY
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	12 June 2023

Test Results

Moisture Content (%)	14.4
----------------------	------

Remarks:

QA Ref.		Apex Testing Solutions Sturmi Way, Village Farm Industrial Est, Pyle, Bridgend, CF33 6BZ Tel: 01656 746762 Fax: 01656 749096	 7771	Approver	Date	Fig MC
EN ISO 17892-1:2014 A1:2022				<i>A Grogan</i> A Grogan, Laboratory Manager	12/06/2023	

TEST REPORT

LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX

BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

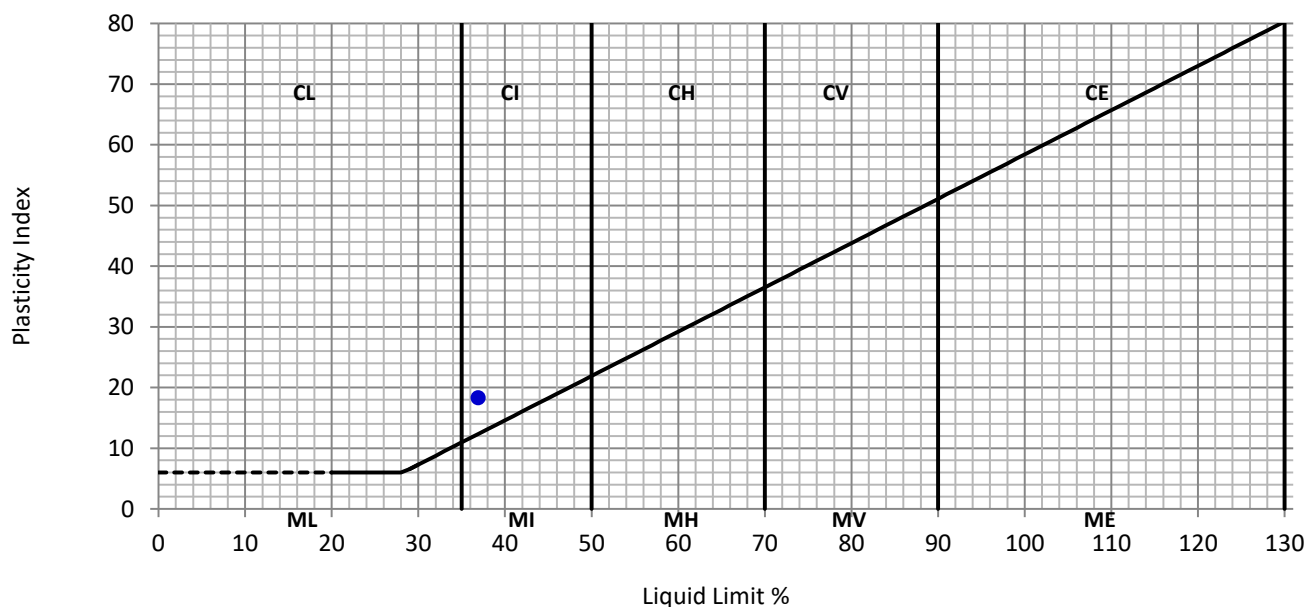
Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33174		

Site Ref / Hole ID:	SA01	Depth (m):	2.00
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Brown slightly sandy slightly gravelly CLAY
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	09 June 2023

Test Results

Liquid Limit	37	%
Plastic Limit	19	%
Plasticity Index	18	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	24 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 3.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
Bridgend, CF33 6BZ
Tel: 01656 746762 Fax: 01656 749096



7771

Approver

A Grogan

A Grogan, Laboratory Manager

Date

12/06/2023

Fig.

ATT

TEST REPORT

Determination Of Water Content

ISO 17892-1: 2014+A1:2022

Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33175		

Site Ref / Hole ID:	SA03	Depth (m):	1.50
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Grey sandy gravelly CLAY with medium cobble content
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	13 June 2023

Test Results

Moisture Content (%)

15.7

Remarks:

QA Ref.

EN ISO 17892-
1:2014 A1:2022



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est,
Pyle, Bridgend, CF33 6BZ

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7771

Approver

A Grogan

A Grogan, Laboratory Manager

Date

13/06/2023

Fig

MC

TEST REPORT
LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX
BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

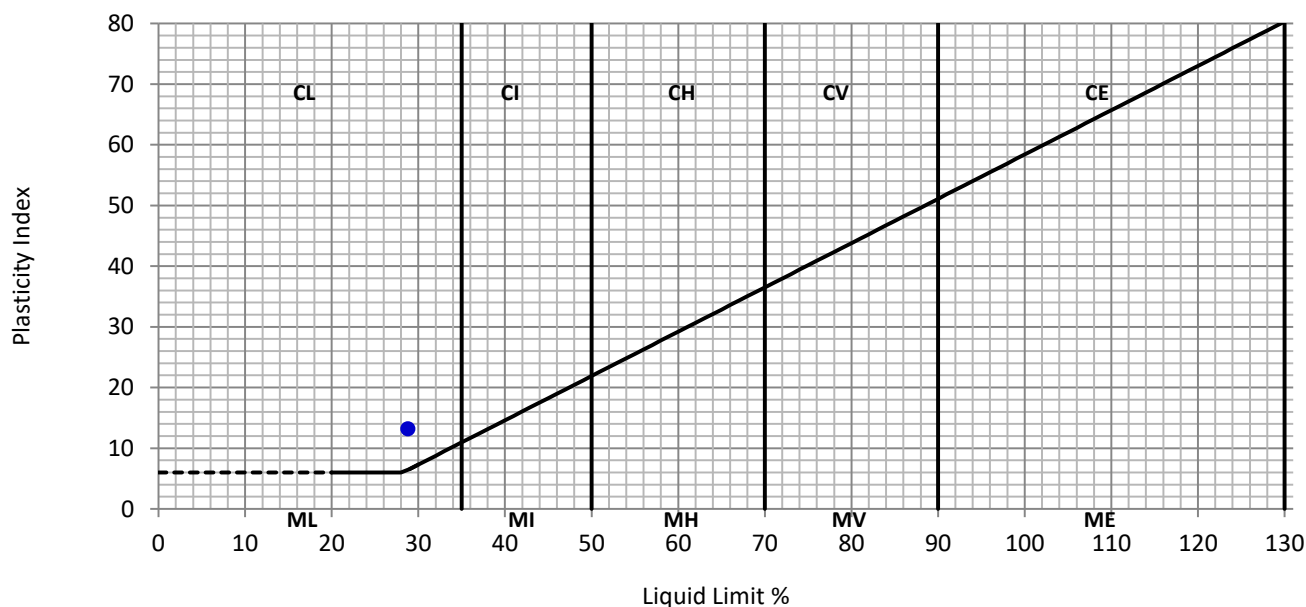
Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33175		

Site Ref / Hole ID:	SA03	Depth (m):	1.50
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Grey sandy gravelly CLAY with medium cobble content
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	09 June 2023

Test Results

Liquid Limit	29	%
Plastic Limit	16	%
Plasticity Index	13	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	50 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 3.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
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7771

Approver

G Llewellyn

G Llewellyn, Senior Technician

Date

13/06/2023

Fig.

ATT

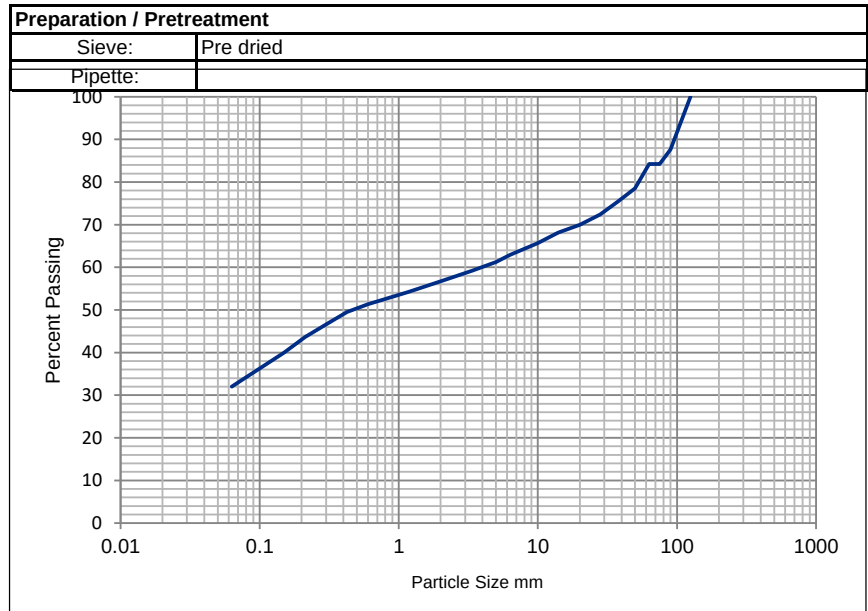
TEST REPORT
PARTICLE SIZE DISTRIBUTION ANALYSIS
BS1377:Part 2:1990

Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33175		

Site Ref / Hole ID:	SA03	Depth (m):	1.50
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Grey sandy gravelly CLAY with medium cobble content
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	13 June 2023

Test Results

Sieving	
Particle Size mm	% Passing
125	100
90	88
75	84
63	84
50	79
37.5	75
28	72
20	70
14	68
10	66
6.3	63
5.0	61
3.35	59
2.00	57
1.18	54
0.600	51
0.425	50
0.300	47
0.212	44
0.150	40
0.063	32



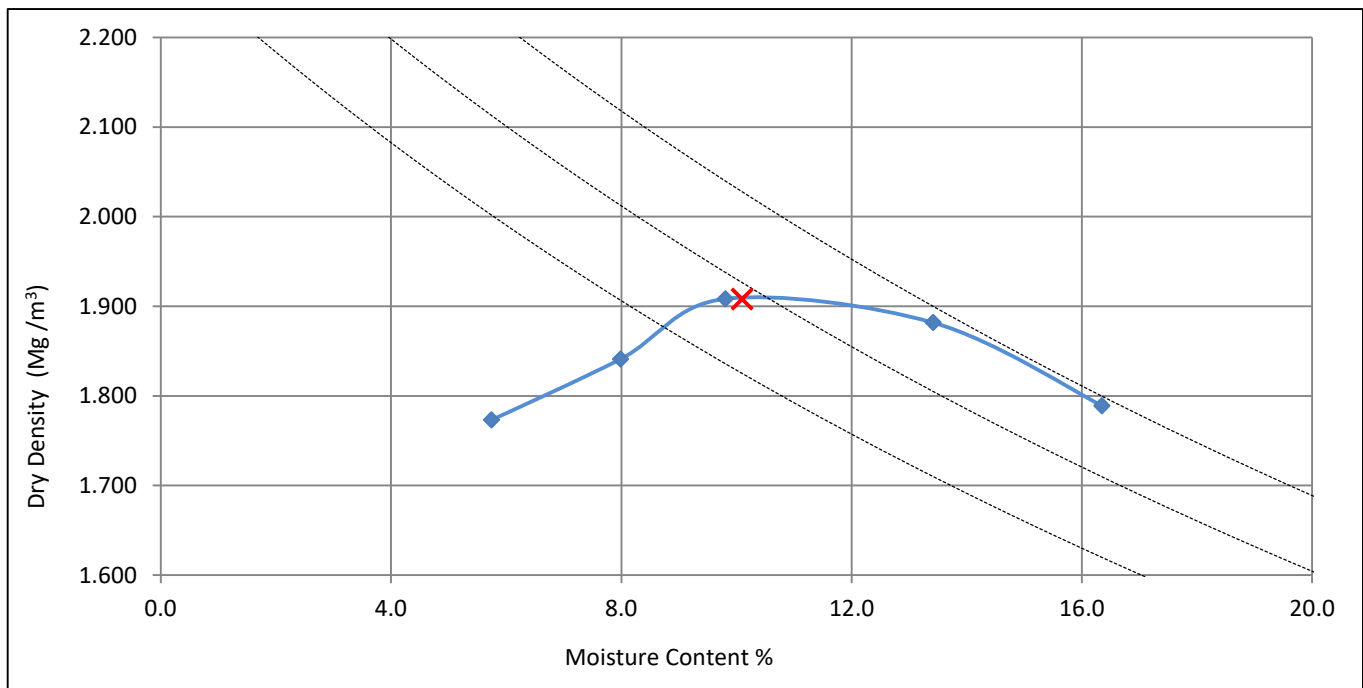
Sample Portions		Particle Density Mg/m3	Uniformity Coefficient D ₆₀ / D ₁₀
Cobbles / Boulders	16	N/A	
Gravel	27		
Sand	25	Dry mass of sample, kg	
Silt / Clay	32	19.7	n/a

Remarks:

TEST REPORT
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
BS1377:Part 4:1990

Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33175		

Site Ref / Hole ID:	SA03	Depth (m):	1.50
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Grey sandy gravelly CLAY with medium cobble content
Location in Works:	N/A	Material Source:	Site Generated
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	13 June 2023



Test Method:	BS 1377: part 4: 1990: clause 3.3, 2.5kg rammer in a 1 litre mould
Preparation:	Original sample was oven dried @ 105 oC, separate specimens tested

Particle Density, Mg/m³	2.55	assumed	Derived Parameters ✗
Material > 37.5mm	25	%	Maximum Dry Density, Mg/m³
Material < 37.5mm > 20mm	5	%	Optimum Moisture Content %

Remarks:	NMC = 15.7 % Tested a 'X' sample due to oversize material
----------	--

TEST REPORT

Determination Of Water Content

ISO 17892-1: 2014+A1:2022

Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33176		

Site Ref / Hole ID:	SA04	Depth (m):	1.00
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Brownish grey sandy gravelly CLAY
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	12 June 2023

Test Results

Moisture Content (%)

18.4

Remarks:

QA Ref.

EN ISO 17892-
1:2014 A1:2022



Apex Testing Solutions

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7771

Approver

A Grogan

A Grogan, Laboratory Manager

Date

12/06/2023

Fig

MC

TEST REPORT
LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX
BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

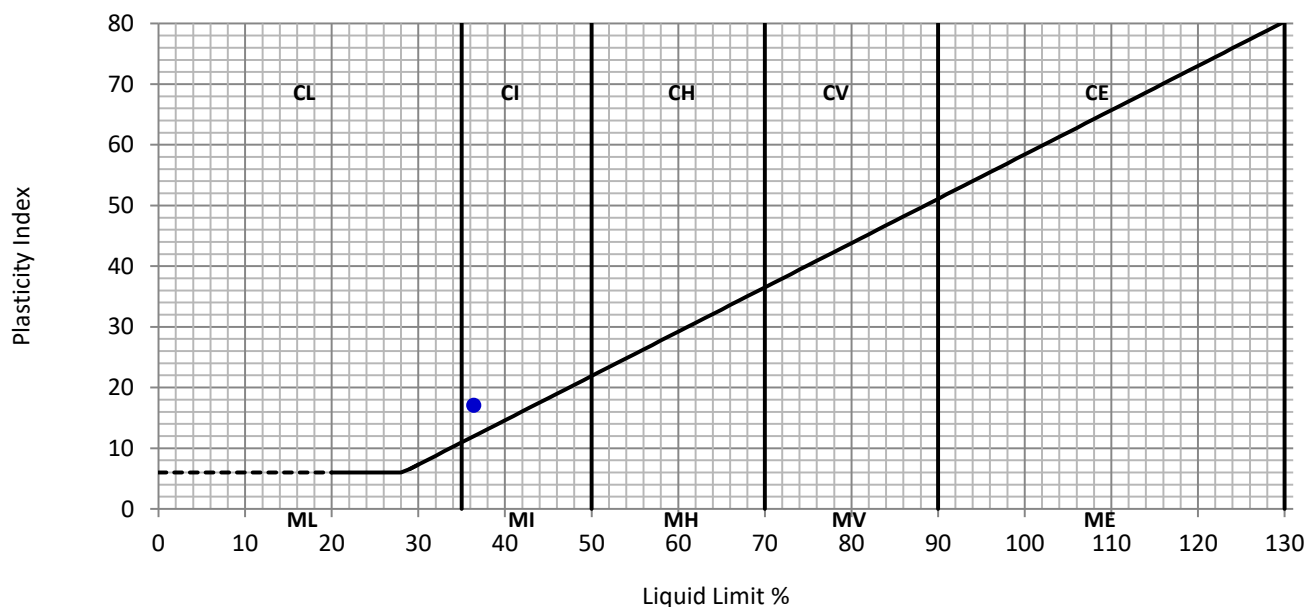
Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33176		

Site Ref / Hole ID:	SA04	Depth (m):	1.00
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Brownish grey sandy gravelly CLAY
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	09 June 2023

Test Results

Liquid Limit	36	%
Plastic Limit	19	%
Plasticity Index	17	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	51 %



Remarks:

TEST REPORT

Determination Of Water Content

ISO 17892-1: 2014+A1:2022

Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33177		

Site Ref / Hole ID:	SA05	Depth (m):	3.50
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Light brownish grey slightly gravelly sandy CLAY
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	13 June 2023

Test Results

Moisture Content (%)

18.9

Remarks:

QA Ref.

EN ISO 17892-1:2014 A1:2022



Apex Testing Solutions

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Approver

A Grogan

A Grogan, Laboratory Manager

Date

13/06/2023

Fig

MC

TEST REPORT

LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX

BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

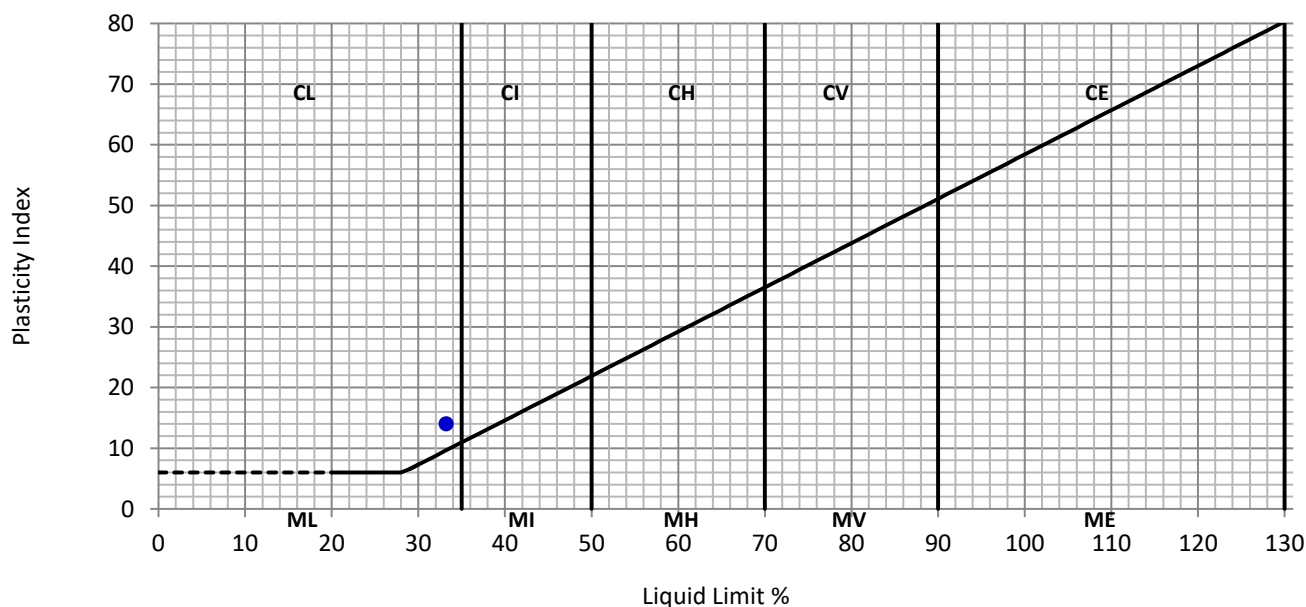
Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33177		

Site Ref / Hole ID:	SA05	Depth (m):	3.50
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Light brownish grey slightly gravelly sandy CLAY
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	12 June 2023

Test Results

Liquid Limit	33	%
Plastic Limit	19	%
Plasticity Index	14	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	12 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 3.0



Apex Testing Solutions

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7771

Approver

G Llewellyn

G Llewellyn, Senior Technician

Date

13/06/2023

Fig.

ATT

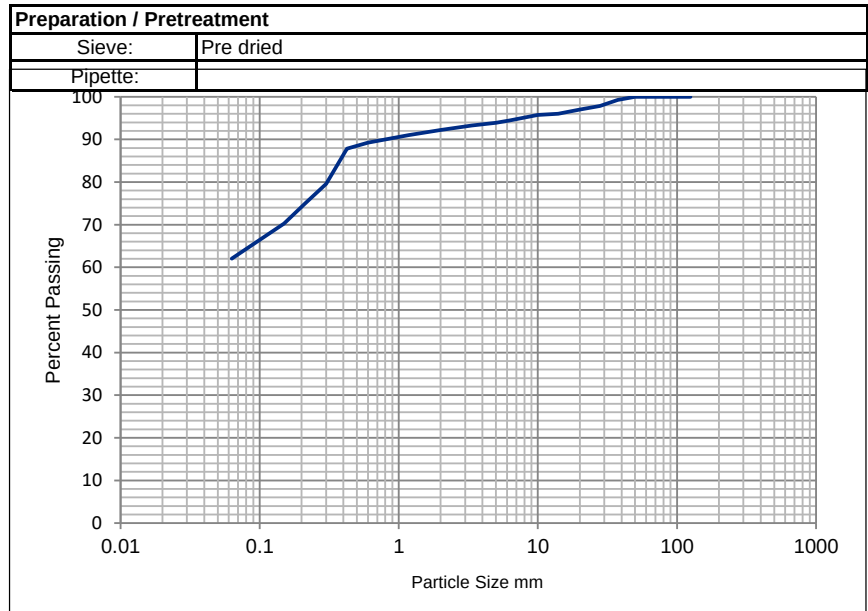
TEST REPORT
PARTICLE SIZE DISTRIBUTION ANALYSIS
BS1377:Part 2:1990

Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33177		

Site Ref / Hole ID:	SA05	Depth (m):	3.50
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Light brownish grey slightly gravelly sandy CLAY
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	13 June 2023

Test Results

Sieving	
Particle Size mm	% Passing
125	100
90	100
75	100
63	100
50	100
37.5	99
28	98
20	97
14	96
10	96
6.3	94
5.0	94
3.35	93
2.00	92
1.18	91
0.600	89
0.425	88
0.300	80
0.212	75
0.150	70
0.063	62



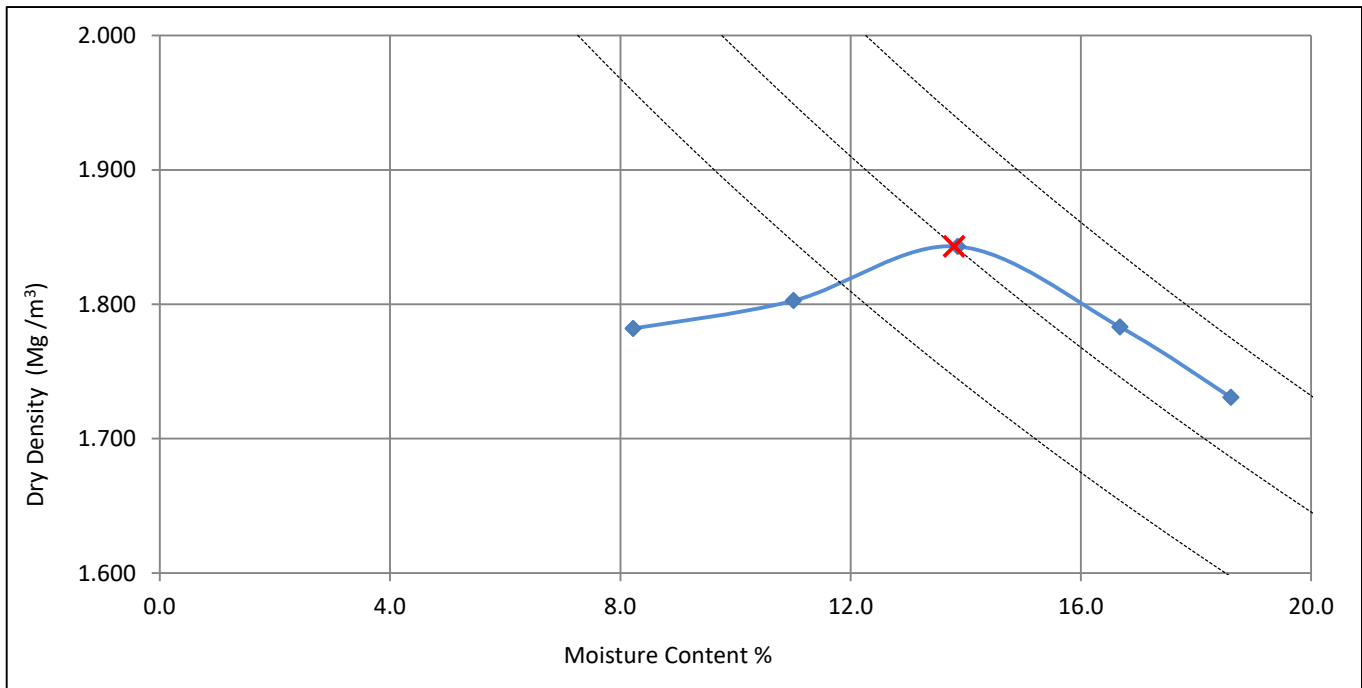
Sample Portions		Particle Density Mg/m3	Uniformity Coefficient D ₆₀ / D ₁₀
Cobbles / Boulders	0	N/A	
Gravel	8		
Sand	30	Dry mass of sample, kg	
Silt / Clay	62	10.4	n/a

Remarks:

TEST REPORT
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
BS1377:Part 4:1990

Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33177		

Site Ref / Hole ID:	SA05	Depth (m):	3.50
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Light brownish grey slightly gravelly sandy CLAY
Location in Works:	N/A	Material Source:	Site Generated
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	12 June 2023



Test Method:	BS 1377: part 4: 1990: clause 3.3, 2.5kg rammer in a 1 litre mould
Preparation:	Original sample was oven dried @ 105 oC, separate specimens tested

Particle Density, Mg/m ³	2.65	assumed	Derived Parameters ✗
Material > 37.5mm	1	%	Maximum Dry Density, Mg/m ³
Material < 37.5mm > 20mm	2	%	Optimum Moisture Content %

Remarks:	NMC = 18.9 %
----------	--------------

TEST REPORT

Determination Of Water Content

ISO 17892-1: 2014+A1:2022

Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33178		

Site Ref / Hole ID:	TP02	Depth (m):	1.50
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Dark brownish grey sandy gravelly CLAY with low cobble content
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	14 June 2023

Test Results

Moisture Content (%)

17.2

Remarks:

QA Ref.

EN ISO 17892-1:2014 A1:2022



Apex Testing Solutions

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7771

Approver

A Grogan

A Grogan, Laboratory Manager

Date

14/06/2023

Fig

MC

TEST REPORT
LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX
BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

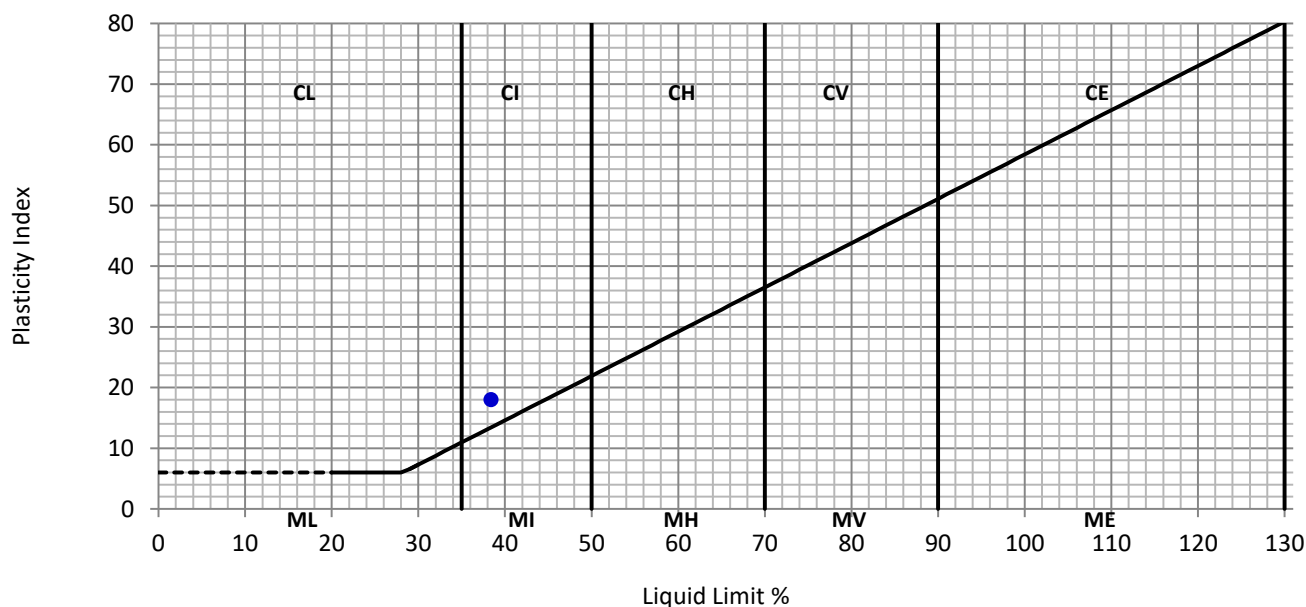
Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33178		

Site Ref / Hole ID:	TP02	Depth (m):	1.50
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Dark brownish grey sandy gravelly CLAY with low cobble content
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	12 June 2023

Test Results

Liquid Limit	38	%
Plastic Limit	20	%
Plasticity Index	18	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	26 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 3.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
Bridgend, CF33 6BZ
Tel: 01656 746762 Fax: 01656 749096



7771

Approver

A Grogan

A Grogan, Laboratory Manager

Date

14/06/2023

Fig.

ATT

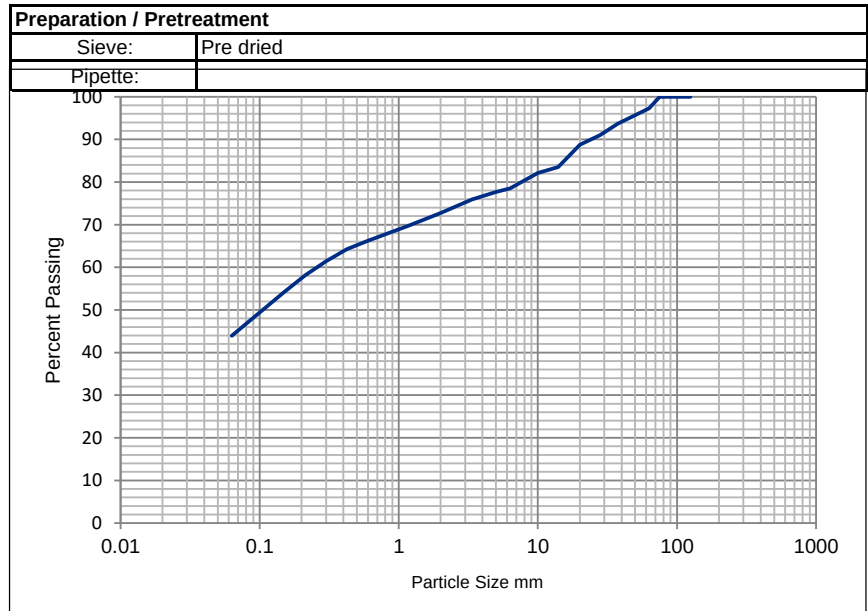
TEST REPORT
PARTICLE SIZE DISTRIBUTION ANALYSIS
BS1377:Part 2:1990

Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33178		

Site Ref / Hole ID:	TP02	Depth (m):	1.50
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Dark brownish grey sandy gravelly CLAY with low cobble content
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	14 June 2023

Test Results

Sieving	
Particle Size mm	% Passing
125	100
90	100
75	100
63	97
50	96
37.5	94
28	91
20	89
14	84
10	82
6.3	79
5.0	78
3.35	76
2.00	73
1.18	70
0.600	66
0.425	64
0.300	61
0.212	58
0.150	54
0.063	44



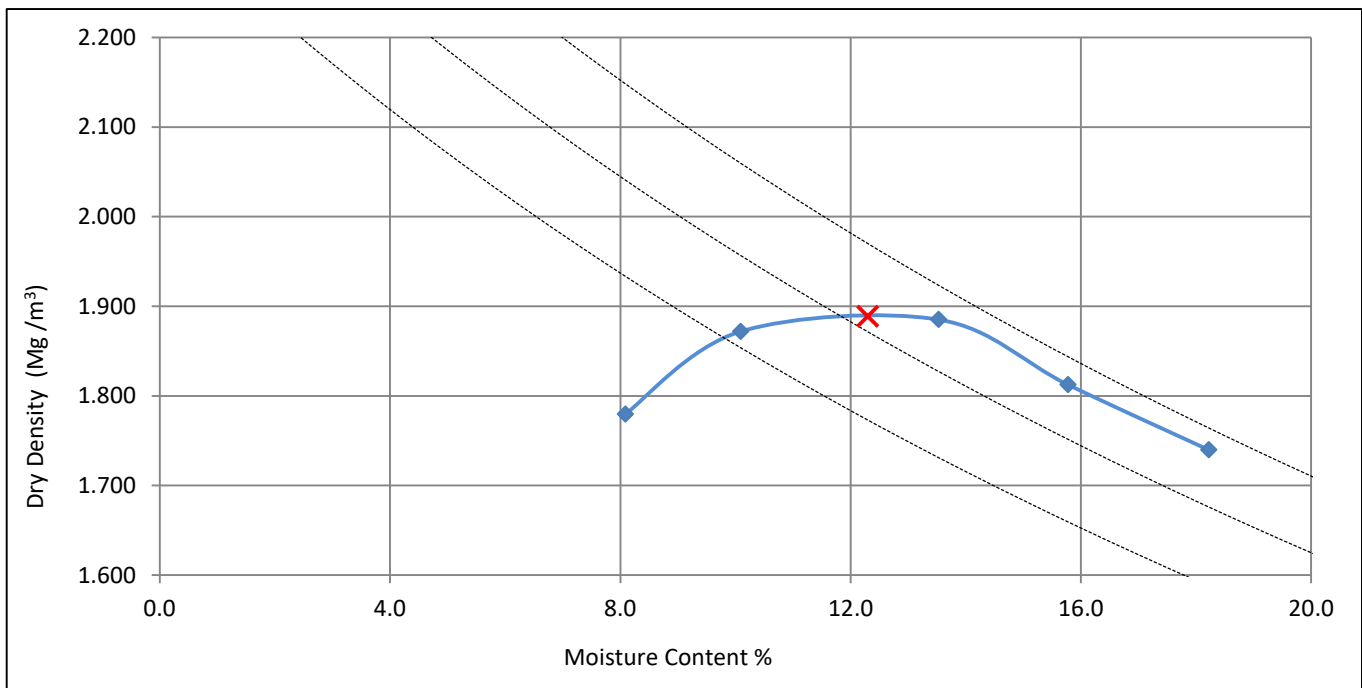
Sample Portions		Particle Density Mg/m3	Uniformity Coefficient D ₆₀ / D ₁₀
Cobbles / Boulders	3	N/A	
Gravel	25		
Sand	29	Dry mass of sample, kg	
Silt / Clay	44	10.6	n/a

Remarks:

TEST REPORT
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
BS1377:Part 4:1990

Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33178		

Site Ref / Hole ID:	TP02	Depth (m):	1.50
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Dark brownish grey sandy gravelly CLAY with low cobble content
Location in Works:	N/A	Material Source:	Site Generated
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	13 June 2023



Test Method:	BS 1377: part 4: 1990: clause 3.3, 2.5kg rammer in a 1 litre mould
Preparation:	Original sample was oven dried @ 105 oC, separate specimens tested

Particle Density, Mg/m³	2.60	assumed	Derived Parameters ✗
Material > 37.5mm	6	%	Maximum Dry Density, Mg/m³
Material < 37.5mm > 20mm	5	%	Optimum Moisture Content %

Remarks:	NMC =17.1 % Tested as an X sample due to oversize
----------	--

TEST REPORT

Determination Of Water Content

ISO 17892-1: 2014+A1:2022

Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33179		

Site Ref / Hole ID:	TP04	Depth (m):	1.00
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Dark grey sandy clayey GRAVEL with low cobble content
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	14 June 2023

Test Results

Moisture Content (%)

16.4

Remarks:

QA Ref.

EN ISO 17892-1:2014 A1:2022



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est,
Pyle, Bridgend, CF33 6BZ

Tel: 01656 746762 Fax: 01656 749096



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Approver

A Grogan

A Grogan, Laboratory Manager

Date

14/06/2023

Fig

MC

TEST REPORT
LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX
BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

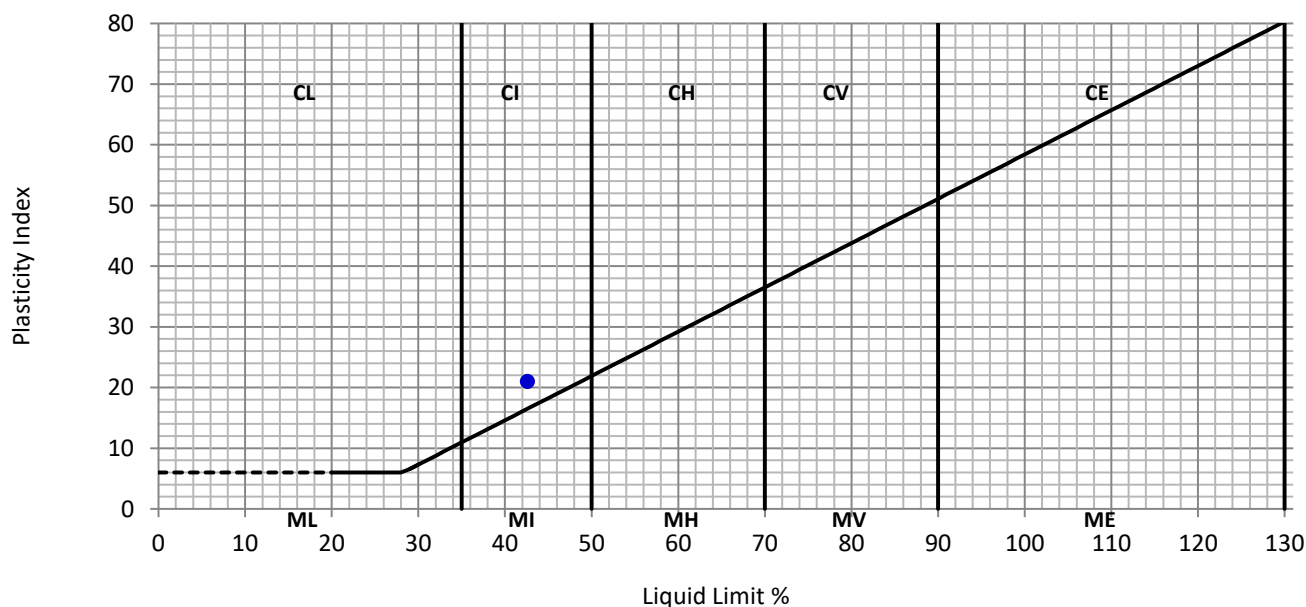
Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33179		

Site Ref / Hole ID:	TP04	Depth (m):	1.00
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Dark grey sandy clayey GRAVEL with low cobble content
Location in Works:	N/a	Material Source:	Ex-Site
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	12 June 2023

Test Results

Liquid Limit	43	%
Plastic Limit	22	%
Plasticity Index	21	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	53 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 3.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
Bridgend, CF33 6BZ
Tel: 01656 746762 Fax: 01656 749096



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Approver

A Grogan

A Grogan, Laboratory Manager

Date

14/06/2023

Fig.

ATT

TEST REPORT
PARTICLE SIZE DISTRIBUTION ANALYSIS
BS1377:Part 2:1990

Project No: D23259
Project Name: Proposed Goetre Primary School, Merthyr Tydfil

Client: Integral Geotechnique
Address: 7 Beddau Way
 Castlegate Business Park
 Caerphilly
 CF83 2AX

ATS Sample No: 33179

Site Ref / Hole ID: TP04

Depth (m): 1.00

Sample No:

Sample Type: Bulk

Sampling Certificate Received: No

Material Description: Dark grey sandy clayey GRAVEL with low cobble content

Location in Works: N/a

Material Source: Ex-Site

Date Sampled: Unknown

Material Supplier: Ex-Site

Sampled By: Client

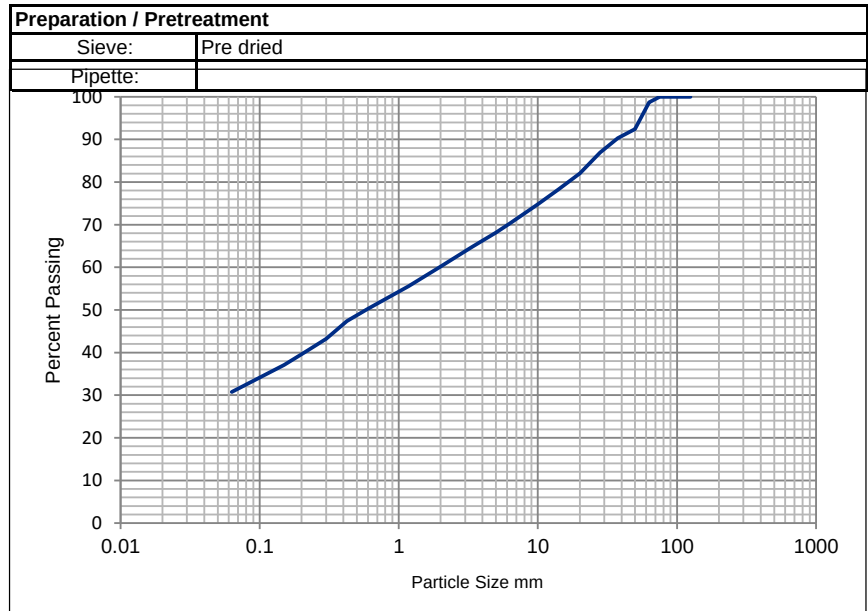
Specification: **BS1377**

Date Received: 08 June 2023

Date Tested: 14 June 2023

Test Results

Sieving	
Particle Size mm	% Passing
125	100
90	100
75	100
63	99
50	92
37.5	90
28	87
20	82
14	78
10	75
6.3	70
5.0	68
3.35	65
2.00	60
1.18	56
0.600	50
0.425	47
0.300	43
0.212	40
0.150	37
0.063	31



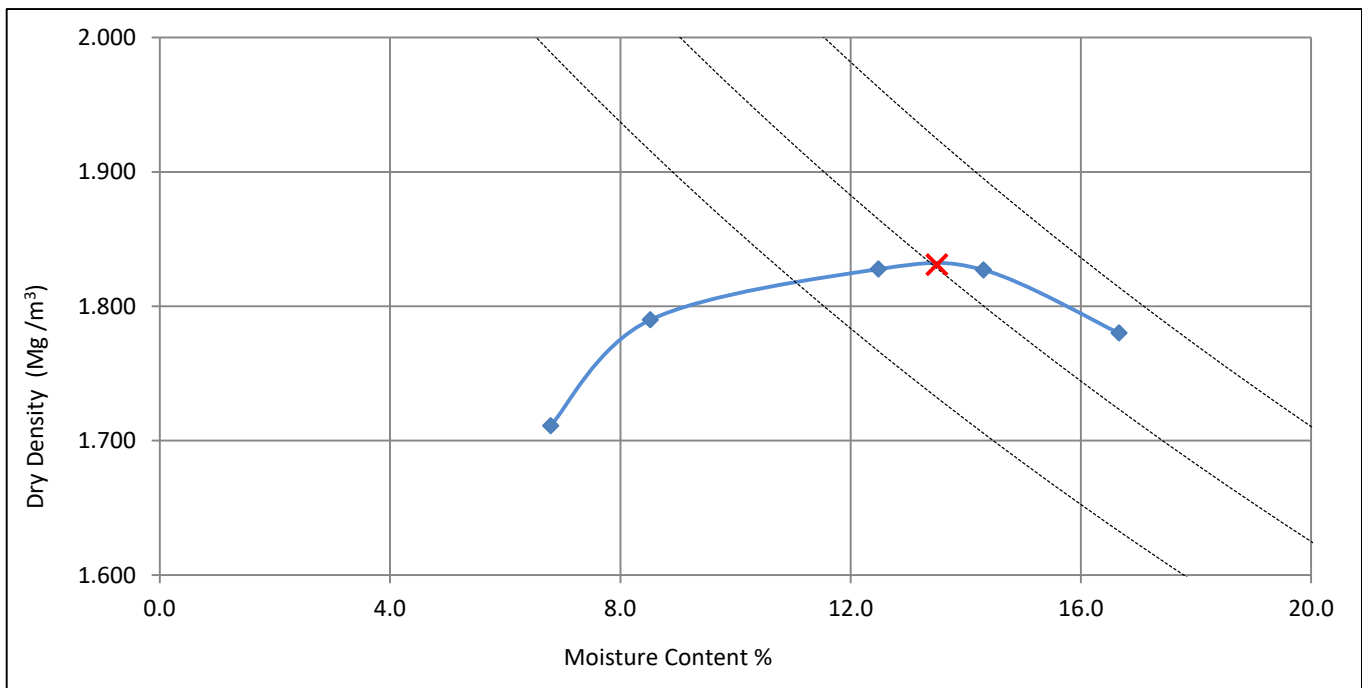
Sample Portions		Particle Density Mg/m3	Uniformity Coefficient D ₆₀ / D ₁₀
Cobbles / Boulders	1	N/A	
Gravel	39		
Sand	29	Dry mass of sample, kg	
Silt / Clay	31	23.1	n/a

Remarks:

TEST REPORT
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
BS1377:Part 4:1990

Project No:	D23259	Client:	Integral Geotechnique
Project Name:	Proposed Goetre Primary School, Merthyr Tydfil	Address:	7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX
ATS Sample No:	33179		

Site Ref / Hole ID:	TP04	Depth (m):	1.00
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Dark grey sandy clayey GRAVEL with low cobble content
Location in Works:	N/A	Material Source:	Site Generated
Date Sampled:	Unknown	Material Supplier:	Ex-Site
Sampled By:	Client	Specification:	BS1377
Date Received:	08 June 2023	Date Tested:	13 June 2023



Test Method:	BS 1377: part 4: 1990: clause 3.3, 2.5kg rammer in a 1 litre mould
Preparation:	Original sample was oven dried @ 105 oC, separate specimens tested

Particle Density, Mg/m³	2.60	assumed	Derived Parameters ×
Material > 37.5mm	10	%	Maximum Dry Density, Mg/m³
Material < 37.5mm > 20mm	8	%	Optimum Moisture Content %

Remarks:	NMC =16.4 % Tested as an X sample due to oversize
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APPENDIX J

IN-SITU GAS AND GROUNDWATER MONITORING RESULTS

FIELD GAS MONITORING RESULTS - SUMMARY

Job No.: 14209
Site: Geotre School

Maximum Methane Concentration (%v/v)	Maximum Carbon Dioxide Concentration (%v/v)	Maximum Gas Concentration (%v/v)	Maximum Gas Flow Rate (l/hr)	GSV (l/hr)
0.40	0.80	0.80	<0.3	<0.0024

Methane							
Location	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Maximum
BH 02	0.30	0.20	0.20	0.10	0.10	0.10	0.30
BH 05	0.10	0.10	0.10	0.10	0.10	0.10	0.10
BH 06	0.30	0.40	0.30	0.40	0.20	0.10	0.40

Carbon Dioxide							
Location	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Maximum
BH 02	0.70	0.60	0.70	0.60	0.50	0.60	0.70
BH 05	0.20	0.30	0.20	0.10	0.20	0.30	0.30
BH 06	0.80	0.70	0.60	0.70	0.50	0.30	0.80

Oxygen							
Location	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Minimum
BH 02	18.80	17.80	18.10	17.80	18.10	18.90	17.80
BH 05	20.00	19.60	19.60	19.10	19.60	20.10	19.10
BH 06	17.20	18.20	19.20	19.30	20.10	19.60	17.20

Gas Flow Rate							
Location	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Maximum
BH 02	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.30
BH 05	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.30
BH 06	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.30

FIELD GAS MONITORING RESULTS

Job No.: 14209
 Site: Geotre School
 Monitoring Date: 18.07.23
 Monitoring Round: 1

Monitoring Conditions

Weather: Cloudy
 Ambient Temp: 14 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 985
 During Monitoring: 985
 End of Monitoring: 985

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
BH 02	6.03	0.36	0.30	0.20	6.00	4.00	18.80	19.10	0.70	0.70	5.00	<1	<0.3	0.20
BH 05	6.58	1.03	0.10	0.10	2.00	2.00	20.00	20.10	0.20	0.20	2.00	<1	<0.3	0.10
BH 06	2.10	1.63	0.30	0.30	6.00	6.00	17.20	17.50	0.80	0.70	3.00	<1	<0.3	0.20

Typical Instrument Accuracy:

%CH ₄	0-70% +/- 0.5%	CO	0-500ppm +/- 2% FS	LEL = Lower Explosive Limit
%CO ₂	0-60% +/- 0.5%	H ₂ S	0-5000ppm +/- 2.0% FS	N/R = No Reading Taken
%O ₂	0-25% +/- 1.0%	Flow from borehole	+/- 0.3l/h	FS = Full Scale

Notes:

FIELD GAS MONITORING RESULTS

Job No.: 14209
 Site: Geotre School
 Monitoring Date: 11.08.23
 Monitoring Round: 2

Monitoring Conditions

Weather: Sunny
 Ambient Temp: 22 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 1008
 During Monitoring: 1008
 End of Monitoring: 1008

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
BH 02	6.03	0.42	0.20	0.20	4.00	4.00	17.80	17.90	0.60	0.60	6.00	<1	<0.3	0.10
BH 05	6.58	1.01	0.10	0.10	2.00	2.00	19.60	19.60	0.30	0.30	1.00	<1	<0.3	0.10
BH 06	2.10	1.64	0.40	0.40	8.00	8.00	18.20	18.20	0.70	0.70	2.00	<1	<0.3	0.10

Typical Instrument Accuracy:

%CH ₄	0-70% +/- 0.5%	CO	0-500ppm +/- 2% FS	LEL = Lower Explosive Limit
%CO ₂	0-60% +/- 0.5%	H ₂ S	0-5000ppm +/- 2.0% FS	N/R = No Reading Taken
%O ₂	0-25% +/- 1.0%	Flow from borehole	+/- 0.3l/h	FS = Full Scale

Notes:

FIELD GAS MONITORING RESULTS

Job No.: 14209
 Site: Geotre School
 Monitoring Date: 21.08.23
 Monitoring Round: 3

Monitoring Conditions

Weather: Cloudy
 Ambient Temp: 19 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 997
 During Monitoring: 997
 End of Monitoring: 997

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
BH 02	6.03	0.42	0.20	0.10	4.00	2.00	18.10	18.10	0.70	0.50	5.00	<1	<0.3	0.10
BH 05	6.58	1.02	0.10	0.10	2.00	2.00	19.60	19.40	0.20	0.20	2.00	<1	<0.3	0.10
BH 06	2.10	1.61	0.30	0.20	6.00	4.00	19.20	19.20	0.60	0.50	1.00	<1	<0.3	0.20

Typical Instrument Accuracy:

%CH ₄	0-70% +/- 0.5%	CO	0-500ppm +/- 2% FS	LEL = Lower Explosive Limit
%CO ₂	0-60% +/- 0.5%	H ₂ S	0-5000ppm +/- 2.0% FS	N/R = No Reading Taken
%O ₂	0-25% +/- 1.0%	Flow from borehole	+/- 0.3l/h	FS = Full Scale

Notes:

FIELD GAS MONITORING RESULTS

Job No.: 14209
Site: Geotre School
Monitoring Date: 06.09.23
Monitoring Round: 4

Monitoring Conditions

Weather:	Sunny	
Ambient Temp:	27	°C
Instrument:	GA5000	

Barometric Pressure (mb)

On Arrival:	1005
During Monitoring:	1005
End of Monitoring:	1005

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
BH 02	6.03	0.48	0.10	0.10	2.00	2.00	17.80	17.80	0.60	0.60	4.00	<1	<0.3	0.20
BH 05	6.58	1.05	0.10	0.10	2.00	2.00	19.10	19.10	0.10	0.10	3.00	<1	<0.3	0.20
BH 06	2.10	1.64	0.40	0.30	8.00	6.00	19.30	19.70	0.70	0.70	1.00	<1	<0.3	0.10
Typical Instrument Accuracy:														
%CH ₄	0-70% +/- 0.5%		CO	0-500ppm +/- 2% FS										
%CO ₂	0-60% +/- 0.5%		H ₂ S	0-5000ppm +/- 2.0% FS										
%O ₂	0-25% +/- 1.0%		Flow from borehole +/- 0.3l/h											
Notes:														

FIELD GAS MONITORING RESULTS

Job No.: 14209
 Site: Geotre School
 Monitoring Date: 01.10.23
 Monitoring Round: 5

Monitoring Conditions

Weather: Cloudy
 Ambient Temp: 18 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 996
 During Monitoring: 996
 End of Monitoring: 996

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
BH 02	6.03	0.47	0.10	0.10	2.00	2.00	18.10	18.10	0.50	0.50	5.00	<1	<0.3	0.30
BH 05	6.58	1.10	0.10	0.10	2.00	2.00	19.60	19.60	0.20	0.20	2.00	<1	<0.3	0.10
BH 06	2.10	1.61	0.20	0.20	4.00	4.00	20.10	20.10	0.50	0.50	<1	<1	<0.3	0.10

Typical Instrument Accuracy:

%CH ₄	0-70% +/- 0.5%	CO	0-500ppm +/- 2% FS	LEL = Lower Explosive Limit
%CO ₂	0-60% +/- 0.5%	H ₂ S	0-5000ppm +/- 2.0% FS	N/R = No Reading Taken
%O ₂	0-25% +/- 1.0%	Flow from borehole	+/- 0.3l/h	FS = Full Scale

Notes:

FIELD GAS MONITORING RESULTS

Job No.: 14209
 Site: Geotre School
 Monitoring Date: 03.11.23
 Monitoring Round: 6

Monitoring Conditions

Weather: Cloudy
 Ambient Temp: 12 °C
 Instrument: GA5000

Barometric Pressure (mb)

On Arrival: 988
 During Monitoring: 988
 End of Monitoring: 988

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
BH 02	6.03	0.41	0.10	0.10	2.00	2.00	18.90	18.90	0.60	0.50	5.00	<1	<0.3	0.20
BH 05	6.58	0.98	0.10	0.10	2.00	2.00	20.10	20.10	0.30	0.30	1.00	<1	<0.3	0.20
BH 06	2.10	1.58	0.10	0.10	2.00	2.00	19.60	19.60	0.30	0.30	<1	<1	<0.3	0.10

Typical Instrument Accuracy:

%CH ₄	0-70% +/- 0.5%	CO	0-500ppm +/- 2% FS	LEL = Lower Explosive Limit
%CO ₂	0-60% +/- 0.5%	H ₂ S	0-5000ppm +/- 2.0% FS	N/R = No Reading Taken
%O ₂	0-25% +/- 1.0%	Flow from borehole	+/- 0.3l/h	FS = Full Scale

Notes:

FIELD GAS MONITORING RESULTS - SUMMARY

Job No.: 14209
Site: Goetre School Merthyr

Maximum Methane Concentration (%v/v)	Maximum Carbon Dioxide Concentration (%v/v)	Maximum Gas Concentration (%v/v)	Maximum Gas Flow Rate (l/hr)	GSV (l/hr)
2.20	3.60	3.60	<0.3	<0.0108

Methane							
Location	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Maximum
WS01	0.20	0.10	0.20	0.10	0.20	0.10	0.20
WS08	2.20	2.10	1.50	0.90	0.80	1.10	2.20

Carbon Dioxide							
Location	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Maximum
WS01	3.20	3.30	3.60	2.10	2.30	2.90	3.60
WS08	0.40	0.30	0.20	0.30	0.20	0.30	0.40

Oxygen							
Location	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Minimum
WS01	19.60	19.20	19.10	19.60	18.70	19.10	18.70
WS08	19.80	19.20	18.20	19.10	19.10	19.60	18.20

Gas Flow Rate							
Location	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Maximum
WS01	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.30
WS08	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.30

FIELD GAS MONITORING RESULTS

Job No.: 14209
Site: Goetre School Merthyr
Monitoring Date: 31.05.23
Monitoring Round: 1

Monitoring Conditions

Weather:	Cloudy	
Ambient Temp:	15	°C
Instrument:	GA5000	

Barometric Pressure (mb)

On Arrival:	1009
During Monitoring:	1009
End of Monitoring:	1009

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
WS01	4.03	1.52	0.20	0.20	4.00	4.00	19.60	19.60	3.20	3.10	2.00	<1	<0.3	<0.3
WS08	4.62	0.00	2.20	2.10	44.00	42.00	19.80	19.90	0.40	0.40	1.00	<1	<0.3	0.10
Typical Instrument Accuracy:														
%CH ₄	0-70% +/- 0.5%		CO	0-500ppm +/- 2% FS										
%CO ₂	0-60% +/- 0.5%		H ₂ S	0-5000ppm +/- 2.0% FS										
%O ₂	0-25% +/- 1.0%		Flow from borehole +/- 0.3l/h											
LEL = Lower Explosive Limit														
N/R = No Reading Taken														
FS = Full Scale														
Notes:														

FIELD GAS MONITORING RESULTS

Job No.: 14209
Site: Goetre School Merthyr
Monitoring Date: 14.06.23
Monitoring Round: 2

Monitoring Conditions

Weather:	Sunny	
Ambient Temp:	23	°C
Instrument:	GA5000	

Barometric Pressure (mb)

On Arrival:	1002
During Monitoring:	1002
End of Monitoring:	1002

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
WS01	4.03	1.53	0.10	0.10	2.00	2.00	19.20	19.30	3.30	3.30	1.00	<1	<0.3	<0.3
WS08	4.62	0.00	2.10	1.90	42.00	38.00	19.20	19.70	0.30	0.30	1.00	<1	<0.3	0.20
Typical Instrument Accuracy:														
%CH ₄	0-70% +/- 0.5%		CO	0-500ppm +/- 2% FS										
%CO ₂	0-60% +/- 0.5%		H ₂ S	0-5000ppm +/- 2.0% FS										
%O ₂	0-25% +/- 1.0%		Flow from borehole +/- 0.3l/h											
LEL = Lower Explosive Limit														
N/R = No Reading Taken														
FS = Full Scale														
Notes:														

FIELD GAS MONITORING RESULTS

Job No.: 14209
Site: Goetre School Merthyr
Monitoring Date: 05.07.23
Monitoring Round: 3

Monitoring Conditions

Weather:	Cloudy	
Ambient Temp:	18	°C
Instrument:	GA5000	

Barometric Pressure (mb)

On Arrival:	995
During Monitoring:	995
End of Monitoring:	995

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
WS01	4.03	1.56	0.20	0.10	4.00	2.00	19.10	19.30	3.60	3.60	2.00	<1	<0.3	<0.3
WS08	4.62	0.01	1.50	1.40	30.00	28.00	18.20	18.40	0.20	0.20	1.00	<1	<0.3	0.10
Typical Instrument Accuracy:														
%CH ₄	0-70% +/- 0.5%		CO	0-500ppm +/- 2% FS										
%CO ₂	0-60% +/- 0.5%		H ₂ S	0-5000ppm +/- 2.0% FS										
%O ₂	0-25% +/- 1.0%		Flow from borehole +/- 0.3l/h											
LEL = Lower Explosive Limit														
N/R = No Reading Taken														
FS = Full Scale														
Notes:														

FIELD GAS MONITORING RESULTS

Job No.: 14209
Site: Goetre School Merthyr
Monitoring Date: 18.07.23
Monitoring Round: 4

Monitoring Conditions

Weather:	Cloudy	
Ambient Temp:	14	°C
Instrument:	GA5000	

Barometric Pressure (mb)

On Arrival:	985
During Monitoring:	985
End of Monitoring:	985

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
WS01	4.03	1.42	0.10	0.10	2.00	2.00	19.60	19.70	2.10	2.10	1.00	<1	<0.3	<0.3
WS08	4.62	0.30 AGL	0.90	0.90	18.00	18.00	19.10	19.10	0.30	0.30	1.00	<1	<0.3	0.20
Typical Instrument Accuracy:														
%CH ₄	0-70% +/- 0.5%		CO	0-500ppm +/- 2% FS										LEL = Lower Explosive Limit
%CO ₂	0-60% +/- 0.5%		H ₂ S	0-5000ppm +/- 2.0% FS										N/R = No Reading Taken
%O ₂	0-25% +/- 1.0%		Flow from borehole +/- 0.3l/h											FS = Full Scale
Notes:														

FIELD GAS MONITORING RESULTS

Job No.: 14209
Site: Goetre School Merthyr
Monitoring Date: 11.08.23
Monitoring Round: 5

Monitoring Conditions

Weather:	Sunny	
Ambient Temp:	22	°C
Instrument:	GA5000	

Barometric Pressure (mb)

On Arrival:	1008
During Monitoring:	1008
End of Monitoring:	1008

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
WS01	4.03	1.40	0.20	0.10	4.00	2.00	18.70	18.80	2.30	2.30	1.00	<1	<0.3	<0.3
WS08	4.62	0.0	0.80	0.70	16.00	14.00	19.10	19.20	0.20	0.20	1.00	<1	<0.3	0.10
Typical Instrument Accuracy:														
%CH ₄	0-70% +/- 0.5%		CO	0-500ppm +/- 2% FS										LEL = Lower Explosive Limit
%CO ₂	0-60% +/- 0.5%		H ₂ S	0-5000ppm +/- 2.0% FS										N/R = No Reading Taken
%O ₂	0-25% +/- 1.0%		Flow from borehole +/- 0.3l/h										FS = Full Scale	
Notes:														

FIELD GAS MONITORING RESULTS

Job No.: 14209
Site: Goetre School Merthyr
Monitoring Date: 21.08.23
Monitoring Round: 6

Monitoring Conditions

Weather:	Cloudy	
Ambient Temp:	18	°C
Instrument:	GA5000	

Barometric Pressure (mb)

On Arrival:	997
During Monitoring:	997
End of Monitoring:	997

Location	Well Base Level (mbgl)	Water Level (mbgl)	Methane (CH4) %v/v		Methane % LEL		Oxygen (O2) %v/v		Carbon Dioxide (CO2) %v/v		Carbon Monoxide (CO) (ppm)	Hydrogen Sulphide (H2S) (ppm)	Peak Gas Flow (l/hr)	VOC Vapours (ppm>background)
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
WS01	4.03	1.49	0.10	0.10	2.00	2.00	19.10	19.10	2.90	2.80	3.00	<1	<0.3	<0.3
WS08	4.62	0.00	1.10	1.10	22.00	22.00	19.60	19.60	0.30	0.30	1.00	<1	<0.3	0.20
Typical Instrument Accuracy:														
%CH ₄	0-70% +/- 0.5%		CO	0-500ppm +/- 2% FS										LEL = Lower Explosive Limit
%CO ₂	0-60% +/- 0.5%		H ₂ S	0-5000ppm +/- 2.0% FS										N/R = No Reading Taken
%O ₂	0-25% +/- 1.0%		Flow from borehole	+/- 0.3l/h										FS = Full Scale
Notes:														

APPENDIX K

SUMMARY OF LABORATORY CHEMICAL TEST RESULTS

SUMMARY OF LABORATORY SOIL TEST RESULTS

Job No.: 14209
 Site: Geotre Primary School, Merthyr Tydfil
 Soil Type: Topsoil, Natural Soils and Made Ground
 Soil Organic Matter: 1%

METALS AND SEMI-METALS

No.	Location	Soil Type	Depth (m)	Arsenic (mg/kg)	Boron (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (Elemental) (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
1	WS01	Made Ground	0.30	8.2	0.3	2.3	< 0.2	16	< 1.8	16	23	< 0.3	14	< 1.0	27	39
2	WS02	Topsoil	0.10	10	1.3	0.51	0.6	11	2.1	22	58	< 0.3	13	< 1.0	15	77
3	WS03	Natural	0.35	13	0.3	0.41	< 0.2	16	< 1.8	17	41	< 0.3	15	< 1.0	22	67
4	WS04	Made Ground	1.00	4.3	0.3	5.4	< 0.2	14	< 1.8	8.3	3.6	< 0.3	3.7	< 1.0	30	7.9
5	WS05	Made Ground	0.40	18	0.4	1.6	< 0.2	22	< 1.8	76	130	0.6	29	< 1.0	31	150
6	WS06	Made Ground	0.40	15	0.4	1.2	< 0.2	20	< 1.8	180	180	< 0.3	23	< 1.0	28	140
7	WS09	Made Ground	0.50	11	0.6	0.76	< 0.2	16	< 1.8	19	27	< 0.3	17	< 1.0	24	49
8	WS10	Made Ground	0.40	27	0.7	0.39	< 0.2	14	< 1.8	18	48	< 0.3	12	< 1.0	23	73
9	SA03	Made Ground	0.40	14	0.4	1.3	< 0.2	30	< 1.8	33	57	< 0.3	19	< 1.0	50	86
10	TP03	Topsoil	0.30	13	0.3	0.79	< 0.2	17	< 1.8	26	51	< 0.3	21	< 1.0	24	95
11	SA04	Made Ground	0.70	12	1.7	0.87	< 0.2	17	< 1.8	18	27	< 0.3	15	< 1.0	28	43
12	SA06	Made Ground	0.40	11	1.2	0.76	< 0.2	16	< 1.8	17	28	< 0.3	16	< 1.0	24	49
13	TP04	Made Ground	0.30	12	0.8	0.77	< 0.2	13	< 1.8	24	46	< 0.3	20	< 1.0	17	57
14	TP05	Made Ground	0.40	35	1.2	1.3	< 0.2	17	< 1.8	120	220	0.6	34	< 1.0	38	170
Screening Criteria Value				40.0	11000.0	1.7	85.0	-	6.0	7100.0	310.0	1.2	180.0	430.0	1200.0	40000.0
Source of Screening Criteria Value				S4UL	S4UL	S4UL	S4UL	-	S4UL	S4UL	C4SL	S4UL	S4UL	S4UL	S4UL	S4UL

SUMMARY OF LABORATORY SOIL TEST RESULTS

INORGANIC CHEMICALS & OTHERS

Job No.: 14209
 Site: Geotre Primary School, Merthyr Tydfil
 Soil Type: Topsoil, Natural Soils and Made Ground
 Soil Organic Matter: 1%

No.	Location	Soil Type	Depth (m)	Cyanide (mg/kg)	Loss on ignition, dried solids (%)	Moisture content at 30 C (%)	Phenol (mg/kg)	pH (pH units)	Water Soluble Sulphate (g/l)	Sulphate Total as SO4 (mg/kg)	Sulphide (mg/kg)	Total Sulphur (mg/kg)	TOC by Ignition in O2 (%)	Equivalent SOM (%)	Asbestos in Soil	Asbestos Quantification (%)
1	WS01	Made Ground	0.30	< 1.0	2.10	6.80	< 1.0	8.30	0.059	620.00	1000.00	2800.00	0.70	1.20	Not-detected	-
2	WS02	Topsoil	0.10	< 1.0	17.20	52.00	< 1.0	6.30	0.120	1800.00	1.70	720.00	-	<0.1	Not-detected	-
3	WS03	Natural	0.35	< 1.0	3.90	14.00	< 1.0	5.80	0.017	420.00	5.70	290.00	1.10	1.89	Not-detected	-
4	WS04	Made Ground	1.00	< 1.0	0.60	2.60	< 1.0	10.10	0.310	560.00	U/S**	9600.00	0.30	0.52	Not-detected	-
5	WS05	Made Ground	0.40	< 1.0	10.00	14.00	< 1.0	8.20	0.029	960.00	86.00	1000.00	2.00	3.44	Detected	< 0.001
6	WS06	Made Ground	0.40	< 1.0	12.00	19.00	< 1.0	8.70	0.100	1900.00	6.60	900.00	2.40	4.13	Not-detected	-
7	WS09	Made Ground	0.50	< 1.0	2.20	9.90	< 1.0	8.50	0.055	450.00	34.00	340.00	0.50	0.86	Not-detected	-
8	WS10	Made Ground	0.40	< 1.0	5.00	20.00	< 1.0	7.00	0.007	550.00	8.50	330.00	2.00	3.44	Not-detected	-
9	SA03	Made Ground	0.40	< 1.0	4.90	15.00	< 1.0	8.50	0.043	600.00	43.00	700.00	1.30	2.24	Not-detected	-
10	TP03	Topsoil	0.30	< 1.0	3.90	14.00	< 1.0	8.00	0.018	310.00	14.00	310.00	1.30	2.24	Not-detected	-
11	SA04	Made Ground	0.70	< 1.0	3.90	12.00	< 1.0	12.10	0.010	6600.00	49.00	2900.00	0.60	1.03	Not-detected	-
12	SA06	Made Ground	0.40	< 1.0	2.80	18.00	< 1.0	9.10	0.410	720.00	56.00	1200.00	1.00	1.72	Not-detected	-
13	TP04	Made Ground	0.30	< 1.0	2.50	13.00	< 1.0	7.90	0.130	410.00	43.00	760.00	0.90	1.55	Not-detected	-
14	TP05	Made Ground	0.40	< 1.0	21.30	18.00	< 1.0	7.50	0.180	1300.00	12.00	940.00	5.10	8.77	Not-detected	-
Screening Criteria Value				34.0	-	-	440.0	-	-	-	-	-	-	-	-	0.001
Source of Screening Criteria Value				ATRISK	-	-	S4UL	-	-	-	-	-	-	-	-	IOM

SUMMARY OF LABORATORY SOIL TEST RESULTS

Job No.: 14209
 Site: Geotre Primary School, Merthyr Tydfil
 Soil Type: Topsoil, Natural Soils and Made Ground
 Soil Organic Matter: 1%

POLYAROMATIC HYDROCARBONS (PAH)

No.	Location	Soil Type	Depth (m)	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)	Anthracene (mg/kg)	Benzo(a)anthracene (mg/kg)	Benzo(a)pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(ghi)perylene (mg/kg)	Benzo(k)fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo(ah)anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno(123cd)pyrene (mg/kg)	Naphthalene (mg/kg)	Phenanthrene (mg/kg)	Pyrene (mg/kg)
1	WS01	Made Ground	0.30	< 0.05	< 0.05	< 0.05	0.05	0.06	0.09	< 0.05	< 0.05	0.07	< 0.05	0.06	< 0.05	< 0.05	< 0.05	< 0.05	0.07
2	WS02	Topsoil	0.10	0.11	< 0.05	0.05	0.23	0.24	0.45	0.21	0.12	0.27	0.07	0.3	0.11	0.16	0.1	0.29	0.26
3	WS03	Natural	0.35	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	0.05
4	WS04	Made Ground	1.00	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
5	WS05	Made Ground	0.40	0.08	< 0.05	0.21	1.2	0.9	1.6	0.62	0.46	1.2	0.2	1.8	0.08	0.51	0.14	0.92	1.4
6	WS06	Made Ground	0.40	< 0.05	< 0.05	0.05	0.41	0.29	0.71	0.31	0.21	0.67	0.14	0.49	< 0.05	0.23	0.15	0.32	0.41
7	WS09	Made Ground	0.50	0.25	< 0.05	0.35	0.79	0.54	0.81	0.28	0.3	0.81	< 0.05	1.3	0.28	0.27	< 0.05	1	0.97
8	WS10	Made Ground	0.40	< 0.05	< 0.05	< 0.05	0.06	< 0.05	< 0.05	< 0.05	< 0.05	0.06	< 0.05	0.12	< 0.05	< 0.05	< 0.05	0.09	0.09
9	SA03	Made Ground	0.40	1.1	0.19	2	6.4	5	8.7	2.7	2.7	6	0.75	14	1	2.7	1.1	7.3	12
10	TP03	Topsoil	0.30	< 0.05	< 0.05	< 0.05	0.09	0.08	0.15	< 0.05	< 0.05	0.11	< 0.05	0.18	< 0.05	< 0.05	< 0.05	0.11	0.14
11	SA04	Made Ground	0.70	< 0.05	< 0.05	0.05	0.09	0.07	0.12	< 0.05	0.06	0.12	< 0.05	0.18	< 0.05	< 0.05	< 0.05	0.16	0.17
12	SA06	Made Ground	0.40	0.14	< 0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06	< 0.05	0.12	0.15	< 0.05	< 0.05	0.31	0.12
13	TP04	Made Ground	0.30	0.11	< 0.05	0.1	0.35	0.29	0.41	0.19	0.18	0.37	0.05	0.61	0.07	0.18	< 0.05	0.42	0.48
14	TP05	Made Ground	0.40	< 0.05	< 0.05	0.12	0.56	0.53	0.8	0.4	0.25	0.71	0.09	0.96	< 0.05	0.33	0.15	0.72	0.85
Screening Criteria Value				3000.0	2900.0	31000.0	11.0	3.2	3.9	360.0	110.0	30.0	0.31	1500.0	2800.0	45.0	2.3	1300.0	3700.0
Source of Screening Criteria Value				S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL

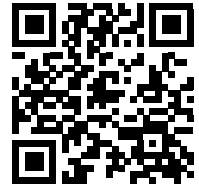
APPENDIX L

HAZWASTEONLINE PRELIMINARY WASTE CLASSIFICATION REPORT

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- understand the origin of the waste
- select the correct List of Waste code(s)
- confirm that the list of determinands, results and sampling plan are fit for purpose
- select and justify the chosen metal species (Appendix B)
- correctly apply moisture correction and other available corrections
- add the meta data for their user-defined substances (Appendix A)
- check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



RYGX1-3MY7S-GODMK

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

Job name

14209 Geotre Primary School Development

Description/Comments

Project

14209 Geotre Primary School Development

Site

14209 Geotre Primary School Development

Classified by

Name: **Jack Jones**
 Date: **18 Aug 2023 15:10 GMT**
 Telephone: **02920 807991**
 Company: **Intégral Géotechnique (Wales) Limited**
Intégral House, 7 Beddau Way, Castlegate
Business Park
Caerphilly
CF83 2AX

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification:

Course	Date
Hazardous Waste Classification	50% complete

Purpose of classification

2 - Material Characterisation

Address of the waste

Geotre Primary School, Merthyr Tydfil

Post Code N/A

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Development of a new primary school.

Description of the specific process, sub-process and/or activity that created the waste

Development of a new primary school.

Description of the waste

Made ground soils.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS01	0.30	Non Hazardous		3
2	WS04	1.00	Non Hazardous		5
3	WS05	0.40	Non Hazardous		7
4	WS06	0.40	Non Hazardous		9
5	WS09	0.50	Non Hazardous		11
6	WS10	0.40	Non Hazardous		13
7	SA03	0.40	Non Hazardous		15
8	SA04	0.70	Hazardous	HP 8	17
9	SA06	0.40	Non Hazardous		19
10	TP04	0.30	Non Hazardous		21
11	TP05	0.40	Non Hazardous		23

Related documents

#	Name	Description
1	Made Ground	waste stream template used to create this Job

Report

Created by: Jack Jones

Created date: 18 Aug 2023 15:10 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	25
Appendix B: Rationale for selection of metal species	26
Appendix C: Version	27

Classification of sample: WS01

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS01	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.30 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
6.8%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 6.8% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	arsenic { arsenic trioxide }	215-481-4	1327-53-3		8.2 mg/kg	1.32	10.827 mg/kg	0.00108 %			
5	benzo[a]anthracene	200-280-6	56-55-3		0.05 mg/kg		0.05 mg/kg	0.000005 %			
6	benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		0.06 mg/kg		0.06 mg/kg	0.000006 %			
7	benzo[b]fluoranthene	205-911-9	205-99-2		0.09 mg/kg		0.09 mg/kg	0.000009 %			
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	215-133-1	1304-56-9		2.3 mg/kg	2.775	6.383 mg/kg	0.000638 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.3 mg/kg	13.43	4.029 mg/kg	0.000403 %			
12	cadmium { cadmium sulfide }	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		16 mg/kg	1.462	23.385 mg/kg	0.00234 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %			<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	chrysene 601-048-00-0	205-923-4	218-01-9		0.07 mg/kg		0.07 mg/kg	0.000007 %			
16	copper { copper(II) chloride dihydrate } 231-210-2	10125-13-0			16 mg/kg	2.683	42.924 mg/kg	0.00429 %			
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
18	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
19	fluoranthene 205-912-4	206-44-0			0.06 mg/kg		0.06 mg/kg	0.000006 %			
20	fluorene 201-695-5	86-73-7			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
21	indeno[123-cd]pyrene 205-893-2	193-39-5			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
22	lead { lead chromate } 082-004-00-2	231-846-0	7758-97-6	1	23 mg/kg	1.56	35.876 mg/kg	0.0023 %			
23	mercury { mercury dichloride } 080-010-00-X	231-299-8	7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
24	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
25	nickel { nickel dihydroxide } 028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		14 mg/kg	1.579	22.113 mg/kg	0.00221 %			
26	pH PH				8.3 pH		8.3 pH	8.3 pH			
27	phenanthrene 201-581-5	85-01-8			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
28	phenol 604-001-00-2	203-632-7	108-95-2		<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
29	pyrene 204-927-3	129-00-0			0.07 mg/kg		0.07 mg/kg	0.000007 %			
30	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
31	zinc { zinc chromate } 024-007-00-3	236-878-9	13530-65-9		39 mg/kg	2.774	108.192 mg/kg	0.0108 %			
Total:									0.025 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS04

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS04	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1.00 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
2.6%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 2.6% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
4	arsenic { arsenic trioxide }	215-481-4	1327-53-3		4.3 mg/kg	1.32	5.677 mg/kg	0.000568 %			
5	benzo[a]anthracene	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	215-133-1	1304-56-9		5.4 mg/kg	2.775	14.987 mg/kg	0.0015 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.3 mg/kg	13.43	4.029 mg/kg	0.000403 %			
12	cadmium { cadmium sulfide }	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		14 mg/kg	1.462	20.462 mg/kg	0.00205 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %			<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	chrysene 601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
16	copper { copper(II) chloride dihydrate } 231-210-2	10125-13-0			8.3 mg/kg	2.683	22.267 mg/kg	0.00223 %			
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
18	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
19	fluoranthene 205-912-4	206-44-0			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
20	fluorene 201-695-5	86-73-7			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
21	indeno[123-cd]pyrene 205-893-2	193-39-5			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
22	lead { lead chromate } 082-004-00-2	231-846-0	7758-97-6	1	3.6 mg/kg	1.56	5.615 mg/kg	0.00036 %			
23	mercury { mercury dichloride } 080-010-00-X	231-299-8	7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
24	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
25	nickel { nickel dihydroxide } 028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		3.7 mg/kg	1.579	5.844 mg/kg	0.000584 %			
26	pH PH				10.1 pH		10.1 pH	10.1 pH			
27	phenanthrene 201-581-5	85-01-8			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
28	phenol 604-001-00-2	203-632-7	108-95-2		<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
29	pyrene 204-927-3	129-00-0			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
30	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
31	zinc { zinc chromate } 024-007-00-3	236-878-9	13530-65-9		7.9 mg/kg	2.774	21.916 mg/kg	0.00219 %			
Total:									0.0108 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS05

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS05	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
14%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 14% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		0.08 mg/kg		0.08 mg/kg		0.000008 %		
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		0.21 mg/kg		0.21 mg/kg		0.000021 %		
4	arsenic { arsenic trioxide }	215-481-4	1327-53-3		18 mg/kg	1.32	23.766 mg/kg		0.00238 %		
5	benzo[a]anthracene	200-280-6	56-55-3		1.2 mg/kg		1.2 mg/kg		0.00012 %		
6	benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		0.9 mg/kg		0.9 mg/kg		0.00009 %		
7	benzo[b]fluoranthene	205-911-9	205-99-2		1.6 mg/kg		1.6 mg/kg		0.00016 %		
8	benzo[ghi]perylene	205-883-8	191-24-2		0.62 mg/kg		0.62 mg/kg		0.000062 %		
9	benzo[k]fluoranthene	205-916-6	207-08-9		0.46 mg/kg		0.46 mg/kg		0.000046 %		
10	beryllium { beryllium oxide }	215-133-1	1304-56-9		1.6 mg/kg	2.775	4.441 mg/kg		0.000444 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.4 mg/kg	13.43	5.372 mg/kg		0.000537 %		
12	cadmium { cadmium sulfide }	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg		<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		22 mg/kg	1.462	32.154 mg/kg		0.00322 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg		<0.000346 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	chrysene				1.2 mg/kg		1.2 mg/kg	0.00012 %			
	601-048-00-0	205-923-4	218-01-9								
16	copper { copper(II) chloride dihydrate }				76 mg/kg	2.683	203.89 mg/kg	0.0204 %			
		231-210-2	10125-13-0								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
		006-007-00-5									
18	dibenz[a,h]anthracene				0.2 mg/kg		0.2 mg/kg	0.00002 %			
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				1.8 mg/kg		1.8 mg/kg	0.00018 %			
		205-912-4	206-44-0								
20	fluorene				0.08 mg/kg		0.08 mg/kg	0.000008 %			
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				0.51 mg/kg		0.51 mg/kg	0.000051 %			
		205-893-2	193-39-5								
22	lead { lead chromate }			1	130 mg/kg	1.56	202.776 mg/kg	0.013 %			
	082-004-00-2	231-846-0	7758-97-6								
23	mercury { mercury dichloride }				0.6 mg/kg	1.353	0.812 mg/kg	0.0000812 %			
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				0.14 mg/kg		0.14 mg/kg	0.000014 %			
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				29 mg/kg	1.579	45.805 mg/kg	0.00458 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH		PH		8.2 pH		8.2 pH	8.2 pH			
27	phenanthrene				0.92 mg/kg		0.92 mg/kg	0.000092 %			
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				1.4 mg/kg		1.4 mg/kg	0.00014 %			
		204-927-3	129-00-0								
30	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
		034-002-00-8									
31	zinc { zinc chromate }				150 mg/kg	2.774	416.122 mg/kg	0.0416 %			
	024-007-00-3	236-878-9	13530-65-9								
Total:									0.0882 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS06

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS06	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
19%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 19% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		0.05 mg/kg		0.05	mg/kg	0.000005 %		
4	arsenic { arsenic trioxide }	215-481-4	1327-53-3		15 mg/kg	1.32	19.805	mg/kg	0.00198 %		
5	benzo[a]anthracene	200-280-6	56-55-3		0.41 mg/kg		0.41	mg/kg	0.000041 %		
6	benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		0.29 mg/kg		0.29	mg/kg	0.000029 %		
7	benzo[b]fluoranthene	205-911-9	205-99-2		0.71 mg/kg		0.71	mg/kg	0.000071 %		
8	benzo[ghi]perylene	205-883-8	191-24-2		0.31 mg/kg		0.31	mg/kg	0.000031 %		
9	benzo[k]fluoranthene	205-916-6	207-08-9		0.21 mg/kg		0.21	mg/kg	0.000021 %		
10	beryllium { beryllium oxide }	215-133-1	1304-56-9		1.2 mg/kg	2.775	3.33	mg/kg	0.000333 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.4 mg/kg	13.43	5.372	mg/kg	0.000537 %		
12	cadmium { cadmium sulfide }	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		20 mg/kg	1.462	29.231	mg/kg	0.00292 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	chrysene				0.67 mg/kg		0.67 mg/kg	0.000067 %			
	601-048-00-0	205-923-4	218-01-9								
16	copper { copper(II) chloride dihydrate }				180 mg/kg	2.683	482.897 mg/kg	0.0483 %			
		231-210-2	10125-13-0								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
		006-007-00-5									
18	dibenz[a,h]anthracene				0.14 mg/kg		0.14 mg/kg	0.000014 %			
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				0.49 mg/kg		0.49 mg/kg	0.000049 %			
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				0.23 mg/kg		0.23 mg/kg	0.000023 %			
		205-893-2	193-39-5								
22	lead { lead chromate }			1	180 mg/kg	1.56	280.767 mg/kg	0.018 %			
	082-004-00-2	231-846-0	7758-97-6								
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				0.15 mg/kg		0.15 mg/kg	0.000015 %			
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				23 mg/kg	1.579	36.328 mg/kg	0.00363 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH		PH		8.7 pH		8.7 pH	8.7 pH			
27	phenanthrene				0.32 mg/kg		0.32 mg/kg	0.000032 %			
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				0.41 mg/kg		0.41 mg/kg	0.000041 %			
		204-927-3	129-00-0								
30	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
		034-002-00-8									
31	zinc { zinc chromate }				140 mg/kg	2.774	388.381 mg/kg	0.0388 %			
	024-007-00-3	236-878-9	13530-65-9								
Total:									0.116 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS09

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS09	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
9.9%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 9.9% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	acenaphthene	201-469-6	83-32-9		0.25 mg/kg		0.25 mg/kg	0.000025 %		
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		0.35 mg/kg		0.35 mg/kg	0.000035 %		
4	arsenic { arsenic trioxide }	215-481-4	1327-53-3		11 mg/kg	1.32	14.524 mg/kg	0.00145 %		
5	benzo[a]anthracene	200-280-6	56-55-3		0.79 mg/kg		0.79 mg/kg	0.000079 %		
6	benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		0.54 mg/kg		0.54 mg/kg	0.000054 %		
7	benzo[b]fluoranthene	205-911-9	205-99-2		0.81 mg/kg		0.81 mg/kg	0.000081 %		
8	benzo[ghi]perylene	205-883-8	191-24-2		0.28 mg/kg		0.28 mg/kg	0.000028 %		
9	benzo[k]fluoranthene	205-916-6	207-08-9		0.3 mg/kg		0.3 mg/kg	0.00003 %		
10	beryllium { beryllium oxide }	215-133-1	1304-56-9		0.76 mg/kg	2.775	2.109 mg/kg	0.000211 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.6 mg/kg	13.43	8.058 mg/kg	0.000806 %		
12	cadmium { cadmium sulfide }	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		16 mg/kg	1.462	23.385 mg/kg	0.00234 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chrysene				0.81 mg/kg		0.81 mg/kg	0.000081 %		
	601-048-00-0	205-923-4	218-01-9							
16	copper { copper(II) chloride dihydrate }				19 mg/kg	2.683	50.972 mg/kg	0.0051 %		
		231-210-2	10125-13-0							
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
		006-007-00-5								
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				1.3 mg/kg		1.3 mg/kg	0.00013 %		
		205-912-4	206-44-0							
20	fluorene				0.28 mg/kg		0.28 mg/kg	0.000028 %		
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				0.27 mg/kg		0.27 mg/kg	0.000027 %		
		205-893-2	193-39-5							
22	lead { lead chromate }			1	27 mg/kg	1.56	42.115 mg/kg	0.0027 %		
	082-004-00-2	231-846-0	7758-97-6							
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
25	nickel { nickel dihydroxide }				17 mg/kg	1.579	26.851 mg/kg	0.00269 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH		PH		8.5 pH		8.5 pH	8.5 pH		
27	phenanthrene				1 mg/kg		1 mg/kg	0.0001 %		
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				0.97 mg/kg		0.97 mg/kg	0.000097 %		
		204-927-3	129-00-0							
30	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
		034-002-00-8								
31	zinc { zinc chromate }				49 mg/kg	2.774	135.933 mg/kg	0.0136 %		
	024-007-00-3	236-878-9	13530-65-9							
Total:								0.0305 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS10

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
WS10	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
20%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 20% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	215-481-4	1327-53-3		27 mg/kg	1.32	35.649 mg/kg		0.00356 %		
5	benzo[a]anthracene	200-280-6	56-55-3		0.06 mg/kg		0.06 mg/kg		0.000006 %		
6	benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
7	benzo[b]fluoranthene	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
9	benzo[k]fluoranthene	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
10	beryllium { beryllium oxide }	215-133-1	1304-56-9		0.39 mg/kg	2.775	1.082 mg/kg		0.000108 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.7 mg/kg	13.43	9.401 mg/kg		0.00094 %		
12	cadmium { cadmium sulfide }	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg		<0.00002 %		<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		14 mg/kg	1.462	20.462 mg/kg		0.00205 %		
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg		<0.000346 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	chrysene				0.06 mg/kg		0.06 mg/kg	0.000006 %			
	601-048-00-0	205-923-4	218-01-9								
16	copper { copper(II) chloride dihydrate }				18 mg/kg	2.683	48.29 mg/kg	0.00483 %			
		231-210-2	10125-13-0								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
		006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				0.12 mg/kg		0.12 mg/kg	0.000012 %			
		205-912-4	206-44-0								
20	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead { lead chromate }			1	48 mg/kg	1.56	74.871 mg/kg	0.0048 %			
	082-004-00-2	231-846-0	7758-97-6								
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				12 mg/kg	1.579	18.954 mg/kg	0.0019 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH		PH		7 pH		7 pH	7pH			
27	phenanthrene				0.09 mg/kg		0.09 mg/kg	0.000009 %			
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				0.09 mg/kg		0.09 mg/kg	0.000009 %			
		204-927-3	129-00-0								
30	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
		034-002-00-8									
31	zinc { zinc chromate }				73 mg/kg	2.774	202.513 mg/kg	0.0203 %			
	024-007-00-3	236-878-9	13530-65-9								
Total:									0.0394 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: SA03

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
SA03	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
15%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 15% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		1.1 mg/kg		1.1 mg/kg	0.00011 %			
2	acenaphthylene	205-917-1	208-96-8		0.19 mg/kg		0.19 mg/kg	0.000019 %			
3	anthracene	204-371-1	120-12-7		2 mg/kg		2 mg/kg	0.0002 %			
4	arsenic { arsenic trioxide }	215-481-4	1327-53-3		14 mg/kg	1.32	18.485 mg/kg	0.00185 %			
5	benzo[a]anthracene	200-280-6	56-55-3		6.4 mg/kg		6.4 mg/kg	0.00064 %			
6	benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		5 mg/kg		5 mg/kg	0.0005 %			
7	benzo[b]fluoranthene	205-911-9	205-99-2		8.7 mg/kg		8.7 mg/kg	0.00087 %			
8	benzo[ghi]perylene	205-883-8	191-24-2		2.7 mg/kg		2.7 mg/kg	0.00027 %			
9	benzo[k]fluoranthene	205-916-6	207-08-9		2.7 mg/kg		2.7 mg/kg	0.00027 %			
10	beryllium { beryllium oxide }	215-133-1	1304-56-9		1.3 mg/kg	2.775	3.608 mg/kg	0.000361 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.4 mg/kg	13.43	5.372 mg/kg	0.000537 %			
12	cadmium { cadmium sulfide }	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		30 mg/kg	1.462	43.847 mg/kg	0.00438 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %			<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chrysene				6 mg/kg		6 mg/kg	0.0006 %		
	601-048-00-0	205-923-4	218-01-9							
16	copper { copper(II) chloride dihydrate }				33 mg/kg	2.683	88.531 mg/kg	0.00885 %		
		231-210-2	10125-13-0							
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
		006-007-00-5								
18	dibenz[a,h]anthracene				0.75 mg/kg		0.75 mg/kg	0.000075 %		
	601-041-00-2	200-181-8	53-70-3							
19	fluoranthene				14 mg/kg		14 mg/kg	0.0014 %		
		205-912-4	206-44-0							
20	fluorene				1 mg/kg		1 mg/kg	0.0001 %		
		201-695-5	86-73-7							
21	indeno[123-cd]pyrene				2.7 mg/kg		2.7 mg/kg	0.00027 %		
		205-893-2	193-39-5							
22	lead { lead chromate }			1	57 mg/kg	1.56	88.909 mg/kg	0.0057 %		
	082-004-00-2	231-846-0	7758-97-6							
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
24	naphthalene				1.1 mg/kg		1.1 mg/kg	0.00011 %		
	601-052-00-2	202-049-5	91-20-3							
25	nickel { nickel dihydroxide }				19 mg/kg	1.579	30.01 mg/kg	0.003 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
26	pH		PH		8.5 pH		8.5 pH	8.5 pH		
27	phenanthrene				7.3 mg/kg		7.3 mg/kg	0.00073 %		
		201-581-5	85-01-8							
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
29	pyrene				12 mg/kg		12 mg/kg	0.0012 %		
		204-927-3	129-00-0							
30	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
		034-002-00-8								
31	zinc { zinc chromate }				86 mg/kg	2.774	238.577 mg/kg	0.0239 %		
	024-007-00-3	236-878-9	13530-65-9							
Total:								0.0567 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: SA04

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:	LoW Code:
SA04	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
0.70 m	
Moisture content:	
12%	
(no correction)	

Hazard properties

HP 8: Corrosive "waste which on application can cause skin corrosion"

pH; pH "Assumed to be irritant/corrosive because of pH value"

Because of determinand:

pH: (conc.: 12.1 pH)

Determinands

Moisture content: **12% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
3	anthracene	204-371-1	120-12-7		0.05 mg/kg		0.05 mg/kg		0.000005 %		
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		12 mg/kg	1.32	15.844 mg/kg		0.00158 %		
5	benzo[a]anthracene	601-033-00-9	200-280-6		0.09 mg/kg		0.09 mg/kg		0.000009 %		
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.07 mg/kg		0.07 mg/kg		0.000007 %		
7	benzo[b]fluoranthene	601-034-00-4	205-911-9		0.12 mg/kg		0.12 mg/kg		0.000012 %		
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
9	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.06 mg/kg		0.06 mg/kg		0.000006 %		
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1		0.87 mg/kg	2.775	2.415 mg/kg		0.000241 %		
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		1.7 mg/kg	13.43	22.831 mg/kg		0.00228 %		
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1	<0.2 mg/kg	1.285	<0.257 mg/kg		<0.00002 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		17 mg/kg	1.462	24.846 mg/kg	0.00248 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %			<LOD
15	chrysene	601-048-00-0	205-923-4	218-01-9	0.12 mg/kg		0.12 mg/kg	0.000012 %			
16	copper { copper(II) chloride dihydrate }	231-210-2	10125-13-0		18 mg/kg	2.683	48.29 mg/kg	0.00483 %			
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5			<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
18	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
19	fluoranthene		205-912-4	206-44-0	0.18 mg/kg		0.18 mg/kg	0.000018 %			
20	fluorene		201-695-5	86-73-7	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
21	indeno[123-cd]pyrene		205-893-2	193-39-5	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
22	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	27 mg/kg	1.56	42.115 mg/kg	0.0027 %			
23	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
24	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
25	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]	15 mg/kg	1.579	23.692 mg/kg	0.00237 %			
26	pH			PH	12.1 pH		12.1 pH	12.1 pH			
27	phenanthrene		201-581-5	85-01-8	0.16 mg/kg		0.16 mg/kg	0.000016 %			
28	phenol	604-001-00-2	203-632-7	108-95-2	<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
29	pyrene		204-927-3	129-00-0	0.17 mg/kg		0.17 mg/kg	0.000017 %			
30	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
31	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9	43 mg/kg	2.774	119.288 mg/kg	0.0119 %			
Total:									0.0294 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: SA06

✓ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
SA06	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
18%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 18% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		0.14 mg/kg		0.14 mg/kg	0.000014 %			
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		0.05 mg/kg		0.05 mg/kg	0.000005 %			
4	arsenic { arsenic trioxide }	215-481-4	1327-53-3		11 mg/kg	1.32	14.524 mg/kg	0.00145 %			
5	benzo[a]anthracene	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
6	benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
7	benzo[b]fluoranthene	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
8	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
9	benzo[k]fluoranthene	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
10	beryllium { beryllium oxide }	215-133-1	1304-56-9		0.76 mg/kg	2.775	2.109 mg/kg	0.000211 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		1.2 mg/kg	13.43	16.116 mg/kg	0.00161 %			
12	cadmium { cadmium sulfide }	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		16 mg/kg	1.462	23.385 mg/kg	0.00234 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %			<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	chrysene				0.06 mg/kg		0.06 mg/kg	0.000006 %			
	601-048-00-0	205-923-4	218-01-9								
16	copper { copper(II) chloride dihydrate }				17 mg/kg	2.683	45.607 mg/kg	0.00456 %			
		231-210-2	10125-13-0								
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
		006-007-00-5									
18	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
19	fluoranthene				0.12 mg/kg		0.12 mg/kg	0.000012 %			
		205-912-4	206-44-0								
20	fluorene				0.15 mg/kg		0.15 mg/kg	0.000015 %			
		201-695-5	86-73-7								
21	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
22	lead { lead chromate }			1	28 mg/kg	1.56	43.675 mg/kg	0.0028 %			
	082-004-00-2	231-846-0	7758-97-6								
23	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
24	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
25	nickel { nickel dihydroxide }				16 mg/kg	1.579	25.272 mg/kg	0.00253 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
26	pH		PH		9.1 pH		9.1 pH	9.1 pH			
27	phenanthrene				0.31 mg/kg		0.31 mg/kg	0.000031 %			
		201-581-5	85-01-8								
28	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
29	pyrene				0.12 mg/kg		0.12 mg/kg	0.000012 %			
		204-927-3	129-00-0								
30	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
		034-002-00-8									
31	zinc { zinc chromate }				49 mg/kg	2.774	135.933 mg/kg	0.0136 %			
	024-007-00-3	236-878-9	13530-65-9								
Total:									0.0301 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP04

✓ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP04	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.30 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
13%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 13% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		0.11 mg/kg		0.11 mg/kg	0.000011 %			
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		0.1 mg/kg		0.1 mg/kg	0.00001 %			
4	arsenic { arsenic trioxide }	215-481-4	1327-53-3		12 mg/kg	1.32	15.844 mg/kg	0.00158 %			
5	benzo[a]anthracene	200-280-6	56-55-3		0.35 mg/kg		0.35 mg/kg	0.000035 %			
6	benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		0.29 mg/kg		0.29 mg/kg	0.000029 %			
7	benzo[b]fluoranthene	205-911-9	205-99-2		0.41 mg/kg		0.41 mg/kg	0.000041 %			
8	benzo[ghi]perylene	205-883-8	191-24-2		0.19 mg/kg		0.19 mg/kg	0.000019 %			
9	benzo[k]fluoranthene	205-916-6	207-08-9		0.18 mg/kg		0.18 mg/kg	0.000018 %			
10	beryllium { beryllium oxide }	215-133-1	1304-56-9		0.77 mg/kg	2.775	2.137 mg/kg	0.000214 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		0.8 mg/kg	13.43	10.744 mg/kg	0.00107 %			
12	cadmium { cadmium sulfide }	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		13 mg/kg	1.462	19 mg/kg	0.0019 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %			<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chrysene 601-048-00-0	205-923-4	218-01-9		0.37 mg/kg		0.37 mg/kg	0.000037 %		
16	copper { copper(II) chloride dihydrate } 231-210-2	10125-13-0			24 mg/kg	2.683	64.386 mg/kg	0.00644 %		
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
18	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		0.05 mg/kg		0.05 mg/kg	0.000005 %		
19	fluoranthene 205-912-4	206-44-0			0.61 mg/kg		0.61 mg/kg	0.000061 %		
20	fluorene 201-695-5	86-73-7			0.07 mg/kg		0.07 mg/kg	0.000007 %		
21	indeno[123-cd]pyrene 205-893-2	193-39-5			0.18 mg/kg		0.18 mg/kg	0.000018 %		
22	lead { lead chromate } 082-004-00-2	231-846-0	7758-97-6	1	46 mg/kg	1.56	71.751 mg/kg	0.0046 %		
23	mercury { mercury dichloride } 080-010-00-X	231-299-8	7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
24	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
25	nickel { nickel dihydroxide } 028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		20 mg/kg	1.579	31.59 mg/kg	0.00316 %		
26	pH PH				7.9 pH		7.9 pH	7.9 pH		
27	phenanthrene 201-581-5	85-01-8			0.42 mg/kg		0.42 mg/kg	0.000042 %		
28	phenol 604-001-00-2	203-632-7	108-95-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
29	pyrene 204-927-3	129-00-0			0.48 mg/kg		0.48 mg/kg	0.000048 %		
30	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
31	zinc { zinc chromate } 024-007-00-3	236-878-9	13530-65-9		57 mg/kg	2.774	158.126 mg/kg	0.0158 %		
Total:								0.036 %		

Key	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP05

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP05	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
18%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: **18% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
2	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
3	anthracene	204-371-1	120-12-7		0.12 mg/kg		0.12 mg/kg	0.000012 %			
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	35 mg/kg	1.32	46.211 mg/kg	0.00462 %			
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.56 mg/kg		0.56 mg/kg	0.000056 %			
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.53 mg/kg		0.53 mg/kg	0.000053 %			
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.8 mg/kg		0.8 mg/kg	0.00008 %			
8	benzo[ghi]perylene	205-883-8	191-24-2		0.4 mg/kg		0.4 mg/kg	0.00004 %			
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.25 mg/kg		0.25 mg/kg	0.000025 %			
10	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	1.3 mg/kg	2.775	3.608 mg/kg	0.000361 %			
11	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		1.2 mg/kg	13.43	16.116 mg/kg	0.00161 %			
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
13	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		17 mg/kg	1.462	24.846 mg/kg	0.00248 %			
14	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %			<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chrysene 601-048-00-0	205-923-4	218-01-9		0.71 mg/kg		0.71 mg/kg	0.000071 %		
16	copper { copper(II) chloride dihydrate } 231-210-2	10125-13-0			120 mg/kg	2.683	321.931 mg/kg	0.0322 %		
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
18	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		0.09 mg/kg		0.09 mg/kg	0.000009 %		
19	fluoranthene 205-912-4	206-44-0			0.96 mg/kg		0.96 mg/kg	0.000096 %		
20	fluorene 201-695-5	86-73-7			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
21	indeno[123-cd]pyrene 205-893-2	193-39-5			0.33 mg/kg		0.33 mg/kg	0.000033 %		
22	lead { lead chromate } 082-004-00-2	231-846-0	7758-97-6	1	220 mg/kg	1.56	343.159 mg/kg	0.022 %		
23	mercury { mercury dichloride } 080-010-00-X	231-299-8	7487-94-7		0.6 mg/kg	1.353	0.812 mg/kg	0.0000812 %		
24	naphthalene 601-052-00-2	202-049-5	91-20-3		0.15 mg/kg		0.15 mg/kg	0.000015 %		
25	nickel { nickel dihydroxide } 028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		34 mg/kg	1.579	53.703 mg/kg	0.00537 %		
26	pH PH				7.5 pH		7.5 pH	7.5 pH		
27	phenanthrene 201-581-5	85-01-8			0.72 mg/kg		0.72 mg/kg	0.000072 %		
28	phenol 604-001-00-2	203-632-7	108-95-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
29	pyrene 204-927-3	129-00-0			0.85 mg/kg		0.85 mg/kg	0.000085 %		
30	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
31	zinc { zinc chromate } 024-007-00-3	236-878-9	13530-65-9		170 mg/kg	2.774	471.605 mg/kg	0.0472 %		
Total:								0.117 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non GB MCL determinands

• **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Aquatic Chronic 2; H411

• **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302, Acute Tox. 1; H330, Acute Tox. 1; H310, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315

• **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

• **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 23 Jul 2015

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

• **boron tribromide/trichloride/trifluoride (combined)** (CAS Number: 10294-33-4, 10294-34-5, 7637-07-2)

Description/Comments: Combines the hazard statements and the average of the conversion factors for boron tribromide, boron trichloride and boron trifluoride

Data source: N/A

Data source date: 06 Aug 2015

Hazard Statements: EUH014, Acute Tox. 2; H330, Acute Tox. 2; H300, Skin Corr. 1A; H314, Skin Corr. 1B; H314

• **chromium(III) oxide (worst case)** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332, Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Resp. Sens. 1; H334, Skin Sens. 1; H317, Repr. 1B; H360FD, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

• **copper(II) chloride dihydrate** (EC Number: 231-210-2, CAS Number: 10125-13-0)

Description/Comments: C&L for copper (II) chloride (anhydrous) CAS 7447-39-4

Data source:

Data source date: 03 Nov 2016

Hazard Statements: Skin Irrit. 2; H315, Acute Tox. 4; H302, Eye Dam. 1; H318, Acute Tox. 4; H312, STOT SE 3; H335, Eye Irrit. 2; H319, Acute Tox. 3; H301, Acute Tox. 4; H332, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

• **salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex**

GB MCL index number: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazards Statement(s):

20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

• **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4; H302, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

• **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

■ **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

■ **pH** (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

■ **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

■ **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case species based on hazard statements

beryllium {beryllium oxide}

Worst case species based on hazard statements

boron {boron tribromide/trichloride/trifluoride (combined)}

Worst case species based on hazard statements

cadmium {cadmium sulfide}

Worst case species based on hazard statements

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

Worst case species based on hazard statements

chromium in chromium(VI) compounds {chromium(VI) oxide}

Worst case species based on hazard statements

copper {copper(II) chloride dihydrate}

test

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Worst case species

lead {lead chromate}

Worst case species based on hazard statements

mercury {mercury dichloride}

Worst case species based on hazard statements

nickel {nickel dihydroxide}

Worst case species based on hazard statements

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

Worst case species based on hazard statements

zinc {zinc chromate}

Worst case species based on hazard statements

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**

HazWasteOnline Classification Engine Version: 2023.226.5717.10536 (14 Aug 2023)

HazWasteOnline Database: 2023.226.5717.10536 (14 Aug 2023)

This classification utilises the following guidance and legislation:

WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021

CLP Regulation - Regulation 1272/2008/EC of 16 December 2008

1st ATP - Regulation 790/2009/EC of 10 August 2009

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014

Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

10th ATP - Regulation (EU) 2017/776 of 4 May 2017

HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017

13th ATP - Regulation (EU) 2018/1480 of 4 October 2018

14th ATP - Regulation (EU) 2020/217 of 4 October 2019

15th ATP - Regulation (EU) 2020/1182 of 19 May 2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020

GB MCL List - version 1.1 of 09 June 2021

FIGURES

Site Location

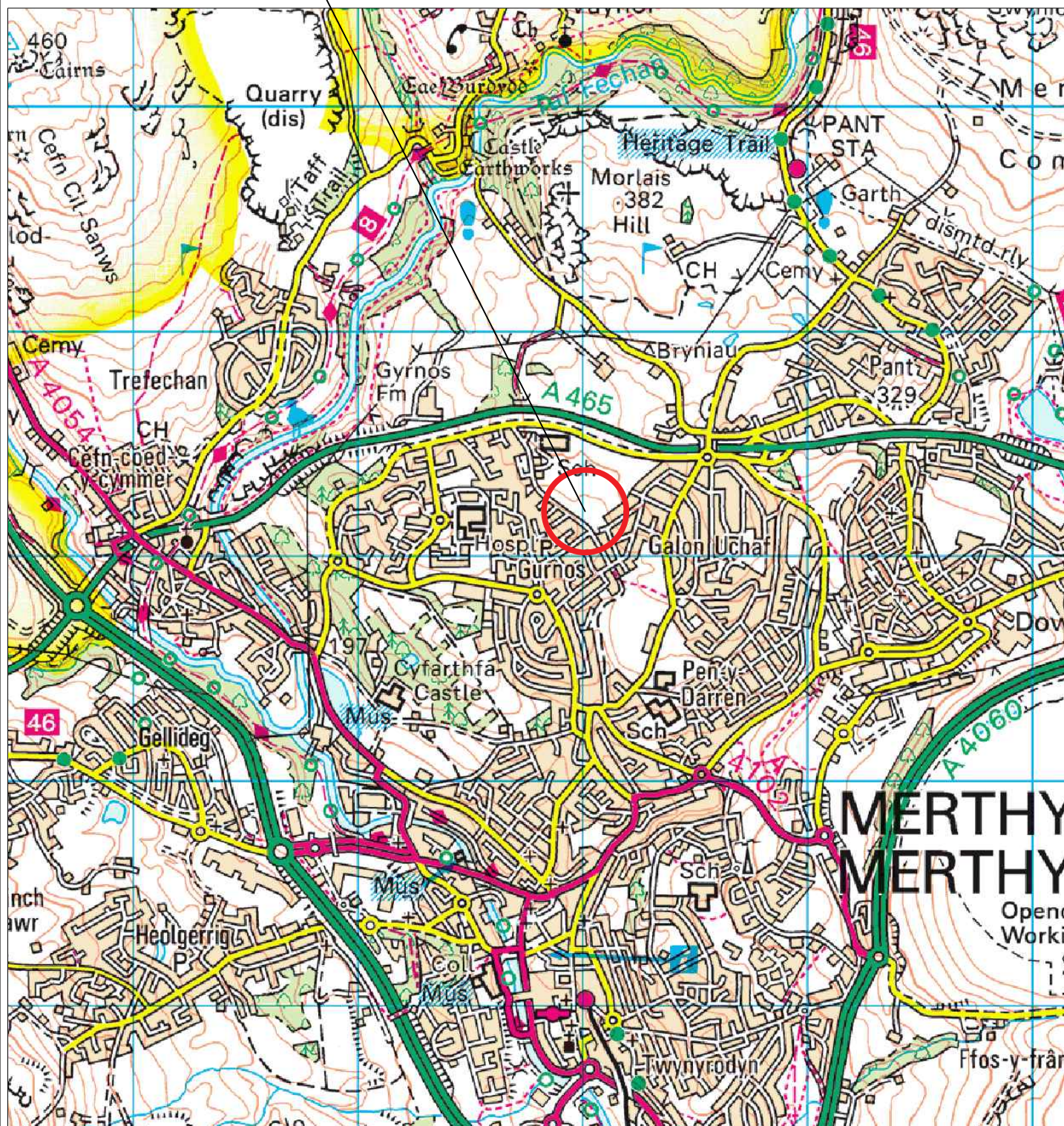


Figure 1: Site Location

Project: Proposed Geotre Primary School

Job no.: 14209

Client: Morgan Sindall

Scale: 1:25,000 at A4

Intégral
Géotechnique

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