

APPENDIX 10.6 GROUNDSURE REPORTS



Wardell Armstrong LLP
22, WINDSOR PLACE,
CARDIFF, CF10 3BY

Groundsure Reference: GS-6079652
Your Reference: Bryn_Henllys_Extension

Report Date 6 Jun 2019

Report Delivery Method: Email - pdf

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Address: 276031, 212872,

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Managing Director
Groundsure Limited

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Address: 276031, 212872,
Date: 6 Jun 2019
Reference: GS-6079652
Client: Wardell Armstrong LLP



Aerial Photograph Capture date: 26-May-2017
Grid Reference: 276030,212509
Site Size: 25.0930ha

Report Reference: GS-6079652
Client Reference: Bryn_Henllys_Extension

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	10	15	78	50
1.2 Additional Information – Historical Tank Database	0	0	3	4
1.3 Additional Information – Historical Energy Features Database	0	0	0	2
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	2
1.6 Historical military sites	0	0	0	0
1.7 Potentially Infilled Land	10	12	64	45
Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	1	0	0
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	1	1	1	3
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	5	3
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	0	0	0	3
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	1	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	0	0	0	14

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	0	10	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	0
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Records of Artificial Ground and Made Ground present beneath the study site	Identified
5.2 Records of Superficial Ground and Drift Geology present beneath the study site	Identified
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology				0-500m		
6.1 Records of Strata Classification in the Superficial Geology within 500m of the study site				Identified		
6.2 Records of Strata Classification in the Bedrock Geology within 500m of the study site				Identified		
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	1
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	2	2	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	2	0	0	1	Not searched	Not searched

Section 6: Hydrogeology and Hydrology	0-500m					
	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site	No	No	No	No	Yes	Yes
6.10 Ordnance Survey MasterMap Water Network entries within 500m of the site	4	10	92	88	Not searched	Not searched
6.11 Surface water features within 250m of the study site	Yes	Yes	Yes	Not searched	Not searched	Not searched

Section 7: Flooding	
7.1 Environment Agency Zone 2 floodplains within 250m of the study site	Identified
7.2 Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	Identified
7.3 Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site	Very Low
7.4 Flood Defences within 250m of the study site	None identified
7.5 Areas benefiting from Flood Defences within 250m of the study site	None identified
7.6 Areas used for Flood Storage within 250m of the study site	None identified
7.7 Maximum BGS Groundwater Flooding susceptibility within 50m of the study site	Potential at Surface
7.8 BGS confidence rating for the Groundwater Flooding susceptibility areas	High

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	1	0	0	0
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	4	8	7	22	21
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.11 Records of National Parks	0	0	1	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0
8.14 Records of Green Belt land	0	0	0	0	0	0

Section 9: Natural Hazards	
9.1 Maximum risk of natural ground subsidence	Very Low
9.1.1 Maximum Shrink-Swell hazard rating identified on the study site	Very Low
9.1.2 Maximum Landslides hazard rating identified on the study site	Moderate
9.1.3 Maximum Soluble Rocks hazard rating identified on the study site	Negligible
9.1.4 Maximum Compressible Ground hazard rating identified on the study site	Very Low
9.1.5 Maximum Collapsible Rocks hazard rating identified on the study site	Very Low
9.1.6 Maximum Running Sand hazard rating identified on the study site	Very Low
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The site is in a Radon Affected Area, as between 1 and 3% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.

Section 10: Mining	
10.1 Coal mining areas within 75m of the study site	Identified
10.2 Non-Coal Mining areas within 50m of the study site boundary	None identified
10.3 Brine affected areas within 75m of the study site	None identified

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licences, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

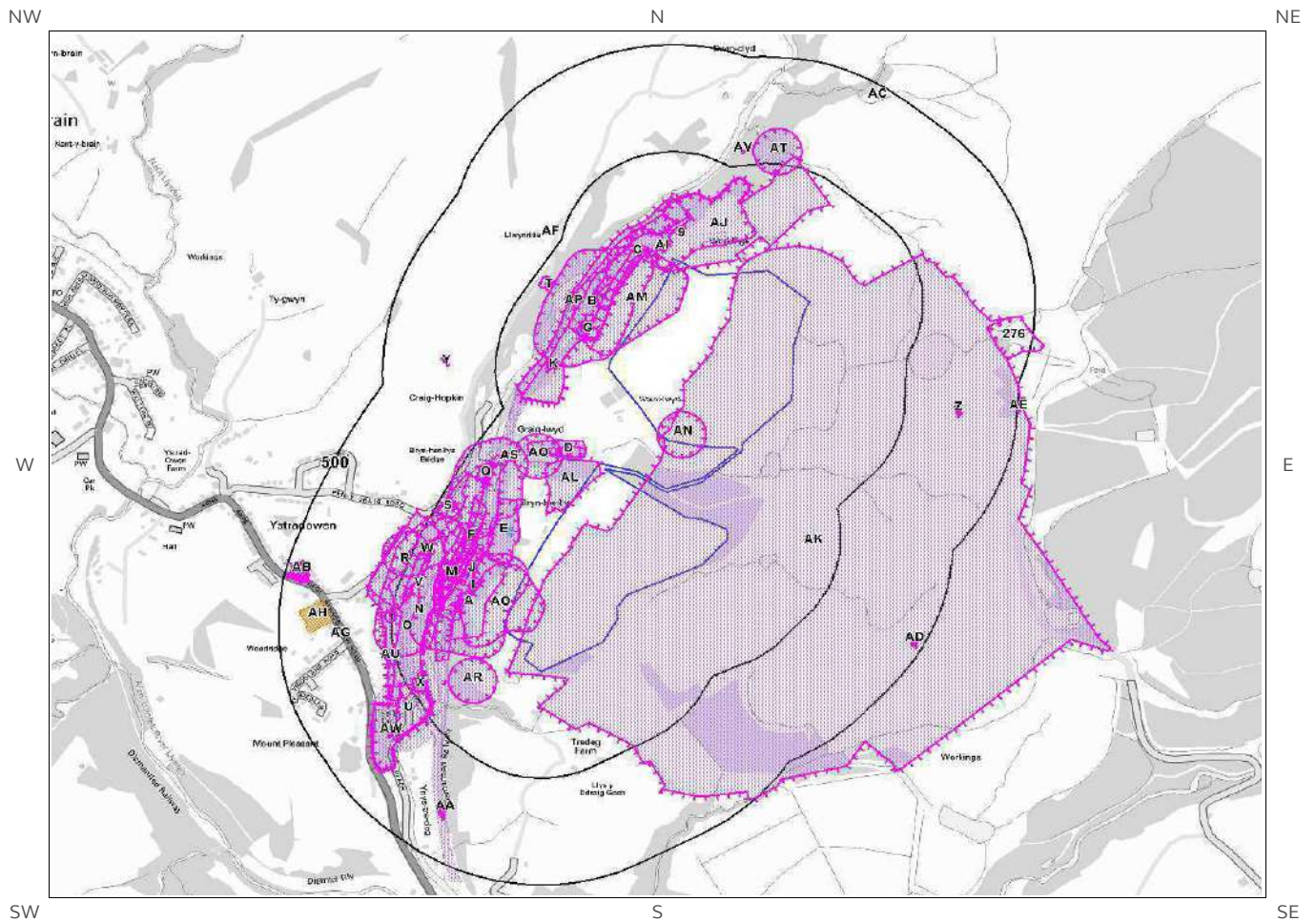
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

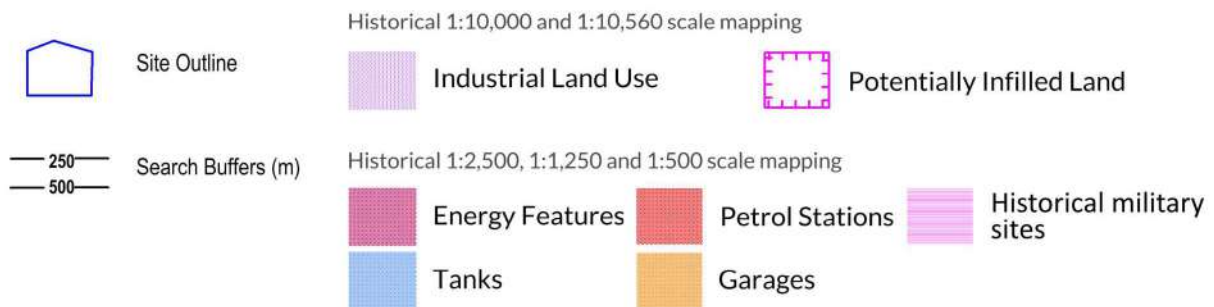
Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



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1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 153

ID	Distance [m]	Direction	Use	Date
1A	0	On Site	Colliery	1903
2AL	0	On Site	Old Brick Works	1921
3AN	0	On Site	Coal Levels	1877
4AI	0	On Site	Unspecified Disused Mine	1965
5AO	0	On Site	Unspecified Disused Mine	1985
6A	0	On Site	Colliery	1877
7AM	0	On Site	Unspecified Disused Mine	1985
8AJ	0	On Site	Refuse Heap	1985
9	0	On Site	Refuse Heap	1965
10AK	0	On Site	Opencast Workings	1965
11B	5	NW	Colliery	1948
12H	26	N	Railway Sidings	1948
13B	30	NW	Colliery	1921
14	33	NW	Railway Sidings	1921
15B	33	NW	Colliery	1921
16B	33	NW	Colliery	1921
17C	33	NW	Refuse Heap	1921
18C	33	NW	Refuse Heap	1921
19B	36	NW	Tramway Sidings	1921
20D	38	NW	Unspecified Quarry	1948
21D	38	NW	Unspecified Old Quarry	1877
22D	38	NW	Unspecified Old Quarry	1903
23D	39	NW	Refuse Heap	1985
24A	40	NW	Disused Colliery	1921
25E	43	NW	Unspecified Disused Mine	1965
26G	57	NW	Colliery	1921
27E	67	NW	Unspecified Tank	1985
28E	67	NW	Unspecified Tank	1965
29AQ	69	NW	Old Coal Level	1877
30AR	71	SW	Old Coal Drift	1877
31F	81	NW	Railway Sidings	1903
32F	81	W	Colliery	1901
33G	86	NW	Drift	1921
34B	86	NW	Railway Buildings	1903

35I	87	W	Unspecified Pit	1877
36G	87	NW	Railway Building	1903
37H	88	NW	Brick Works	1903
38I	92	W	Colliery	1948
39G	93	NW	Unspecified Drift	1903
40G	93	NW	Unspecified Drift	1948
41I	94	W	Disused Colliery	1921
42I	94	W	Disused Colliery	1921
43G	94	NW	Unspecified Drift	1921
44I	97	W	Old Air Shaft	1903
45A	103	NW	Disused Colliery	1921
46J	106	W	Railway Sidings	1921
47J	107	NW	Unspecified Heap	1901
48A	111	W	Drift	1877
49K	115	W	Old Coal Level	1877
50P	115	NW	Railway Sidings	1877
51K	116	W	Unspecified Disused Level	1985
52K	118	W	Old Coal Level	1901
53J	121	W	Tramway Sidings	1921
54L	121	NW	Tramway Sidings	1921
55J	123	NW	Railway Sidings	1921
56K	124	W	Old Coal Level	1921
57K	124	W	Old Coal Level	1921
58K	124	W	Old Coal Level	1921
59K	125	W	Old Coal Level	1948
60L	125	W	Railway Sidings	1921
61K	126	W	Old Coal Level	1921
62J	126	NW	Refuse Heap	1965
63AP	128	NW	Tramway Sidings	1921
64F	134	NW	Refuse Heap	1985
65M	138	NW	Refuse Heaps	1921
66M	138	NW	Refuse Heaps	1921
67V	141	W	Colliery	1948
68N	156	W	Colliery	1921
69O	160	W	Colliery	1921
70N	160	W	Colliery	1921
71O	160	W	Colliery	1921
72AS	166	NW	Coal Level	1877
73O	167	W	Tramway Sidings	1921
74O	170	W	Railway Sidings	1921
75O	170	W	Railway Sidings	1921
76Q	173	NW	Old Brick Works	1921
77P	174	SW	Old Coal Drift	1901
78Q	174	NW	Old Brick Works	1921
79Q	183	NW	Unspecified Heap	1877
80U	190	SW	Woollen Factory	1903

81R	199	NW	Unspecified Disused Mine	1965
82R	199	NW	Unspecified Disused Mine	1985
83S	202	NW	Refuse Heap	1985
84S	202	NW	Refuse Heap	1965
85N	207	W	Railway Sidings	1921
86T	207	NW	Coal Levels	1877
87R	207	W	Unspecified Drift	1948
88S	207	NW	Unspecified Drift	1921
89T	208	NW	Coal Levels	1877
90S	208	NW	Drift	1921
91T	208	NW	Coal Levels	1901
92S	211	NW	Unspecified Drift	1921
93S	211	NW	Drift	1903
94S	211	NW	Unspecified Drift	1948
95X	213	SW	Unspecified Heap	1877
96U	214	SW	Colliery	1903
97W	214	NW	Drift	1921
98V	215	W	Cuttings	1877
99W	217	W	Unspecified Drift	1921
100AT	225	N	Old Coal Level	1877
101R	229	W	Unspecified Drift	1921
102O	240	W	Unspecified Pit	1921
103O	240	W	Unspecified Pit	1921
104AU	253	W	Unspecified Pit	1901
105X	262	SW	Unspecified Old Levels	1903
106X	262	SW	Unspecified Old Levels	1948
107X	262	SW	Unspecified Old Levels	1921
108X	262	SW	Unspecified Old Levels	1921
109X	269	SW	Old Levels	1921
110AV	279	N	Old Coal Level	1901
111Y	356	W	Old Coal Pit	1877
112Y	360	W	Old Coal Pit	1901
113Z	365	E	Coal Trial Shafts	1921
114Z	366	E	Coal Trial Shafts	1921
115Z	366	E	Coal Trial Shafts	1948
116Z	366	E	Trial Shafts	1903
117Z	367	E	Coal Trial Shafts	1921
118Z	367	E	Coal Trial Shafts	1921
119AA	383	SW	Disused Air Shaft	1965
120AA	383	SW	Disused Air Shaft	1985
121AA	385	SW	Old Air Shaft	1877
122AA	385	SW	Old Air Shaft	1903
123AA	385	SW	Old Air Shaft	1948
124AA	388	SW	Old Air Shaft	1901
125AA	390	SW	Old Air Shaft	1921
126AA	395	SW	Old Air Shaft	1921

127AA	399	SW	Old Air Shaft	1921
128AB	446	W	Unspecified Pit	1965
129AB	446	W	Sand Pit	1921
130AB	447	W	Sand Pit	1921
131AB	448	W	Sand Pit	1948
132AB	449	W	Sand Pit	1921
133AB	455	W	Sand Pit	1903
134AB	460	W	Gravel Pit	1901
135AB	460	W	Gravel Pit	1877
136AC	470	NE	Old Lime Kiln	1948
137AC	470	NE	Old Lime Kiln	1903
138AC	471	NE	Old Lime Kiln	1877
139AC	473	NE	Old Lime Kiln	1921
140AC	473	NE	Old Lime Kiln	1921
141AD	473	SE	Coal Trial Shaft	1921
142AD	474	SE	Coal Trial Shaft	1948
143AD	474	SE	Trial Shaft	1903
144AD	474	SE	Coal Trial Shaft	1921
145AD	474	SE	Coal Trial Shaft	1921
146AC	475	NE	Unspecified Disused Kiln	1985
147AD	478	SE	Coal Trial Shaft	1921
148AC	480	NE	Old Lime Kiln	1921
149AB	498	W	Telecomm Exchange	1965
150AE	498	E	Coal Trial Shafts	1921
151AE	498	E	Coal Trial Shafts	1948
152AE	498	E	Trial Shafts	1903
153AE	499	E	Coal Trial Shafts	1921

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary:

7

ID	Distance (m)	Direction	Use	Date
154E	69	NW	Unspecified Tank	1993
155E	69	NW	Unspecified Tank	1961
156E	70	NW	Unspecified Tank	1982
157AF	275	NW	Unspecified Tank	1993
158AF	276	W	Unspecified Tank	1961
159AF	277	W	Unspecified Tank	1988
160AF	277	W	Unspecified Tank	1989

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary: 2

ID	Distance (m)	Direction	Use	Date
161AG	360	W	Electricity Substation	1982
162AG	367	W	Electricity Substation	1993

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 2

ID	Distance (m)	Direction	Use	Date
163AH	377	W	Garage	1982
164AH	379	W	Garage	1993

1.6 Historical military sites

Certain military installations were not noted on historic mapping for security reasons. Whilst not all military land is necessarily of concern, Groundsure has researched and digitised a number of Ordnance Factories and other military industrial features (e.g. Ordnance Depots, Munitions Testing Grounds) which may be of contaminative concern. This research was drawn from a number of different sources, and should not be regarded as a definitive or exhaustive database of potentially contaminative military installations. The boundaries of sites within this database have been estimated from the best evidence available to Groundsure at the time of compilation.

Records of historical military sites within 500m of the search boundary:

0

Database searched and no data found.

1.7 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 131

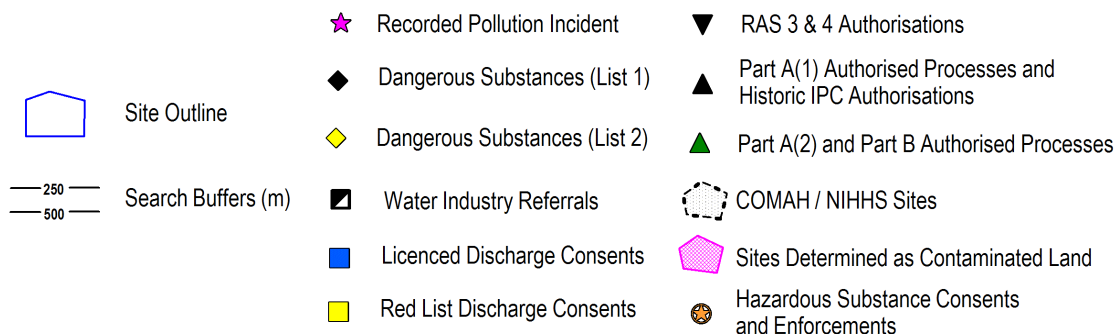
The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
165AI	0	On Site	Unspecified Disused Mine	1965
166AI	0	On Site	Refuse Heap	1965
167AJ	0	On Site	Refuse Heap	1985
168AK	0	On Site	Opencast Workings	1965
169A	0	On Site	Colliery	1877
170A	0	On Site	Colliery	1903
171AL	0	On Site	Old Brick Works	1921
172AM	0	On Site	Unspecified Disused Mine	1985
173AN	0	On Site	Coal Levels	1877
174AO	0	On Site	Unspecified Disused Mine	1985
175AP	5	NW	Colliery	1948
176AP	30	NW	Colliery	1921
177AP	33	NW	Colliery	1921
178AP	33	NW	Colliery	1921
179AI	33	NW	Refuse Heap	1921
180AI	33	NW	Refuse Heap	1921
181D	38	NW	Unspecified Quarry	1948
182D	38	NW	Unspecified Old Quarry	1877
183D	38	NW	Unspecified Old Quarry	1903
184D	39	NW	Refuse Heap	1985
185AO	40	NW	Disused Colliery	1921
186E	43	NW	Unspecified Disused Mine	1965
187G	57	NW	Colliery	1921
188AQ	69	NW	Old Coal Level	1877
189AR	71	SW	Old Coal Drift	1877
190G	78	NW	Air Shaft	1903
191F	81	W	Colliery	1901
192AP	86	NW	Drift	1921
193I	87	W	Unspecified Pit	1877
194Q	88	NW	Brick Works	1903
195M	92	W	Colliery	1948
196I	92	W	Air Shaft	1877
197G	93	NW	Unspecified Drift	1948
198G	93	NW	Unspecified Drift	1903
199M	94	W	Disused Colliery	1921

200M	94	W	Disused Colliery	1921
201G	94	NW	Unspecified Drift	1921
202M	94	W	Air Shaft	1901
203M	97	W	Old Air Shaft	1903
204A	103	NW	Disused Colliery	1921
205J	107	NW	Unspecified Heap	1901
206A	111	W	Drift	1877
207K	115	W	Old Coal Level	1877
208K	116	W	Unspecified Disused Level	1985
209K	118	W	Old Coal Level	1901
210K	124	W	Old Coal Level	1921
211K	124	W	Old Coal Level	1921
212K	124	W	Old Coal Level	1921
213K	125	W	Old Coal Level	1948
214K	126	W	Old Coal Level	1921
215J	126	NW	Refuse Heap	1965
216F	134	NW	Refuse Heap	1985
217M	138	NW	Refuse Heaps	1921
218M	138	NW	Refuse Heaps	1921
219V	141	W	Colliery	1948
220N	156	W	Colliery	1921
221O	160	W	Colliery	1921
222N	160	W	Colliery	1921
223N	160	W	Colliery	1921
224AS	166	NW	Coal Level	1877
225Q	173	NW	Old Brick Works	1921
226P	174	SW	Old Coal Drift	1901
227Q	174	NW	Old Brick Works	1921
228Q	183	NW	Unspecified Heap	1877
229R	199	NW	Unspecified Disused Mine	1965
230R	199	NW	Unspecified Disused Mine	1985
231S	202	NW	Refuse Heap	1985
232S	202	NW	Refuse Heap	1965
233T	207	NW	Coal Levels	1877
234R	207	W	Unspecified Drift	1948
235S	207	NW	Unspecified Drift	1921
236T	208	NW	Coal Levels	1877
237S	208	NW	Drift	1921
238T	208	NW	Coal Levels	1901
239S	211	NW	Unspecified Drift	1921
240S	211	NW	Drift	1903
241S	211	NW	Unspecified Drift	1948
242X	213	SW	Unspecified Heap	1877
243U	214	SW	Colliery	1903
244W	214	NW	Drift	1921
245V	215	W	Cuttings	1877

246W	217	W	Unspecified Drift	1921
247AT	225	N	Old Coal Level	1877
248R	229	W	Unspecified Drift	1921
249O	240	W	Unspecified Pit	1921
250O	240	W	Unspecified Pit	1921
251AU	253	W	Unspecified Pit	1901
252X	262	SW	Unspecified Old Levels	1903
253X	262	SW	Unspecified Old Levels	1948
254X	262	SW	Unspecified Old Levels	1921
255X	262	SW	Unspecified Old Levels	1921
256X	269	SW	Old Levels	1921
257AV	279	N	Old Coal Level	1901
258AW	340	SW	Air Shaft	1877
259AW	343	SW	Air Shaft	1901
260Y	356	W	Old Coal Pit	1877
261Y	360	W	Old Coal Pit	1901
262Z	365	E	Coal Trial Shafts	1921
263Z	366	E	Coal Trial Shafts	1921
264Z	366	E	Trial Shafts	1903
265Z	366	E	Coal Trial Shafts	1948
266Z	367	E	Coal Trial Shafts	1921
267Z	367	E	Coal Trial Shafts	1921
268AA	383	SW	Disused Air Shaft	1965
269AA	383	SW	Disused Air Shaft	1985
270AA	385	SW	Old Air Shaft	1903
271AA	385	SW	Old Air Shaft	1948
272AA	385	SW	Old Air Shaft	1877
273AA	388	SW	Old Air Shaft	1901
274AA	390	SW	Old Air Shaft	1921
275AA	395	SW	Old Air Shaft	1921
276	396	E	Pond	1965
277AA	399	SW	Old Air Shaft	1921
278AB	446	W	Unspecified Pit	1965
279AB	446	W	Sand Pit	1921
280AB	447	W	Sand Pit	1921
281AB	448	W	Sand Pit	1948
282AB	449	W	Sand Pit	1921
283AB	455	W	Sand Pit	1903
284AB	460	W	Gravel Pit	1901
285AB	460	W	Gravel Pit	1877
286AD	473	SE	Coal Trial Shaft	1921
287AD	474	SE	Trial Shaft	1903
288AD	474	SE	Coal Trial Shaft	1948
289AD	474	SE	Coal Trial Shaft	1921
290AD	474	SE	Coal Trial Shaft	1921
291AD	478	SE	Coal Trial Shaft	1921

292AE	498	E	Coal Trial Shafts	1921
293AE	498	E	Trial Shafts	1903
294AE	498	E	Coal Trial Shafts	1948
295AE	499	E	Coal Trial Shafts	1921



2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

1

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
15	41	NW	275687 212440	Address: Celtic Energy Ltd, Brynhenllys Revised Site, Upper Cwmtwrch, Swansea Process: Other Mineral Processes Status: Revoked Permit Type: Part B Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

6

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
9B	0	On Site	275960 212650	Address: WAUNLWYDD NORTH OPENCAST SITE Effluent Type: UNSPECIFIED Permit Number: BC0013602 Permit Version: 1 Receiving Water: UNNAMED TRIB. RIVER TWRCH Status: CONSENT EXPIRED - TIME LIMIT Issue date: 10/05/1972 Effective Date: 10-May-1972 Revocation Date: 22/01/1992
10B	6	SW	275930 212630	Address: WAUNLWYDD NORTH OPENCAST SITE Effluent Type: UNSPECIFIED Permit Number: BC0013601 Permit Version: 1 Receiving Water: UNNAMED TRIB. RIVER TWRCH Status: CONSENT EXPIRED - TIME LIMIT Issue date: 10/05/1972 Effective Date: 10-May-1972 Revocation Date: 22/01/1992
11	203	NW	275600 212600	Address: BRYNHENLLYS OCCS OUTLET C, Effluent Type: UNSPECIFIED Permit Number: BM0043603 Permit Version: 1 Receiving Water: AFON TWRCH Status: CONSENT EXPIRED - TIME LIMIT Issue date: 30/01/1985 Effective Date: 30-Jan-1985 Revocation Date: 19/05/1998
12	268	W	275570 212720	Address: YSTRADOWEN NO 1 YNYS Y BONT COTTAGE, YSTRADOWEN NO 1 YNYS Y BONT COTT, NO 1 YNYS Y BONT COTTAGE Effluent Type: UNSPECIFIED Permit Number: BP0026301 Permit Version: 1 Receiving Water: TO LAND Status: CONSENT EXPIRED - TIME LIMIT Issue date: 15/10/1986 Effective Date: 15-Oct-1986 Revocation Date: 10/10/1994
13	312	SW	275380 211930	Address: SWO. FELINFACH RD. YSTRADOWEN., YSTRADOWEN. Receiving Water: RIVER TWRCH Status: Effective

ID	Distance (m)	Direction	NGR	Details
				Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BW1400101 Permit Version: 1 Issue date: 01/01/1974 Effective Date: 01-Jan-1974 Revocation Date: -
14	475	SE	276100 211750	Address: TREDEG OPENCASIT SITE OUTLET D,, TREDEG OPENCASIT SITE OUTLET D, OUTLET D,, Effluent Type: UNSPECIFIED Permit Number: BF0118104 Permit Version: 1 Receiving Water: UNNAMED TRIB OF NANT GWYS Status: CONSENT EXPIRED - TIME LIMIT Issue date: 13/03/1979 Effective Date: 13-Mar-1979 Revocation Date: 19/05/1998

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

0

Database searched and no data found.

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

8

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
1	199	NW	275491.0 212416.0	Incident Date: 08-Jul-2014 Incident Identification: 1253896.0 Pollutant: Sewage Materials Pollutant Description: Crude Sewage Water Impact: Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
2A	209	W	275627.0	Incident Date: 22-Mar-2016 Water Impact: Category 4 (No Impact)

ID	Distance (m)	Direction	NGR	Details	
			212809.0	Incident Identification: 1601165.0 Pollutant: Contaminated Water Pollutant Description: Firefighting Run	Land Impact: No Details Air Impact: Category 4 (No Impact)
3A	209	W	275627.0 212809.0	Incident Date: 22-Mar-2016 Incident Identification: 1601165.0 Pollutant: Pollutant Description:	Water Impact: Category 4 (No Impact) Land Impact: No Details Air Impact: Category 4 (No Impact)
4	217	NW	275505.0 212480.0	Incident Date: 13-Dec-2015 Incident Identification: 1394328.0 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
5	237	SW	275445.0 211966.0	Incident Date: 17-Oct-2002 Incident Identification: 115308.0 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
6	265	W	275375.0 212323.0	Incident Date: 30-Dec-2014 Incident Identification: 1303335.0 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
7	360	SW	275398.0 211831.0	Incident Date: 26-Aug-2015 Incident Identification: 1368383.0 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
8	386	SW	275401.0 211794.0	Incident Date: 20-Feb-2015 Incident Identification: 1315911.0 Pollutant: Sewage Materials Pollutant Description: Other Sewage Material	Water Impact: Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

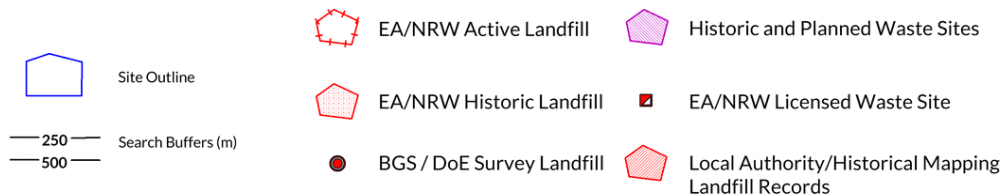
Database searched and no data found.

2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

Records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site

0

Database searched and no data found.



3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

3

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
Not shown	1030	S		Site Address: Glyn Cynwal Isaf Waste Licence: - Site Reference: CS11/37 Waste Type: Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: 31-Dec-1974
3	1219	SE		Site Address: Palleg Landfill Site Waste Licence: Yes Site Reference: - Waste Type: Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: WU1/L/PAL001 Licence Issue: 03-Nov-1993 Licence Surrendered: Licence Holder Address: Lower Cwmtwrch, Swansea Operator: Palleg Refuse & Recycling Co Ltd Licence Holder: Palleg Refuse & Recycling Co Ltd First Recorded: - Last Recorded: -
4	1221	SE		Site Address: Tir Canol Landfill Waste Licence: - Site Reference: BRE/50/5.93 Waste Type: Inert, Industrial, Commercial, Household, Special Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: Brecknock Borough Council First Recorded: 31-Dec-1975 Last Recorded: 31-Dec-1992

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

0

Database searched and no data found.

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

1

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details		
1	417	NW	275241 212463	Type of Site: Recycling Site Site Address: Car Park, Pen Y Graig Road, Ystradowen, SWANSEA, West Glamorgan,	Planning Application Reference: 622/93 Date: -	Further Details: An application (ref: 622/93) for Detailed Planning permission was submitted to Carmarthenshire D.C. on 16th September 1993. Data Source: Historic Planning Application Data Type: Point

3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

14

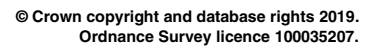
The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details		
Not shown	1155	SE	276870 211510	Site Address: JLA Disposal Limited, Palleg Landfill Phase II EPR/BT1908IX, Tir Canol Palleg Road, Lower Cwmtwrch, SWANSEA, SA9 2QQ Type: Borehole Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: BT1908IX EPR reference: -	Issue Date: 21/02/2013 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective Site Name: Palleg Landfill Phase II EPR/BT1908IX	

ID	Distance (m)	Direction	NGR	Details
				Operator: JLA Disposal Limited Waste Management licence No: 0 Annual Tonnage: 24999.0 Correspondence Address: -
Not shown	1155	SE	276870 211510	Site Address: JLA Disposal Limited, Palleg Landfill Phase II EPR/BT1908IX, Tir Canol Palleg Road, Lower Cwmtwrch, SWANSEA, SA9 2QQ Type: Landfill taking Non-Biodegradeable Wastes Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: BT1908IX EPR reference: - Operator: JLA Disposal Limited Waste Management licence No: 0 Annual Tonnage: 24999.0 Issue Date: 21/02/2013 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective Site Name: Palleg Landfill Phase II EPR/BT1908IX Correspondence Address: -
7A	1418	SE	277254 211551	Site Address: Bulky Waste Recycling Centre, Tir Canol Landfill, Palleg Road, , Ystradgynlais, Powys, SA9 2QQ Type: Household, Commercial & Industrial Waste T Stn Size: - Environmental Permitting Regulations (Waste) Licence Number: NP3498FK EPR reference: - Operator: J L A Recycling Limited Waste Management licence No: 34190 Annual Tonnage: 75000.0 Issue Date: 09/01/2019 Effective Date: 09/01/2019 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective Site Name: - Correspondence Address: -
8A	1418	SE	277254 211551	Site Address: Bulky Waste Recycling Centre, Tir Canol Landfill, Palleg Road, , Ystradgynlais, Powys, SA9 2QQ Type: Metal Recycling Site (mixed MRS's) Size: - Environmental Permitting Regulations (Waste) Licence Number: NP3498FK EPR reference: - Operator: J L A Recycling Limited Waste Management licence No: 34190 Annual Tonnage: 75000.0 Issue Date: 09/01/2019 Effective Date: 09/01/2019 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective Site Name: - Correspondence Address: -
9B	1439	SE	277281 211553	Site Address: SA9 2QQ Type: Household, Commercial & Industrial Waste Landfill Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JLA004 EPR reference: - Operator: JLA Disposal Ltd Waste Management licence No: 34276 Annual Tonnage: 0.0 Issue Date: 26/07/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: IPPC Site Name: Palleg Landfill Phase II (ppc) Correspondence Address: SA9 2QQ
10A	1442	SE	277283 211552	Site Address: Ty Canol Farm, Cwmtwrch Isaf, C & C Swansea, SA9 2UP Type: Household, Commercial & Industrial Waste Landfill Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JLA004 EPR reference: EA/EPR/YP3798FB/A001 Operator: J L A Disposal Ltd Waste Management licence No: 34276 Annual Tonnage: 75000.0 Issue Date: 26/07/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: To PPC Site Name: Palleg Landfill Phase 2 (P P C) Correspondence Address: -
11A	1442	SE	277283 211552	Site Address: Palleg Landfill Phase 2 (P P C), Cwmtwrch Isaf, Swansea, SA9 2UP Type: - Size: Unknown Environmental Permitting Regulations Issue Date: 26/07/2005 Effective Date: 26/07/2005 Modified: - Surrendered Date: - Expiry Date: -

ID	Distance (m)	Direction	NGR	Details
				(Waste) Licence Number: YP3798FB EPR reference: - Operator: J L A Disposal Ltd Waste Management licence No: 0 Annual Tonnage: 0.0 Cancelled Date: - Status: Expired Site Name: - Correspondence Address: -
12A	1442	SE	277283 211552	Site Address: Palleg Landfill Phase 2 (P P C), Cwmtwrch Isaf, C & C Swansea, SA9 2UP Type: Household, Commercial & Industrial Waste Landfill Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: YP3798FB EPR reference: - Operator: - Waste Management licence No: 34276 Annual Tonnage: 0.0 Issue Date: 26/07/2005 Effective Date: 26/07/2005 Modified: - Surrendered Date: - Expiry Date: 25/07/2005 Cancelled Date: - Status: Expired Site Name: - Correspondence Address: -
13A	1442	SE	277283 211552	Site Address: Palleg Landfill Phase 2 (P P C), , , , Cwmtwrch Isaf, C & C Swansea, SA9 2UP Type: Household, Commercial & Industrial Waste Landfill Size: - Environmental Permitting Regulations (Waste) Licence Number: YP3798FB EPR reference: - Operator: J L A Disposal Ltd Waste Management licence No: 34276 Annual Tonnage: 0.0 Issue Date: 26/07/2005 Effective Date: 26/07/2005 Modified: - Surrendered Date: - Expiry Date: 25/07/2005 Cancelled Date: - Status: Expired Site Name: - Correspondence Address: -
14A	1442	SE	277283 211552	Site Address: Palleg Landfill Phase 2 (P P C), , , , Cwmtwrch Isaf, C & C Swansea, SA9 2UP Type: Household, Commercial & Industrial Waste Landfill Size: - Environmental Permitting Regulations (Waste) Licence Number: YP3798FB EPR reference: - Operator: J L A Disposal Ltd Waste Management licence No: 34276 Annual Tonnage: 0.0 Issue Date: 26/07/2005 Effective Date: 26/07/2005 Modified: - Surrendered Date: - Expiry Date: 25/07/2005 Cancelled Date: - Status: Expired Site Name: - Correspondence Address: -
15A	1442	SE	277283 211552	Site Address: Palleg Landfill Phase 2 (P P C), C & C Swansea, Cwmtwrch Isaf, Swansea, SA9 2UP Type: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: YP3798FB EPR reference: - Operator: J L A Disposal Ltd Waste Management licence No: 34276 Annual Tonnage: 0.0 Issue Date: 26/07/2005 Effective Date: 26/07/2005 Modified: - Surrendered Date: - Expiry Date: 25/07/2005 Cancelled Date: - Status: Expired Site Name: - Correspondence Address: -
16B	1442	SE	277284 211553	Site Address: Ty Canol Farm, Cwmtwrch Isaf, C & C Swansea, SA9 2UP Type: Household, Commercial & Industrial Waste Landfill Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JLA004 EPR reference: YP3798FB/A001 Operator: J L A Disposal Ltd Waste Management licence No: 34276 Annual Tonnage: 75000.0 Issue Date: 26/07/2005 Effective Date: - Modified: - Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: To PPC Site Name: Palleg Landfill Phase 2 (P P C) Correspondence Address: -
17B	1442	SE	277281 211548	Site Address: Tir Canol Farm, Lower Cwmtwrch, Powys, SA9 2QQ Issue Date: 03/11/1993 Effective Date: -

ID	Distance (m)	Direction	NGR	Details
				<p>Type: Household, Commercial & Industrial Waste Landfill</p> <p>Size: >= 25000 tonnes < 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: PAL001</p> <p>EPR reference: GP3098FW/A001</p> <p>Operator: Palleg Refuse & Recycling Co Ltd</p> <p>Waste Management licence No: 34111</p> <p>Annual Tonnage: 74999.0</p> <p>Modified: -</p> <p>Surrendered Date: 0</p> <p>Expiry Date: 2.00707e+016</p> <p>Cancelled Date: 0</p> <p>Status: Expired</p> <p>Site Name: Palleg Landfill Site</p> <p>Correspondence Address: -</p>
Not shown	1486	SE	277300 211500	<p>Site Address: -</p> <p>Type: Household, Commercial & Industrial Waste Landfill</p> <p>Size: >= 25000 tonnes < 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: PAL001</p> <p>EPR reference: -</p> <p>Operator: Palleg Refuse & Recycling Company Ltd</p> <p>Waste Management licence No: 34111</p> <p>Annual Tonnage: 0.0</p> <p>Issue Date: 03/11/1993</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Palleg Landfill Site</p> <p>Correspondence Address: -</p>



4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 10

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	62	NW	Tank	275629 212385	Powys, SA9	Tanks (Generic)	Industrial Features
2	76	W	Mine (Disused)	275552 212256	Powys, SA9	Unspecified Quarries Or Mines	Extractive Industries
3	93	NW	Mine (Disused)	275795 212895	Powys, SA9	Unspecified Quarries Or Mines	Extractive Industries
4	99	NW	Refuse Tip (Disused)	275833 212961	Powys, SA9	Refuse Disposal Facilities	Infrastructure and Facilities
5	105	NW	Slag Heap	275744 212839	Powys, SA9	Refuse Disposal Facilities	Infrastructure and Facilities
6	107	NE	Refuse Tip (Disused)	276033 213121	Powys, SA9	Refuse Disposal Facilities	Infrastructure and Facilities
7	137	NW	Slag Heap	275809 212993	Powys, SA9	Refuse Disposal Facilities	Infrastructure and Facilities
8	148	NW	Slag Heap	275522 212365	Powys, SA9	Refuse Disposal Facilities	Infrastructure and Facilities
9	218	NW	Slag Heap	275608 212638	Powys, SA9	Refuse Disposal Facilities	Infrastructure and Facilities
10	237	SE	Electricity Sub Station	275869 211893	Powys, SA9	Electrical Features	Infrastructure and Facilities

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 0

Database searched and no data found.

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site:

0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site:

0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

5.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

5.3 Bedrock and Solid Geology

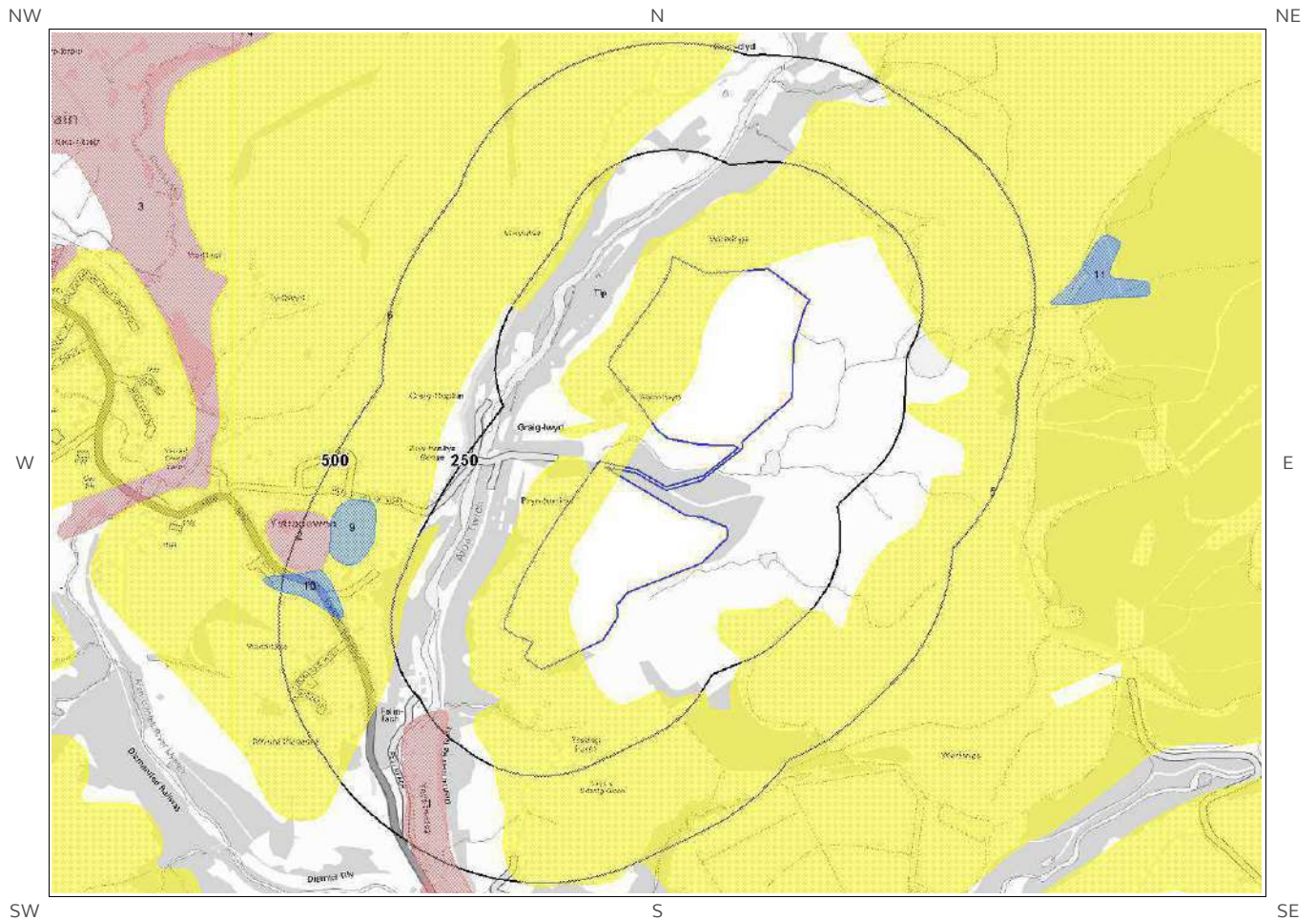
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
SWMCM-MDSS	SOUTH WALES MIDDLE COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE

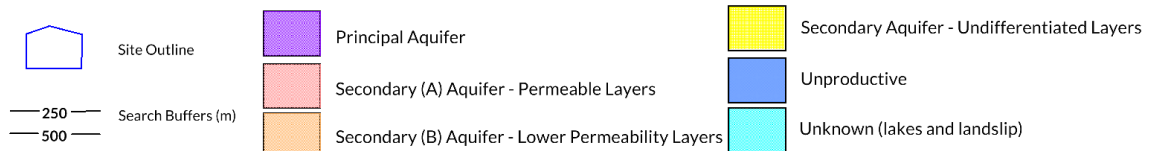
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

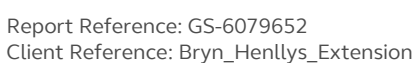
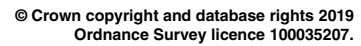
6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology

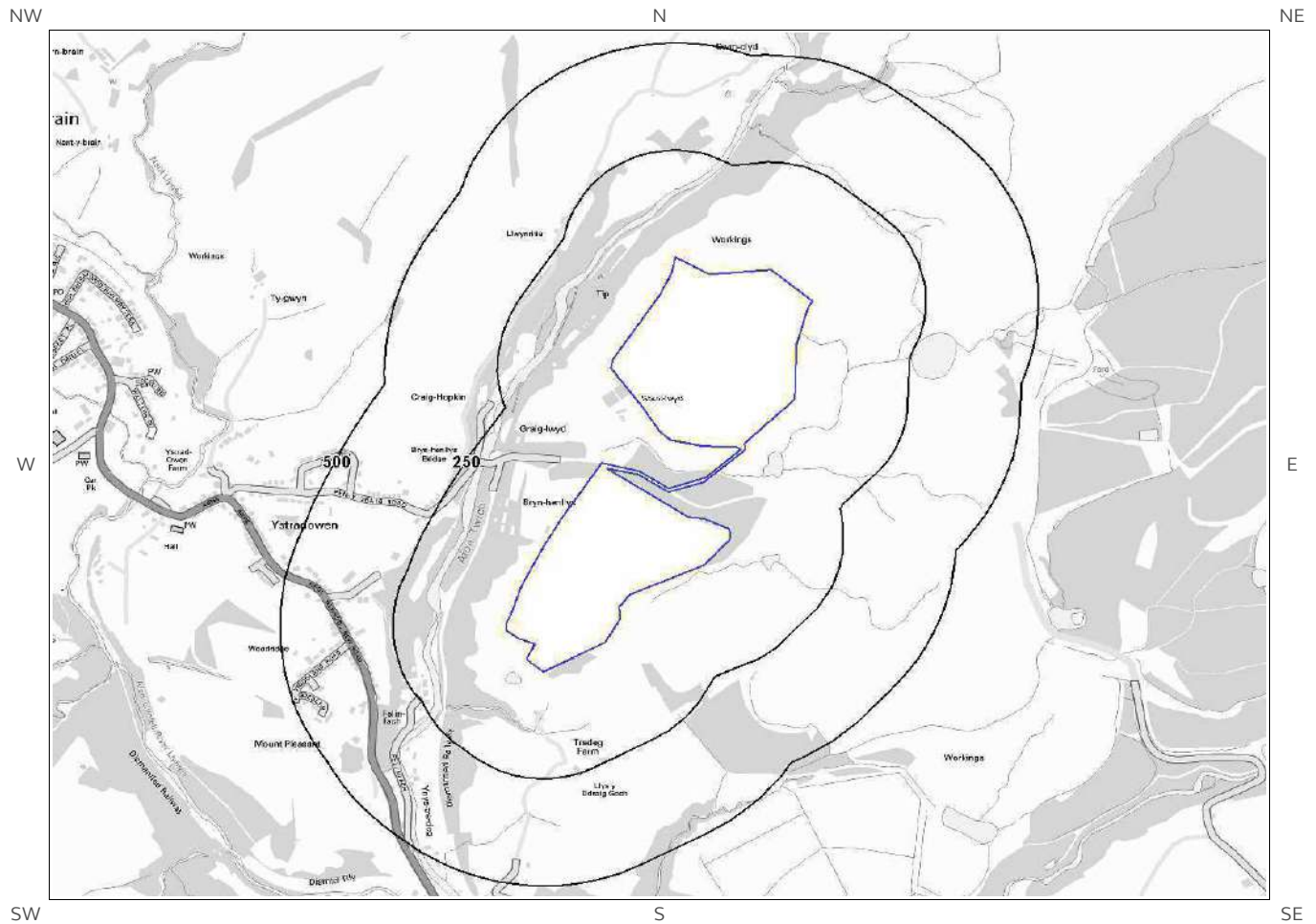


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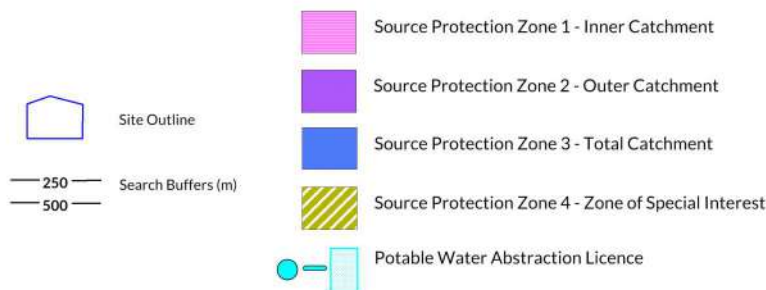


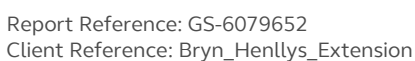


6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licences

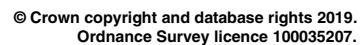


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6e. Hydrology – Watercourse Network and River Quality



6. Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Records of strata classification within the superficial geology at or in proximity to the property Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
5	0	On Site	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
6	209	NW	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
1	213	SW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
9	338	W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
10	359	W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	417	W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.2 Aquifer within Bedrock Deposits

Records of strata classification within the bedrock geology at or in proximity to the property Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.3 Groundwater Abstraction Licences

Groundwater Abstraction Licences within 2000m of the study site

Identified

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details
Not shown	1703	NW	274990 214420	Status: Historical Licence No: 22/59/1/0016 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: UNDERGROUND SOURCE IN FIELD NO. 315 AT LLWYNMOCH Data Type: Point Name: Thomas Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 01/12/1965 Version End Date:

6.4 Surface Water Abstraction Licences

Surface Water Abstraction Licences within 2000m of the study site

Identified

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details
4	437	N	276200 213440	Status: Historical Licence No: 22/59/1/0116 Details: Dust suppression Direct Source: EAW Surface Water Point: UNNAMED TRIB OF AFON TWRCH Data Type: Point Name: Taylor Woodrow Civil Eng. Ltd Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: - Expiry Date: - Issue No: 101 Version Start Date: 12/09/2000 Version End Date:
5	494	SE	276210 211830	Status: Historical Licence No: 22/59/1/0116 Details: Dust suppression Direct Source: EAW Surface Water Point: UNNAMED TRIB OF NANT GWYS Data Type: Point Name: Taylor Woodrow Civil Eng. Ltd Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: - Expiry Date: - Issue No: 101 Version Start Date: 12/09/2000 Version End Date:
6	637	NE	276650 213450	Status: Historical Licence No: 22/59/1/0116 Details: Dust suppression Direct Source: EAW Surface Water Point: UNNAMED TRIB OF THE AFON TWRCH Data Type: Point Name: Taylor Woodrow Civil Eng. Ltd Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: - Expiry Date: - Issue No: 101 Version Start Date: 12/09/2000 Version End Date:
7	777	E	276830 212110	Status: Historical Licence No: 22/59/1/0116 Details: Dust suppression Direct Source: EAW Surface Water Point: INLAND WATER, UNAMED TRIB OF NANTGWYS, YSTRADGYNLAIS Data Type: Point Name: Taylor Woodrow Civil Eng. Ltd Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: - Expiry Date: - Issue No: 101 Version Start Date: 12/09/2000 Version End Date:

6.5 Potable Water Abstraction Licences

Potable Water Abstraction Licences within 2000m of the study site

None identified

Database searched and no data found.

6.6 Source Protection Zones

Source Protection Zones within 500m of the study site

None identified

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Source Protection Zones within the Confined Aquifer within 500m of the study site

None identified

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site

Identified

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.
0	On Site	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.
488	SW	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.

6.9 River Quality

Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site Identified

6.9.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
Not shown	689	S	275500 211400	River Name: Tawe Twrch Reach: Conf.r.tawe - Conf.nantllynfell End/Start of Stretch: Start of Stretch NGR	C	B	B	B	C
Not shown	689	S	275500 211400	River Name: Llynfell Reach: Conf Twrch-conf Unnamed Stream Sn748125 End/Start of Stretch: End of Stretch NGR	C	C	A	A	A
Not shown	689	S	275500 211400	River Name: Tawe Twrch Reach: Conf.nantllynfell-conf. Nant Ffridiau End/Start of Stretch: End of Stretch NGR	C	B	B	B	C
Not shown	765	S	275700 211300	River Name: Gwys Reach: Conf.r.twrch - Gelli Farm End/Start of Stretch: End of Stretch NGR	C	B	B	B	B
102A	864	W	274800 212500	River Name: Llynfell Reach: Conf Unnamed Stream - Brynbrain End/Start of Stretch: End of Stretch NGR	B	B	B	B	A
103A	864	W	274800 212500	River Name: Llynfell Reach: Conf Twrch-conf Unnamed Stream Sn748125 End/Start of Stretch: Start of Stretch NGR	C	C	A	A	A
104B	1173	NW	274900 213500	River Name: Llynfell Reach: Conf Unnamed Stream - Brynbrain End/Start of Stretch: Start of Stretch NGR	B	B	B	B	A

6.9.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAH). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Chemical Quality Grade				
					2005	2006	2007	2008	2009
Not shown	619	S	275487 211478	River Name: Twrch Reach: Conf.nantllynfell-conf. Nant Ffridiau End/Start of Stretch: Sample Point NGR	A	A	A	A	-
Not shown	656	S	275460 211448	River Name: Llynfell Reach: Conf Twrch-conf Unnamed Stream Sn748125 End/Start of Stretch: Sample Point NGR	A	A	A	A	-
Not shown	689	S	275500 211400	River Name: Twrch Reach: Conf.r.tawc - Conf.nantllynfell End/Start of Stretch: Start of Stretch NGR	A	A	A	A	-
Not shown	689	S	275500 211400	River Name: Llynfell Reach: Conf Twrch-conf Unnamed Stream Sn748125 End/Start of Stretch: End of Stretch NGR	A	A	A	A	-
Not shown	689	S	275500 211400	River Name: Twrch Reach: Conf.nantllynfell-conf. Nant Ffridiau End/Start of Stretch: End of Stretch NGR	A	A	A	A	-
Not shown	765	S	275700 211300	River Name: Nant Gwys Reach: Conf.r.twrch - Gelli Farm End/Start of Stretch: End of Stretch NGR	B	B	B	B	-
111	774	NW	274927 212574	River Name: Llynfell Reach: Conf Unnamed Stream - Brynbrain End/Start of Stretch: Sample Point NGR	A	A	A	A	-
Not shown	788	S	275730 211278	River Name: Nant Gwys Reach: Conf.r.twrch - Gelli Farm End/Start of Stretch: Sample Point NGR	B	B	B	B	-
113A	864	W	274800 212500	River Name: Llynfell Reach: Conf Unnamed Stream - Brynbrain End/Start of Stretch: End of Stretch NGR	A	A	A	A	-
114A	864	W	274800 212500	River Name: Llynfell Reach: Conf Twrch-conf Unnamed Stream Sn748125 End/Start of Stretch: Start of Stretch NGR	A	A	A	A	-
115B	1173	NW	274900 213500	River Name: Llynfell Reach: Conf Unnamed Stream - Brynbrain End/Start of Stretch: Start of Stretch NGR	A	A	A	A	-

6.10 Ordnance Survey MasterMap Water Network

Ordnance Survey MasterMap Water Network entries within 500m of the study site

This watercourse information is provided by Ordnance Survey MasterMap Water Network. The data provides a detailed centre line following the curve of the waterway precisely, so all distances provided in the report should be understood as measurements to the centreline rather than a measurement to the nearest point of the watercourse. Underground watercourses are inferred from entry and exit points so caution is advised in using these to indicate precise locations of underground watercourses when planning site investigation and development.

The following Ordnance Survey MasterMap Water Network records are represented on the Hydrology Map (6e):

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
1	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
2	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
27	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
28	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
3	2 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
29	2 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
4	4 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
30	4 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
5	10 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				conditions) Average Width in Watercourse Section (m): Not Provided
31	10 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
6	29 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
32	29 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
7	35 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
33	35 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
8	53 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
34	53 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
9	68 SE	-	Lake, loch or reservoir.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 26.0
35	68 SE	-	Lake, loch or reservoir.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 26.0
10	69 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
11	69 SE	-	Lake, loch or reservoir.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 26.0
12	69 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
36	69 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
37	69 SE	-	Lake, loch or reservoir.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 26.0
38	69 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
13	71 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
14	71 SE	-	Lake, loch or reservoir.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
39	71 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
40	71 SE	-	Lake, loch or reservoir.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
15	85 SE	-	Lake, loch or reservoir.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 16.9
41	85 SE	-	Lake, loch or reservoir.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 16.9
16	92 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
42	92 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
17	113 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
43	113	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	SE			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
18	114 NW	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 14.5
44	114 NW	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 14.5
19	115 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
45	115 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
20	118 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
46	118 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
21	124 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
47	124 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
22	125 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.3
48	125 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.3
23	135 W	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
49	135 W	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): 2.1
24	139 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
25	139 W	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
50	139 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
51	139 W	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
26	141 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
27	141 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
52	141 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
53	141 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
28	143 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
54	143 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
29	145 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
55	145 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
30	146 NW	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.2
56	146 NW	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.2
31	148 W	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.2
57	148 W	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.2
32	153 W	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.2
58	153 W	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.2
33	164 W	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.2
34	164 W	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
35	164 NW	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
59	164 W	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.2
60	164 W	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
61	164 NW	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
36	169	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	NW			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.2
62	169 NW	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.2
37	181 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
63	181 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
38	188 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
64	188 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
39	194 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.8
65	194 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.8
40	199 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
66	199 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
41	201 W	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.2
67	201 W	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.2
42	209 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): Not Provided
68	209 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
43	215 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
69	215 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
44	217 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
45	217 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
70	217 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
71	217 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
46	221 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
47	221 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
72	221 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
73	221 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
48	225 SW	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 15.5

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
74	225 SW	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 15.5
49	231 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
75	231 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
50	232 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
51	232 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
52	232 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
76	232 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
77	232 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
78	232 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
53	248 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
79	248 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
54	252 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
55	252	-	Reservoir. An area of non-tidal water used for storing	Catchment Area: Tawe Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	E		water.	Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 50.4
80	252 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
81	252 E	-	Reservoir. An area of non-tidal water used for storing water.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 50.4
56	267 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
82	267 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
57	268 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
83	268 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
58	271 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
84	271 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
59	272 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
85	272 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
60	274 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
86	274 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): Not Provided
61	275 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
87	275 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
62	283 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
88	283 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
63	290 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
89	290 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
64	305 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
65	305 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
90	305 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
91	305 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
66	308 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
92	308 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
67	312 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
93	312 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
68	327 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	327 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
69	328 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
70	328 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	328 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	328 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
71	332 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
97	332 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
72	339 N	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 12.2
Not shown	339 N	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 12.2
73	342	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	SE			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
99	342 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
74	373 SW	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 12.1
75	373 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
100	373 SW	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 12.1
101	373 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
76	384 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
102	384 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
77	394 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
103	394 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
78	403 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
79	403 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
104	403 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): Not Provided
105	403 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
80	407 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
106	407 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
81	419 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.5
Not shown	419 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.5
82	422 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
83	422 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
108	422 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
109	422 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
84	437 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	437 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
85	439 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 12.2

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
Not shown	439 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 12.2
86	446 N	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 8.3
Not shown	446 N	Afon Twrch	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 8.3
87	450 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	450 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
88	451 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
Not shown	451 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
89	462 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 0.4
Not shown	462 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 0.4
90	463 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
91	463 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	463 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
Not shown	463	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	SW			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
92	464 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
Not shown	464 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
93	480 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	480 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
94	492 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
95	492 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
96	492 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
120	492 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	492 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
122	492 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
97	496 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	496 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Tawe Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
Average Width in Watercourse Section (m): Not Provided				

6.11 Surface Water Features

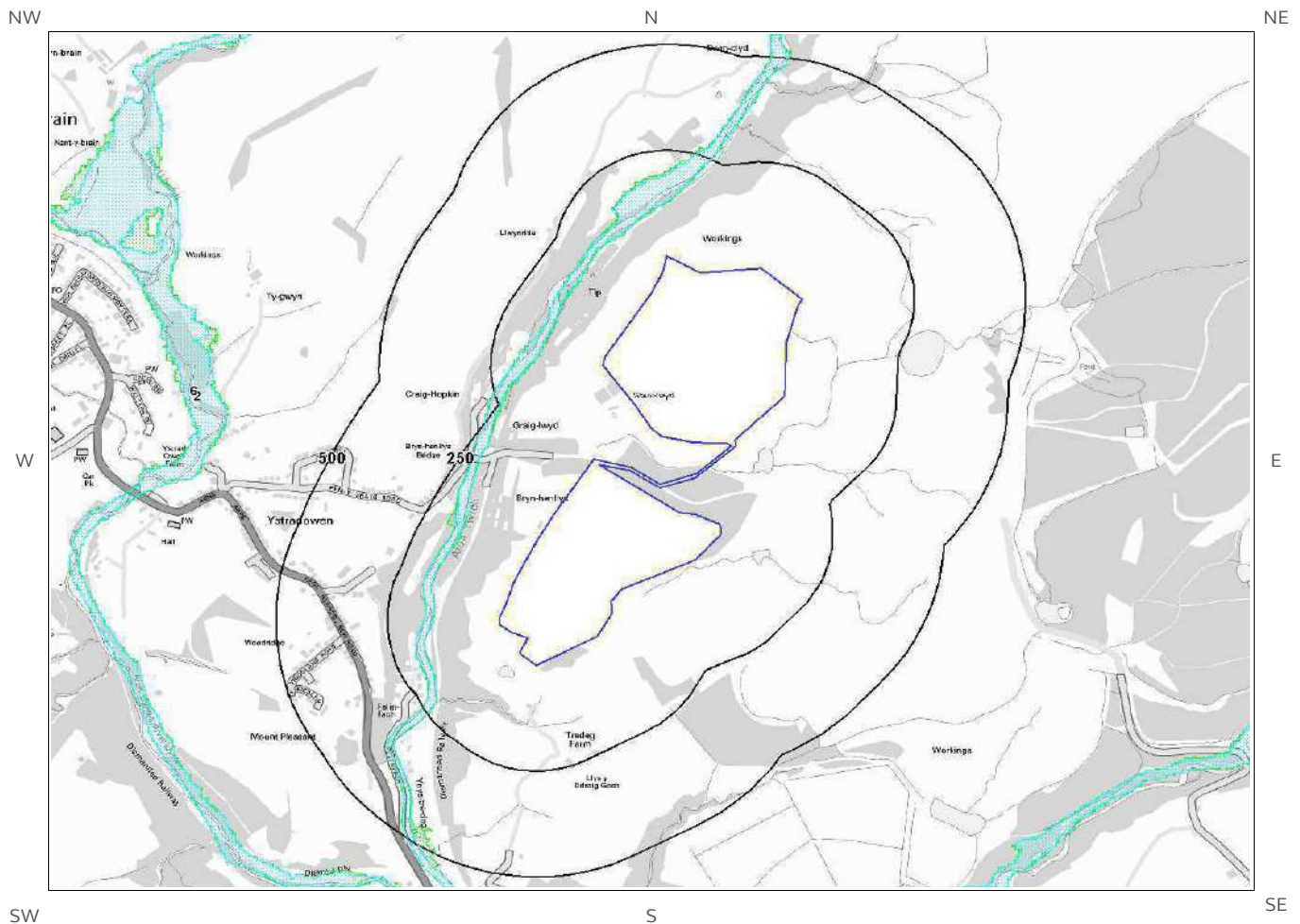
Surface water features within 250m of the study site

Identified

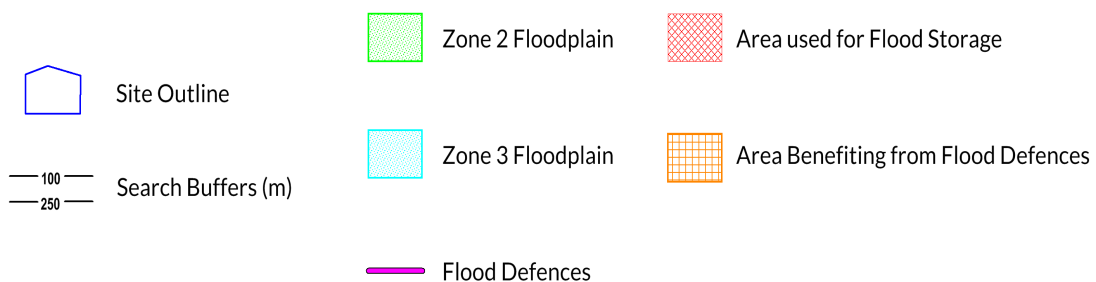
The following surface water records are not represented on mapping:

Distance (m)	Direction
0	On Site
2	NW
4	E
10	SE
29	N
52	E
53	SE
71	S
81	SE
92	SE
107	NW
113	SE
115	E
121	NW
123	SW
124	S
135	NW
143	SE
171	W
181	NW
199	NW
217	E
217	E
221	SE
221	SE
232	NE
232	NE
232	NE
232	SE
249	SE

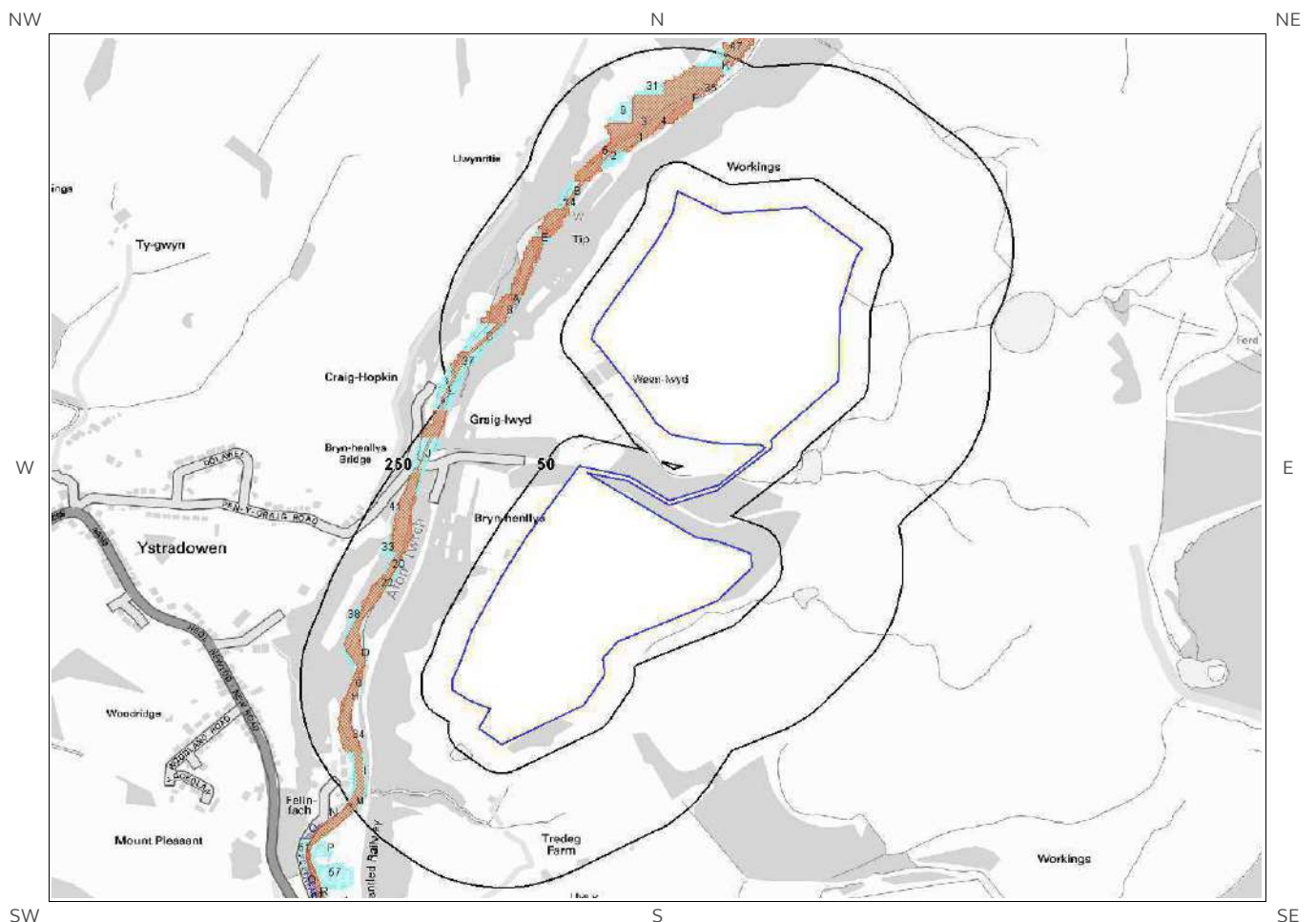
7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)



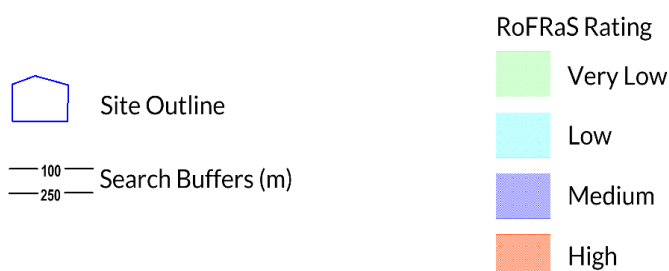
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7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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7 Flooding

7.1 River and Coastal Zone 2 Flooding

Environment Agency/Natural Resources Wales Zone 2 floodplain within 250m

Identified

Environment Agency/Natural Resources Wales Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

ID	Distance (m)	Direction	Update	Type
1A	104	NW	21-Feb-2019	Zone 2 - (Fluvial /Tidal Models)
2	147	W	21-Feb-2019	Zone 2 - (Fluvial /Tidal Models)

7.2 River and Coastal Zone 3 Flooding

Environment Agency/Natural Resources Wales Zone 3 floodplain within 250m

Identified

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

ID	Distance (m)	Direction	Update	Type
1A	106	NW	21-Feb-2019	Zone 3 - (Fluvial /Tidal Models)
2	147	W	21-Feb-2019	Zone 3 - (Fluvial /Tidal Models)

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

Highest risk of flooding onsite

Very Low

The Environment Agency/Natural Resources Wales RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

7.4 Flood Defences

Flood Defences within 250m of the study site None identified
Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Areas benefiting from Flood Defences within 250m of the study site None identified

7.6 Areas benefiting from Flood Storage

Areas used for Flood Storage within 250m of the study site None identified

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site Identified

Clearwater Flooding or Superficial Deposits Flooding Superficial Deposits Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 Highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

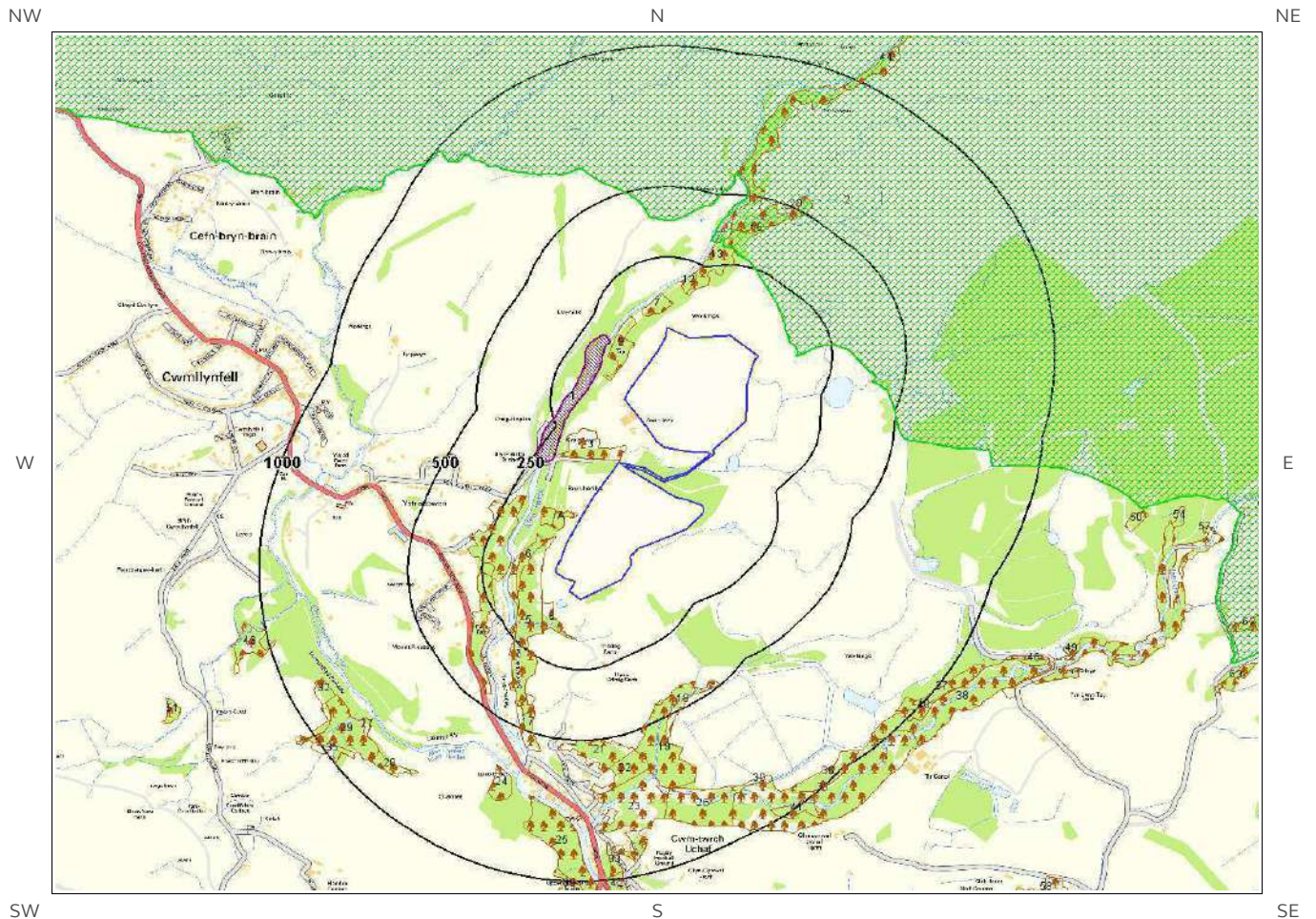
7.8 Groundwater Flooding Confidence Areas

British Geological Survey confidence rating in this result High

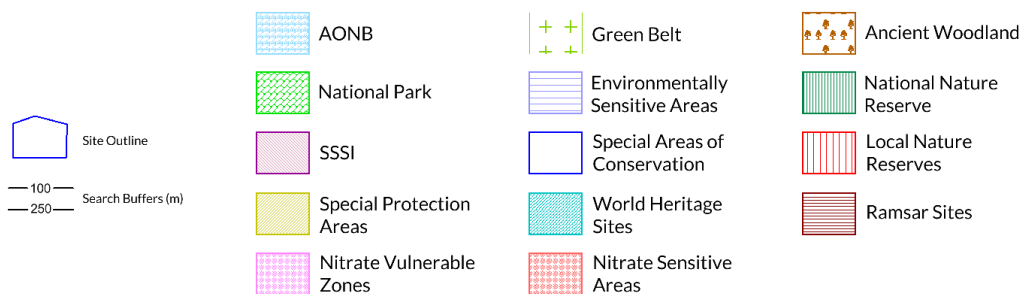
Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



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8. Designated Environmentally Sensitive Sites

Designated Environmentally Sensitive Sites within 2000m of the study site

Identified

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

1

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SSSI Name	Data Source
1	124	NW	CWM TWRCH	Natural Resources Wales

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

62

The following records of Designated Ancient Woodland provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
3	6	N	UNKNOWN	Ancient and Semi-Natural Woodland
4A	17	NW	UNKNOWN	Ancient and Semi-Natural Woodland
5	41	NW	UNKNOWN	Restored Ancient Woodland Site
6	48	NW	UNKNOWN	Ancient and Semi-Natural Woodland
7	57	NW	UNKNOWN	Ancient and Semi-Natural Woodland
8	66	SW	UNKNOWN	Ancient and Semi-Natural Woodland
9	71	NW	UNKNOWN	Ancient and Semi-Natural Woodland
10A	74	NW	UNKNOWN	Ancient and Semi-Natural Woodland
11	127	W	UNKNOWN	Ancient and Semi-Natural Woodland
12	136	NE	UNKNOWN	Ancient and Semi-Natural Woodland
13	136	NE	UNKNOWN	Ancient and Semi-Natural Woodland
14	154	W	UNKNOWN	Ancient and Semi-Natural Woodland
15	363	N	UNKNOWN	Ancient and Semi-Natural Woodland
16	372	N	UNKNOWN	Ancient and Semi-Natural Woodland
17	378	SW	UNKNOWN	Restored Ancient Woodland Site
18	421	SE	UNKNOWN	Ancient and Semi-Natural Woodland
19	438	SE	UNKNOWN	Ancient and Semi-Natural Woodland
20	461	N	UNKNOWN	Ancient and Semi-Natural Woodland
21	497	S	UNKNOWN	Ancient and Semi-Natural Woodland
22	562	S	UNKNOWN	Ancient and Semi-Natural Woodland
23	641	S	UNKNOWN	Restored Ancient Woodland Site
24	651	SW	UNKNOWN	Ancient and Semi-Natural Woodland
25	718	S	UNKNOWN	Ancient and Semi-Natural Woodland
26	732	SE	UNKNOWN	Restored Ancient Woodland Site
27	815	SW	UNKNOWN	Ancient and Semi-Natural Woodland
28	819	SW	UNKNOWN	Ancient and Semi-Natural Woodland
29	828	SW	UNKNOWN	Ancient and Semi-Natural Woodland

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
30	833	SE	UNKNOWN	Ancient and Semi-Natural Woodland
31	841	SE	UNKNOWN	Ancient and Semi-Natural Woodland
32	862	SW	UNKNOWN	Ancient and Semi-Natural Woodland
33	863	S	UNKNOWN	Ancient and Semi-Natural Woodland
34	905	SW	UNKNOWN	Ancient and Semi-Natural Woodland
35	922	SW	UNKNOWN	Ancient and Semi-Natural Woodland
36	932	SE	UNKNOWN	Ancient Replanted Woodland
37	944	SE	UNKNOWN	Ancient Replanted Woodland
38	951	SE	UNKNOWN	Restored Ancient Woodland Site
39	954	S	UNKNOWN	Ancient and Semi-Natural Woodland
40	955	SE	UNKNOWN	Ancient Replanted Woodland
41	960	SE	UNKNOWN	Ancient and Semi-Natural Woodland
42	974	S	UNKNOWN	Restored Ancient Woodland Site
43	976	W	UNKNOWN	Ancient and Semi-Natural Woodland
44	1008	NE	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1157	S	UNKNOWN	Ancient and Semi-Natural Woodland
46	1168	SE	UNKNOWN	Ancient and Semi-Natural Woodland
47	1184	SE	UNKNOWN	Ancient and Semi-Natural Woodland
48	1251	SE	UNKNOWN	Ancient and Semi-Natural Woodland
49	1300	E	UNKNOWN	Ancient Replanted Woodland
50	1329	E	UNKNOWN	Ancient Replanted Woodland
51	1357	W	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1396	S	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1433	NE	UNKNOWN	Restored Ancient Woodland Site
54	1467	E	UNKNOWN	Ancient Replanted Woodland
Not shown	1535	SE	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1576	NE	UNKNOWN	Restored Ancient Woodland Site
57	1585	E	UNKNOWN	Ancient Replanted Woodland
58	1688	SE	UNKNOWN	Restored Ancient Woodland Site
Not	1717	NE	UNKNOWN	Restored Ancient Woodland

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
shown				Site
Not shown	1724	E	UNKNOWN	Ancient Replanted Woodland
Not shown	1771	SE	UNKNOWN	Restored Ancient Woodland Site
62	1776	SE	UNKNOWN	Ancient and Semi-Natural Woodland
63	1828	E	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1849	W	UNKNOWN	Ancient and Semi-Natural Woodland

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

0

Database searched and no data found.

8.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

1

The following National Park records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NP Name	Data Source
2	115	NE	Brecon Beacons	Natural Resources Wales

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

0

Database searched and no data found.

8.14 Records of Green Belt land within 2000m of the study site:

0

Database searched and no data found.

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a **Groundsure Geo Insight**, available from our **website**. The following information has been found:

9.1.1 Shrink Swell

Maximum Shrink-Swell** hazard rating identified on the study site Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

9.1.2 Landslides

Maximum Landslide* hazard rating identified on the study site Moderate

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Significant potential for slope instability with relatively small changes in ground conditions. Avoid large amounts of water entering the ground through pipe leakage or soak-aways. Do not undercut or place large amounts of material on slopes without technical advice. For new build consider the potential and consequences of ground movement during excavations, or consequence of changes to loading or drainage. For existing property probable increase in insurance risk is likely due to potential natural slope instability after changes to ground conditions such as a very long, excessively wet winter.

9.1.3 Soluble Rocks

Maximum Soluble Rocks* hazard rating identified on the study site Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

Maximum Compressible Ground* hazard rating identified on the study site

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Very low potential for compressible deposits to be present. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

9.1.5 Collapsible Rocks

Maximum Collapsible Rocks* hazard rating identified on the study site

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

Maximum Running Sand** hazard rating identified on the study site

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

* This indicates an automatically generated 50m buffer and site.

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The site is in a Radon Affected Area, as between 1 and 3% of properties are above the Action Level.

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

9.2.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Coal mining areas within 75m of the study site

Identified

The following coal mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0	On Site	The site lies in or in proximity to the coal mining reporting area as defined by the Coal Authority

10.2 Non-Coal Mining

Non-Coal Mining areas within 50m of the study site boundary

None identified

Database searched and no data found.

10.3 Brine Affected Areas

Brine affected areas within 75m of the study site

None identified

Guidance: No Guidance Required.

Contact Details

Groundsure Helpline
Telephone: 08444 159 000
info@groundsure.com

British Geological Survey Enquiries

Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:

Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries:
enquiries@bgs.ac.uk

Natural Resources Wales

Ty Cambria
29 Newport Road
Cardiff
CF24 0TP
Tel: 0300 065 3000
Email: enquiries@naturalresourceswales.gov.uk

Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
www.gov.uk/phe
Email: enquiries@phe.gov.uk
Main switchboard: 020 7654 8000

The Coal Authority

200 Lichfield Lane
Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk

Ordnance Survey

Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505

Local Authority

Authority: Powys County Council
Phone: 01597 826000

Web: <http://www.powys.gov.uk>

Address: County Hall, Spa Road East, Llandrindod Wells, Powys, LD1



Gemapping PLC
Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
Tel: 01252 845444



Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England/Natural Resources Wales who retain the Copyright and Intellectual Property Rights for the data.

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<https://www.groundsure.com/terms-and-conditions-feb11-2019>

Wardell Armstrong LLP
22, WINDSOR PLACE,
CARDIFF, CF10 3BY

Groundsure Reference: GS-6079653
Your Reference: Bryn_Henllys_Extension
Report Date: 6 Jun 2019
Report Delivery Method: Email - pdf

Geo Insight

Address: 276031, 212872,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geo Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,



Managing Director
Groundsure Limited

Enc.
Groundsure Geo Insight

Address: 276031, 212872,
Date: 6 Jun 2019
Reference: GS-6079653
Client: Wardell Armstrong LLP



Aerial Photograph Capture date: 26-May-2017
Grid Reference: 276030,212509
Site Size: 25.0930ha

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Overview of Findings

The Groundsure Geo Insight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 and 1:10,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Non-coal mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Geology 1:10,000 Scale

1.1 Artificial Ground	1.1 Is there any Artificial Ground/ Made Ground present beneath the study site at 1:10,000 scale?	Yes
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site at 1:10,000 scale?*	Yes
	1.2.2 Are there any records of landslide within 500m of the study site boundary at 1:10,000 scale?	No
1.3 Bedrock, Solid Geology and linear features	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records of linear features within 500m of the study site boundary at 1:10,000 scale?	Yes

Section 2: Geology 1:50,000 Scale

2.1 Artificial Ground	2.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	Yes
	2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary?	Yes
2.2 Superficial Geology and Landslips	2.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?*	Yes
	2.2.2 Are there any records of permeability of superficial ground within 500m of the study site?	Yes
	2.2.3 Are there any records of landslide within 500m of the study site boundary?	No
	2.2.4 Are there any records relating to permeability of landslips within the study site* boundary?	No

Section 2: Geology 1:50,000 Scale

2.3 Bedrock, Solid Geology and linear features

2.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.

2.3.2 Are there any records relating to permeability of bedrock ground within the study site boundary?

Yes

2.3.3 Are there any records of linear features within 500m of the study site boundary?

Yes

Section 3: Radon

3. Radon

3.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?

The property is in a Radon Affected Area, as between 1 and 3% of properties are above the Action Level.

3.2 Radon Protection

No radon protective measures are necessary.

Section 4: Ground Workings

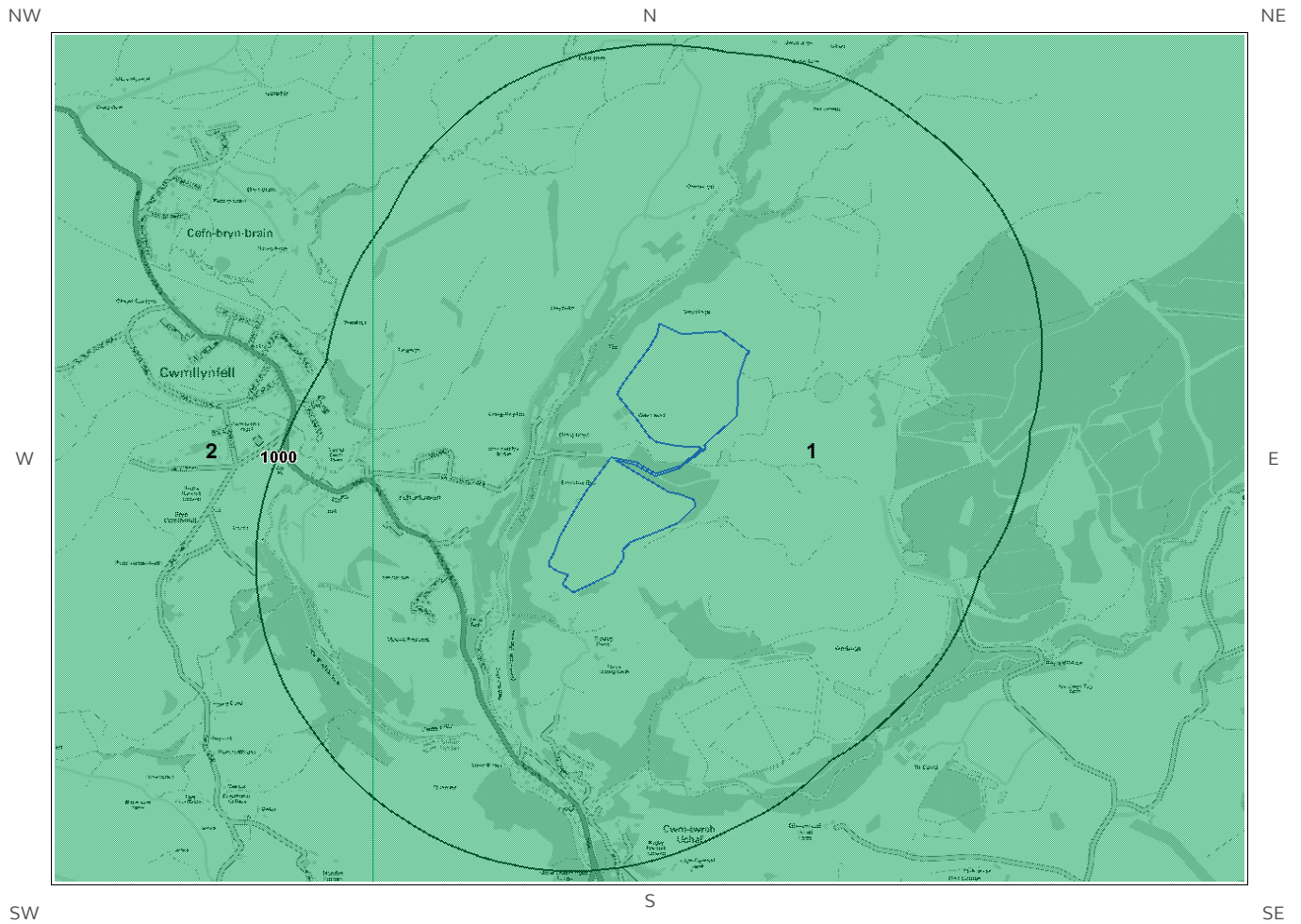
	On-site	0-50m	51-250	251-500	501-1000
4.1 Historical Surface Ground Working Features from Small Scale Mapping	7	11	58	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	1	1	23	19	56
4.3 Current Ground Workings	4	2	19	9	25

Section 5: Mining, Extraction & Natural Cavities

	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	2	1	23	19	58
5.2 Coal Mining	1	0	0	0	0
5.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
5.4 Non-Coal Mining*	0	0	1	0	1
5.5 Non-Coal Mining Cavities	0	0	0	0	0
5.5 Natural Cavities	0	0	0	0	0

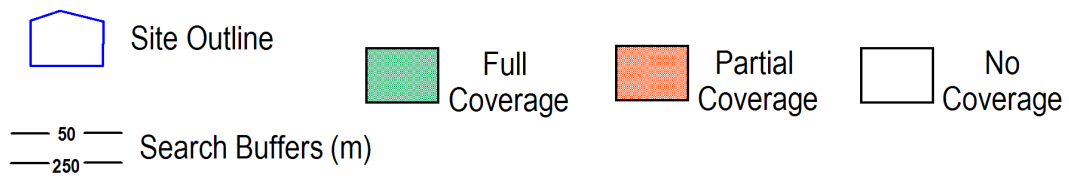
Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Tin Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0
Section 6: Natural Ground Subsidence	On-site				
6.1 Shrink-Swell Clay	Very Low				
6.2 Landslides	Moderate				
6.3 Ground Dissolution of Soluble Rocks	Negligible				
6.4 Compressible Deposits	Very Low				
6.5 Collapsible Deposits	Very Low				
6.5 Running Sand	Very Low				
Section 7: Borehole Records	On-site	0-50m	51-250		
7 BGS Recorded Boreholes	0	0	2		
Section 8: Estimated Background Soil Chemistry	On-site	0-50m	51-250		
8 Records of Background Soil Chemistry	19	0	0		
Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500	
9.1 Tunnels	0	0	0	Not Searched	
9.2 Historical Railway and Tunnel Features	0	4	18	Not Searched	
9.3 Historical Railways	0	0	2	Not Searched	
9.4 Active Railways	0	0	0	Not Searched	
9.5 Railway Projects	0	0	0	0	

1:10,000 Scale Availability



1_10,000 Availability Legend

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Availability of 1:10,000 Scale Geology Mapping

The following information represents the availability of the key components of the 1:10,000 scale geological data.

ID	Distance	Artificial Coverage	Superficial Coverage	Bedrock Coverage	Mass Movement Coverage
1	0.0	Some deposits are mapped	Full	Full	Some deposits are mapped
2	603.0	Some deposits are mapped	Full	Full	Some deposits are mapped
N3	1969.0	No deposits are mapped	Full	Full	Some deposits are mapped

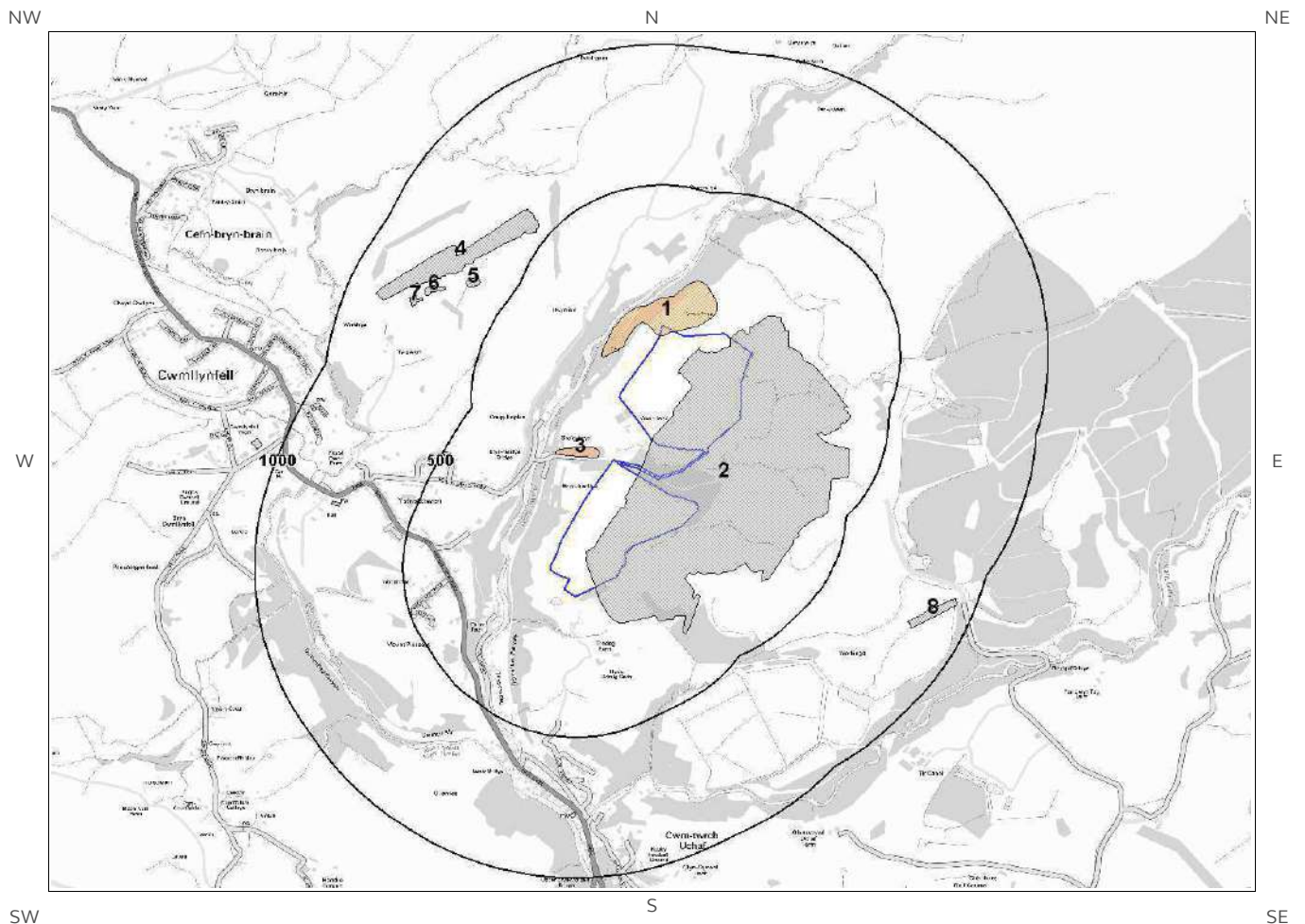
Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not all themes are mapped or available on every map sheet. Therefore a coverage layer showing the availability of the four themes is presented above.

The definitions of coverage are as follows:

Geology	Full Coverage	Partial Coverage	No Coverage
Bedrock	The whole tile has been mapped	Some but not all the tile has been mapped	No coverage
Superficial	The whole tile has been mapped	Some but not all of the tile has been mapped	No coverage
Artificial	Some deposits are mapped on this tile	-	No deposits are mapped
Mass Movement	Some deposits are mapped on this tile	-	No coverage

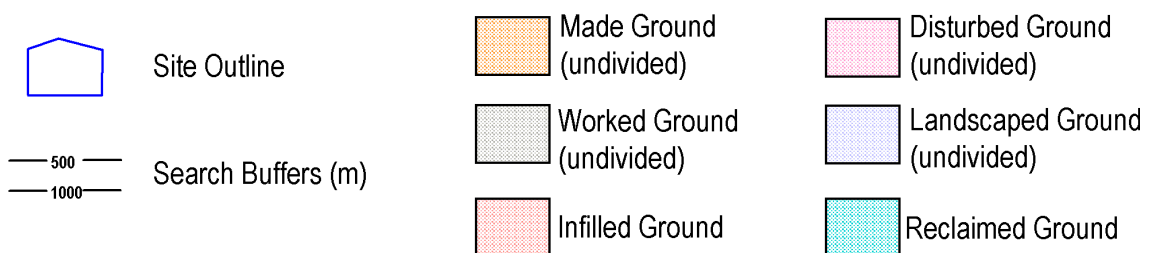
1 Geology (1:10,000 scale).

1.1 Artificial Ground map (1:10,000 scale)



Artificial Ground Legend

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1. Geology 1:10,000 scale

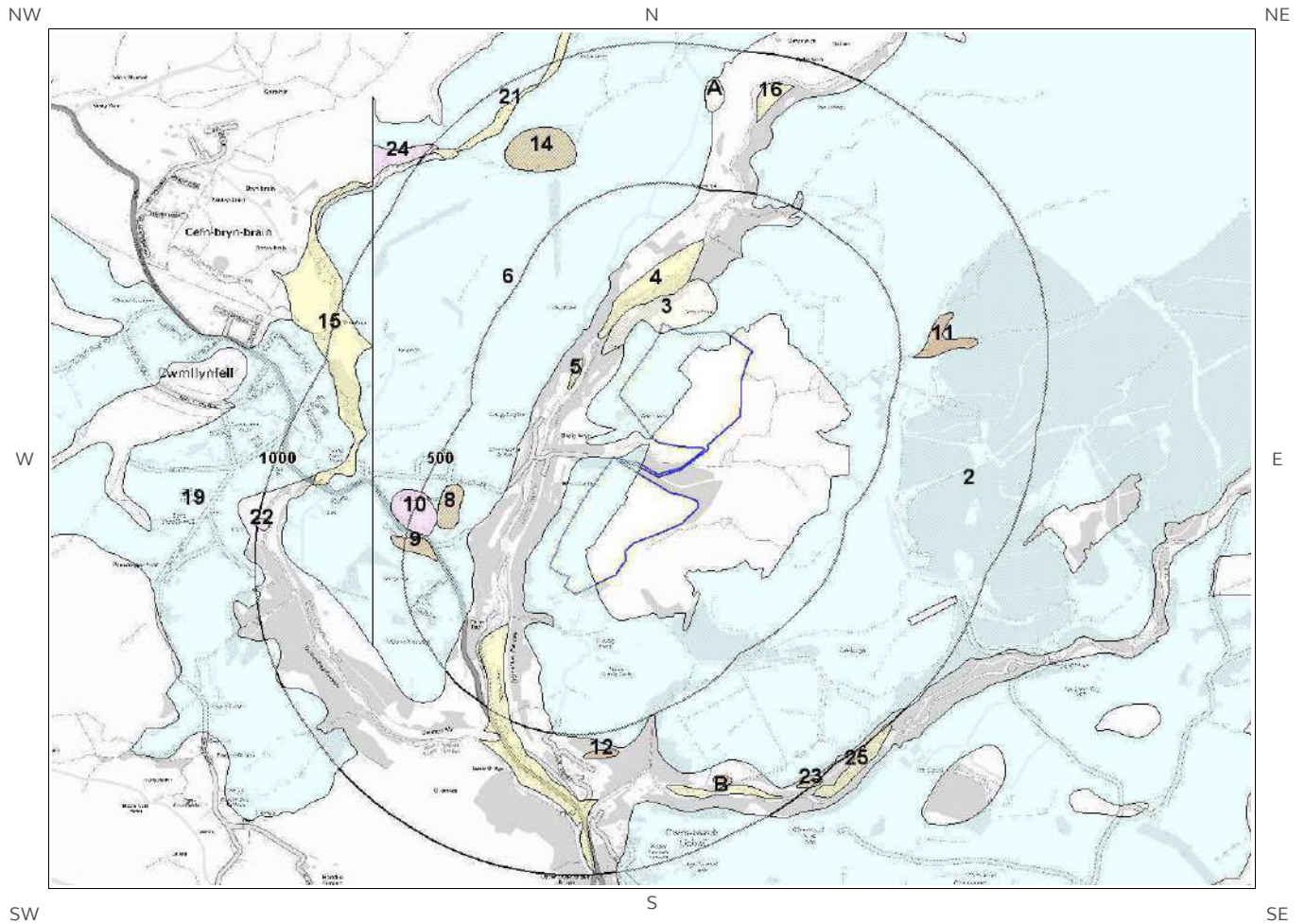
1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

Are there any records of Artificial/ Made Ground within 500m of the study site boundary at 1:10,000 scale? Yes

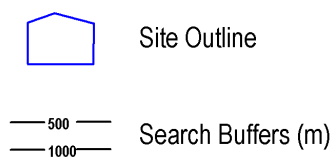
ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	0.0	On Site	WGR-VOID	Worked Ground (Undivided)	Void
3	53.0	NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

1.2 Superficial Deposits and Landslips map (1:10,000 scale)



Artificial Ground Legend

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1.2 Superficial Deposits and Landslips

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
2	0.0	On Site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
3	0.0	On Site	SUPNM-UNKNOWN	Superficial Theme Not Mapped [for Digital Map Use Only] - Unknown/unclassified Entry	Unknown/unclassified Entry
4	86.0	NW	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
5	152.0	W	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
6	212.0	NW	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
7	230.0	SW	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
8	348.0	NW	PEAT-P	Peat - Peat	Peat
9	384.0	W	PEAT-P	Peat - Peat	Peat
10	413.0	W	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel

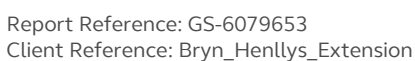
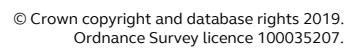
1.2.2 Landslip

Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:10,000 scale

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.



1.3 Bedrock and linear features

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary at 1:10,000 scale.

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1Z	0.0	On Site	SWMCM-MDSS	South Wales Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
2	62.0	NW	SWLCM-MDSS	South Wales Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
3	345.0	E	SWLCM-MDSS	South Wales Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
4	356.0	NE	SWLCM-MDSS	South Wales Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

1.3.2 Linear features

Are there any records of linear features within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance (m)	Direction	Category Description	Feature Description
18	0.0	On Site	FOLD_AXIS	Trace of upper hinge of major monocline; barbs on steep limb
19	0.0	On Site	ROCK	Coal seam, inferred
20	0.0	On Site	ROCK	Coal seam, inferred
21	0.0	On Site	FOLD_AXIS	Trace of upper hinge of major monocline; barbs on steep limb
22	0.0	On Site	ROCK	Coal seam, observed
23C	0.0	On Site	ROCK	Coal seam, observed
24C	0.0	On Site	ROCK	Coal seam, observed
25C	0.0	On Site	ROCK	Coal seam, inferred
26	0.0	On Site	ROCK	Coal seam, observed
27C	20.0	NE	ROCK	Coal seam, observed
28	34.0	SW	ROCK	Coal seam, inferred
29D	35.0	NE	ROCK	Coal seam, observed
30	44.0	NW	ROCK	Coal seam, inferred
31	46.0	NW	ROCK	Coal seam, observed
32D	47.0	NE	ROCK	Coal seam, observed
33L	62.0	NW	FOSSIL_HORIZON	Fossil horizon, marine band
34E	72.0	NW	FAULT	Normal fault, inferred; crossmarks on downthrow side
35E	73.0	W	ROCK	Coal seam, inferred
36N	76.0	NW	FOSSIL_HORIZON	Fossil horizon, marine band
37	78.0	NE	FOLD_AXIS	Trace of upper hinge of major monocline; barbs on steep limb
38F	81.0	SW	ROCK	Coal seam, inferred

ID	Distance (m)	Direction	Category Description	Feature Description
39F	88.0	SW	FAULT	Normal fault, inferred; crossmarks on downthrow side
40G	89.0	W	ROCK	Coal seam, inferred
41H	92.0	N	ROCK	Coal seam, observed
42G	102.0	NW	ROCK	Coal seam, inferred
43H	104.0	NW	ROCK	Coal seam, observed
44I	110.0	SW	ROCK	Coal seam, inferred
45	111.0	NW	ROCK	Coal seam, inferred
46H	113.0	N	ROCK	Coal seam, observed
47H	119.0	NW	FOLD_AXIS	Axial plane trace of major anticline
48I	125.0	W	FOLD_AXIS	Axial plane trace of major anticline
49J	125.0	E	ROCK	Coal seam, observed
50G	132.0	W	FOLD_AXIS	Axial plane trace of major anticline
51G	137.0	W	FOLD_AXIS	Axial plane trace of major syncline
52M	143.0	W	FAULT	Thrust fault, observed; barb on original hanging wall side
53K	144.0	NW	ROCK	Coal seam, observed
54I	151.0	SW	FOLD_AXIS	Axial plane trace of major anticline
55I	153.0	SW	FOLD_AXIS	Axial plane trace of major syncline
56O	153.0	W	ROCK	Coal seam, observed
57E	154.0	W	ROCK	Coal seam, inferred
58J	159.0	NE	ROCK	Coal seam, inferred
59K	163.0	NW	ROCK	Coal seam, observed
60K	172.0	NW	ROCK	Coal seam, observed
61	173.0	SW	FOLD_AXIS	Axial plane trace of major syncline
62L	173.0	NE	ROCK	Coal seam, observed
63Q	177.0	W	ROCK	Coal seam, observed
64M	181.0	NW	ROCK	Coal seam, inferred
65M	181.0	NW	ROCK	Coal seam, inferred
66P	204.0	NW	ROCK	Coal seam, observed
67M	209.0	NW	ROCK	Coal seam, inferred
68	210.0	SE	ROCK	Coal seam, inferred
69M	216.0	NW	ROCK	Coal seam, inferred
70N	217.0	W	ROCK	Coal seam, observed
71R	223.0	N	FOLD_AXIS	Axial plane trace of major syncline
72O	228.0	W	ROCK	Coal seam, observed
73P	232.0	NW	ROCK	Coal seam, observed
74N	244.0	NW	ROCK	Coal seam, inferred
75	245.0	N	FOLD_AXIS	Trace of upper hinge of major monocline; barbs on steep limb
76Q	249.0	NW	ROCK	Coal seam, inferred
77P	267.0	NW	ROCK	Coal seam, inferred
78	279.0	W	FAULT	Reverse fault, inferred
79	279.0	W	ROCK	Coal seam, inferred
80	302.0	NW	ROCK	Coal seam, inferred
81	303.0	SE	ROCK	Coal seam, inferred
82T	306.0	SW	ROCK	Coal seam, inferred
83	319.0	NW	FOLD_AXIS	Trace of upper hinge of major monocline; barbs on steep limb
84S	326.0	NW	ROCK	Coal seam, inferred
85R	343.0	N	ROCK	Coal seam, observed
86	345.0	E	FAULT	Normal fault, observed; crossmark on downthrow side
87S	353.0	NW	FOSSIL_HORIZON	Fossil horizon, marine band

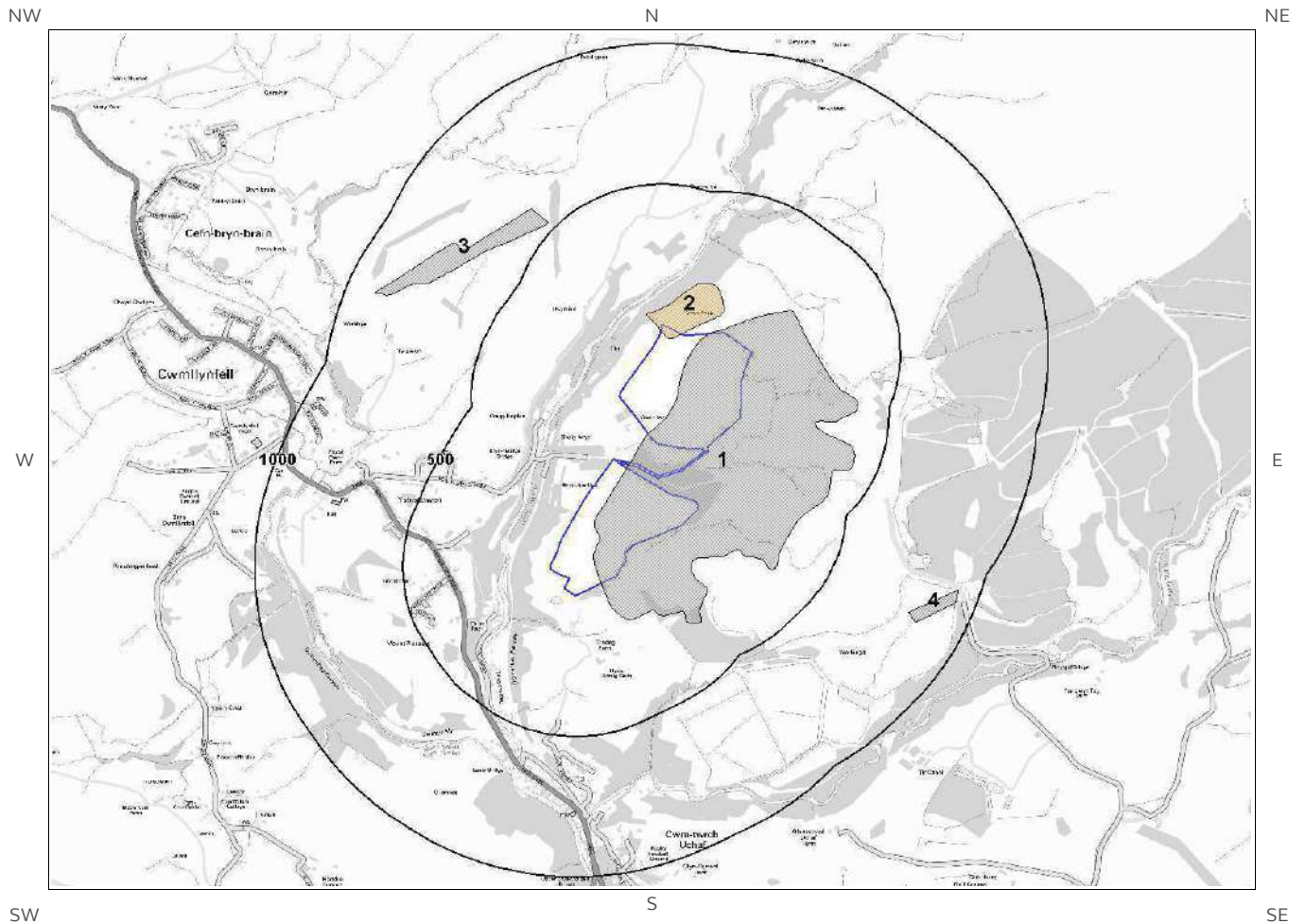
ID	Distance (m)	Direction	Category Description	Feature Description
88	356.0	NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
89	356.0	NE	FAULT	Normal fault, observed; crossmark on downthrow side
90	358.0	E	ROCK	Coal seam, observed
91T	369.0	SW	FOLD_AXIS	Axial plane trace of major anticline
92T	370.0	SW	ROCK	Coal seam, inferred
93	393.0	NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
94W	408.0	SW	FOLD_AXIS	Axial plane trace of major syncline
95U	429.0	N	FOSSIL_HORIZON	Fossil horizon, marine band
96	429.0	W	FAULT	Reverse fault, inferred
97U	437.0	N	ROCK	Coal seam, observed
98V	459.0	N	ROCK	Coal seam, observed
99AF	460.0	NE	FAULT	Normal fault, observed; crossmark on downthrow side
100V	464.0	N	ROCK	Coal seam, inferred
101W	471.0	SW	ROCK	Coal seam, inferred
102U	471.0	N	ROCK	Coal seam, inferred
103Y	471.0	SW	FOLD_AXIS	Axial plane trace of major anticline
104	472.0	SW	ROCK	Coal seam, inferred

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of great Britain at 1:10,000 scale.

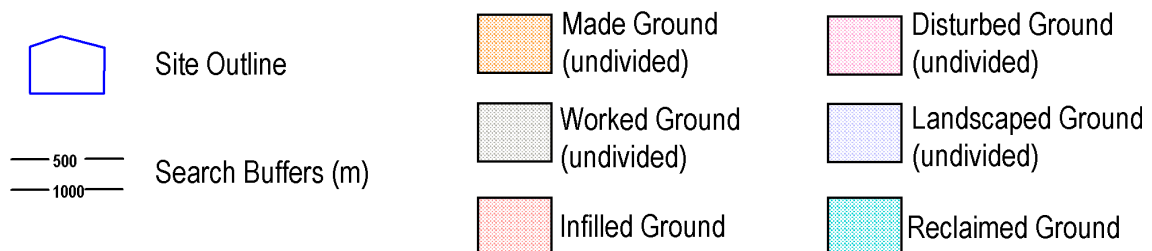
This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

2 Geology 1:50,000 Scale

2.1 Artificial Ground map



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2. Geology 1:50,000 scale

2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 230

2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary? Yes

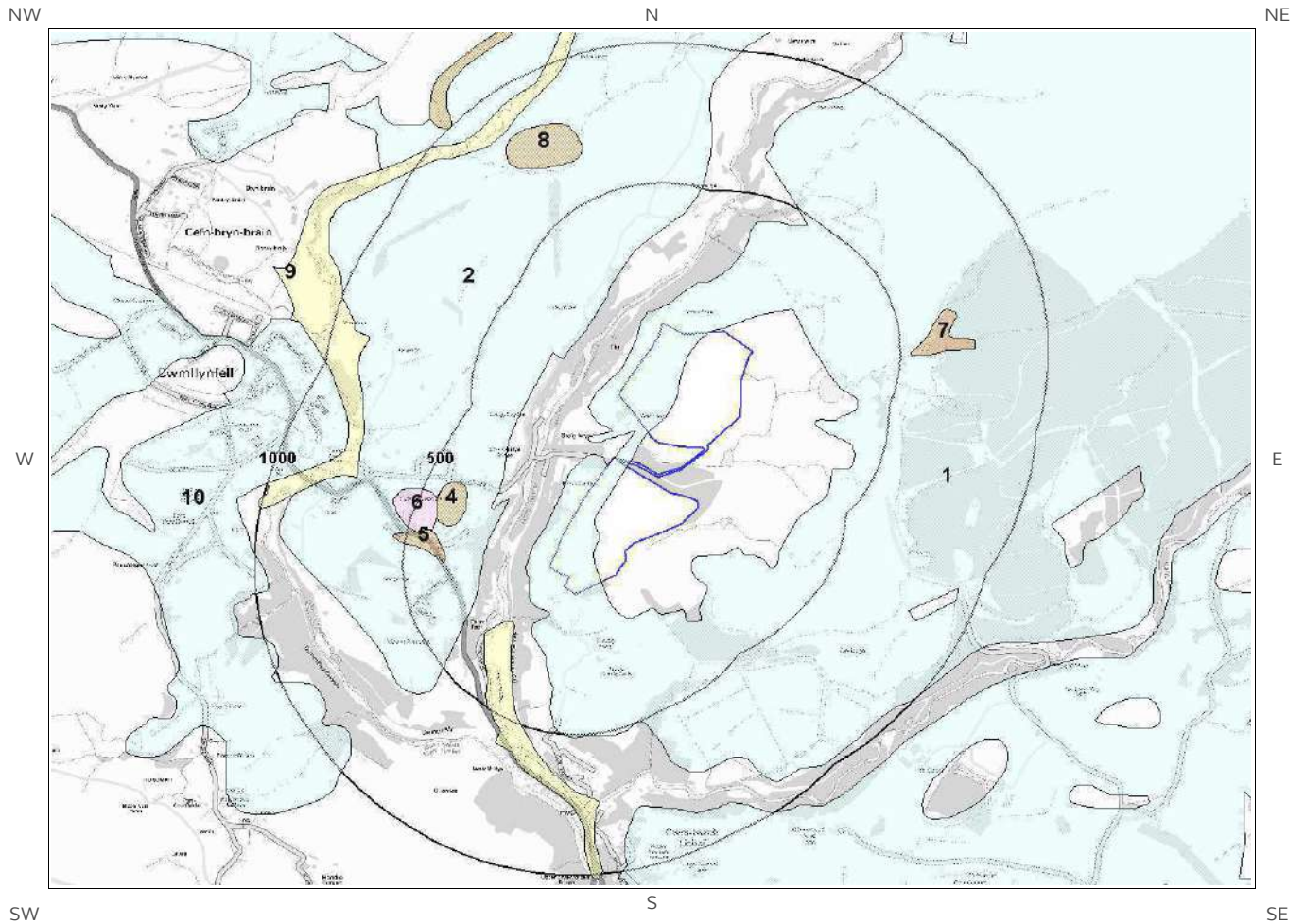
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
2	0.0	On Site	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

2.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	Very High	Low

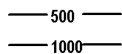
2.2 Superficial Deposits and Landslips map (1:50,000 scale)



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Site Outline



Search Buffers (m)

2.2 Superficial Deposits and Landslips

2.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
2	209.0	NW	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
3	213.0	SW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
4	338.0	W	PEAT-P	PEAT	PEAT
5	359.0	W	PEAT-P	PEAT	PEAT
6	417.0	W	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL

2.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	High	Low

2.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

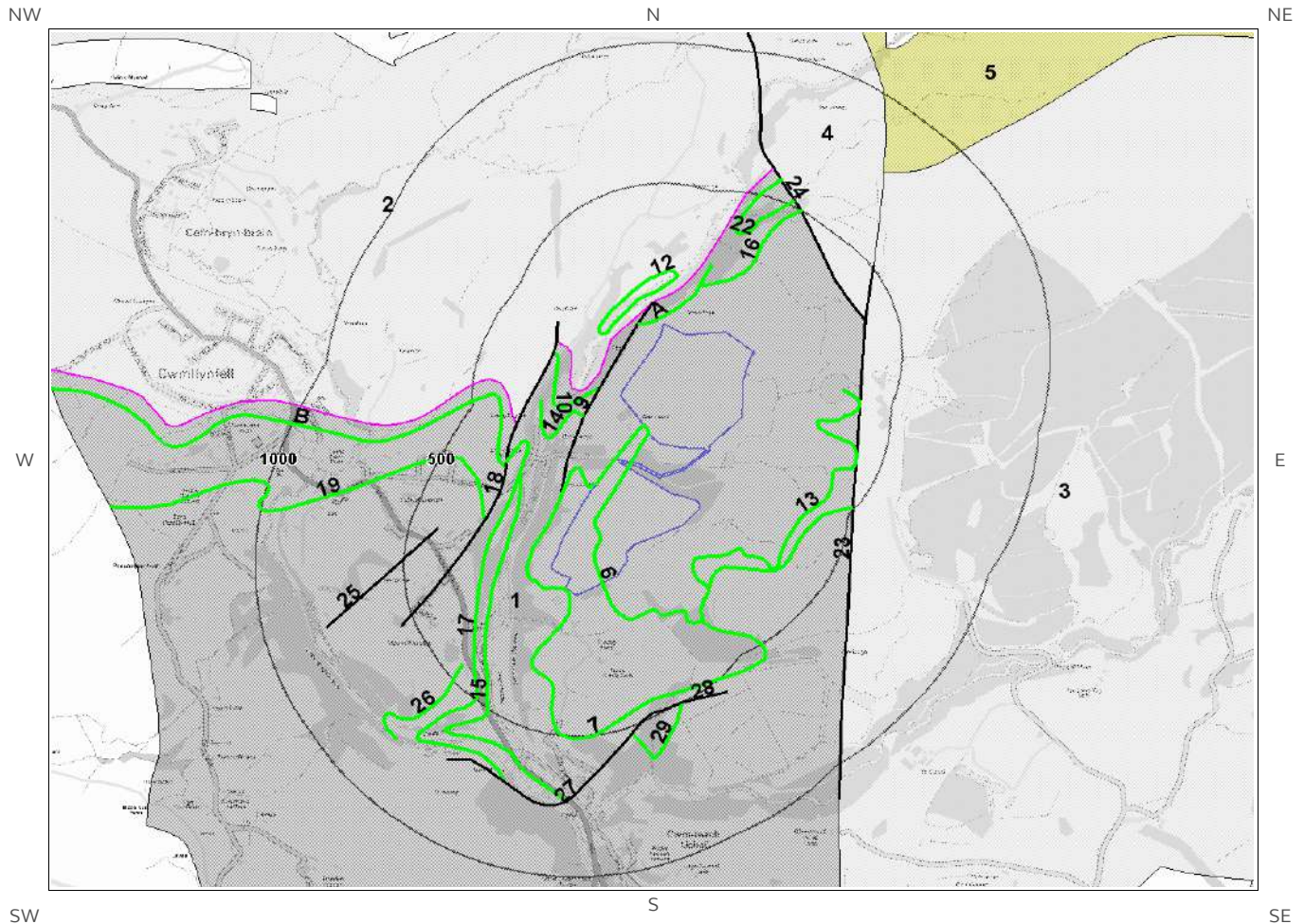
This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

2.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site boundary? No

Database searched and no data found.

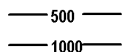
2.3 Bedrock and linear features map (1:50,000 scale)



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Site Outline



Search Buffers (m)

2.3 Bedrock, Solid Geology & linear features

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 230

2.3.1 Bedrock/Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary:

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	SWMCM-MDSS	SOUTH WALES MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	79.0	NW	SWLCM-MDSS	SOUTH WALES LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
3	368.0	E	SWLCM-MDSS	SOUTH WALES LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
4	369.0	NE	SWLCM-MDSS	SOUTH WALES LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

2.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site boundary? Yes

Distance	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Moderate	Low

2.3.3 Linear features

Are there any records of linear features within 500m of the study site boundary? Yes

ID	Distance	Direction	Category Description	Feature Description
6	0.0	On Site	ROCK	Coal seam, observed
7	0.0	On Site	ROCK	Coal seam, inferred
8A	24.0	NW	ROCK	Coal seam, inferred
9	71.0	NW	FAULT	Fault, inferred, displacement unknown
10	76.0	W	ROCK	Coal seam, inferred
11A	79.0	NW	FOSSIL_HORIZON	Marine band
12	116.0	NW	ROCK	Coal seam, inferred

ID	Distance	Direction	Category Description	Feature Description
13	125.0	SE	ROCK	Coal seam, observed
14	141.0	SW	ROCK	Coal seam, inferred
15	165.0	W	ROCK	Coal seam, inferred
16	169.0	N	ROCK	Coal seam, inferred
17	218.0	NW	ROCK	Coal seam, inferred
18	262.0	NW	FAULT	Fault, inferred, displacement unknown
19	269.0	W	ROCK	Coal seam, inferred
20B	290.0	NW	ROCK	Coal seam, inferred
21B	344.0	NW	FOSSIL_HORIZON	Marine band
22	352.0	N	ROCK	Coal seam, inferred
23	368.0	E	FAULT	Fault, observed, displacement unknown
24	369.0	NE	FAULT	Fault, inferred, displacement unknown
25	404.0	W	FAULT	Fault, inferred, displacement unknown
26	440.0	SW	ROCK	Coal seam, inferred
27	488.0	SE	FAULT	Fault, inferred, displacement unknown
28	496.0	SE	FAULT	Fault, observed, displacement unknown
29	500.0	SE	ROCK	Coal seam, inferred

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/Solid Geology and linear features such as faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nation wide coverage.

3 Radon Data

3.1 Radon Affected Areas

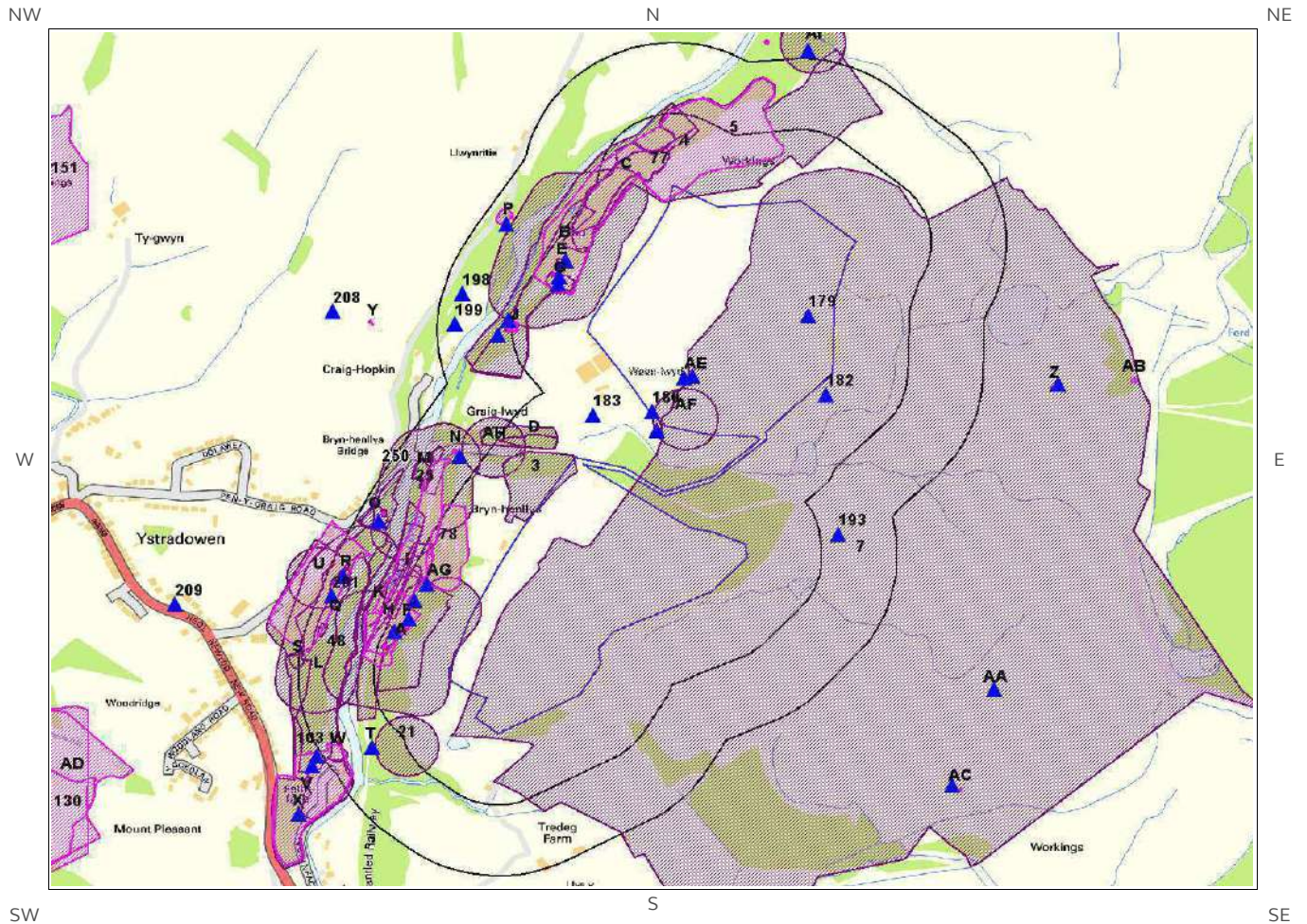
Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is in a Radon Affected Area, as between 1 and 3% of properties are above the Action Level.

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

3.2 Radon Protection

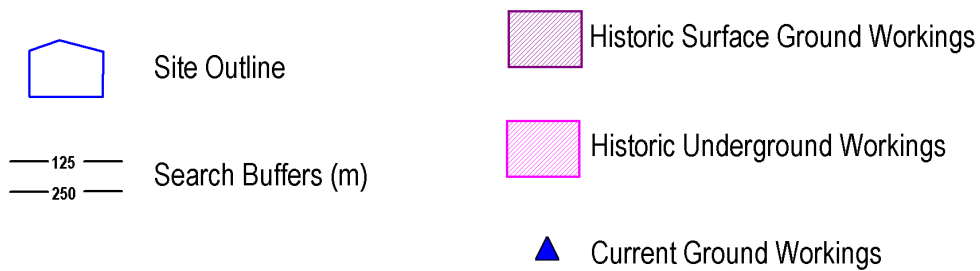
Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.

4 Ground Workings map



Ground Workings Legend

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4 Ground Workings

4.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Use	Date
1A	0.0	On Site	275525 212219	Colliery	1903
2A	0.0	On Site	275525 212219	Colliery	1877
3	0.0	On Site	275754 212498	Old Brick Works	1921
4	0.0	On Site	275975 213063	Refuse Heap	1965
5	0.0	On Site	276066 213093	Refuse Heap	1985
6AF	0.0	On Site	275997 212618	Coal Levels	1877
7	0.0	On Site	276275 212413	Opencast Workings	1965
8B	5.0	NW	275801 212919	Colliery	1948
9E	30.0	NW	275803 212894	Colliery	1921
10C	33.0	NW	275876 213038	Refuse Heap	1921
11B	33.0	NW	275824 212934	Colliery	1921
12C	33.0	NW	275876 213038	Refuse Heap	1921
13B	33.0	NW	275824 212934	Colliery	1921
14D	38.0	NW	275734 212578	Unspecified Quarry	1948
15D	38.0	NW	275734 212578	Unspecified Old Quarry	1877
16D	38.0	NW	275734 212578	Unspecified Old Quarry	1903
17D	39.0	NW	275718 212586	Refuse Heap	1985
18A	40.0	NW	275544 212167	Disused Colliery	1921
19G	57.0	NW	275787 212861	Colliery	1921
20AH	69.0	NW	275677 212568	Old Coal Level	1877
21	71.0	SW	275532 212042	Old Coal Drift	1877

ID	Distance (m)	Direction	NGR	Use	Date
22I	81.0	W	275522 212260	Colliery	1901
23E	86.0	NW	275791 212892	Drift	1921
24F	87.0	W	275532 212258	Unspecified Pit	1877
25	88.0	NW	275564 212491	Brick Works	1903
26F	92.0	W	275504 212261	Colliery	1948
27G	93.0	NW	275777 212872	Unspecified Drift	1948
28G	93.0	NW	275777 212872	Unspecified Drift	1903
29H	94.0	W	275517 212244	Disused Colliery	1921
30H	94.0	W	275517 212244	Disused Colliery	1921
31G	94.0	NW	275775 212872	Unspecified Drift	1921
32A	103.0	NW	275504 212224	Disused Colliery	1921
33I	107.0	NW	275530 212313	Unspecified Heap	1901
34A	111.0	W	275495 212218	Drift	1877
35J	115.0	W	275711 212777	Old Coal Level	1877
36J	116.0	W	275713 212785	Unspecified Disused Level	1985
37J	118.0	W	275706 212782	Old Coal Level	1901
38J	124.0	W	275702 212778	Old Coal Level	1921
39J	124.0	W	275702 212778	Old Coal Level	1921
40J	124.0	W	275702 212778	Old Coal Level	1921
41J	125.0	W	275704 212778	Old Coal Level	1948
42J	126.0	W	275703 212776	Old Coal Level	1921
43I	126.0	NW	275508 212323	Refuse Heap	1965
44I	134.0	NW	275510 212364	Refuse Heap	1985
45K	138.0	NW	275478 212281	Refuse Heaps	1921
46K	138.0	NW	275478 212281	Refuse Heaps	1921
47Q	141.0	W	275416 212265	Colliery	1948
48	156.0	W	275436 212223	Colliery	1921
49L	160.0	W	275403 212134	Colliery	1921
50L	160.0	W	275402 212193	Colliery	1921

ID	Distance (m)	Direction	NGR	Use	Date
51L	160.0	W	275402 212193	Colliery	1921
52N	166.0	NW	275612 212562	Coal Level	1877
53M	173.0	NW	275559 212522	Old Brick Works	1921
54T	174.0	SW	275471 212039	Old Coal Drift	1901
55M	174.0	NW	275558 212523	Old Brick Works	1921
56N	183.0	NW	275579 212553	Unspecified Heap	1877
57O	202.0	NW	275475 212448	Refuse Heap	1965
58O	202.0	NW	275475 212448	Refuse Heap	1985
59P	207.0	NW	275701 212963	Coal Levels	1877
60U	207.0	W	275386 212338	Unspecified Drift	1948
61O	207.0	NW	275495 212451	Unspecified Drift	1921
62P	208.0	NW	275707 212974	Coal Levels	1877
63O	208.0	NW	275496 212451	Drift	1921
64P	208.0	NW	275695 212974	Coal Levels	1901
65O	211.0	NW	275494 212456	Unspecified Drift	1921
66O	211.0	NW	275494 212453	Unspecified Drift	1948
67O	211.0	NW	275494 212453	Drift	1903
68W	213.0	SW	275418 212034	Unspecified Heap	1877
69V	214.0	SW	275376 211940	Colliery	1903
70R	214.0	NW	275431 212343	Drift	1921
71Q	215.0	W	275392 212247	Cuttings	1877
72R	217.0	W	275430 212347	Unspecified Drift	1921
73AI	225.0	N	276209 213281	Old Coal Level	1877
74R	229.0	W	275411 212331	Unspecified Drift	1921
75S	240.0	W	275350 212192	Unspecified Pit	1921
76S	240.0	W	275350 212192	Unspecified Pit	1921

4.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? Yes

The following Historical Underground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
77	0.0	On Site	275952 213029	Unspecified Disused Mine	1965
78	43.0	NW	275600 212392	Unspecified Disused Mine	1965
79G	78.0	NW	275783 212854	Air Shaft	1903
80I	81.0	W	275522 212260	Colliery	1901
81F	92.0	W	275504 212261	Colliery	1948
82F	92.0	W	275533 212256	Air Shaft	1877
83G	93.0	NW	275777 212872	Unspecified Drift	1903
84G	93.0	NW	275777 212872	Unspecified Drift	1948
85F	94.0	W	275531 212259	Air Shaft	1901
86F	97.0	W	275530 212262	Old Air Shaft	1903
87A	111.0	W	275495 212218	Drift	1877
88J	115.0	W	275711 212777	Old Coal Level	1877
89J	116.0	W	275713 212785	Unspecified Disused Level	1985
90J	118.0	W	275706 212782	Old Coal Level	1901
91J	125.0	W	275704 212778	Old Coal Level	1948
92N	166.0	NW	275612 212562	Coal Level	1877
93T	174.0	SW	275471 212039	Old Coal Drift	1901
94U	199.0	NW	275388 212323	Unspecified Disused Mine	1965
95U	199.0	NW	275388 212323	Unspecified Disused Mine	1985
96P	207.0	NW	275701 212963	Coal Levels	1877
97P	208.0	NW	275707 212974	Coal Levels	1877
98P	208.0	NW	275695 212974	Coal Levels	1901

ID	Distance (m)	Direction	NGR	Use	Date
99O	211.0	NW	275494 212453	Drift	1903
100O	211.0	NW	275494 212453	Unspecified Drift	1948
101V	214.0	SW	275376 211940	Colliery	1903
102W	262.0	SW	275371 212031	Unspecified Old Levels	1948
103	262.0	SW	275371 212031	Unspecified Old Levels	1903
104	279.0	N	276131 213281	Old Coal Level	1901
105X	340.0	SW	275349 211922	Air Shaft	1877
106X	343.0	SW	275349 211915	Air Shaft	1901
107Y	356.0	W	275475 212785	Old Coal Pit	1877
108Y	360.0	W	275471 212790	Old Coal Pit	1901
109Z	366.0	E	276610 212675	Trial Shafts	1903
110Z	366.0	E	276610 212675	Coal Trial Shafts	1948
Not shown	383.0	SW	275469 211741	Disused Air Shaft	1965
Not shown	383.0	SW	275469 211741	Disused Air Shaft	1985
Not shown	385.0	SW	275462 211746	Old Air Shaft	1903
Not shown	385.0	SW	275462 211746	Old Air Shaft	1877
Not shown	385.0	SW	275462 211746	Old Air Shaft	1948
Not shown	388.0	SW	275465 211741	Old Air Shaft	1901
117A A	474.0	SE	276512 212139	Coal Trial Shaft	1948
118A A	474.0	SE	276512 212139	Trial Shaft	1903
119AB	498.0	E	276743 212686	Coal Trial Shafts	1948
120AB	498.0	E	276743 212686	Trial Shafts	1903
121AC	538.0	SE	276454 211965	Trial Shaft	1903
122AC	538.0	SE	276454 211965	Coal Trial Shaft	1948
Not shown	539.0	S	275838 211432	Disused Colliery	1903
124A D	549.0	W	274925 211970	Colliery	1948
Not shown	570.0	SE	275855 211423	Colliery	1877
Not shown	576.0	N	276206 213723	Colliery	1948
Not shown	576.0	N	276206 213723	Colliery	1903

ID	Distance (m)	Direction	NGR	Use	Date
128A D	603.0	W	274894 211962	Unspecified Disused Mine	1988
Not shown	609.0	SE	275641 211398	Colliery	1901
130	613.0	W	274912 211941	Colliery	1877
Not shown	619.0	N	276170 213759	Unspecified Disused Mine	1985
Not shown	619.0	N	276170 213759	Unspecified Disused Mine	1965
Not shown	635.0	SE	275917 211466	Old Coal Levels	1901
Not shown	665.0	SE	275984 211453	Unspecified Old Level	1903
Not shown	665.0	SE	275984 211453	Old Coal Level	1877
Not shown	672.0	S	275456 211275	Old Coal Level	1901
Not shown	678.0	W	274896 211977	Old Coal Pit	1901
Not shown	703.0	SE	275961 211415	Old Coal Level	1877
Not shown	711.0	W	274894 211954	Coal Pits	1876
Not shown	736.0	S	275551 211329	Old Coal Pit	1877
Not shown	769.0	SE	276019 211362	Unspecified Old Level	1948
Not shown	772.0	SE	276002 211357	Old Coal Level	1901
Not shown	779.0	W	274864 211907	Air Shaft	1876
Not shown	787.0	W	274852 211915	Air Shaft	1877
Not shown	789.0	SW	274934 211624	Colliery	1877
Not shown	789.0	SW	274934 211624	Colliery	1903
Not shown	797.0	SW	274930 211563	Unspecified Disused Mine	1988
Not shown	806.0	SW	274931 211611	Colliery	1901
Not shown	839.0	W	274789 211947	Coal Pit	1877
Not shown	844.0	SW	274973 211577	Unspecified Drift	1876
151	851.0	W	274902 213044	Unspecified Disused Mine	1988
Not shown	852.0	W	274752 211910	Coal Pits	1876
Not shown	856.0	SW	274963 211571	Unspecified Drift	1877
Not shown	866.0	W	274646 212030	Colliery	1877
Not shown	868.0	SE	276188 211339	Unspecified Old Level	1948
Not shown	876.0	SW	274916 211604	Air Shaft	1877

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	878.0	S	275424 211221	Old Coal Level	1948
Not shown	878.0	W	274682 211943	Colliery	1877
Not shown	886.0	S	275408 211218	Old Coal Level	1903
Not shown	923.0	S	275482 211149	Old Coal Level	1903
Not shown	925.0	SW	274871 211582	Air Shaft	1876
Not shown	926.0	S	275675 211127	Old Coal Level	1901
Not shown	931.0	S	275613 211102	Old Coal Level	1901
Not shown	937.0	W	274673 212028	Unspecified Shaft	1877
Not shown	937.0	W	274670 212047	Unspecified Old Shaft	1900
Not shown	937.0	W	274671 212034	Unspecified Shaft	1877
Not shown	940.0	W	274667 212044	Unspecified Old Shaft	1905
Not shown	957.0	S	275496 210972	Colliery	1877
Not shown	957.0	S	275496 210972	Disused Colliery	1903
Not shown	957.0	S	275496 210972	Disused Colliery	1948
Not shown	963.0	S	275837 211111	Air Shaft	1901
Not shown	965.0	S	275841 211111	Air Shaft	1877
Not shown	968.0	W	274640 212309	Unspecified Shaft	1900
Not shown	979.0	W	274574 212206	Old Coal Levels	1900
Not shown	983.0	W	274612 212297	Old Coal Levels	1900
Not shown	984.0	W	274609 212294	Old Coal Levels	1948

4.3 Current Ground Workings

This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
177AE	0.0	On Site	275993 212690	Coal, Deep	Waun-lwyd Level	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
178AE	0.0	On Site	276007 212693	Coal, Deep	Waun-lwyd Level	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
179	0.0	On Site	276200 212800	Coal, Surface Mined	Brynhenllys Revised OCCS	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
180	0.0	On Site	275941 212631	Coal, Deep	Waun-lwyd Air Shaft	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
181AF	16.0	SW	275948 212598	Coal, Deep	Bryn-henllys Level	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
182	21.0	SE	276230 212660	Coal, Surface Mined	Brynhenllys OCCS	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
183	77.0	N	275841 212625	Sandstone	Graig-lwyd Quarry	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
184G	81.0	NW	275783 212856	Coal, Deep	Bryn-henllys Colliery Air Shaft	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
185G	86.0	NW	275785 212868	Coal, Deep	Bryn-henllys Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
186B	92.0	NW	275797 212896	Coal, Deep	Bryn-henllys Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
187AG	92.0	NW	275565 212327	Coal, Deep	Bryn-henllys Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased

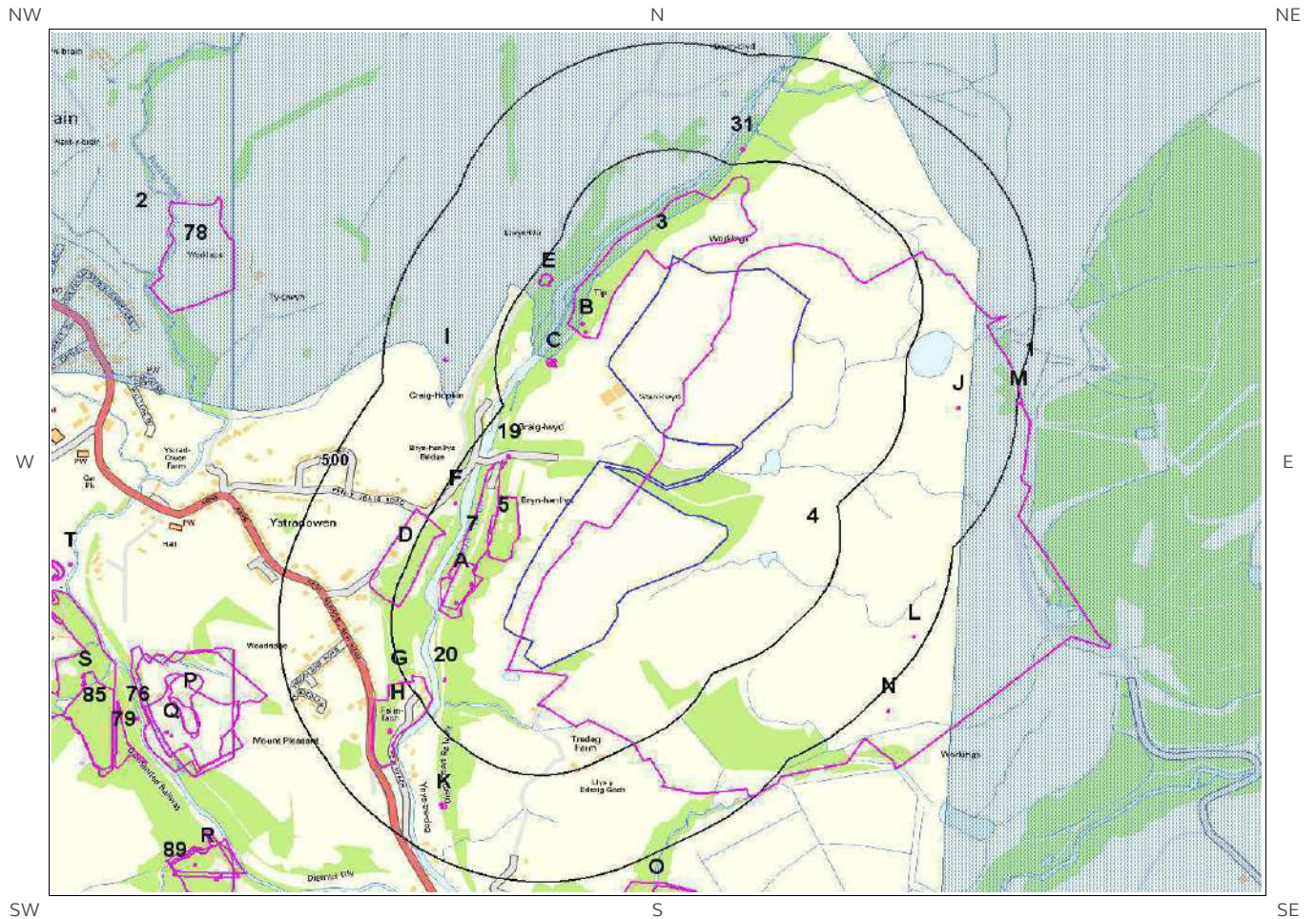
ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
188F	96.0	W	275535 212266	Coal, Deep	Bryn-henllys Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
189AG	98.0	W	275544 212299	Coal, Deep	Bryn-henllys Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
190A	111.0	W	275511 212244	Coal, Deep	Bryn-henllys Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
191J	134.0	W	275700 212792	Coal, Deep	Waun-lwyd Level	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
192J	149.0	W	275684 212765	Coal, Deep	Waun-lwyd Level	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
193	154.0	E	276250 212415	Coal, Surface Mined	Waun Llwyd OCCS	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
194AH	161.0	NW	275619 212553	Coal, Deep	Graig-lwyd Mine	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
195T	175.0	SW	275474 212041	Coal, Deep	Bryn Moel Drift	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
196P	211.0	NW	275697 212961	Coal, Deep	Craig-Hopkin Level	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
197O	214.0	NW	275485 212438	Coal, Deep	Pen-y-Graig Level	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
198	219.0	W	275624 212838	Coal, Deep	Craig-Hopkin Levels	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
199	222.0	W	275611 212785	Coal, Deep	Craig-Hopkin Levels	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
200R	225.0	W	275425 212341	Coal, Deep	Ystrad-Owen Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
201	231.0	W	275406 212306	Coal, Deep	Ystrad-Owen Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
202W	260.0	SW	275381 212024	Coal, Deep	Ystrad-Owen Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
203AI	263.0	N	276200 213266	Coal, Deep	Cwm-twrch	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
204W	276.0	SW	275373 212007	Coal, Deep	Ystrad-Owen Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
205X	340.0	SW	275351 211923	Coal, Deep	Ystrad-Owen Colliery Air Shaft	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
206Z	375.0	E	276616 212679	Coal, Deep	Gelli	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	409.0	NW	275800 213400	Coal, Surface Mined	Cwm Clyd Farm	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
208	426.0	W	275408 212807	Coal, Deep	Craig-Hopkin Trail Pit	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
209	471.0	W	275145 212292	Sand	Ystrad-Owen	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
210AA	472.0	SE	276510 212142	Coal, Deep	Tir-y-gol	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
211AC	523.0	SE	276439 211973	Coal, Deep	Tir-y-gol	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	619.0	SE	275927 211495	Coal, Deep	Gilfach Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	647.0	N	276200 213650	Coal, Deep	Henllys Vale Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	666.0	SE	275977 211466	Coal, Deep	Gilfach Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	678.0	SE	276320 211675	Coal, Surface Mined	Tredeg OCCS	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	707.0	SE	275959 211413	Coal, Deep	Gilfach Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	750.0	S	275575 211322	Coal, Deep	Gwys Bridge	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	771.0	SE	276015 211368	Coal, Deep	Gilfach Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	793.0	W	274851 211906	Coal, Deep	Cwmllynfell Colliery Balance Pit	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	794.0	W	274839 211941	Coal, Deep	Cwmllynfell Colliery, No. 1 Shaft	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	809.0	SW	275206 211412	Sandstone	Lamb Bridge	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	829.0	NW	275590 213765	Coal, Surface Mined	Ddolgarn	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	831.0	SW	274967 211613	Coal, Deep	Hendre Forgan Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	861.0	SE	276186 211354	Coal, Deep	Glyn Cynnal-Uchaf	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	884.0	S	275412 211223	Coal, Deep	Old Tredegar Arms	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	898.0	SW	274815 211728	Coal, Deep	Coedffaldau Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased

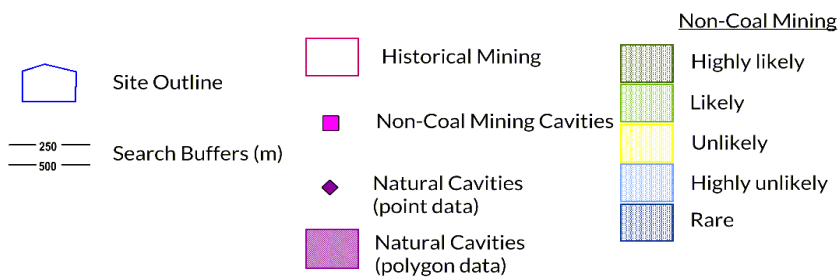
ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	898.0	W	274725 212371	Coal, Deep	Cwmllynfell Level	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	901.0	SW	274772 211811	Coal, Deep	Coedffaldau Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	903.0	SW	274825 211700	Coal, Deep	Coedffaldau Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	907.0	SW	275105 211364	Sandstone	Lamb Bridge	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	934.0	W	274676 212039	Coal, Deep	Cwmllynfell Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	944.0	S	275490 211140	Coal, Deep	Upper Bryn-Morgan Bridge	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	969.0	W	274642 212306	Coal, Deep	Cwmllynfell Pit	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	980.0	W	274625 212241	Coal, Deep	Cwmllynfell Level	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	984.0	W	274621 212249	Coal, Deep	Cwmllynfell Level	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased

5 Mining, Extraction & Natural Cavities map



Mining, Extraction and Natural Cavities Legend

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5 Mining, Extraction & Natural Cavities

5.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? Yes

The following Historical Mining information is provided by Groundsure:

ID	Distance (m)	Direction	NGR	Details	Date
3	0.0	On Site	275952 213029	Unspecified Disused Mine	1965
4	0.0	On Site	276275 212413	Opencast Workings	1965
5	43.0	NW	275600 212392	Unspecified Disused Mine	1965
6B	78.0	NW	275783 212854	Air Shaft	1903
7	81.0	W	275522 212260	Colliery	1901
8A	92.0	W	275504 212261	Colliery	1948
9A	92.0	W	275533 212256	Air Shaft	1877
10B	93.0	NW	275777 212872	Unspecified Drift	1903
11B	93.0	NW	275777 212872	Unspecified Drift	1948
12A	94.0	W	275531 212259	Air Shaft	1901
13A	97.0	W	275530 212262	Old Air Shaft	1903
14A	111.0	W	275495 212218	Drift	1877
15C	115.0	W	275711 212777	Old Coal Level	1877
16C	116.0	W	275713 212785	Unspecified Disused Level	1985
17C	118.0	W	275706 212782	Old Coal Level	1901
18C	125.0	W	275704 212778	Old Coal Level	1948
19	166.0	NW	275612 212562	Coal Level	1877
20	174.0	SW	275471 212039	Old Coal Drift	1901
21D	199.0	NW	275388 212323	Unspecified Disused Mine	1965
22D	199.0	NW	275388 212323	Unspecified Disused Mine	1985

ID	Distance (m)	Direction	NGR	Details	Date
23E	207.0	NW	275701 212963	Coal Levels	1877
24E	208.0	NW	275707 212974	Coal Levels	1877
25E	208.0	NW	275695 212974	Coal Levels	1901
26F	211.0	NW	275494 212453	Drift	1903
27F	211.0	NW	275494 212453	Unspecified Drift	1948
28H	214.0	SW	275376 211940	Colliery	1903
29G	262.0	SW	275371 212031	Unspecified Old Levels	1903
30G	262.0	SW	275371 212031	Unspecified Old Levels	1948
31	279.0	N	276131 213281	Old Coal Level	1901
32H	340.0	SW	275349 211922	Air Shaft	1877
33H	343.0	SW	275349 211915	Air Shaft	1901
34I	356.0	W	275475 212785	Old Coal Pit	1877
35I	360.0	W	275471 212790	Old Coal Pit	1901
36J	366.0	E	276610 212675	Trial Shafts	1903
37J	366.0	E	276610 212675	Coal Trial Shafts	1948
38K	383.0	SW	275469 211741	Disused Air Shaft	1965
39K	383.0	SW	275469 211741	Disused Air Shaft	1985
40K	385.0	SW	275462 211746	Old Air Shaft	1948
41K	385.0	SW	275462 211746	Old Air Shaft	1903
42K	385.0	SW	275462 211746	Old Air Shaft	1877
43K	388.0	SW	275465 211741	Old Air Shaft	1901
44L	474.0	SE	276512 212139	Coal Trial Shaft	1948
45L	474.0	SE	276512 212139	Trial Shaft	1903
46M	498.0	E	276743 212686	Coal Trial Shafts	1948
47M	498.0	E	276743 212686	Trial Shafts	1903
48N	538.0	SE	276454 211965	Trial Shaft	1903
49N	538.0	SE	276454 211965	Coal Trial Shaft	1948
50O	539.0	S	275838 211432	Disused Colliery	1903
51P	549.0	W	274925 211970	Colliery	1948

ID	Distance (m)	Direction	NGR	Details	Date
52O	570.0	SE	275855 211423	Colliery	1877
Not shown	576.0	N	276206 213723	Colliery	1903
Not shown	576.0	N	276206 213723	Colliery	1948
55P	603.0	W	274894 211962	Unspecified Disused Mine	1988
Not shown	609.0	SE	275641 211398	Colliery	1901
57P	613.0	W	274912 211941	Colliery	1877
Not shown	619.0	N	276170 213759	Unspecified Disused Mine	1985
Not shown	619.0	N	276170 213759	Unspecified Disused Mine	1965
Not shown	635.0	SE	275917 211466	Old Coal Levels	1901
Not shown	665.0	SE	275984 211453	Unspecified Old Level	1903
Not shown	665.0	SE	275984 211453	Old Coal Level	1877
Not shown	672.0	S	275456 211275	Old Coal Level	1901
64P	678.0	W	274896 211977	Old Coal Pit	1901
Not shown	703.0	SE	275961 211415	Old Coal Level	1877
66P	711.0	W	274894 211954	Coal Pits	1876
Not shown	736.0	S	275551 211329	Old Coal Pit	1877
Not shown	769.0	SE	276019 211362	Unspecified Old Level	1948
Not shown	772.0	SE	276002 211357	Old Coal Level	1901
70Q	779.0	W	274864 211907	Air Shaft	1876
71Q	787.0	W	274852 211915	Air Shaft	1877
72R	789.0	SW	274934 211624	Colliery	1877
73R	789.0	SW	274934 211624	Colliery	1903
74R	797.0	SW	274930 211563	Unspecified Disused Mine	1988
75R	806.0	SW	274931 211611	Colliery	1901
76	839.0	W	274789 211947	Coal Pit	1877
77R	844.0	SW	274973 211577	Unspecified Drift	1876
78	851.0	W	274902 213044	Unspecified Disused Mine	1988
79	852.0	W	274752 211910	Coal Pits	1876
80R	856.0	SW	274963 211571	Unspecified Drift	1877

ID	Distance (m)	Direction	NGR	Details	Date
81S	866.0	W	274646 212030	Colliery	1877
Not shown	868.0	SE	276188 211339	Unspecified Old Level	1948
83R	876.0	SW	274916 211604	Air Shaft	1877
Not shown	878.0	S	275424 211221	Old Coal Level	1948
85	878.0	W	274682 211943	Colliery	1877
Not shown	883.0	SW	275309 211093	OpenCast Working	1965
Not shown	886.0	S	275408 211218	Old Coal Level	1903
Not shown	923.0	S	275482 211149	Old Coal Level	1903
89	925.0	SW	274871 211582	Air Shaft	1876
Not shown	926.0	S	275675 211127	Old Coal Level	1901
Not shown	931.0	S	275613 211102	Old Coal Level	1901
92S	937.0	W	274673 212028	Unspecified Shaft	1877
93S	937.0	W	274670 212047	Unspecified Old Shaft	1900
94S	937.0	W	274671 212034	Unspecified Shaft	1877
95S	940.0	W	274667 212044	Unspecified Old Shaft	1905
Not shown	948.0	SW	274828 211122	Opencast Workings	1965
Not shown	957.0	S	275496 210972	Colliery	1877
Not shown	957.0	S	275496 210972	Disused Colliery	1948
Not shown	957.0	S	275496 210972	Disused Colliery	1903
Not shown	963.0	S	275837 211111	Air Shaft	1901
Not shown	965.0	S	275841 211111	Air Shaft	1877
102T	968.0	W	274640 212309	Unspecified Shaft	1900
103	979.0	W	274574 212206	Old Coal Levels	1900
104T	983.0	W	274612 212297	Old Coal Levels	1900
105T	984.0	W	274609 212294	Old Coal Levels	1948

5.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? Yes

The following Coal Mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0.0	On Site	The site lies in or in proximity to the coal mining reporting area as defined by the Coal Authority

5.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

5.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	79.0	NW	Not available	Iron Ore (Bedded)	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
2	753.0	NW	Not available	Iron Ore (Bedded)	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

5.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.6 Natural Cavities

This dataset provides information based on the Peter Brett Associates natural cavities database. The dataset is made up of points and polygons. Where polygons are used these represent an area in which it is expected the cavities could be found. It does not indicate that cavities are present everywhere within the polygon, and caution should be used in the interpretation of this data.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.7 Brine Extraction

This data provides information from the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level..

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.10 Clay Mining

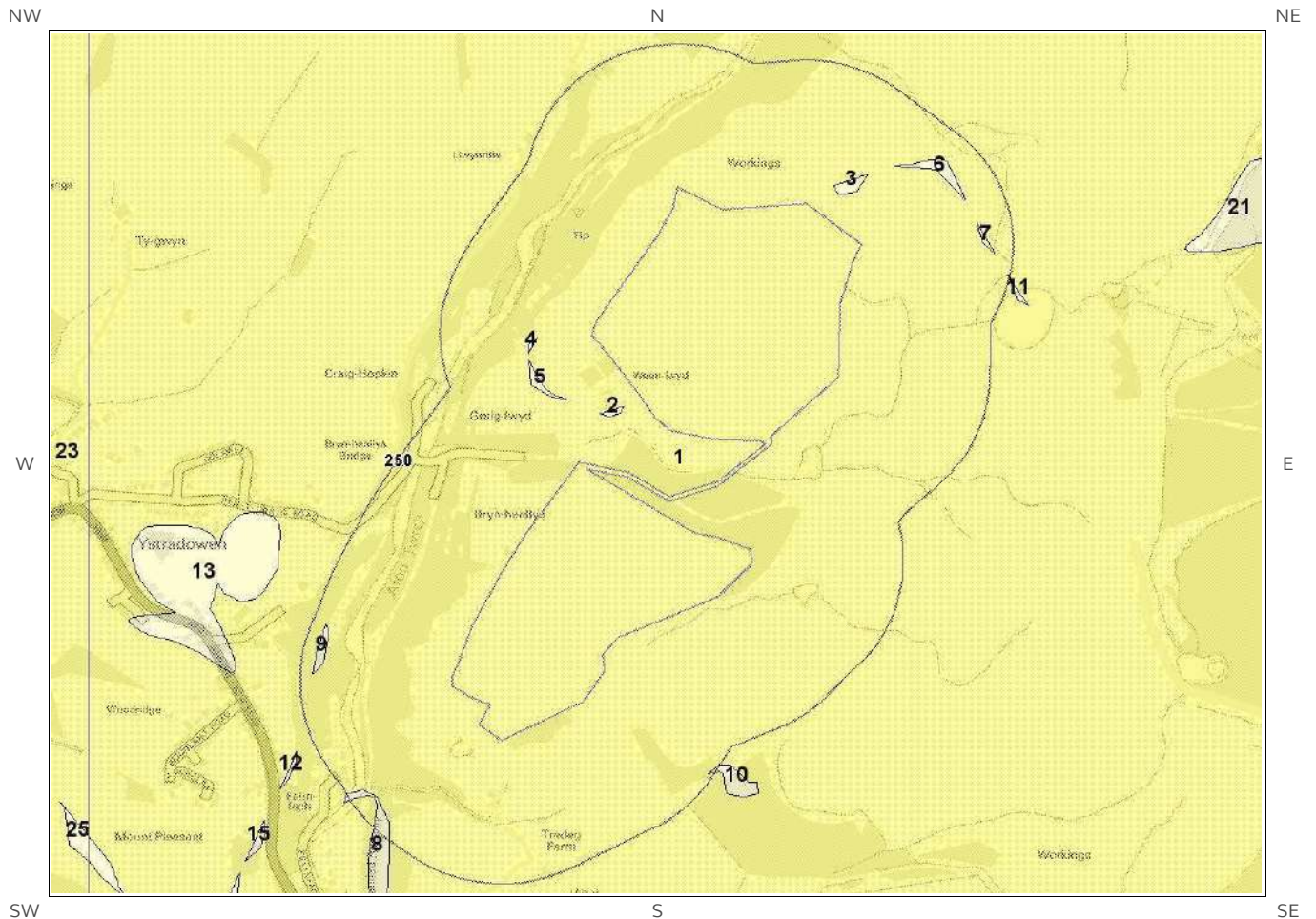
This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

6 Natural Ground Subsidence

6.1 Shrink-Swell Clay map

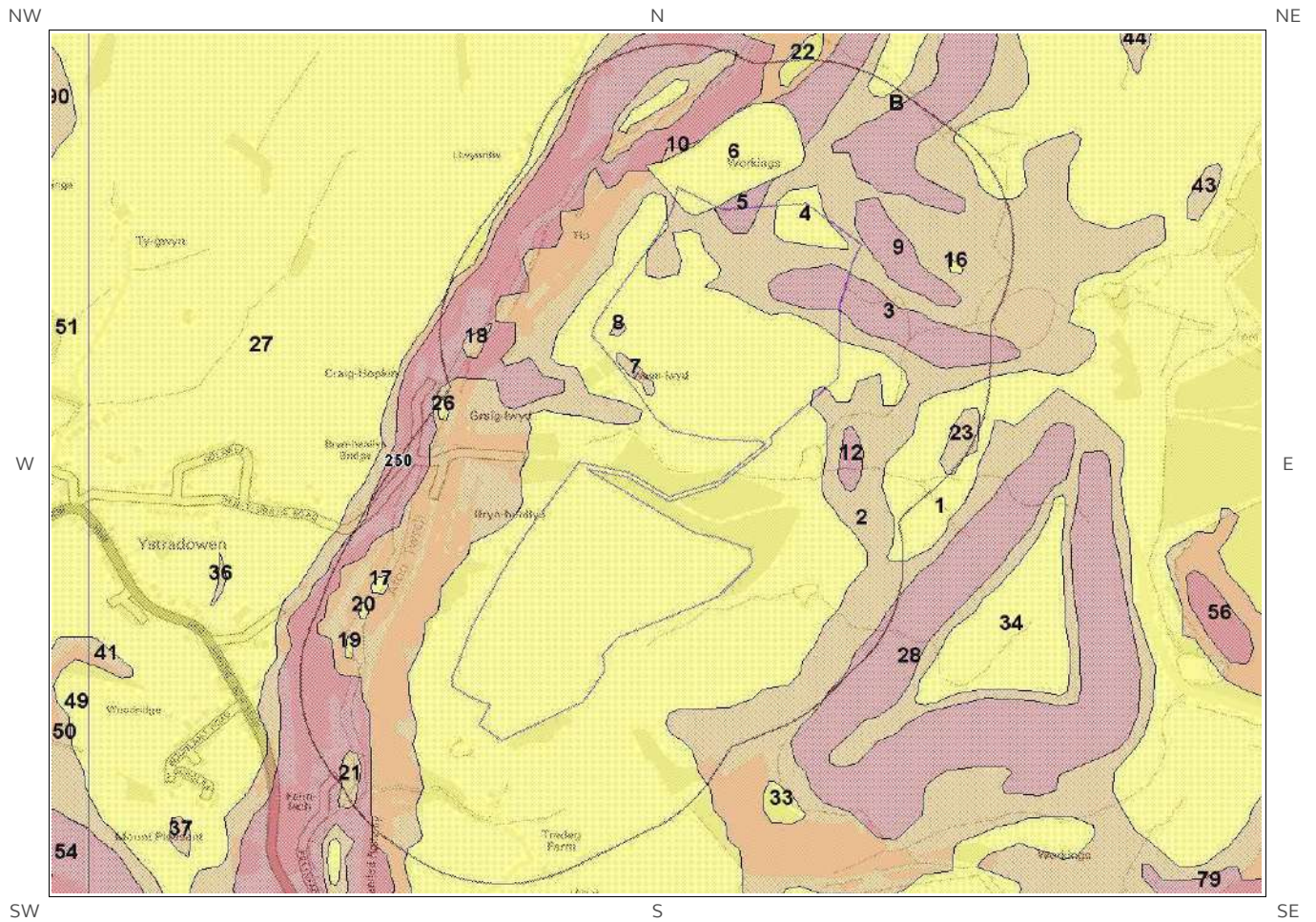


Shrink Swell Clay Legend

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6.2 Landslides map

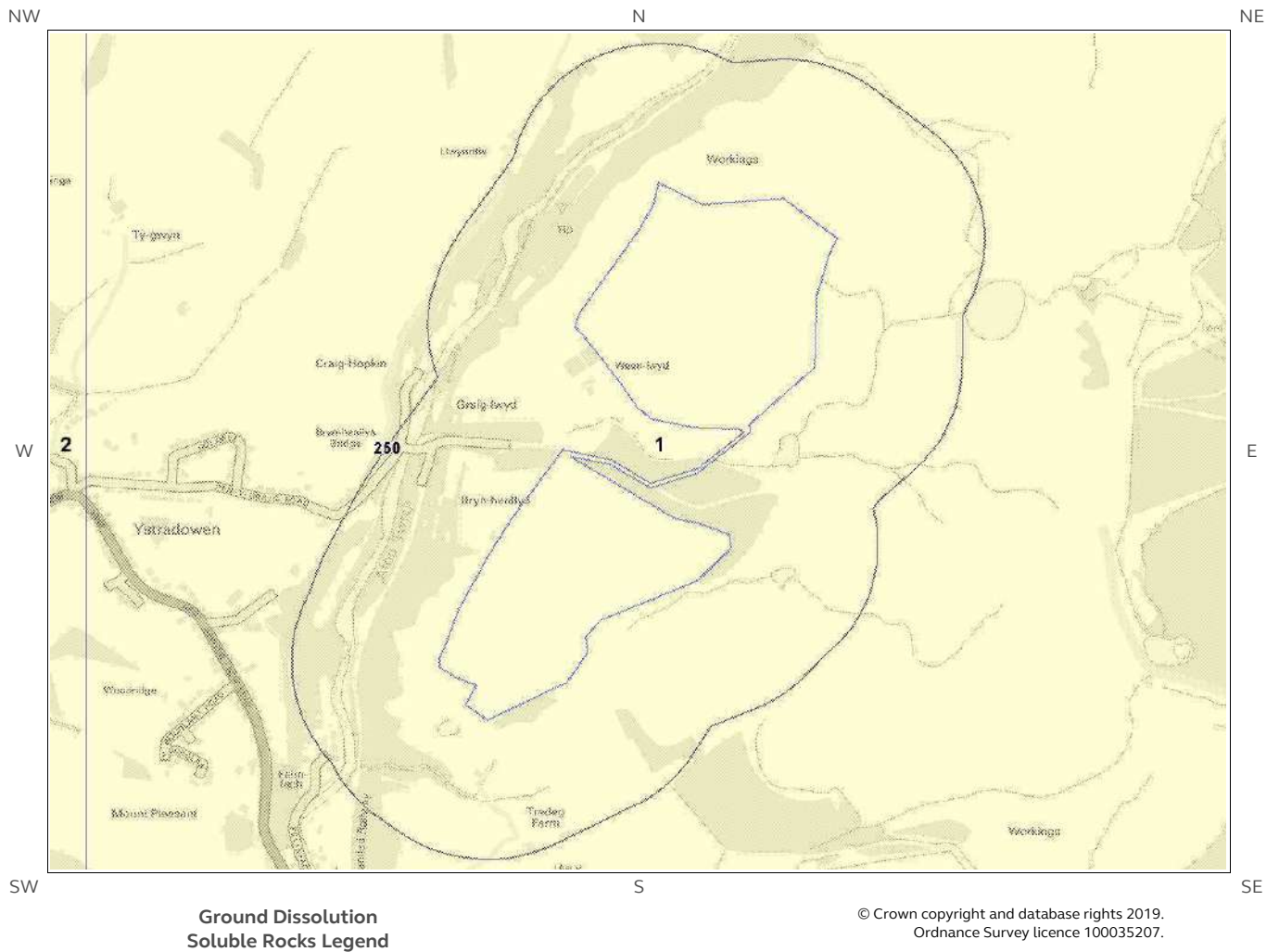


Landslides Legend

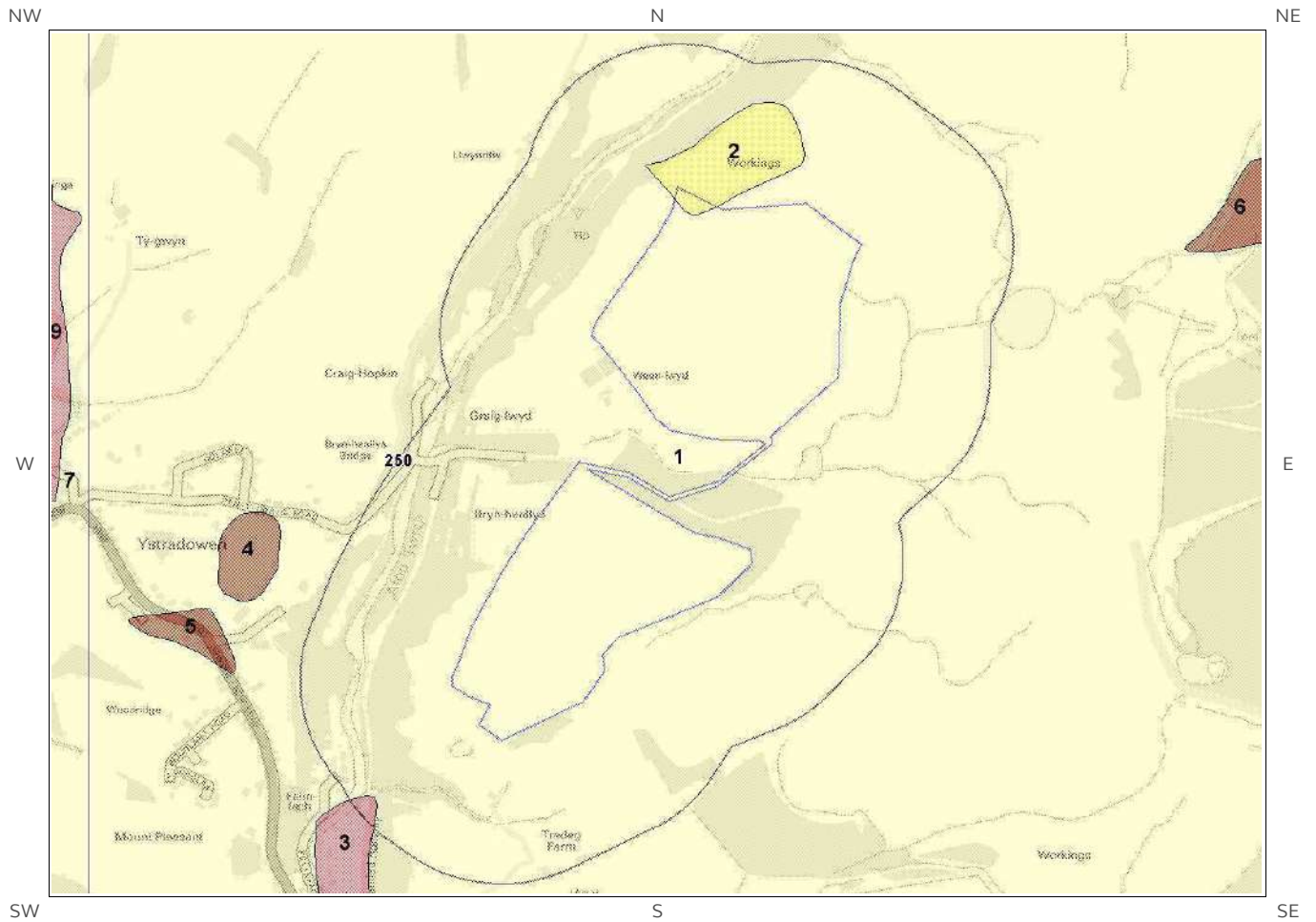
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6.3 Ground Dissolution of Soluble Rocks map



6.4 Compressible Deposits map

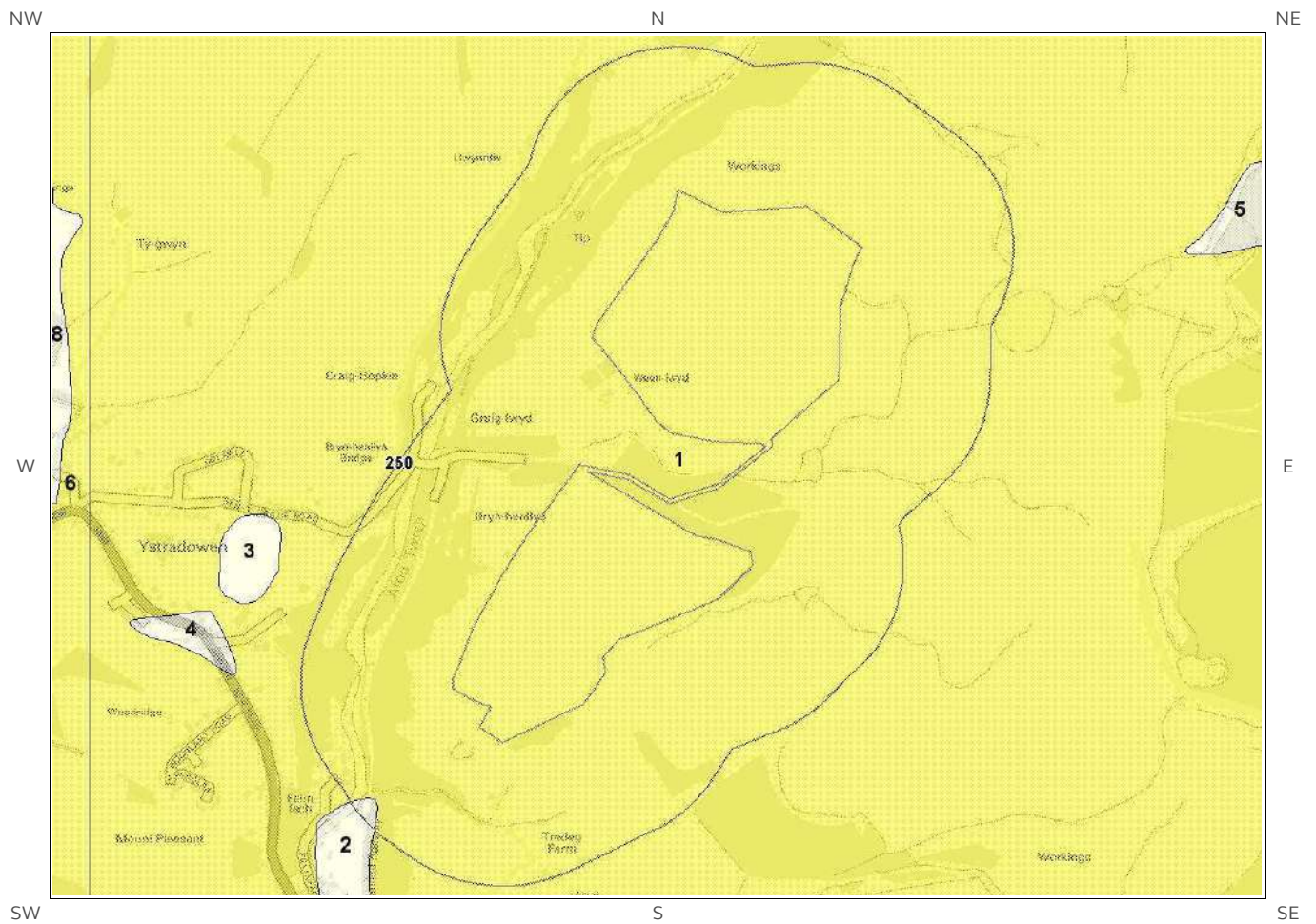


Compressible Deposits Legend

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6.5 Collapsible Deposits map

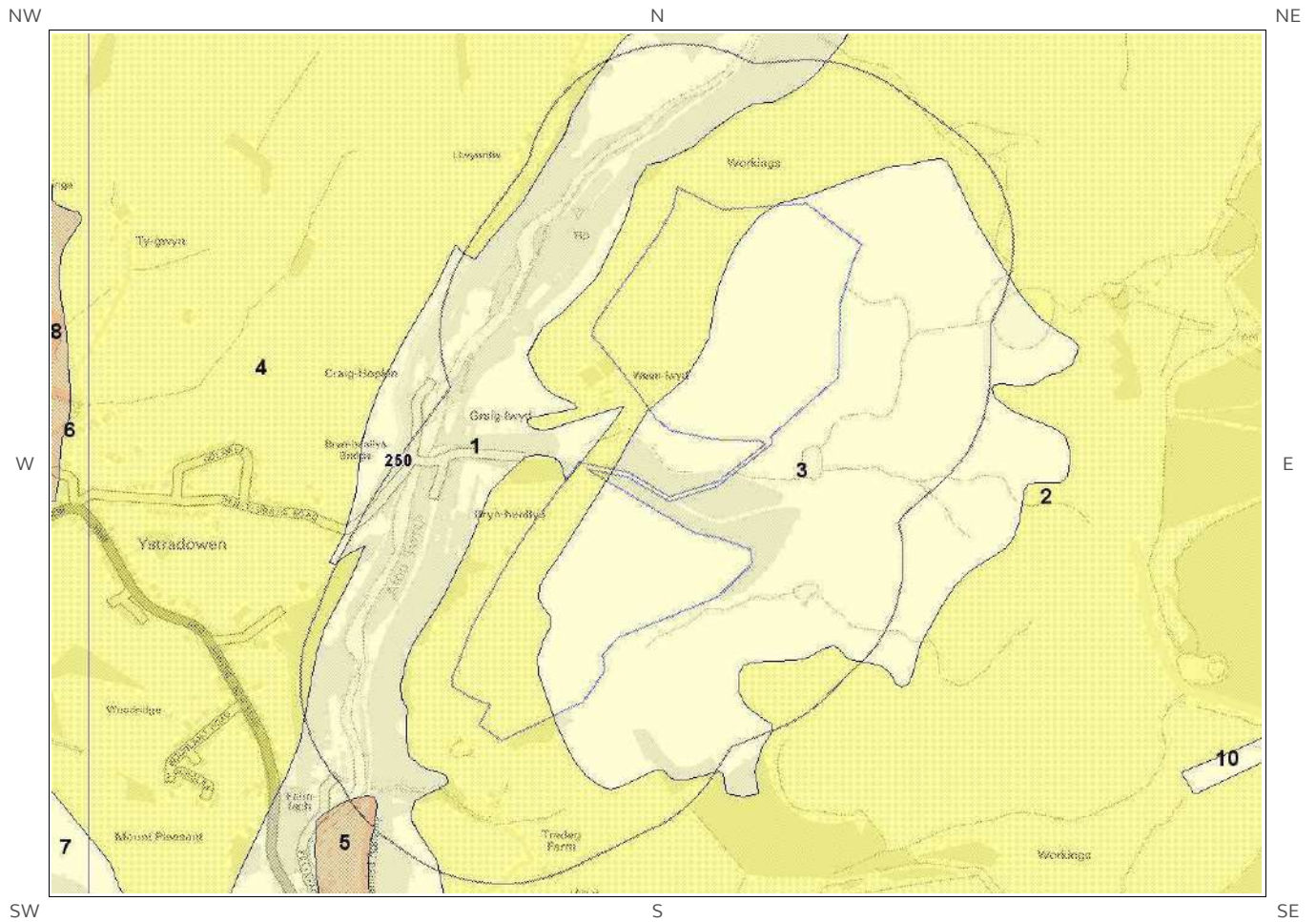


Collapsible Deposits Legend

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6.6 Running Sand map



Running Sand Legend

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6 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site* boundary? **Moderate**

6.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
2	32.0	SW	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
3	45.0	NE	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.

6.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

* This includes an automatically generated 50m buffer zone around the site

ID	Distance (m)	Direction	Hazard Rating	Details
2	0.0	On Site	Low	<p>Possibility of slope instability problems after major changes in ground conditions.</p> <p>Consideration should be given to stability if changes to drainage or excavations take place.</p> <p>Possible increase in construction cost to reduce potential slope stability problems. Existing property - no significant increase in insurance risk due to natural slope instability problems.</p>
3	0.0	On Site	Moderate	<p>Significant potential for slope instability with relatively small changes in ground conditions.</p> <p>Avoid large amounts of water entering the ground through pipe leakage or soak-aways. Do not undercut or place large amounts of material on slopes without technical advice. For new build - consider the potential and consequences of ground movement during excavations, or consequence of changes to loading or drainage.</p> <p>For existing property - probable increase in insurance risk is likely due to potential natural slope instability after changes to ground conditions such as a very long, excessively wet winter.</p>
4	0.0	On Site	Very Low	<p>Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.</p>
5	0.0	On Site	Moderate	<p>Significant potential for slope instability with relatively small changes in ground conditions.</p> <p>Avoid large amounts of water entering the ground through pipe leakage or soak-aways. Do not undercut or place large amounts of material on slopes without technical advice. For new build - consider the potential and consequences of ground movement during excavations, or consequence of changes to loading or drainage.</p> <p>For existing property - probable increase in insurance risk is likely due to potential natural slope instability after changes to ground conditions such as a very long, excessively wet winter.</p>
6	0.0	On Site	Very Low	<p>Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.</p>
7	0.0	On Site	Low	<p>Possibility of slope instability problems after major changes in ground conditions.</p> <p>Consideration should be given to stability if changes to drainage or excavations take place.</p> <p>Possible increase in construction cost to reduce potential slope stability problems. Existing property - no significant increase in insurance risk due to natural slope instability problems.</p>

ID	Distance (m)	Direction	Hazard Rating	Details
8	0.0	On Site	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property - no significant increase in insurance risk due to natural slope instability problems.
9	4.0	NE	Moderate	Significant potential for slope instability with relatively small changes in ground conditions. Avoid large amounts of water entering the ground through pipe leakage or soak-aways. Do not undercut or place large amounts of material on slopes without technical advice. For new build - consider the potential and consequences of ground movement during excavations, or consequence of changes to loading or drainage. For existing property - probable increase in insurance risk is likely due to potential natural slope instability after changes to ground conditions such as a very long, excessively wet winter.

6.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

6.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.
2	0.0	On Site	Very Low	Very low potential for compressible deposits to be present. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

6.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

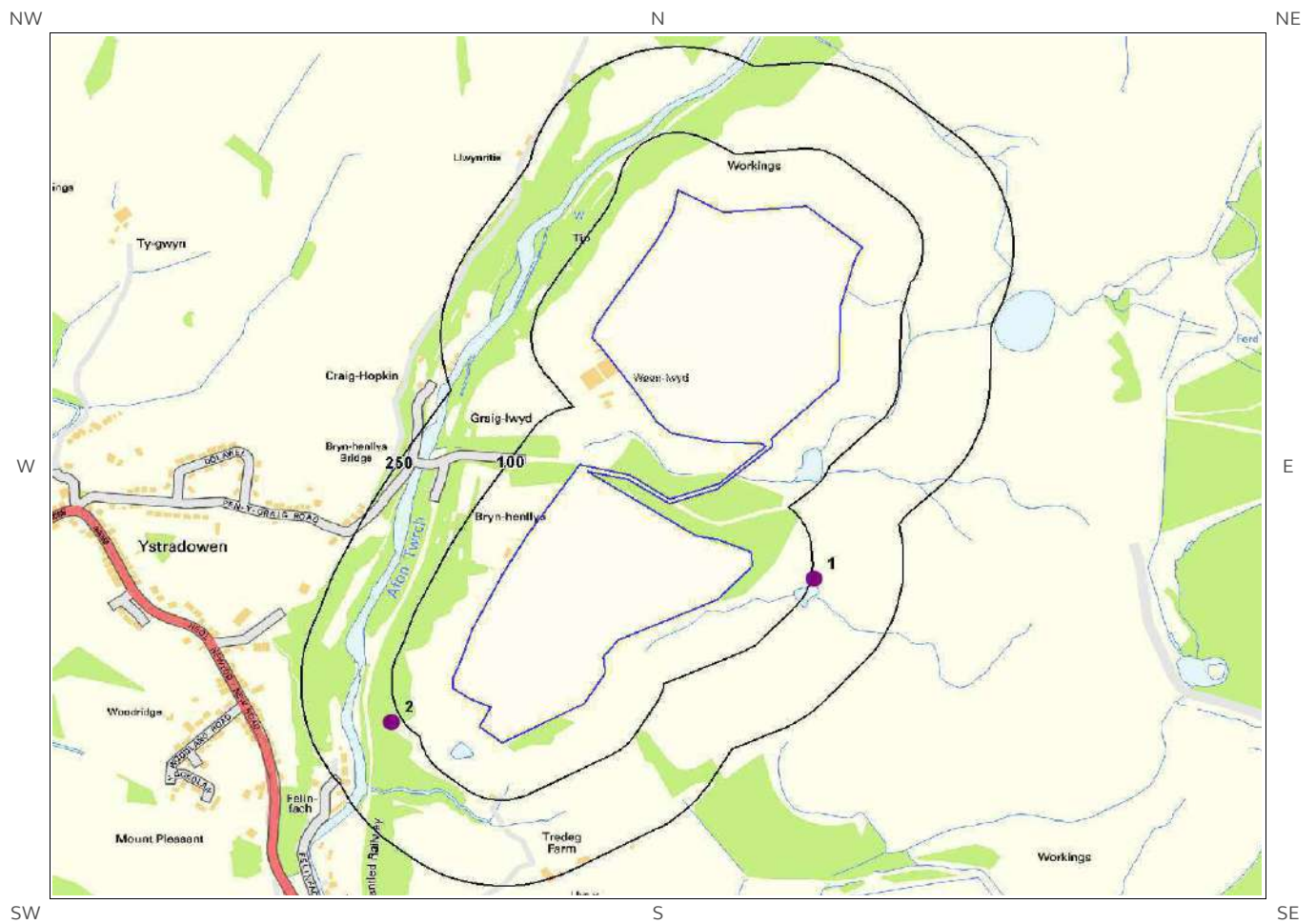
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

6.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

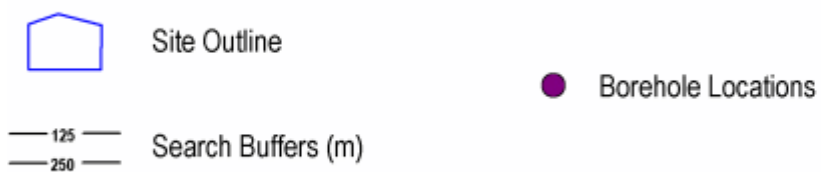
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
2	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
3	0.0	On Site	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

7 Borehole Records map



Borehole Records Legend

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7 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

2

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	104.0	E	276200 212350	SN71SE1	20	BRYN HENLLYS/CWM-PHIL. WAUN LWYD
2	119.0	SW	275500 212100	SN71SE19	Not available	BRYNHENLLYS COLLIERY

The borehole records are available using the hyperlinks below: Please note that if the donor of the borehole record has requested the information be held as commercial-in-confidence, the additional data will be held separately by the BGS and a formal request must be made for its release.

#1: scans.bgs.ac.uk/sobi_scans/boreholes/257389

#2: scans.bgs.ac.uk/sobi_scans/boreholes/257407

8 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

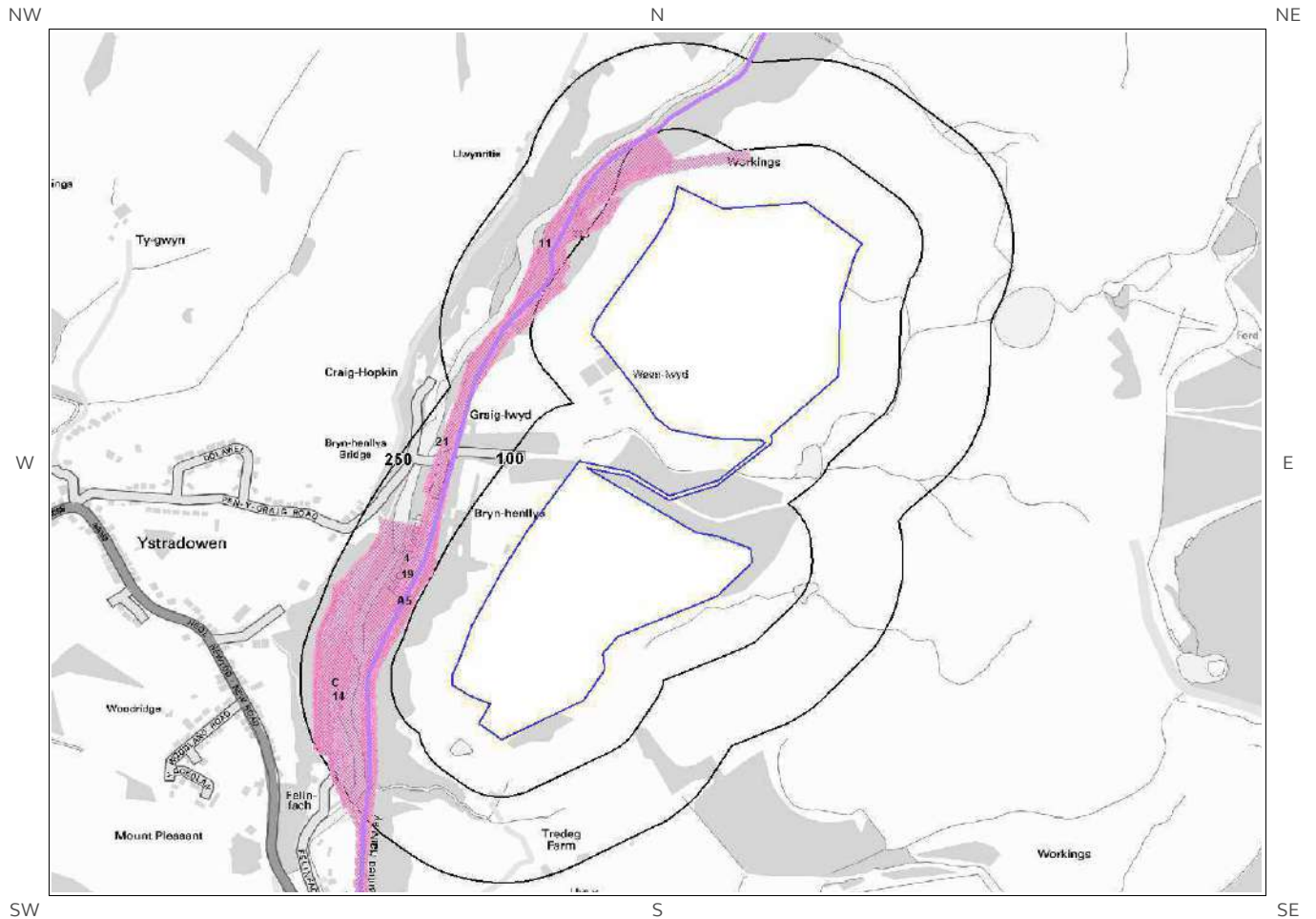
19

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geo Insight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
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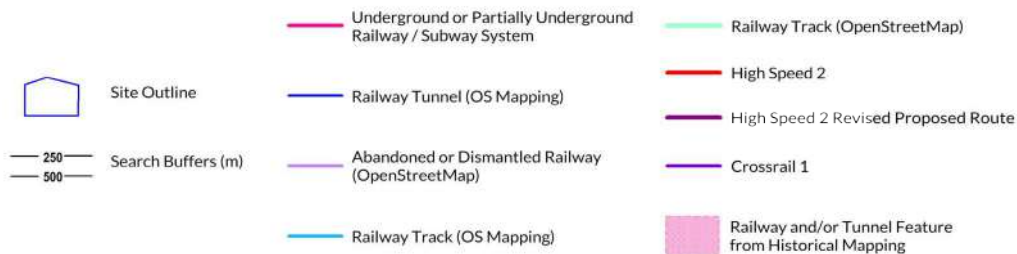
*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

9 Railways and Tunnels map



Railways and Tunnels Legend

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9 Railways and Tunnels

9.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

9.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Details	Date
1	26	N	275565 212439	Railway Sidings	1948
2	33	NW	275605 212611	Railway Sidings	1921
3	36	NW	275786 212936	Tramway Sidings	1921
16	37	N	275574 212484	Railway Sidings	1918
4	81	NW	275565 212439	Railway Sidings	1903
17	86	NW	275716 212835	Tramway Sidings	1905

ID	Distance (m)	Direction	NGR	Details	Date
5	106	W	275531 212302	Railway Sidings	1921
18A	113	W	275516 212305	Tramway Sidings	1905
6	115	NW	275469 211999	Railway Sidings	1877
19	119	W	275524 212338	Railway Sidings	1877
7A	121	W	275517 212302	Tramway Sidings	1921
8B	121	NW	275470 212178	Tramway Sidings	1921
9A	123	NW	275517 212305	Railway Sidings	1921
20B	123	NW	275468 212190	Railway Sidings	1961
10B	125	W	275468 212180	Railway Sidings	1921
11	128	NW	275753 212924	Tramway Sidings	1921
12C	167	W	275410 212141	Tramway Sidings	1921
13C	170	W	275396 212108	Railway Sidings	1921
14	170	W	275419 212143	Railway Sidings	1921
21	176	NW	275583 212578	Tramway Sidings	1905
22C	190	W	275376 212162	Tramway Sidings	1905
15	207	W	275383 212189	Railway Sidings	1921

Any records that have been identified are represented on the Railways and Tunnels map.

9.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? Yes

Distance (m)	Direction	Status
102	NW	Razed
102	NW	Abandoned

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels map.

9.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? No

Have any active railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels map.

9.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project? No

Is the study site within 500m of the route of the Crossrail 1 rail project? No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

Please note that this assessment takes account of both the original Phase 2b proposed route and the amended route proposed in 2016. As the Phase 2b route is still under consultation, Groundsure are providing information on both options until the final route is formally confirmed. Practitioners should take account of this uncertainty when advising clients.

Contact Details

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Email: enquiries@bgs.ac.uk
Web: www.bgs.ac.uk



BGS Geological Hazards Reports and general geological enquiries

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British Gypsum Ltd
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Loughborough
Leicestershire
LE12 6HX



The Coal Authority

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Notts NG18 4RG
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DX 716176 Mansfield 5
www.coal.gov.uk



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<https://www.gov.uk/government/organisations/public-health-england>
Email: enquiries@phe.gov.uk
Main switchboard: 020 7654 8000



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Client Ref: Bryn_Henllys_Extension
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Grid Ref: 275942, 212548

Map Name: County Series

Map date: 1876-1877

Scale: 1:10,560

Printed at: 1:10,560



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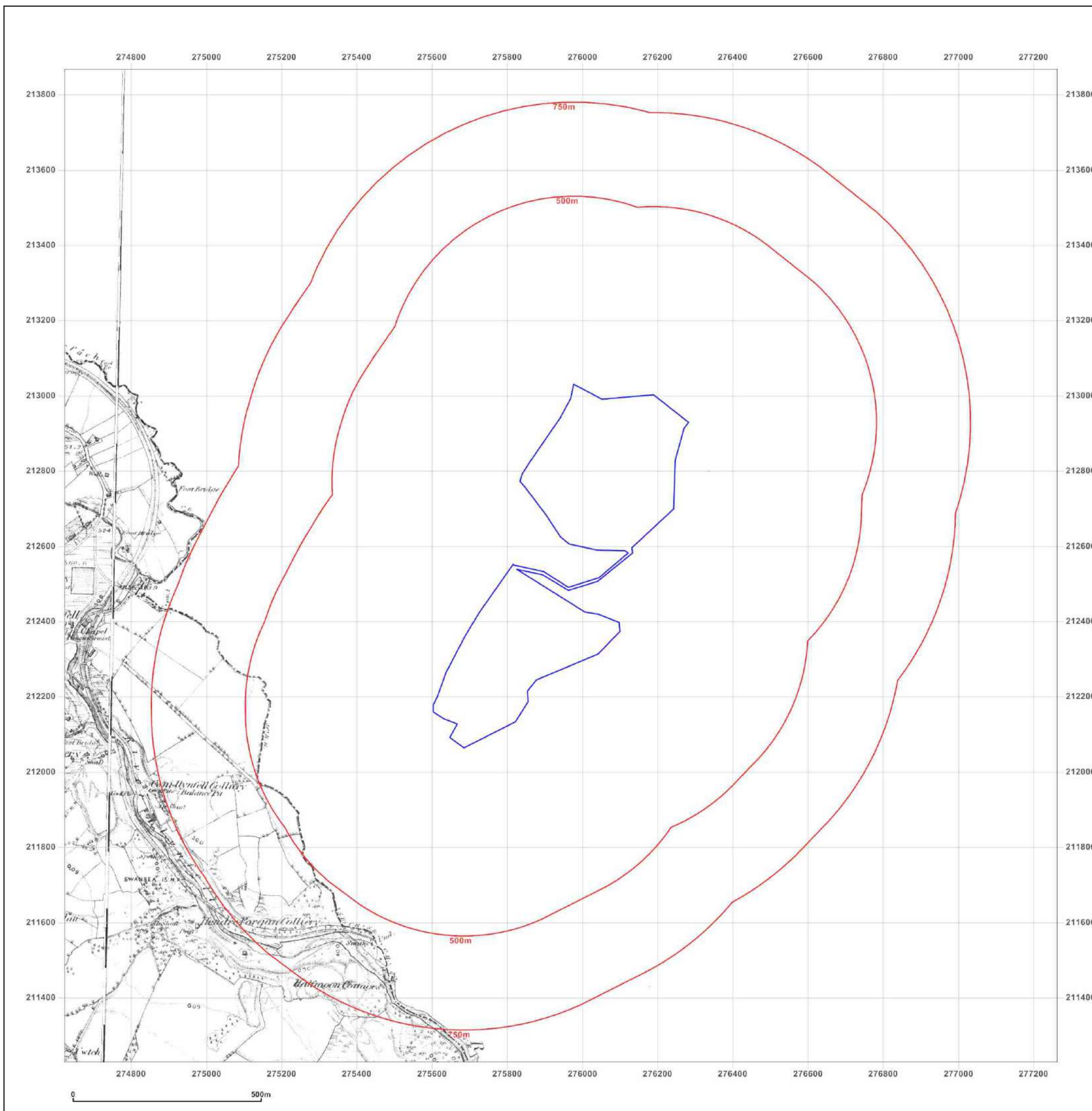


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Grid Ref: 275942, 212548

Map Name: County Series

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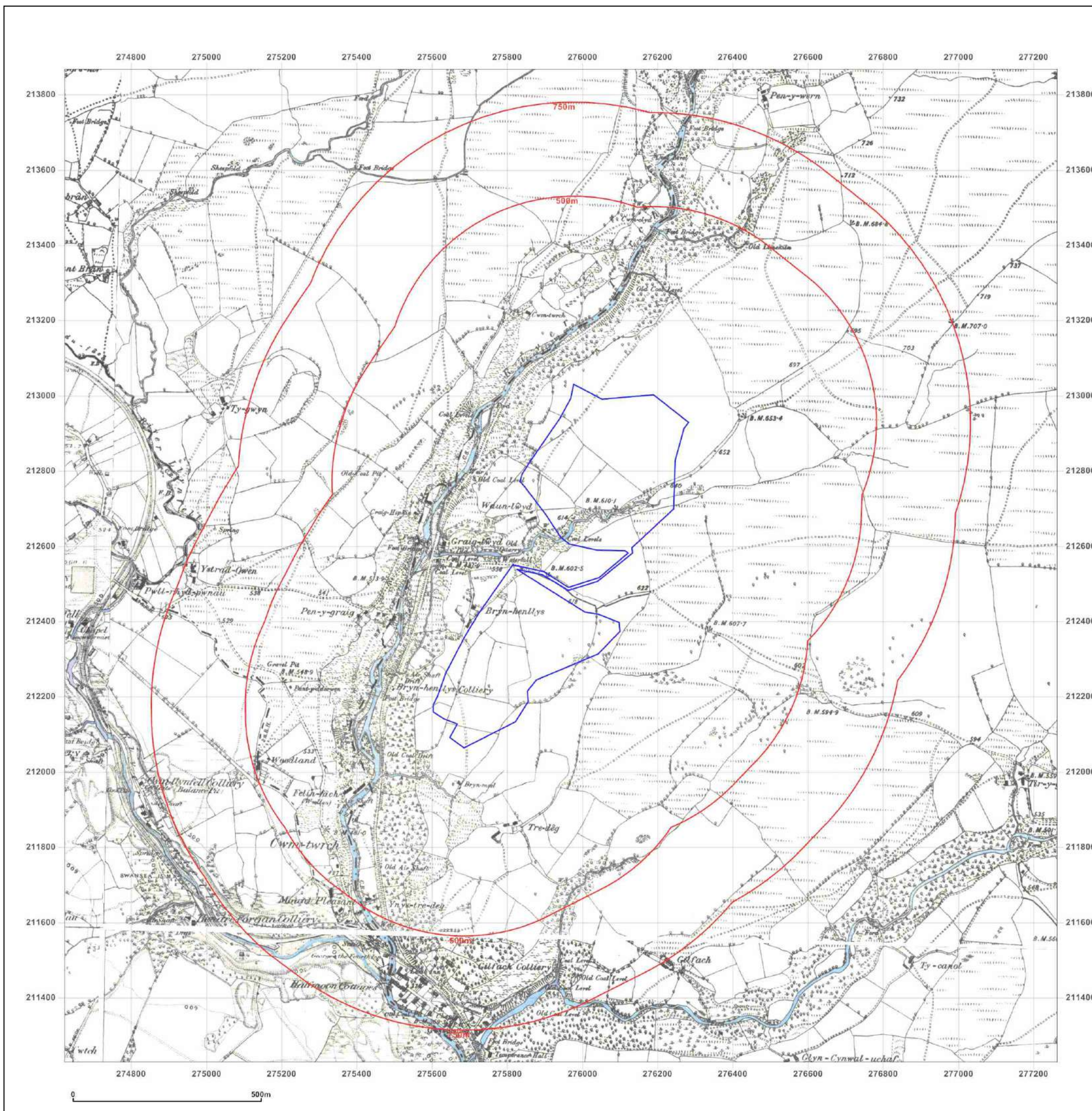


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Map Name: County Series

Map date: 1900-1905

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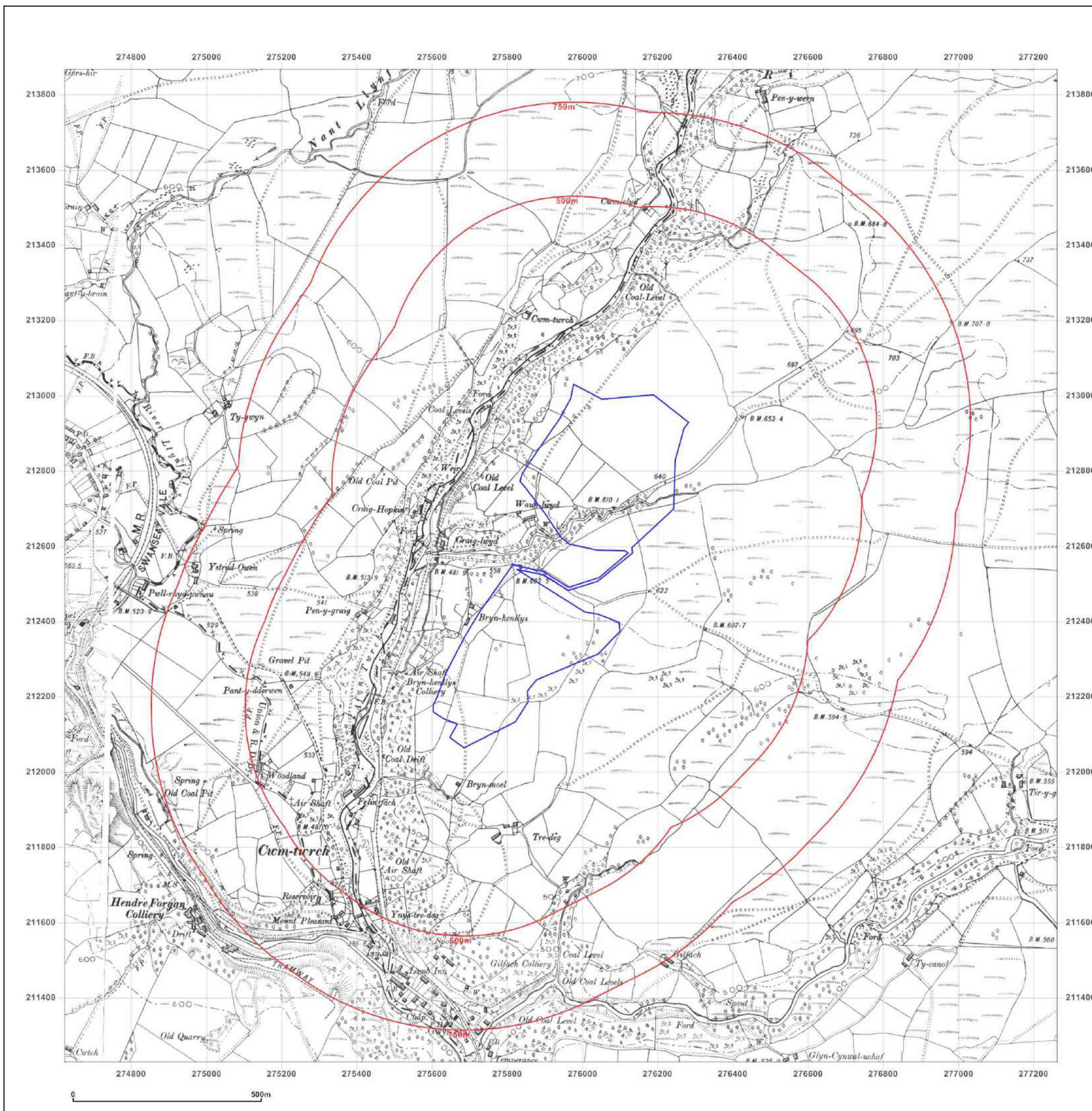


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Map Name: County Series

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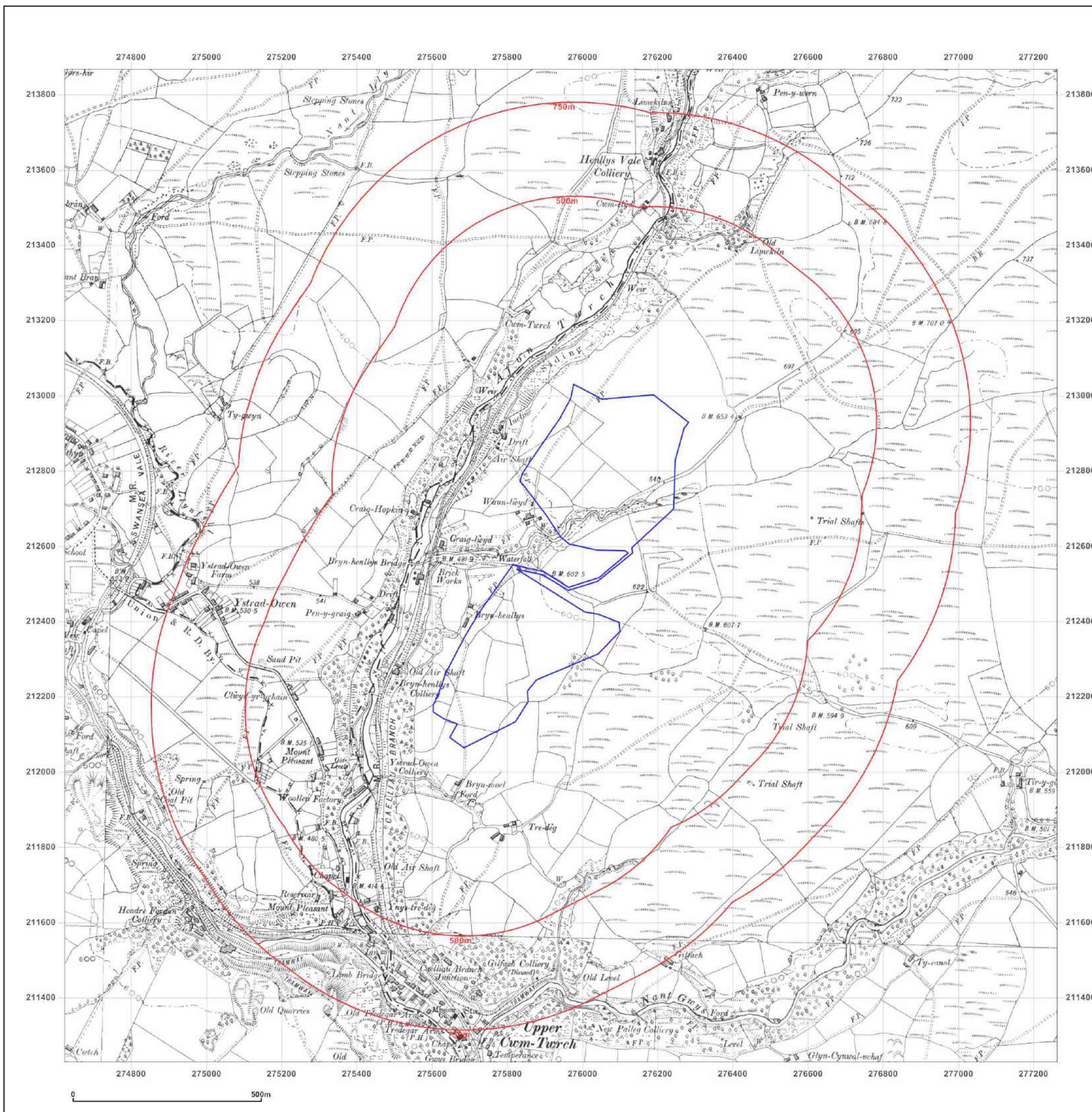


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Grid Ref: 275942, 212548

Map Name: County Series

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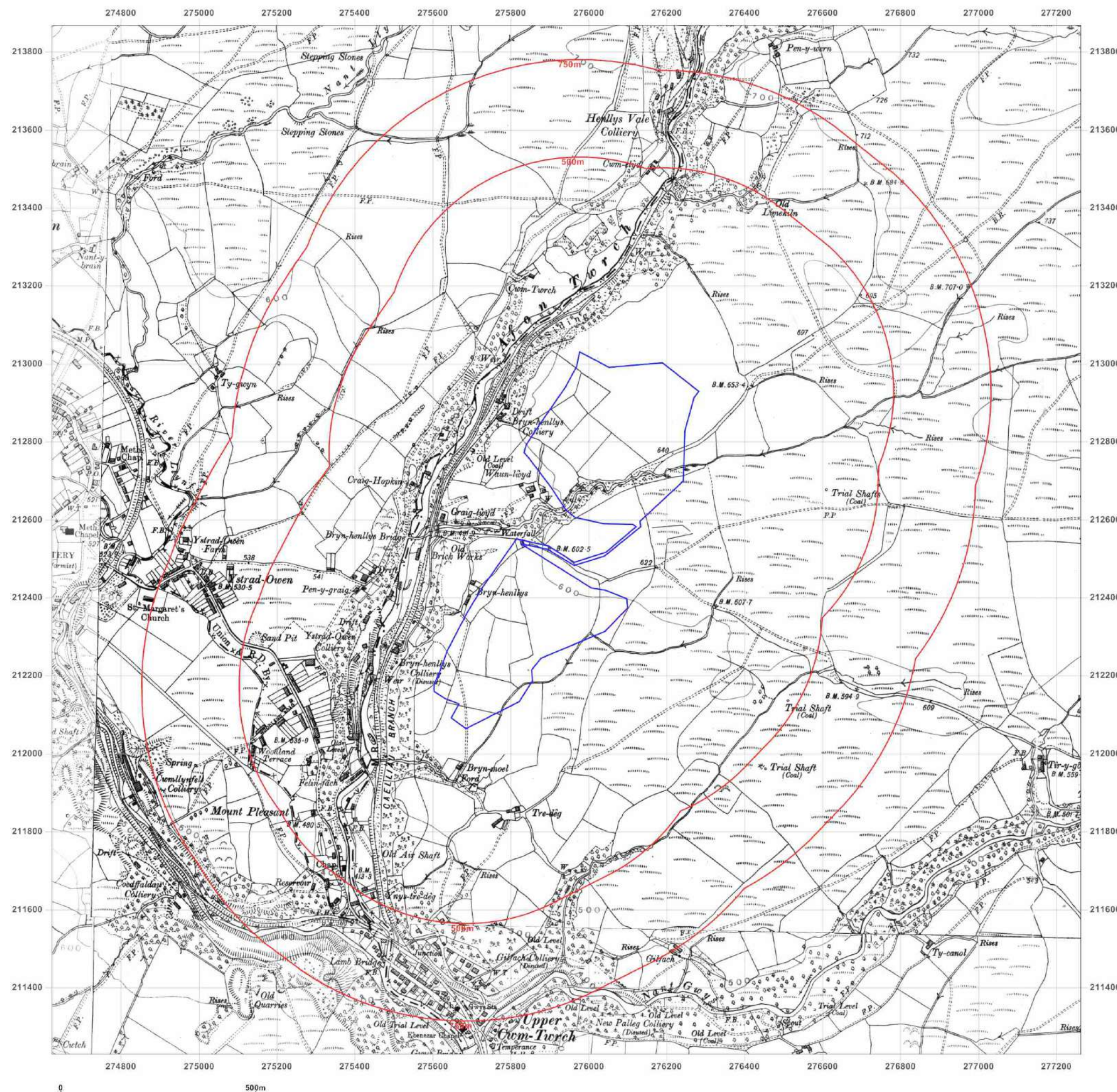


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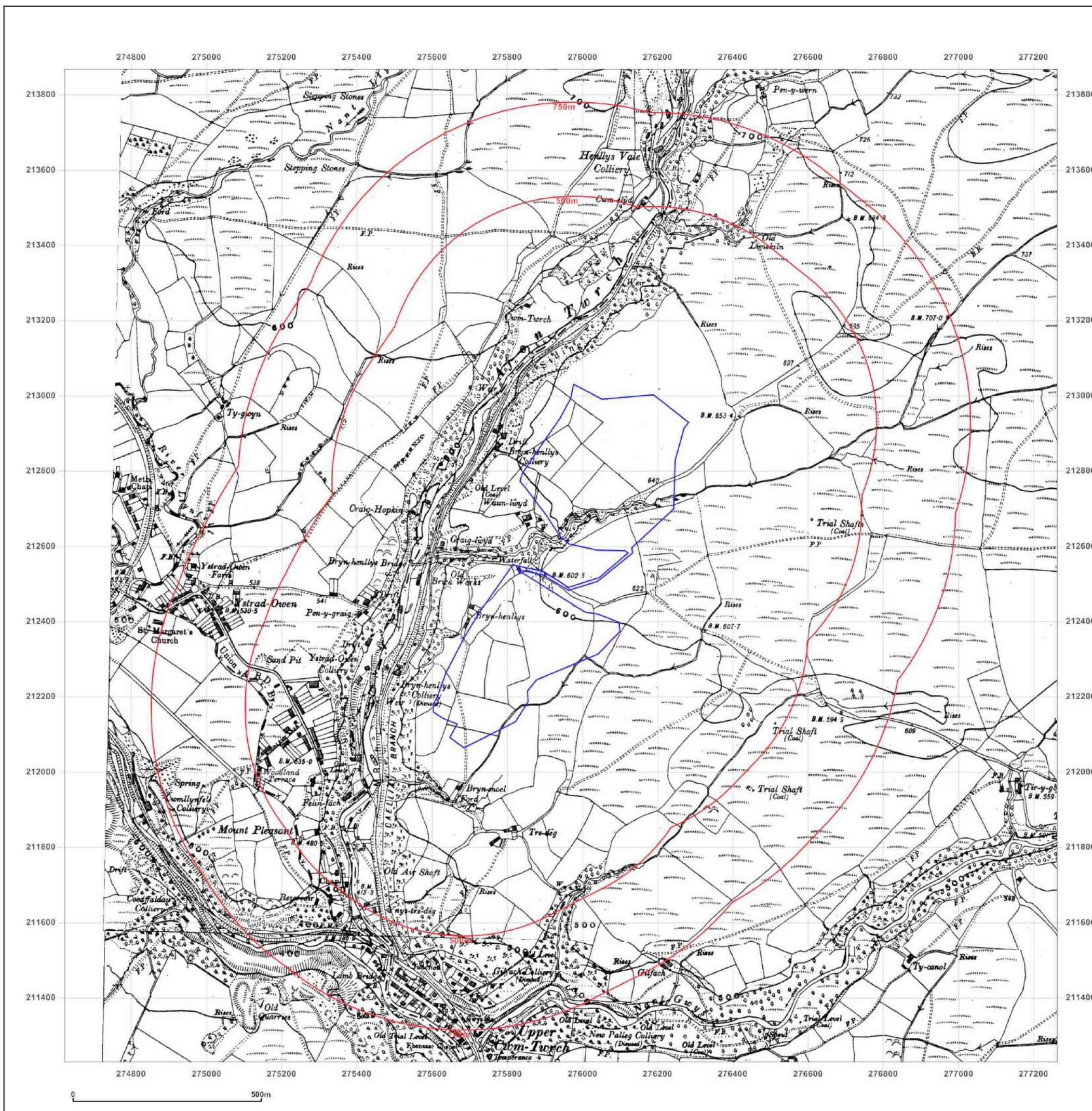


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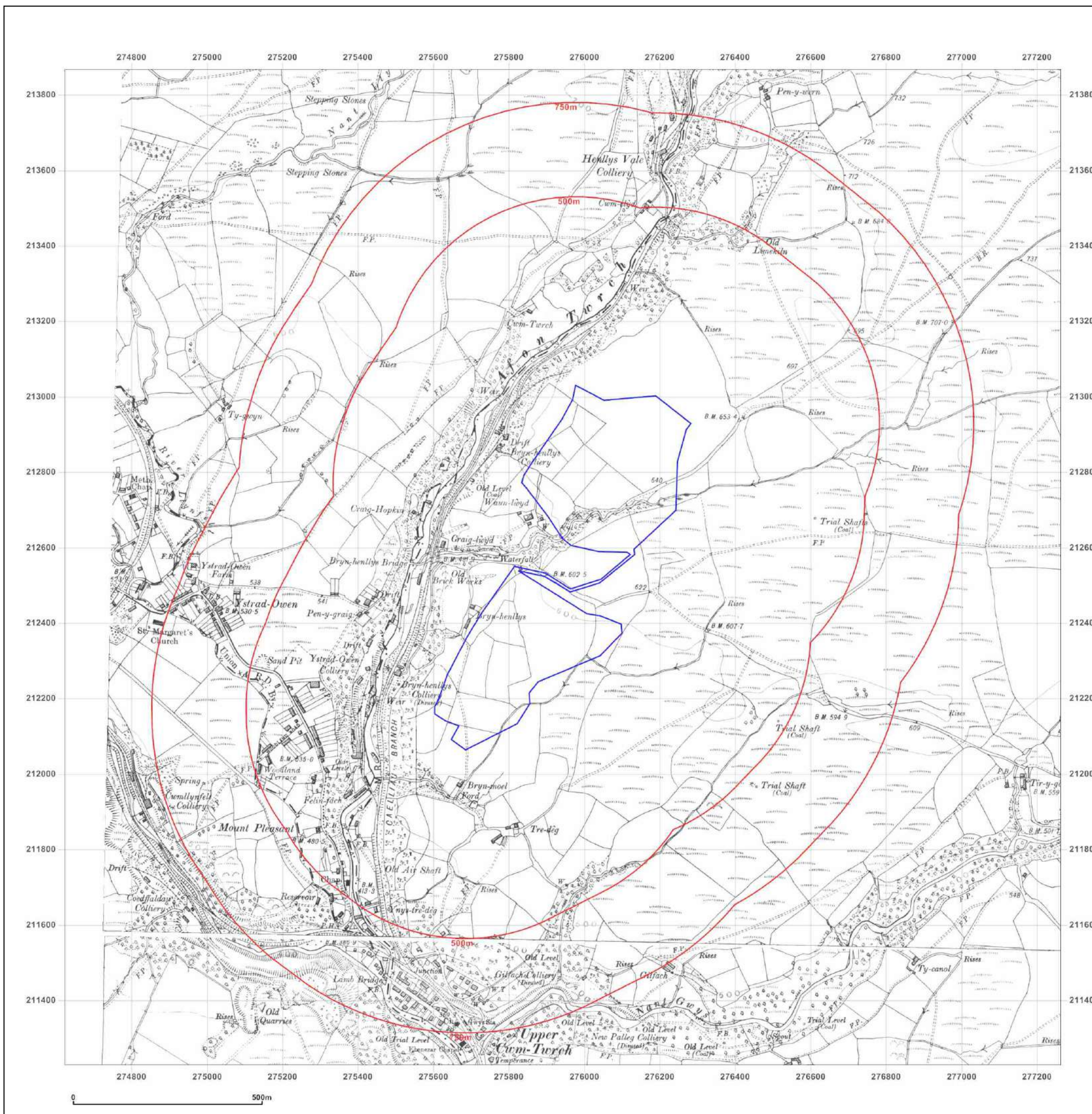


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Client Ref: Bryn_Henllys_Extension
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Grid Ref: 275942, 212548

Map Name: County Series

Map date: 1948

Scale: 1:10,560

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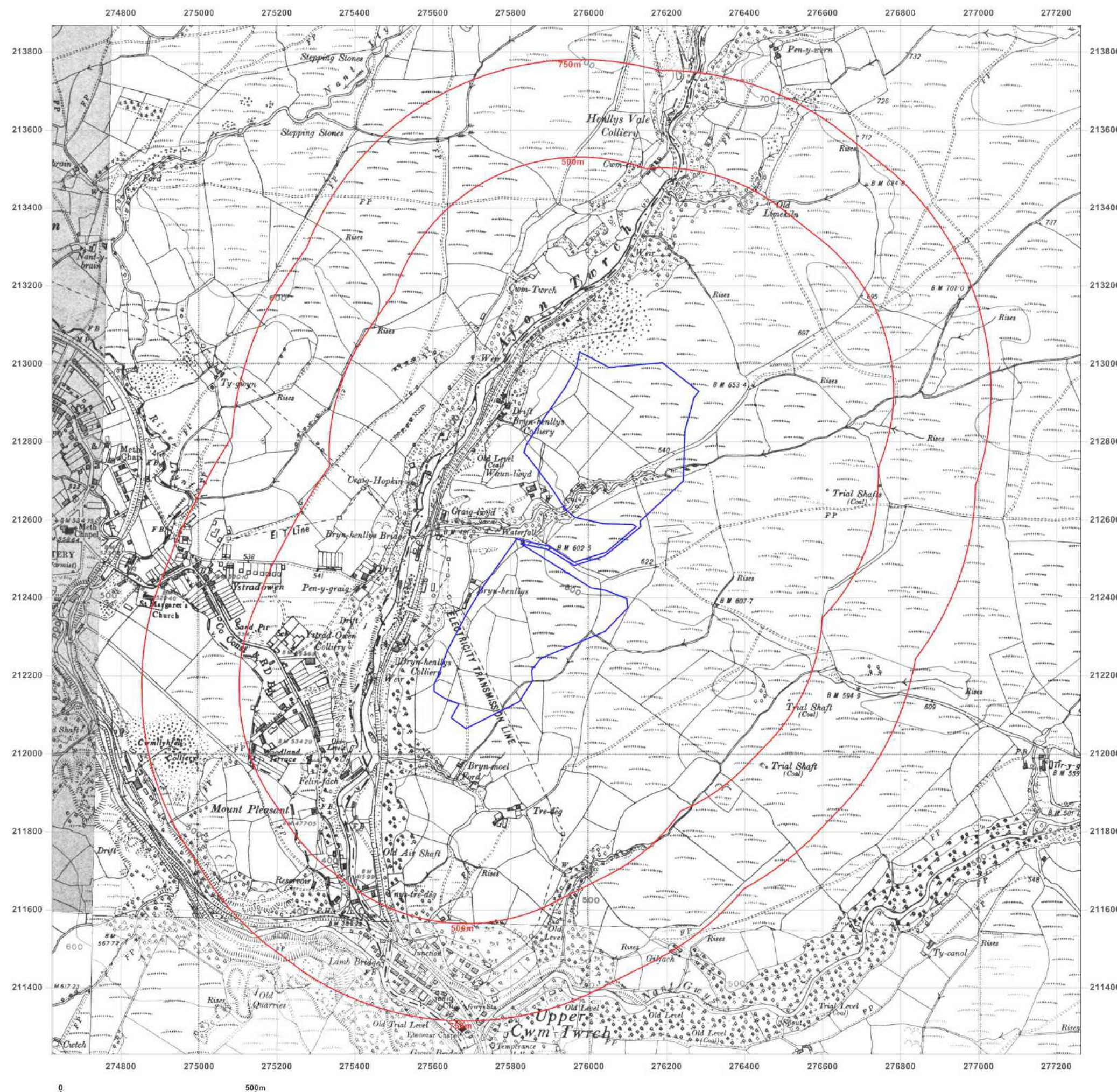


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Grid Ref: 275942, 212548

Map Name: Provisional

Map date: 1965

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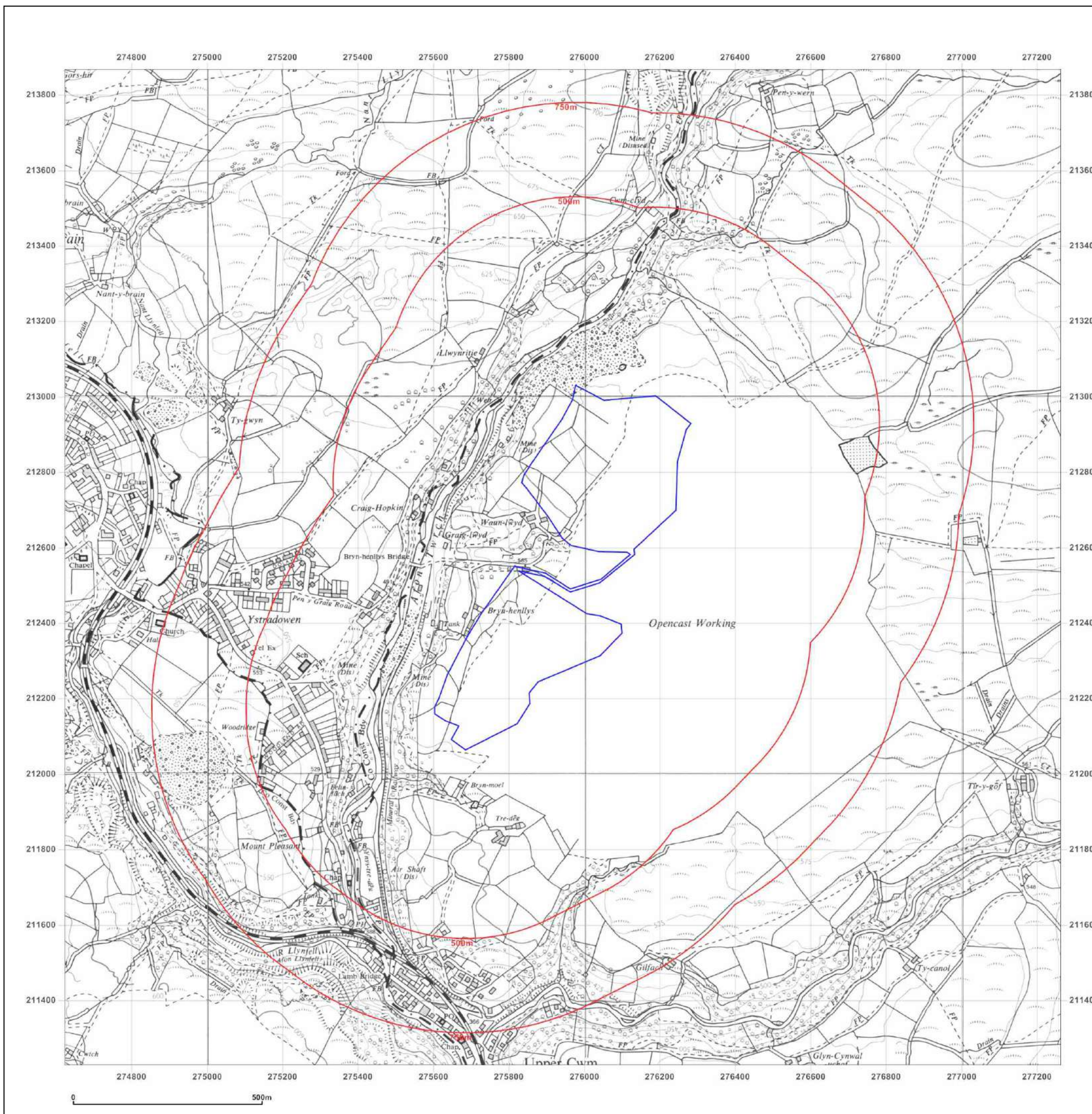


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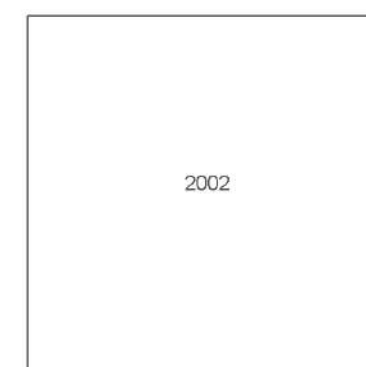
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Printed at: 1:10,000

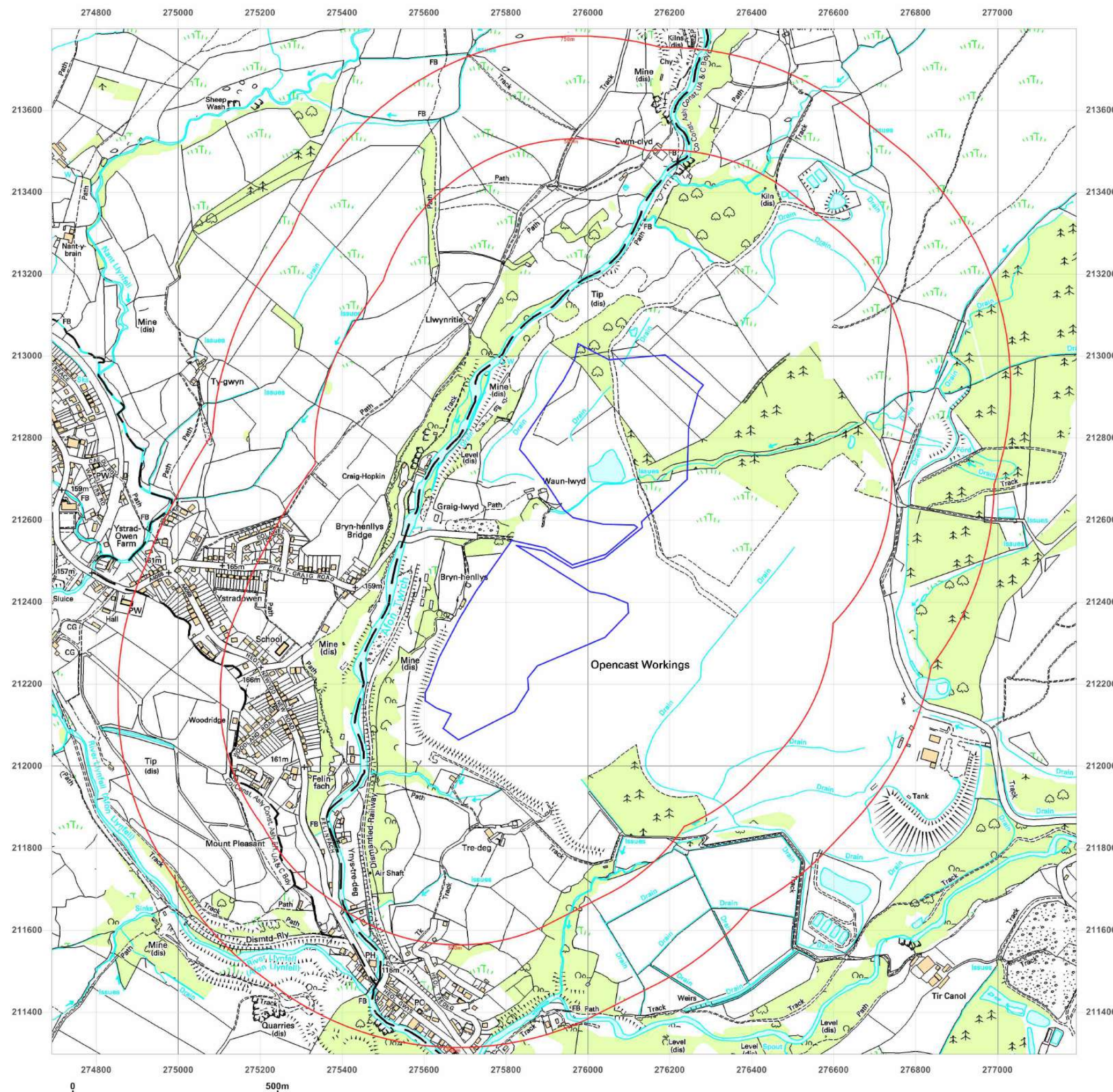


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Site Details:

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Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654
Grid Ref: 275942, 212548

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010

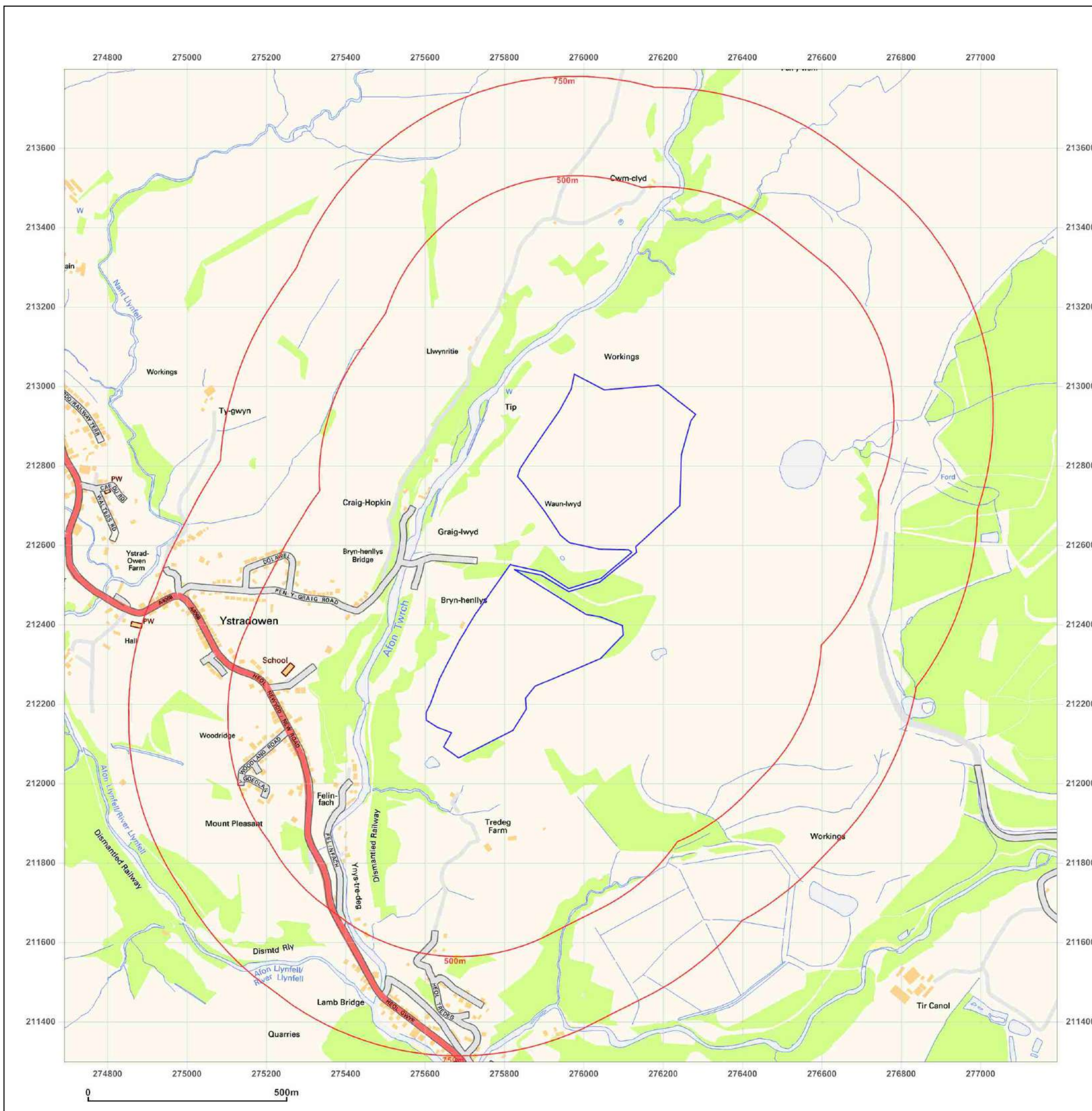


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Grid Ref: 275942, 212548

Map Name: National Grid

Map date: 2014

Scale: 1:10,000

Printed at: 1:10,000



2014

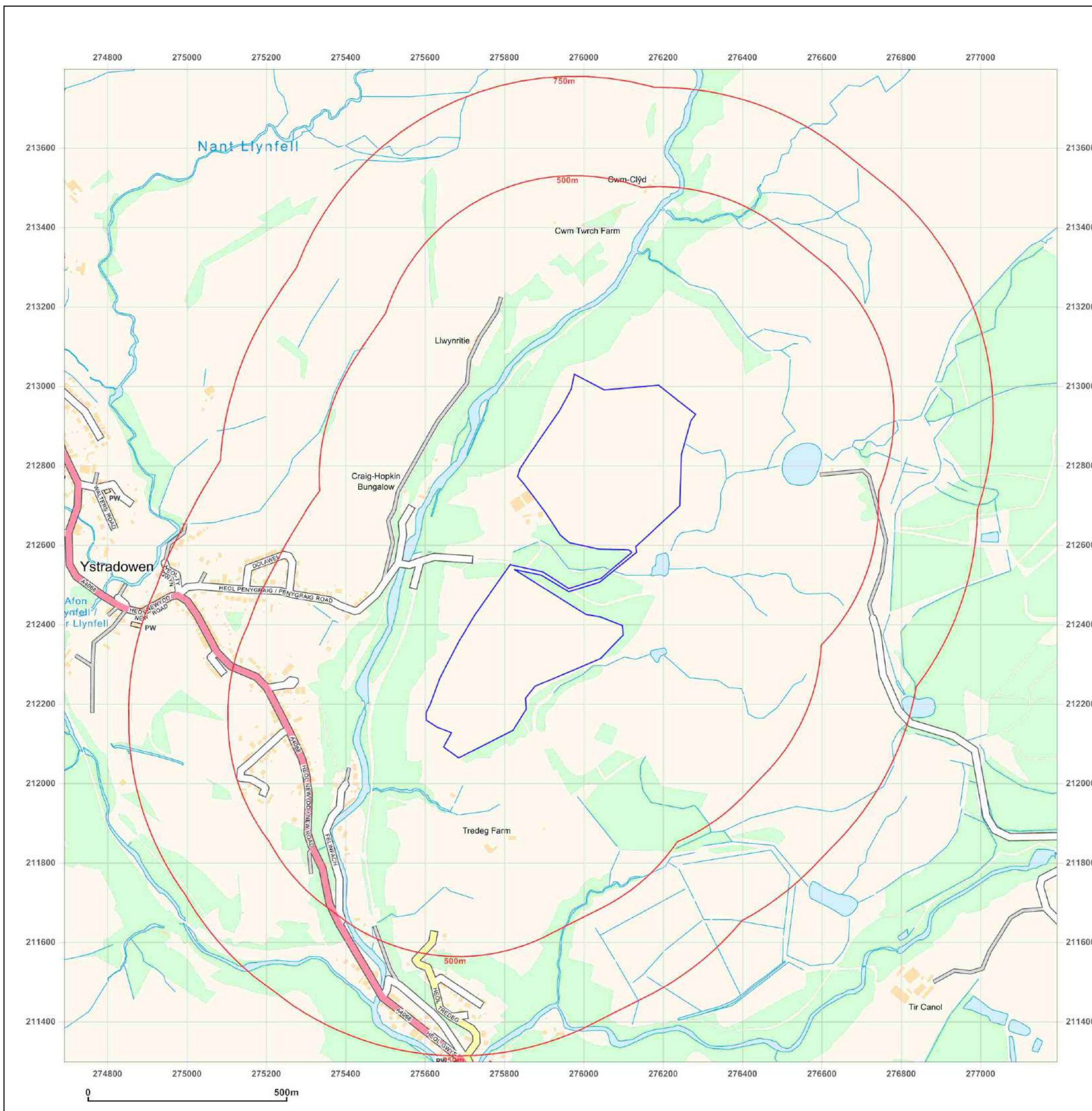


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Site Details:

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Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_1
Grid Ref: 275629, 211922

Map Name: County Series

Map date: 1877

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1877
 Revised 1877
 Edition N/A
 Copyright N/A
 Levelled N/A

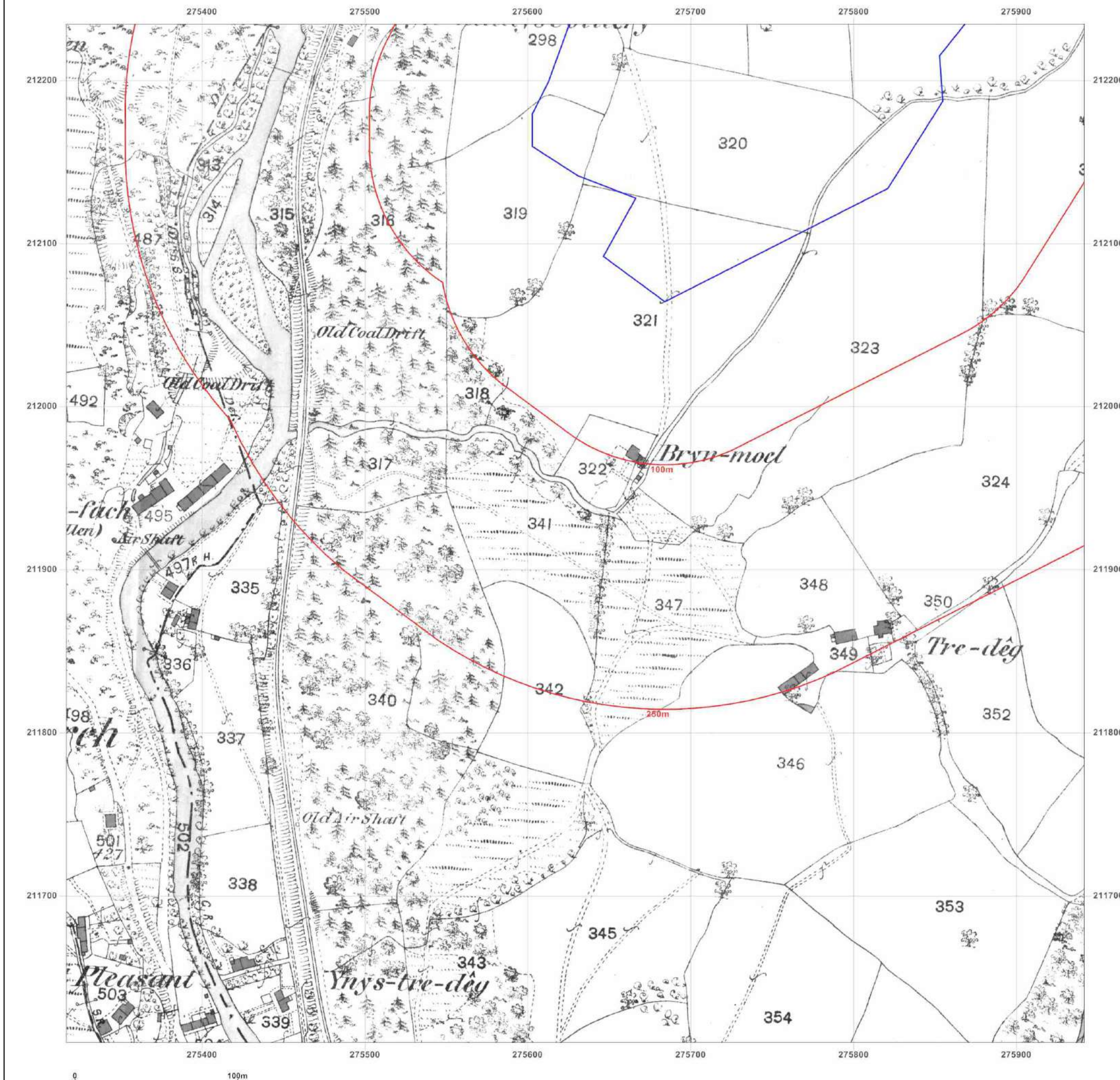


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Production date: 06 June 2019

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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_1
Grid Ref: 275629, 211922

Map Name: County Series

Map date: 1905

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1905
 Revised 1905
 Edition N/A
 Copyright N/A
 Levelled N/A

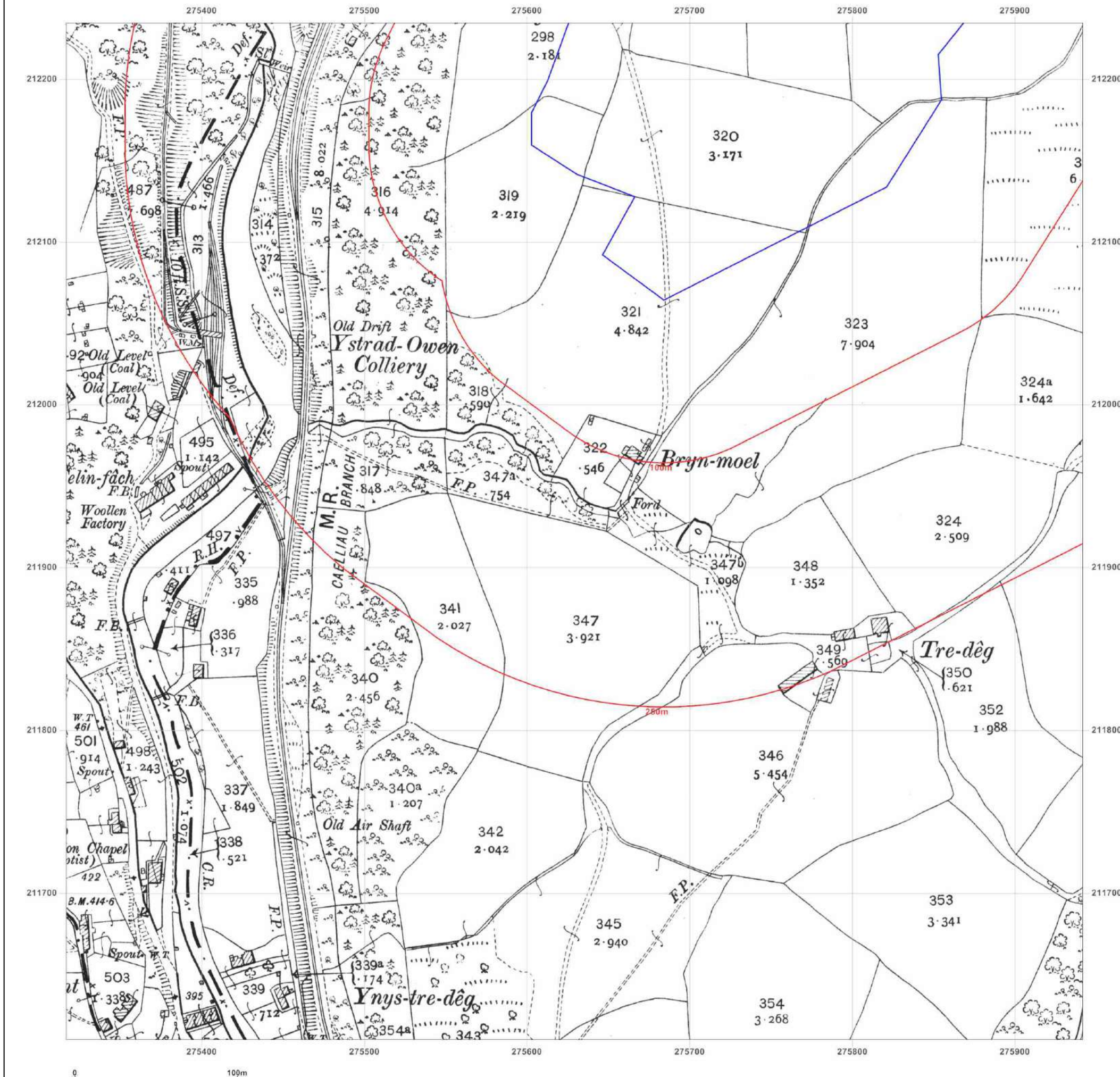


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Production date: 06 June 2019

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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_1
Grid Ref: 275629, 211922

Map Name: County Series

Map date: 1918

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1918
 Revised 1918
 Edition N/A
 Copyright N/A
 Levelled N/A

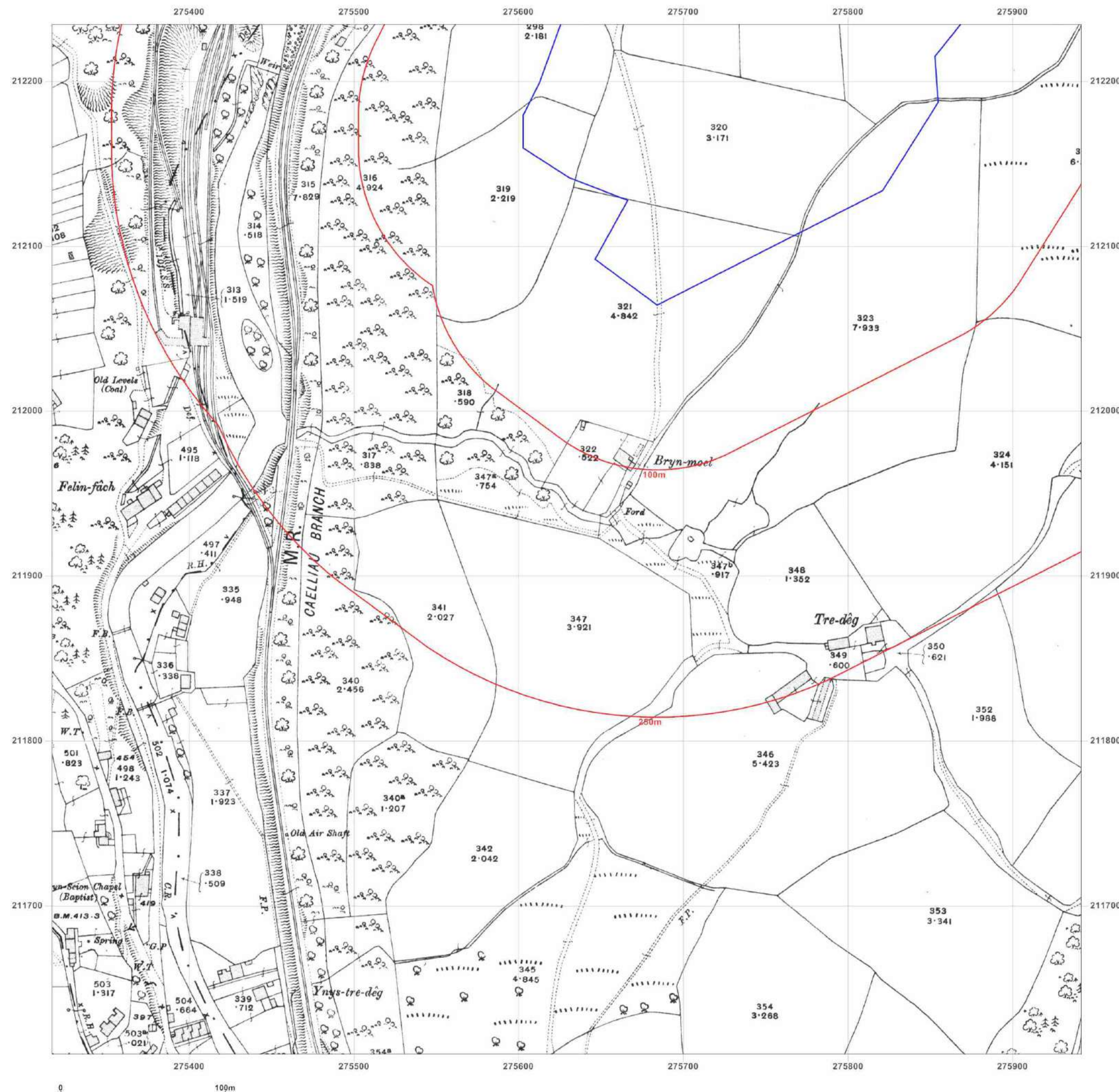


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_1
Grid Ref: 275629, 211922

Map Name: National Grid

Map date: 1961

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
 Revised 1961
 Edition N/A
 Copyright 1962
 Levelled 1956

Surveyed 1961
 Revised 1961
 Edition N/A
 Copyright 1962
 Levelled 1956

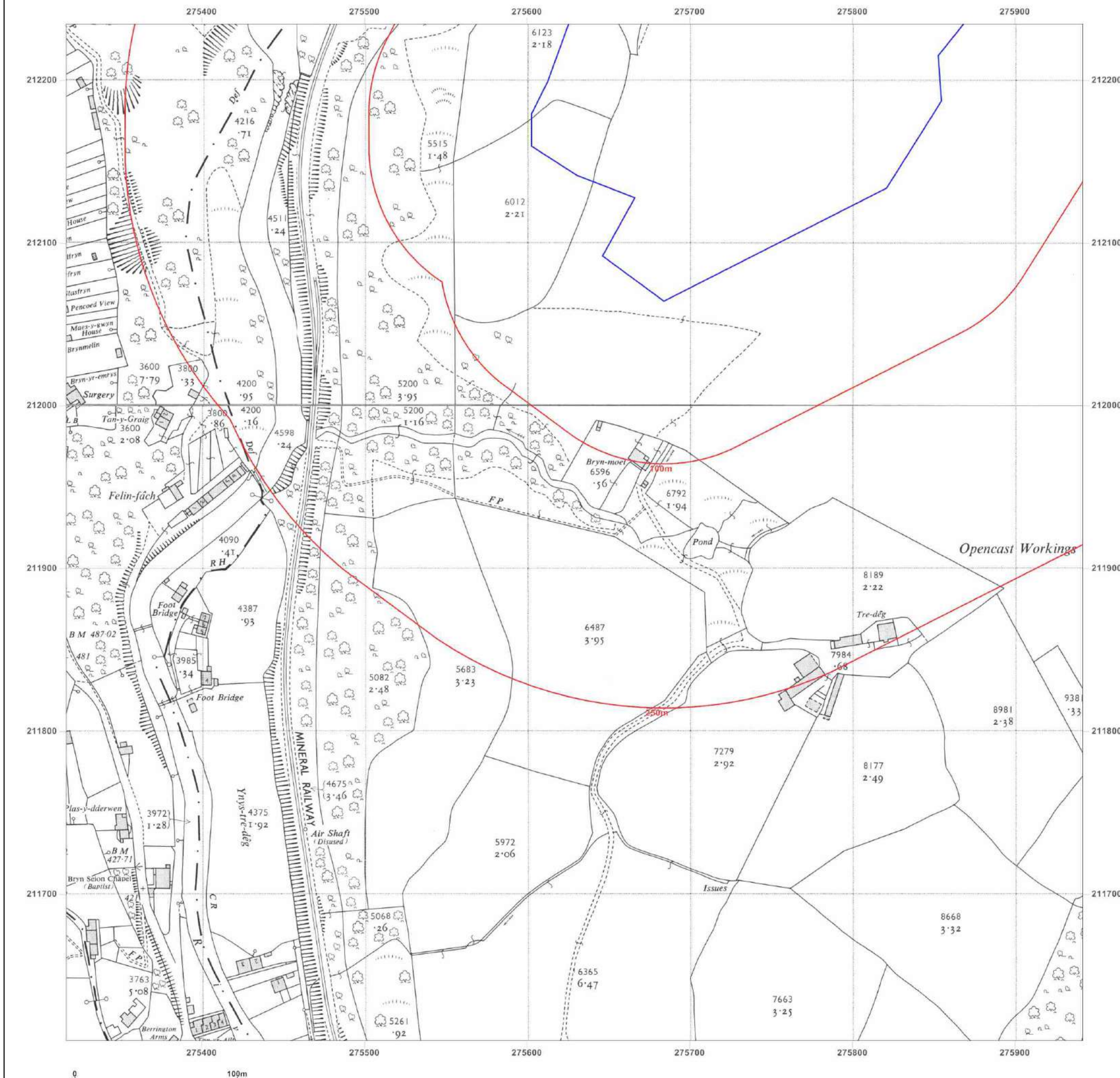


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_1
Grid Ref: 275629, 211922

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

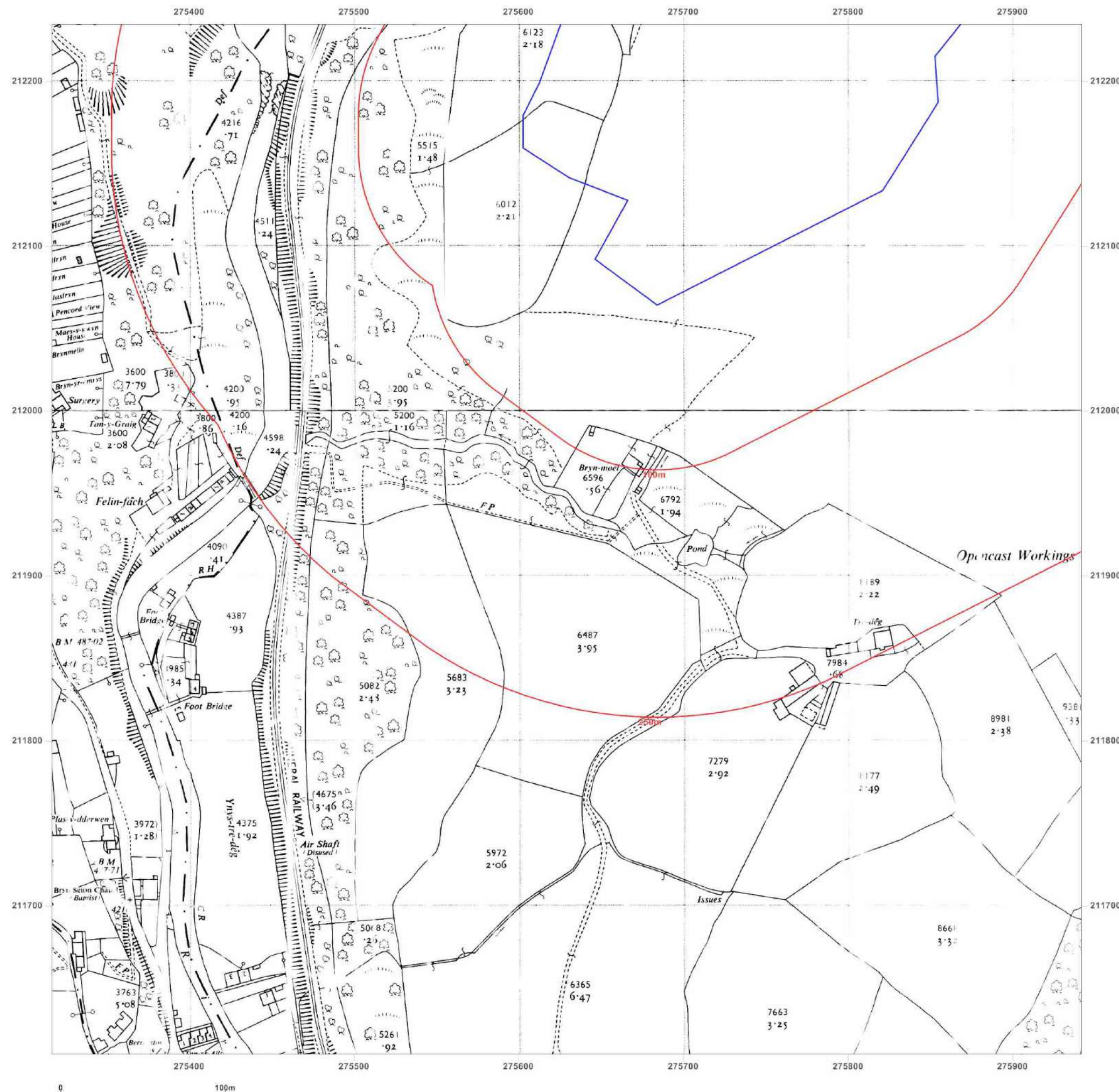


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_1
Grid Ref: 275629, 211922

Map Name: National Grid

Map date: 1982

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1982
 Levelled 1956

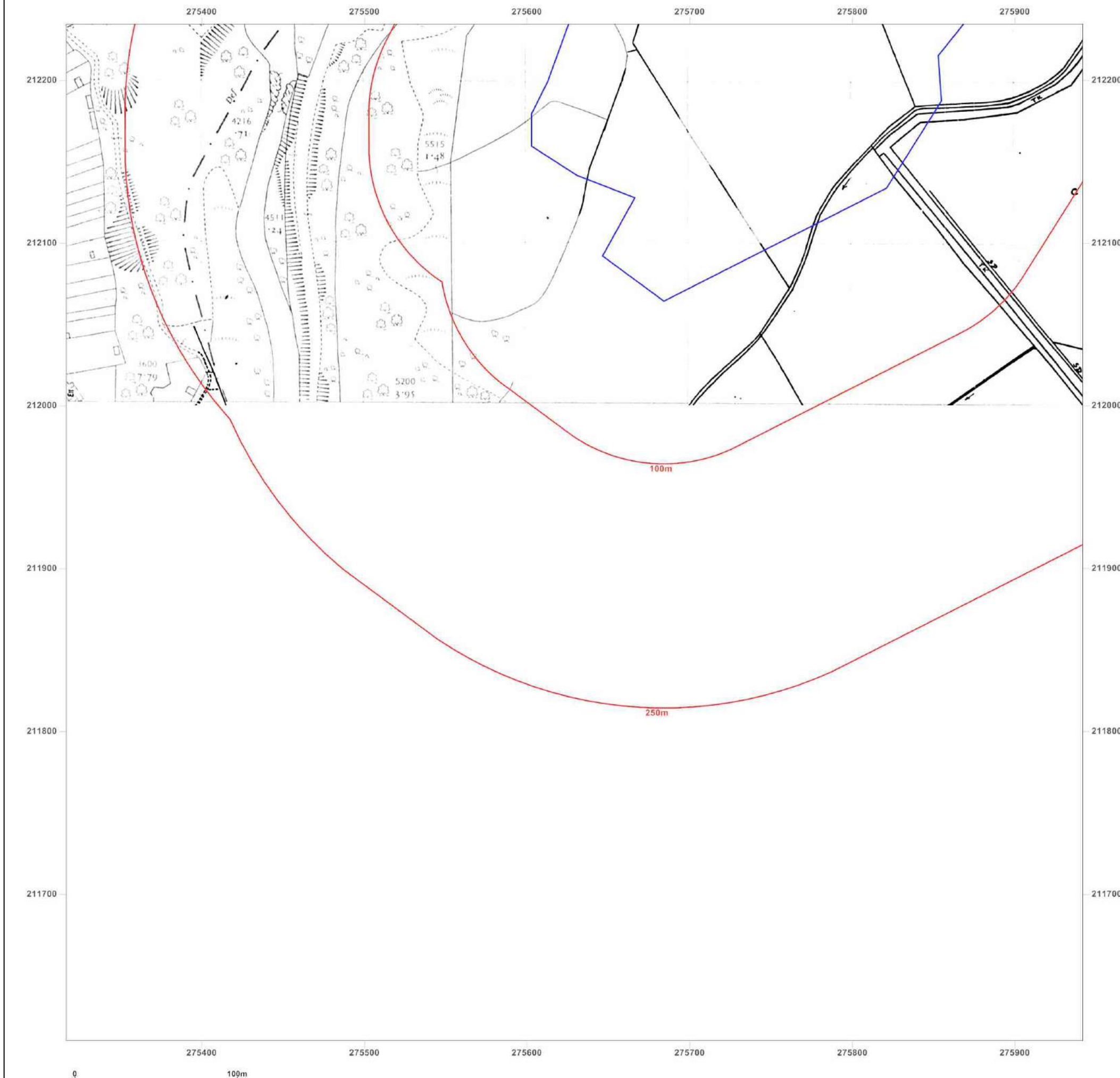


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_1
Grid Ref: 275629, 211922

Map Name: National Grid

Map date: 1990-1991

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1956
 Revised 1990
 Edition N/A
 Copyright 1990
 Levelled 1956

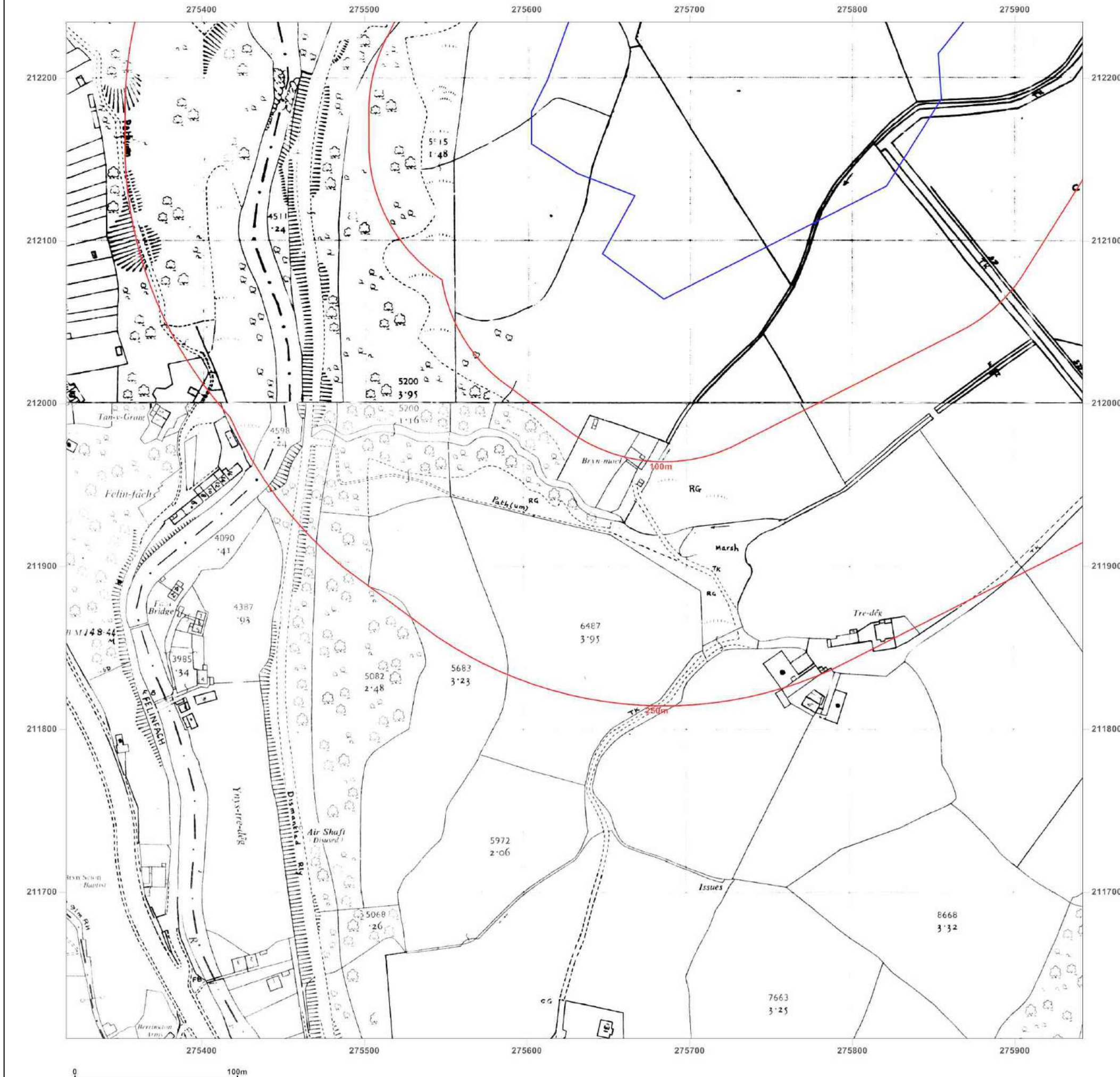


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_1
Grid Ref: 275629, 211922

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1993
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A

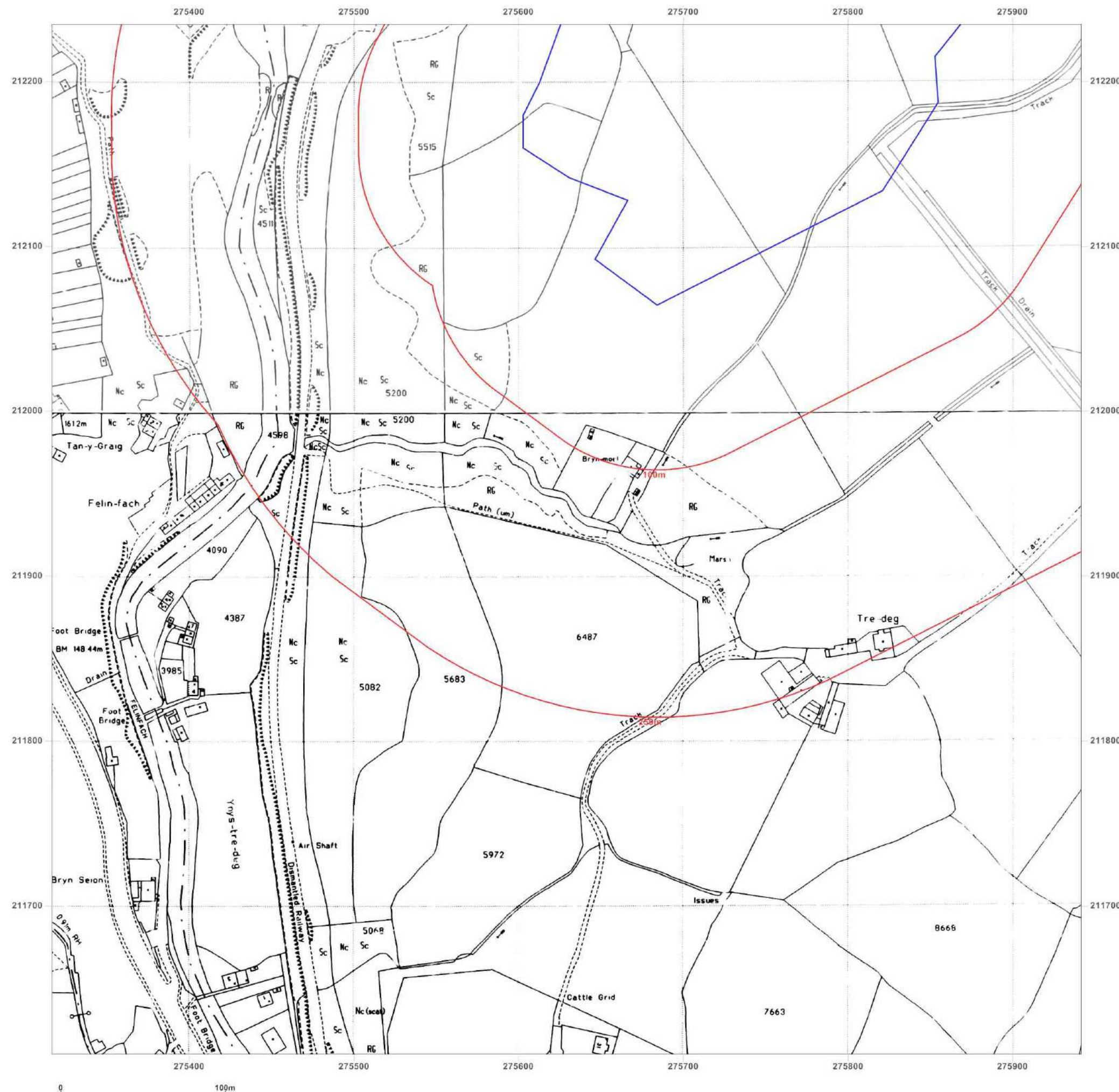


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Production date: 06 June 2019

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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_2
Grid Ref: 275629, 212547

Map Name: County Series

Map date: 1877

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1877
 Revised 1877
 Edition N/A
 Copyright N/A
 Levelled N/A

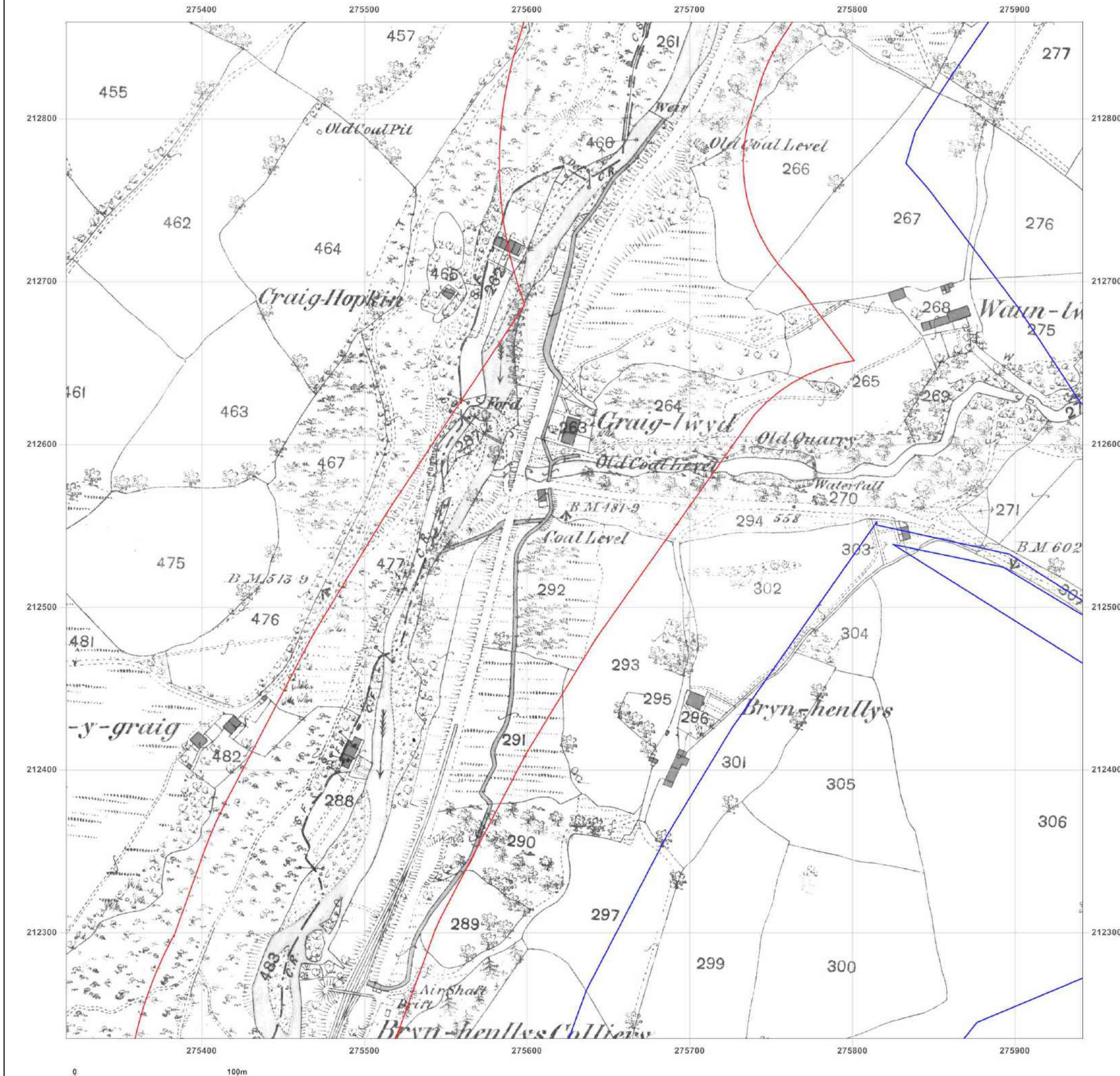


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Production date: 06 June 2019

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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_2
Grid Ref: 275629, 212547

Map Name: County Series

Map date: 1905

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1905
 Revised 1905
 Edition N/A
 Copyright N/A
 Levelled N/A

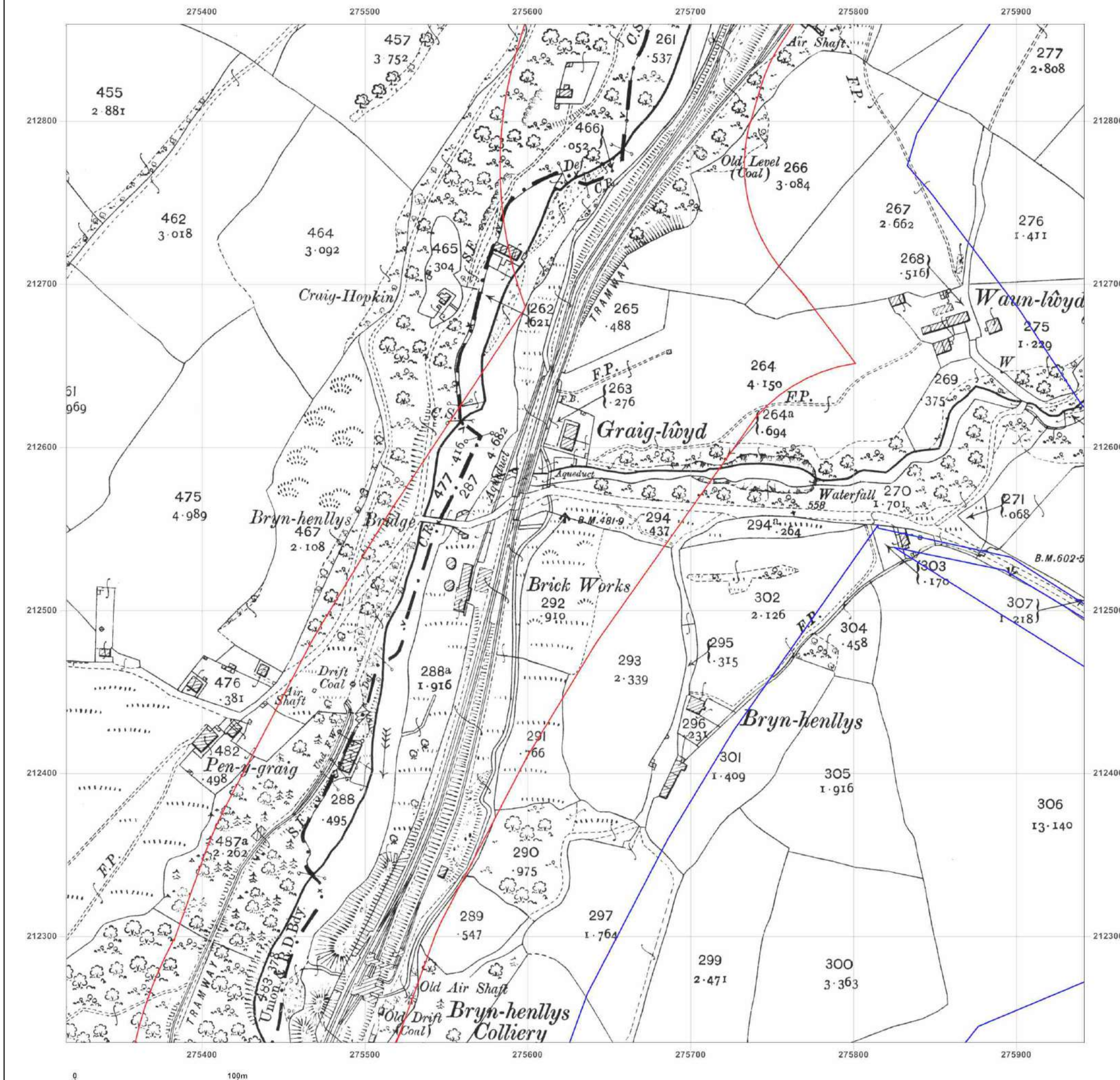


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Site Details:

276031, 212872

Client Ref: Bryn-Henllys_Extension
Report Ref: GS-6079654_LS_1_2
Grid Ref: 275629, 212547

Map Name: County Series

Map date: 1918

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1918
 Revised 1918
 Edition N/A
 Copyright N/A
 Levelled N/A

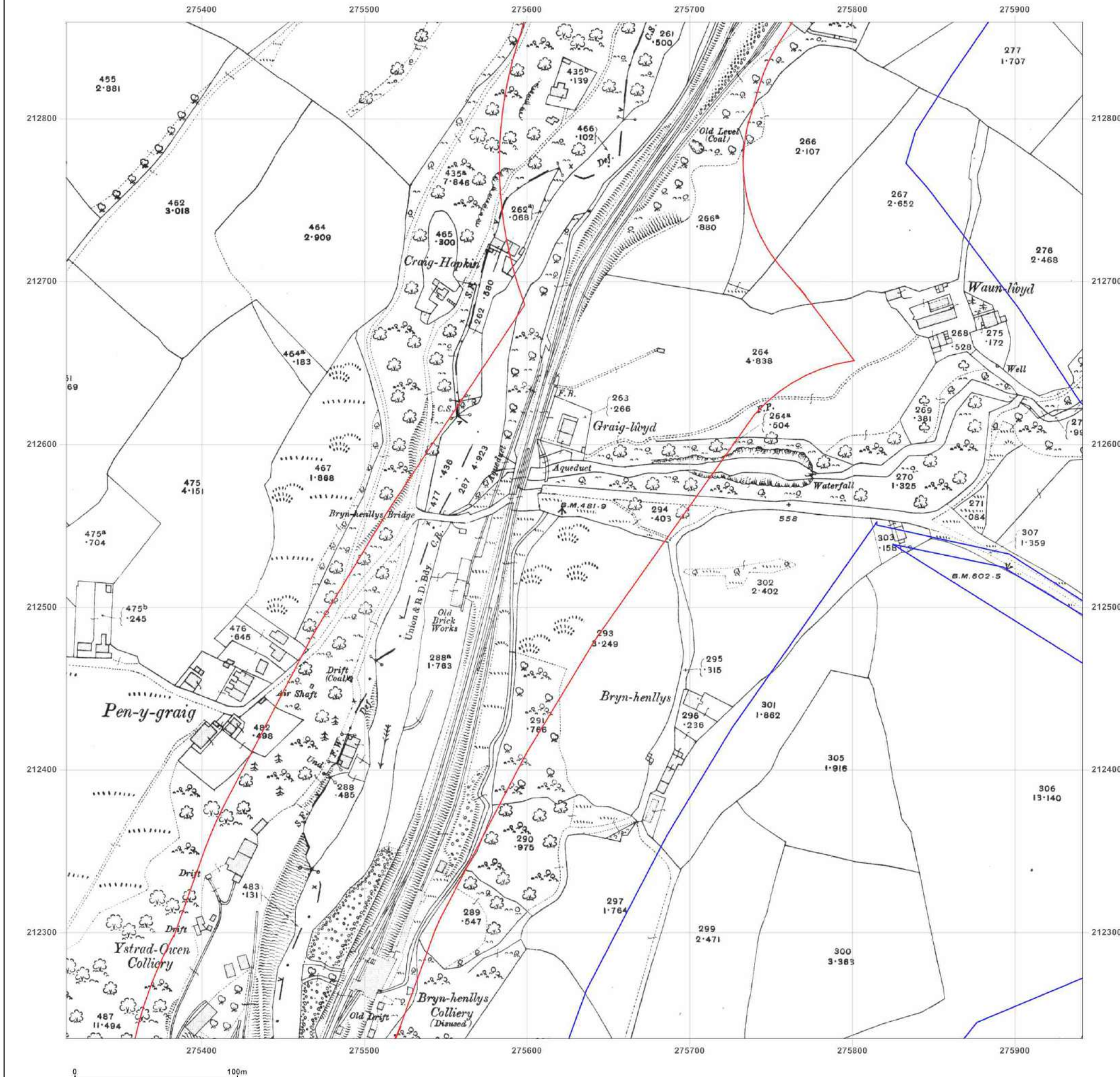


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_2
Grid Ref: 275629, 212547

Map Name: National Grid

Map date: 1961

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
 Revised 1961
 Edition N/A
 Copyright 1962
 Levelled 1956

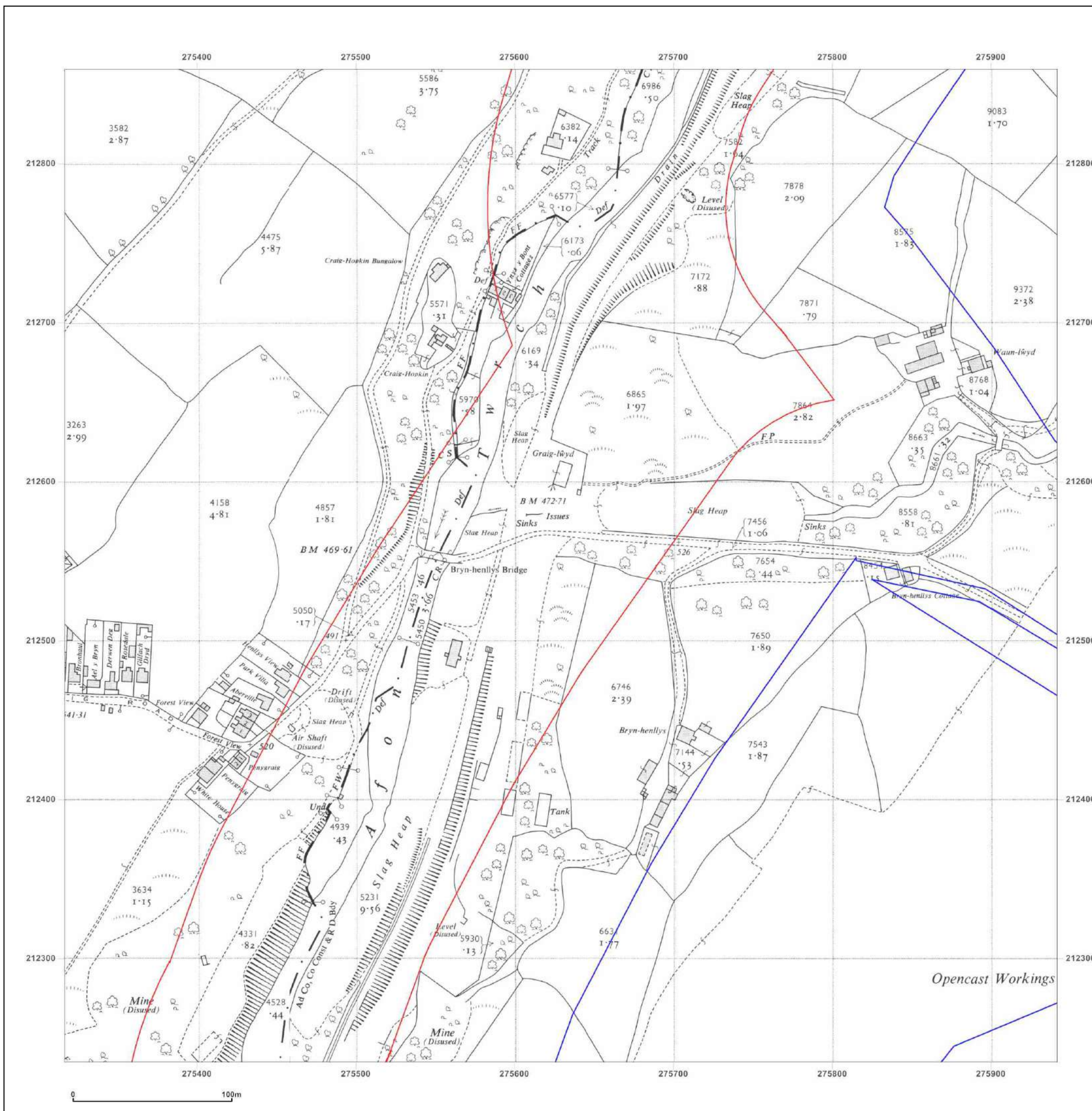


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_2
Grid Ref: 275629, 212547

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

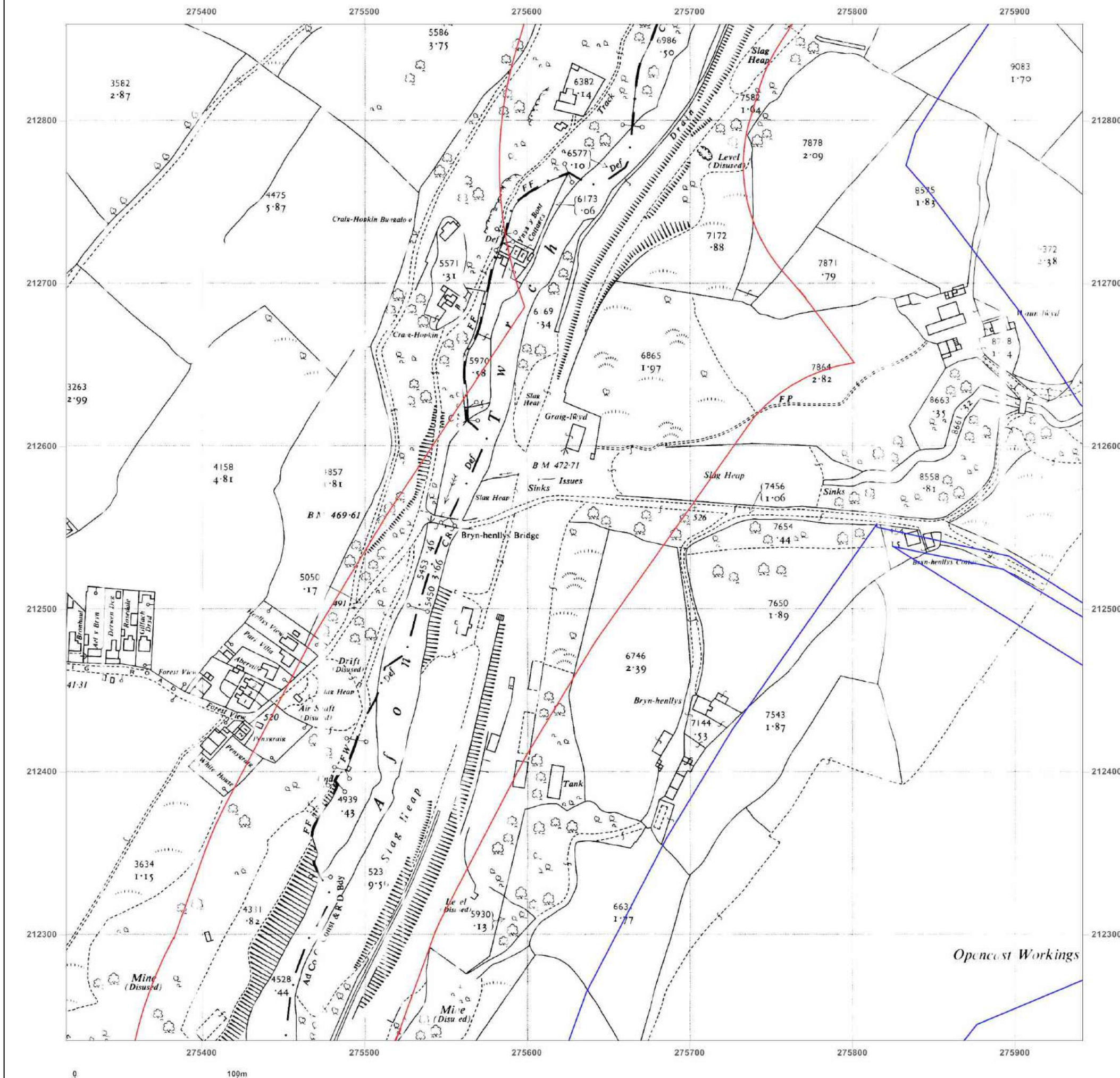


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_2
Grid Ref: 275629, 212547

Map Name: National Grid

Map date: 1991

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

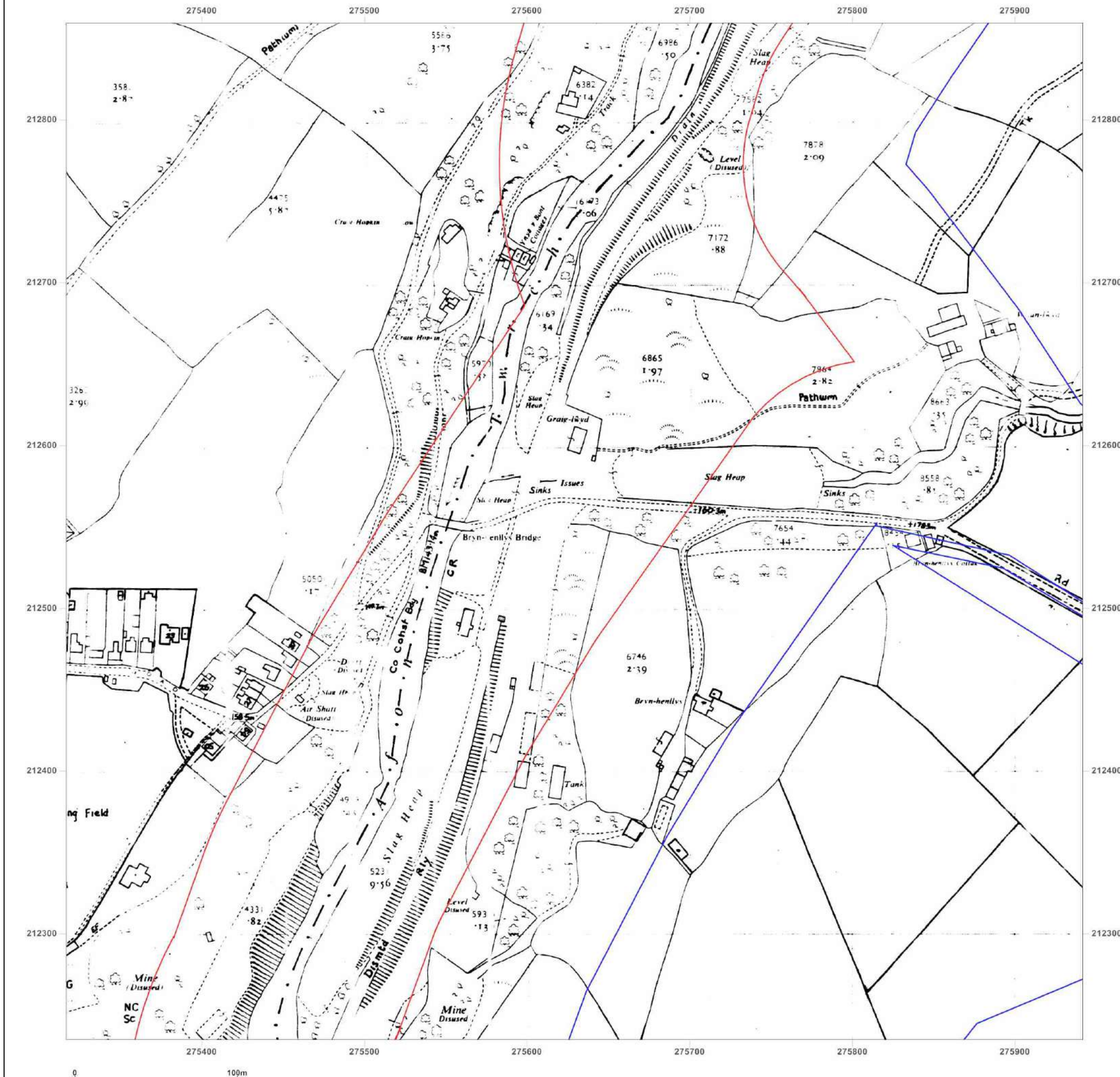


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_2
Grid Ref: 275629, 212547

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1993
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A

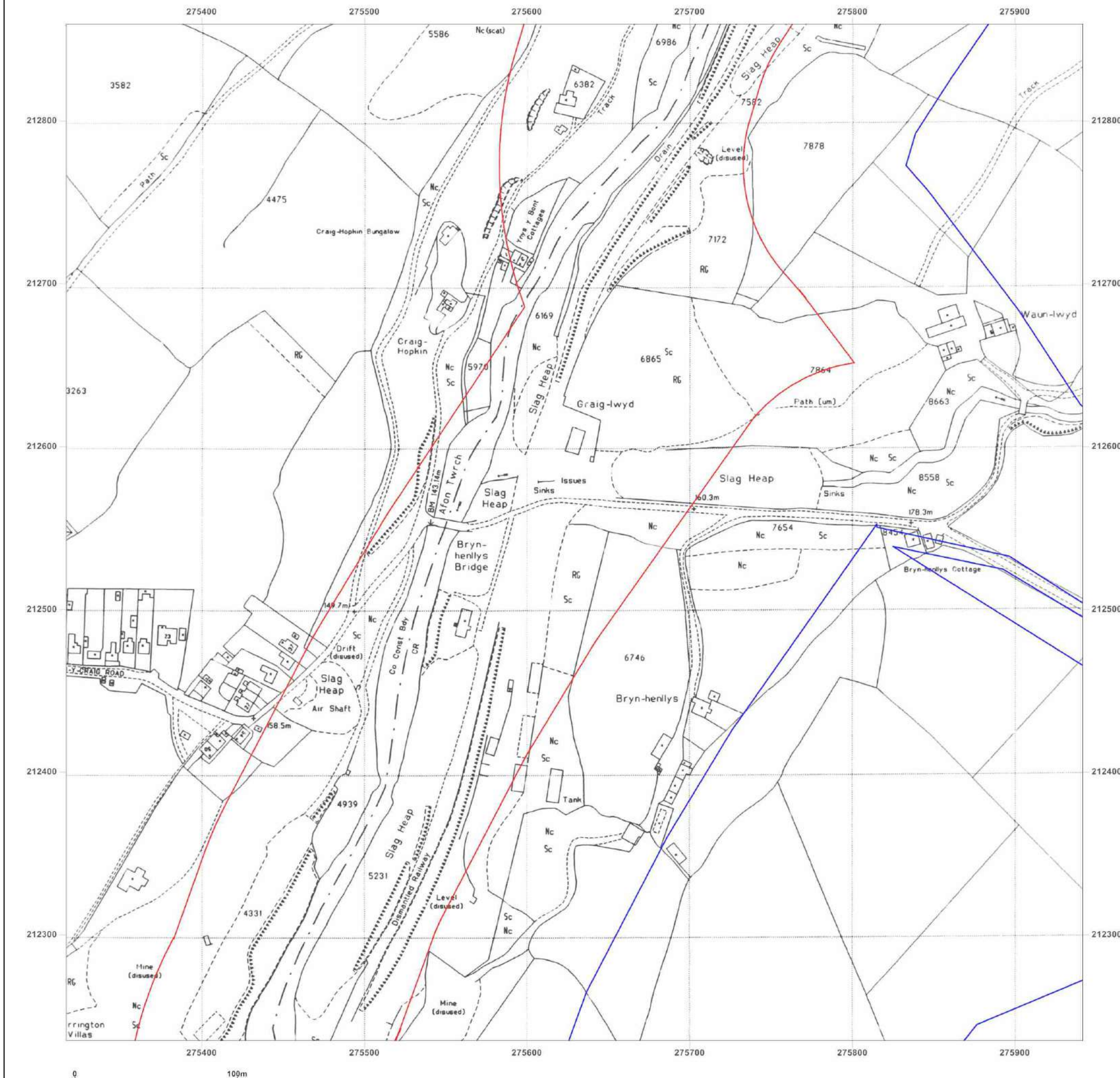


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_3
Grid Ref: 275629, 213173

Map Name: County Series

Map date: 1877

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1877
 Revised 1877
 Edition N/A
 Copyright N/A
 Levelled N/A

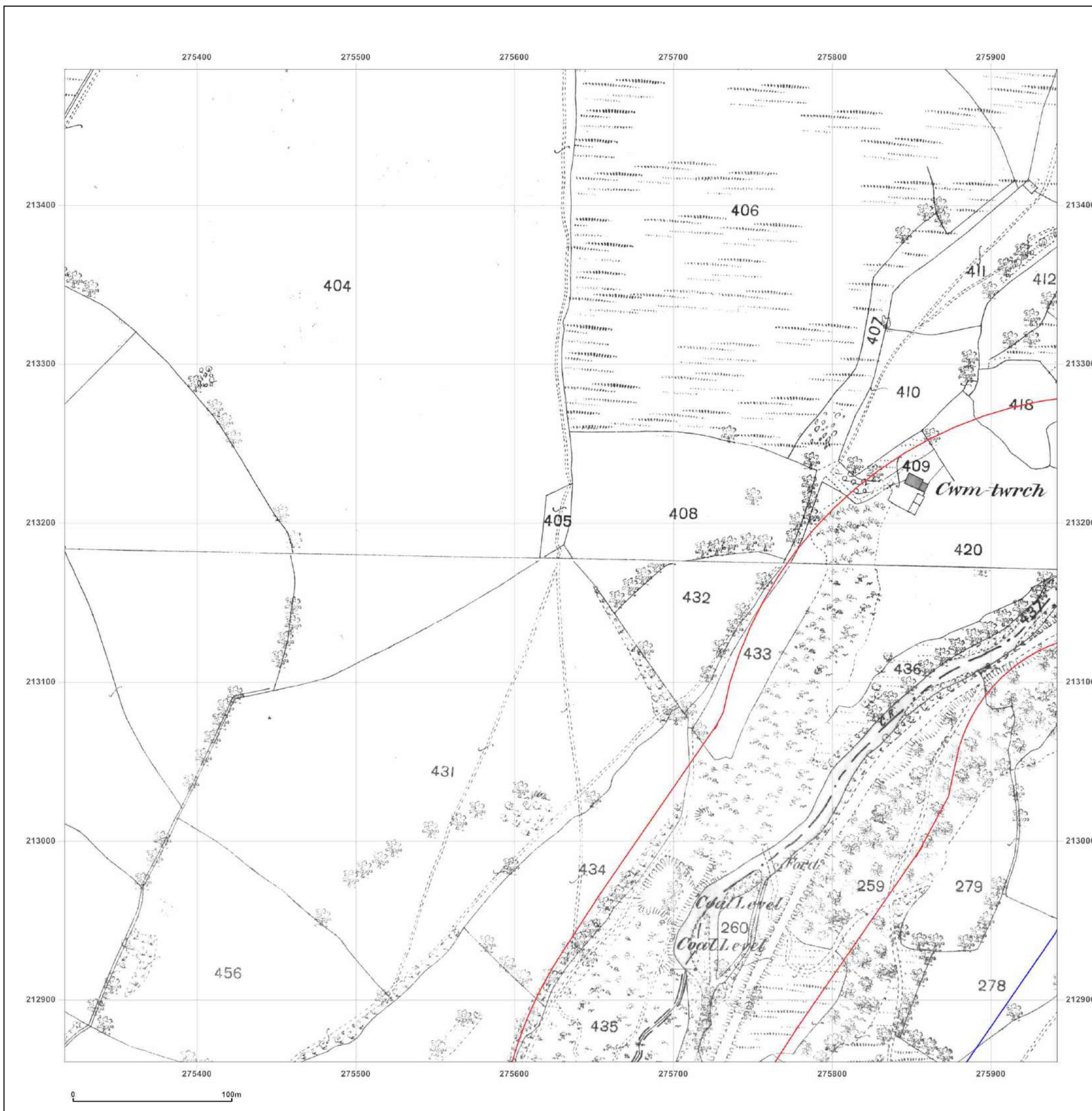


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Production date: 06 June 2019

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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_3
Grid Ref: 275629, 213173

Map Name: County Series

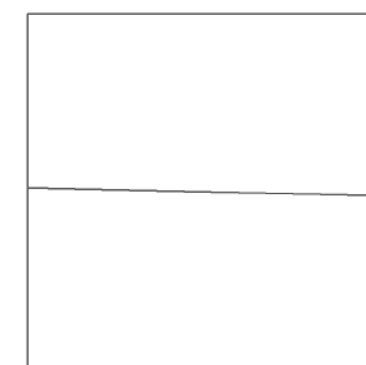
Map date: 1891

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

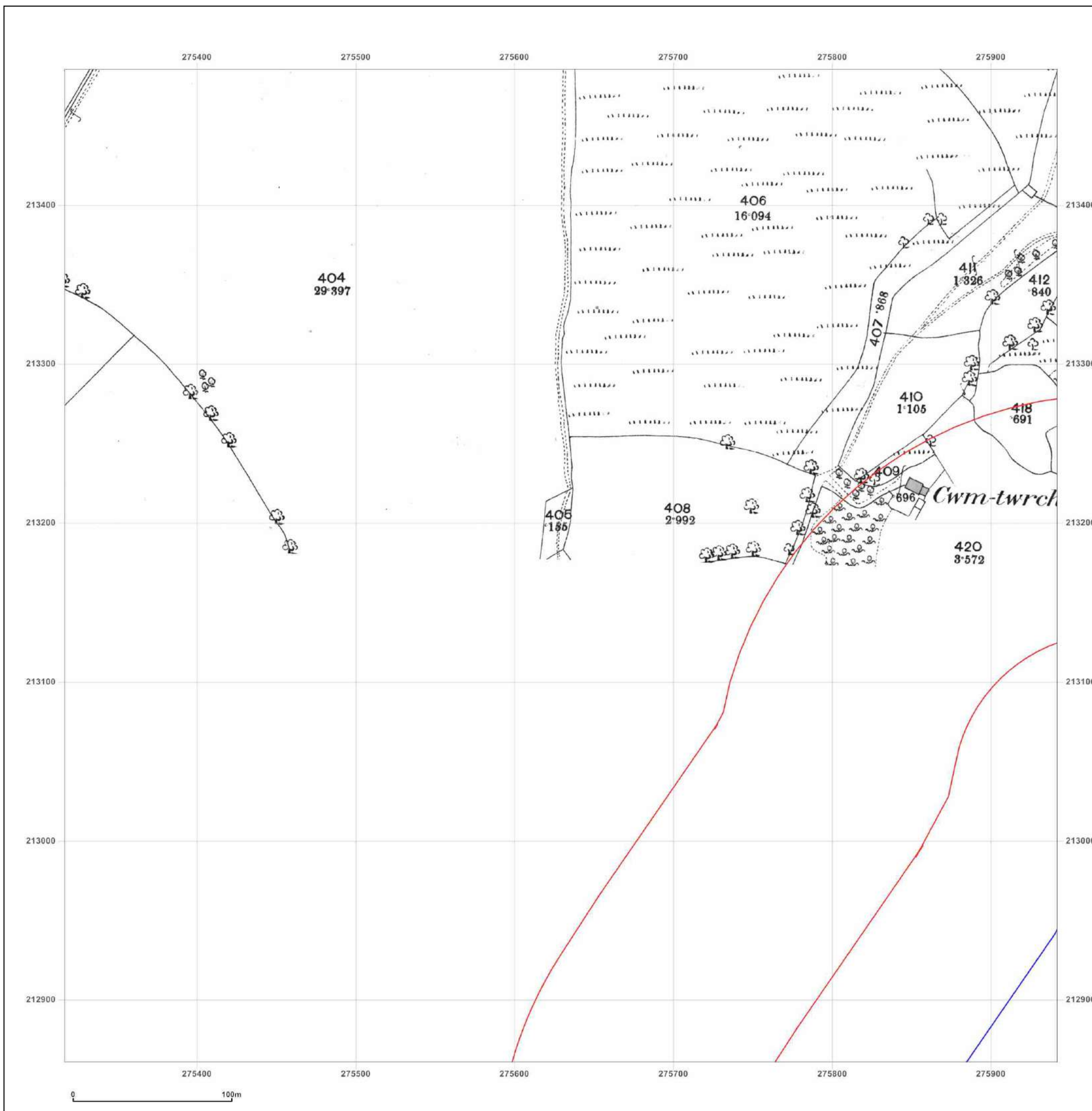


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Production date: 06 June 2019

Map legend available at:
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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_3
Grid Ref: 275629, 213173

Map Name: County Series

Map date: 1905

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1905
 Revised 1905
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1905
 Revised 1905
 Edition N/A
 Copyright N/A
 Levelled N/A

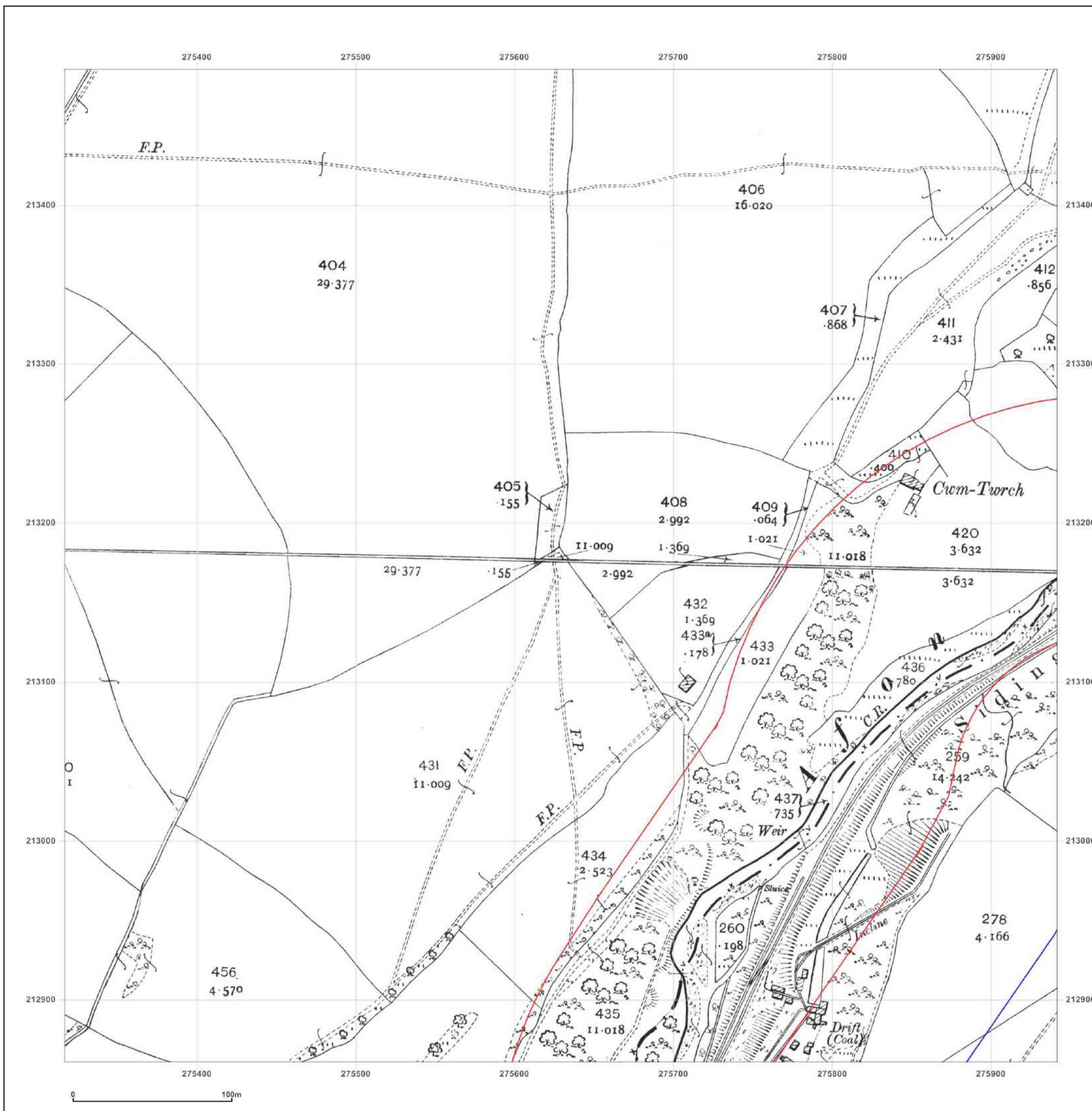


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_3
Grid Ref: 275629, 213173

Map Name: County Series

Map date: 1918-1919

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1919
 Revised 1919
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1918
 Revised 1918
 Edition N/A
 Copyright N/A
 Levelled N/A

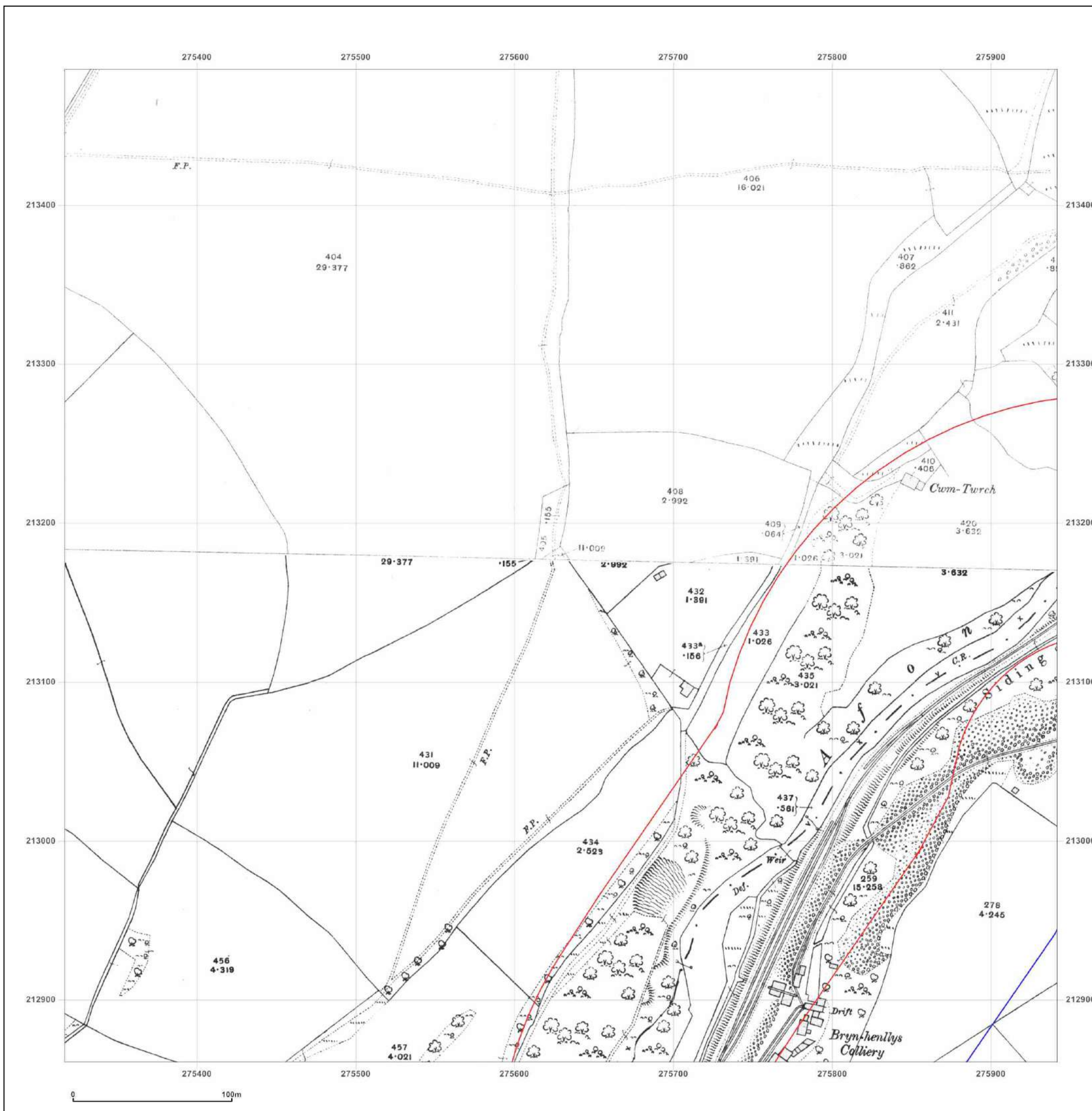


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_3
Grid Ref: 275629, 213173

Map Name: National Grid

Map date: 1961

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
 Revised 1961
 Edition N/A
 Copyright N/A
 Levelled 1956

Surveyed 1961
 Revised 1961
 Edition N/A
 Copyright 1962
 Levelled 1956

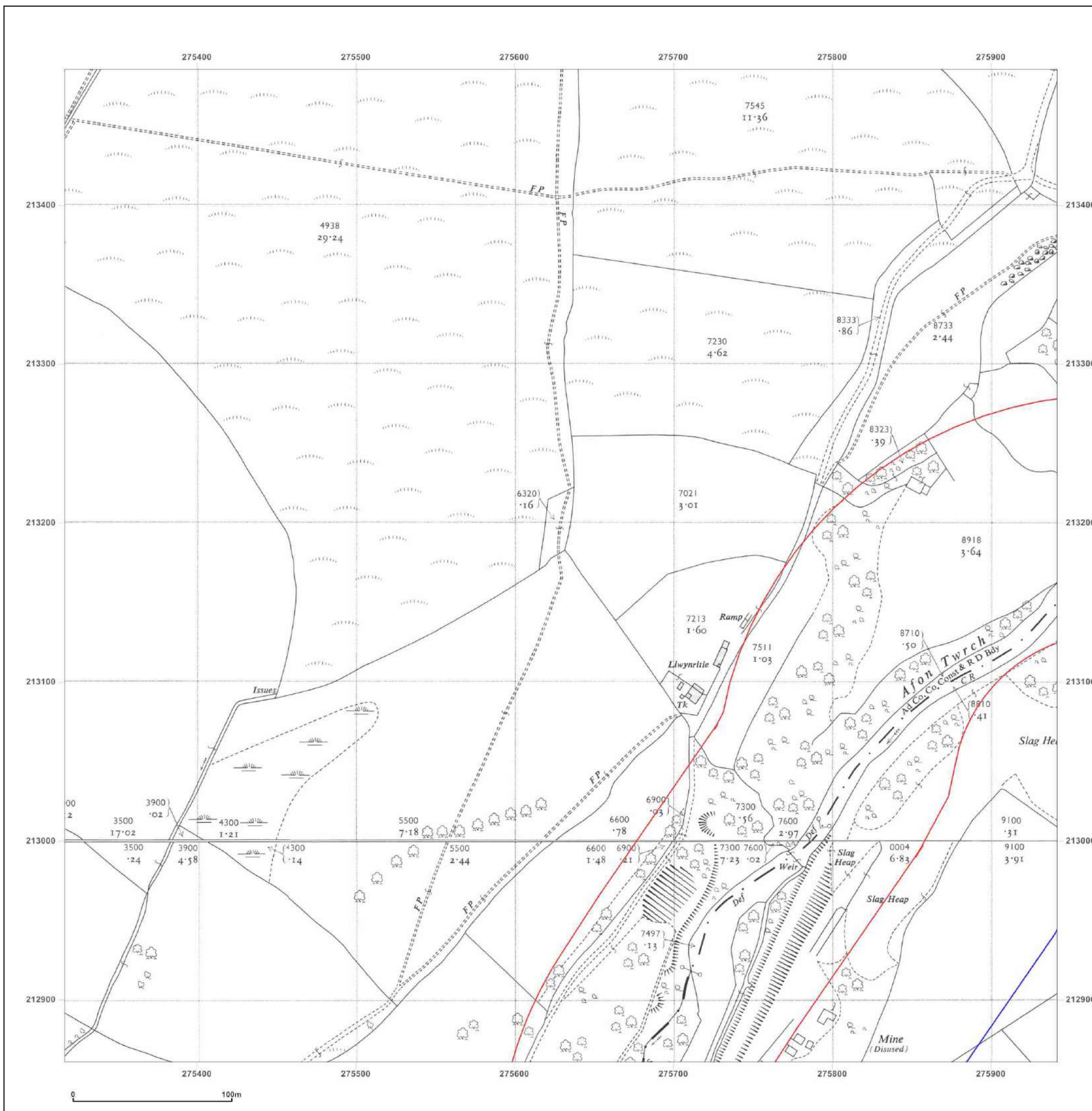


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_3
Grid Ref: 275629, 213173

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

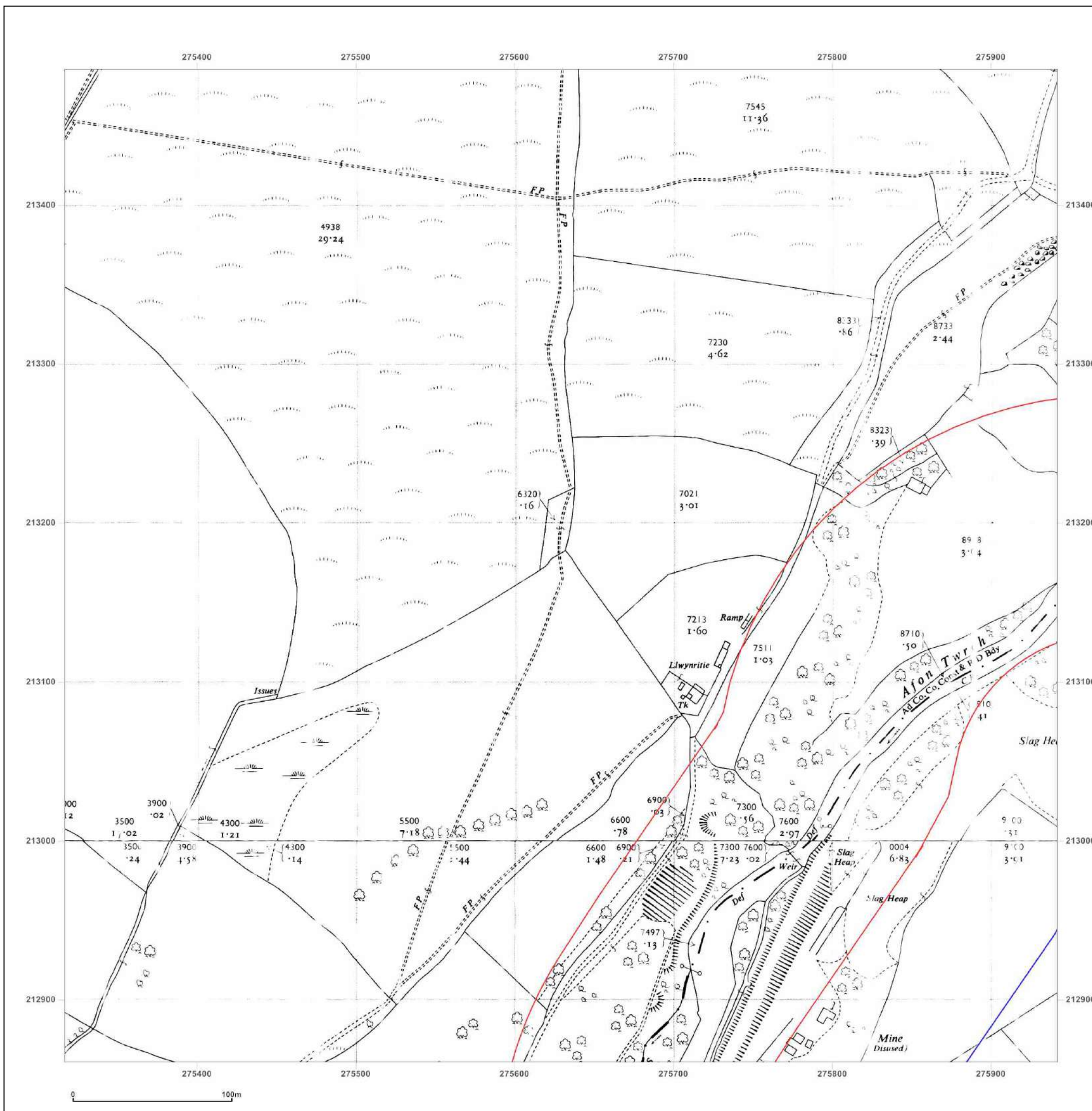


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_3
Grid Ref: 275629, 213173

Map Name: National Grid

Map date: 1989

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1953
 Revised 1989
 Edition N/A
 Copyright 1989
 Levelled 1953



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Production date: 06 June 2019

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Site Details:

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Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_3
Grid Ref: 275629, 213173

Map Name: National Grid

Map date: 1988-1991

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1953
 Revised 1988
 Edition N/A
 Copyright 1988
 Levelled 1953

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

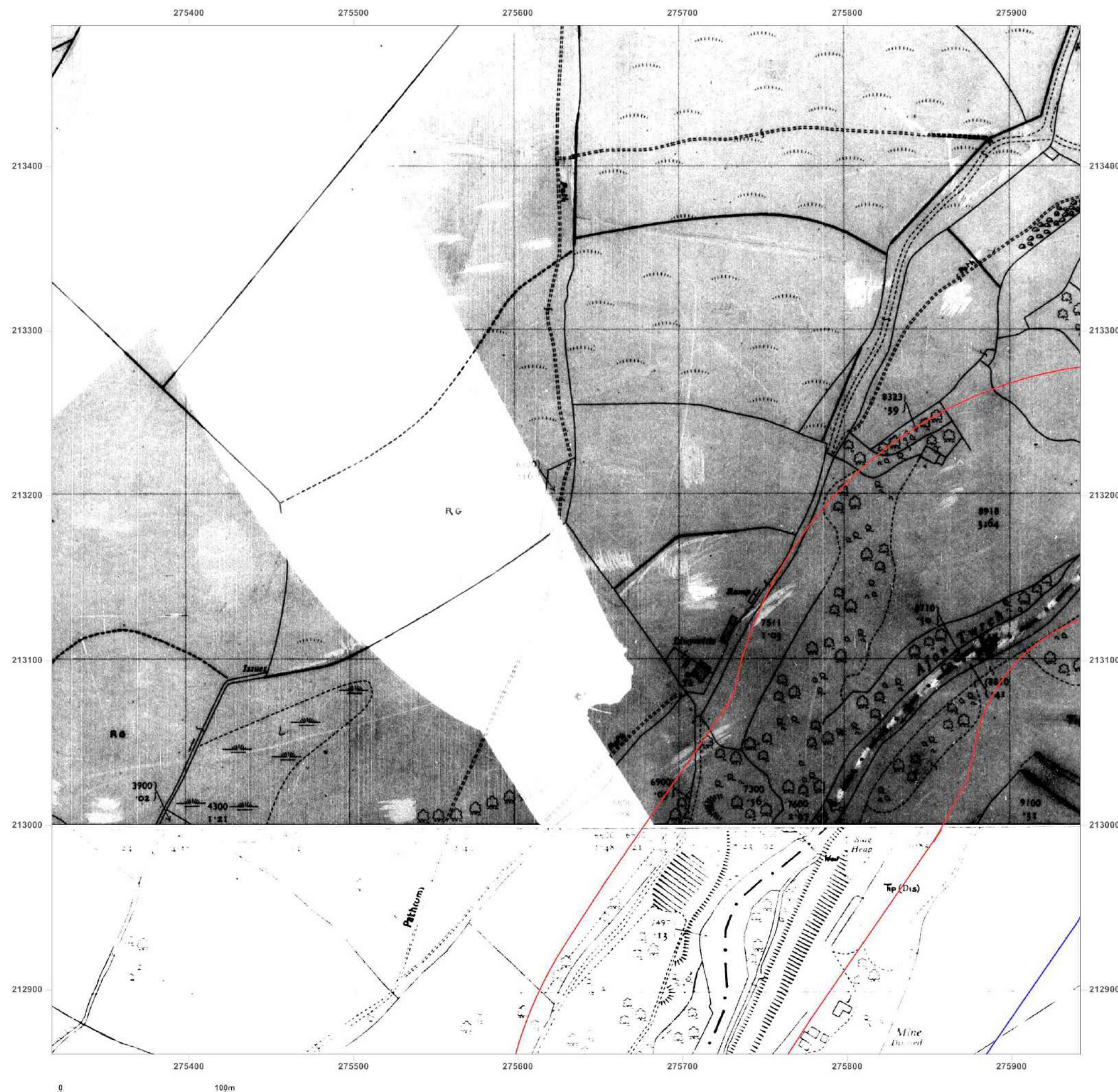


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_1_3
Grid Ref: 275629, 213173

Map Name: National Grid

Map date: 1989-1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1993
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A

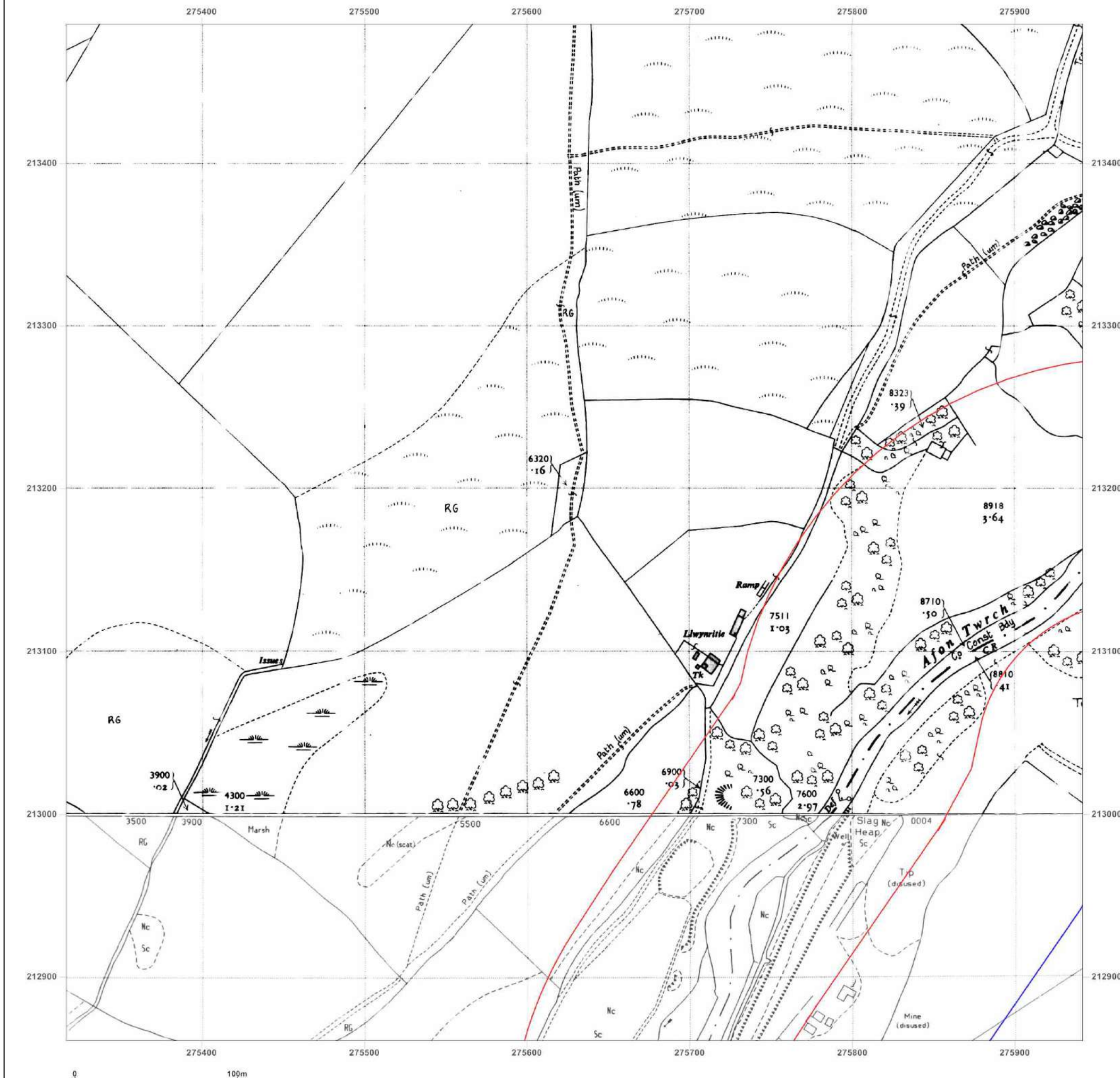


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_1
Grid Ref: 276254, 211922

Map Name: County Series

Map date: 1877

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1877
 Revised 1877
 Edition N/A
 Copyright N/A
 Levelled N/A

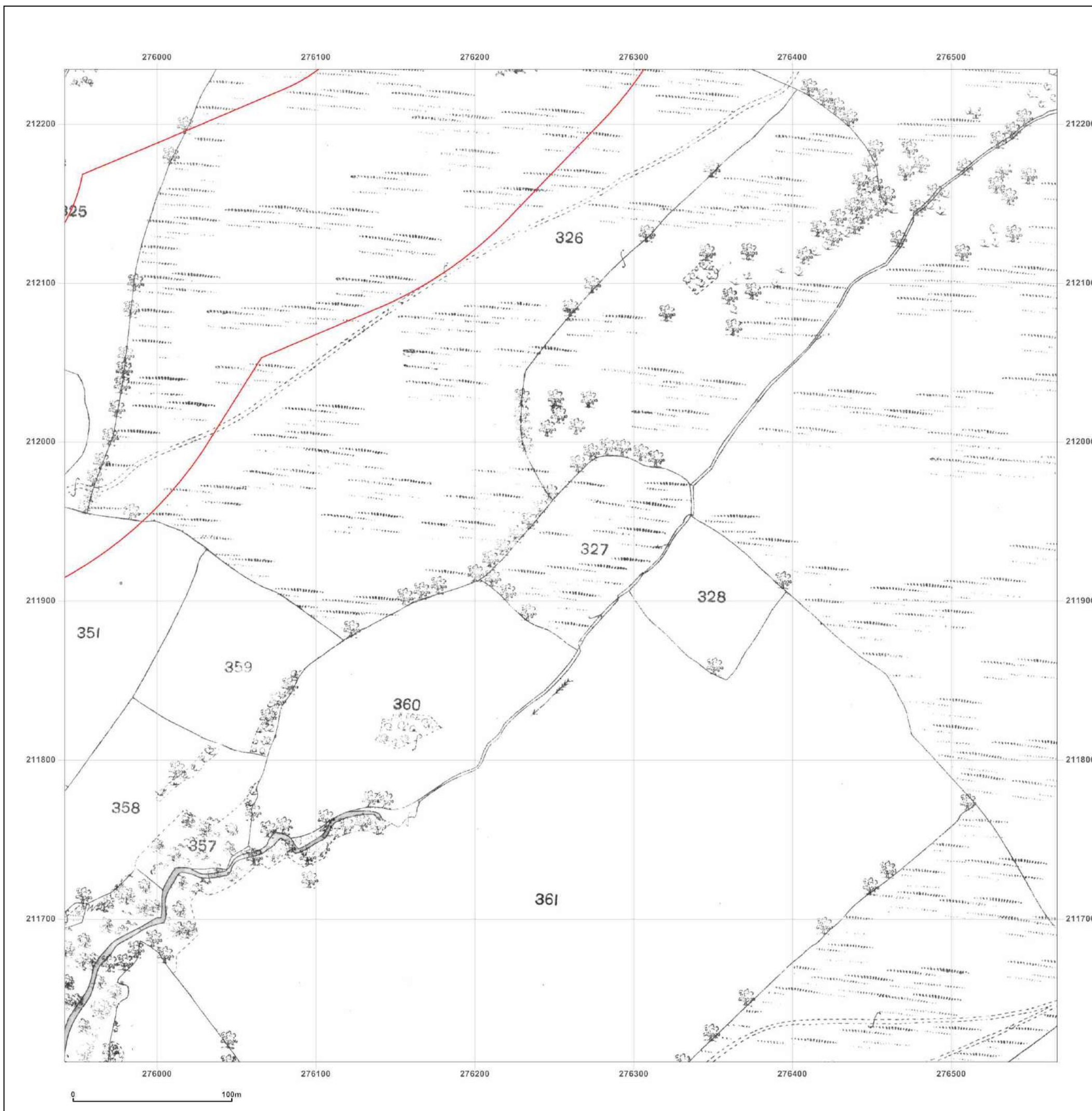


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_1
Grid Ref: 276254, 211922

Map Name: County Series

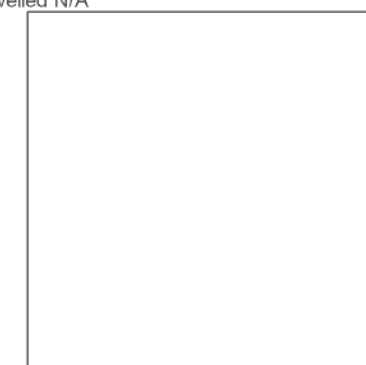
Map date: 1905

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1905
 Revised 1905
 Edition N/A
 Copyright N/A
 Levelled N/A

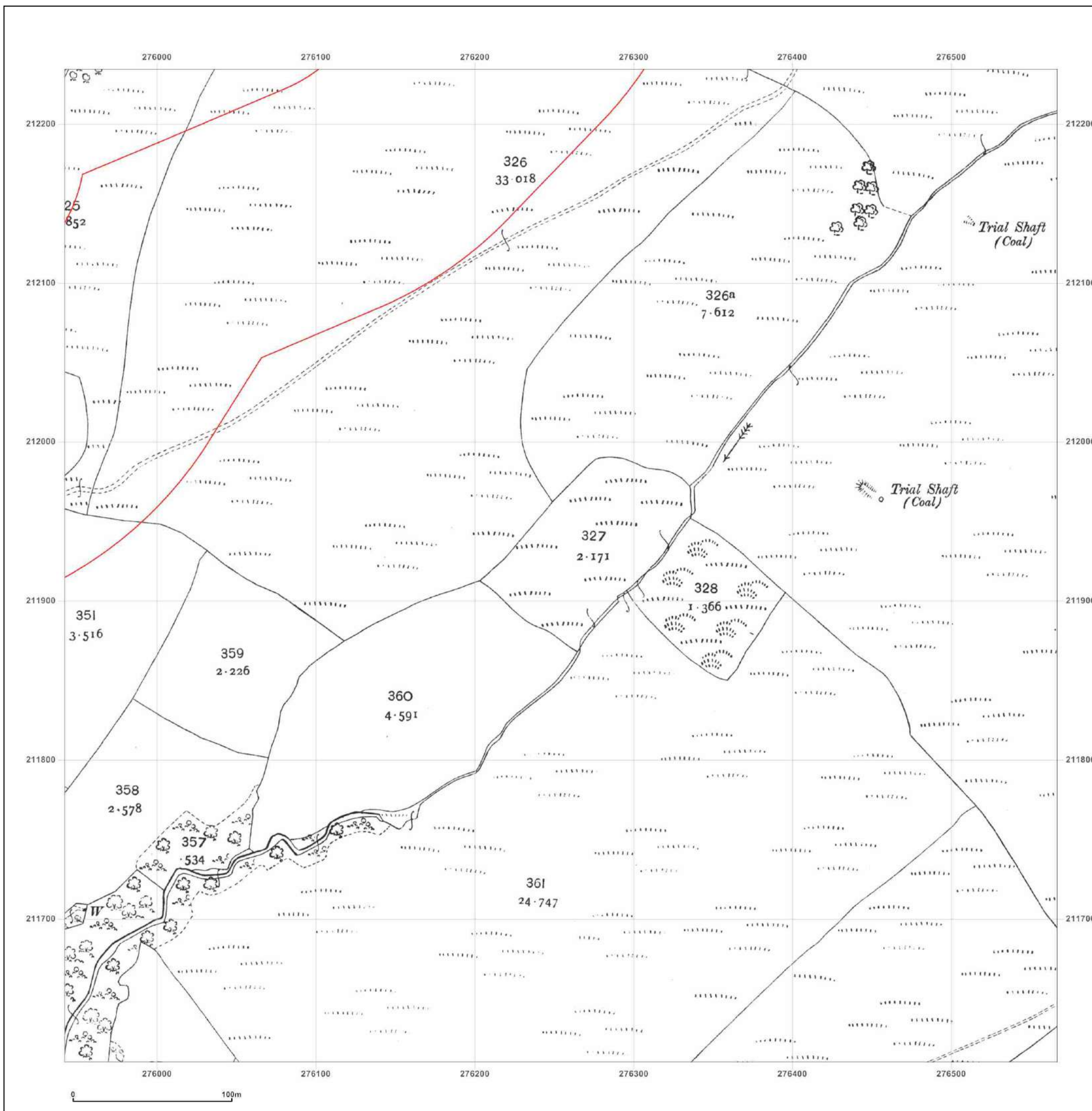


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Site Details:

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Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_1
Grid Ref: 276254, 211922

Map Name: County Series

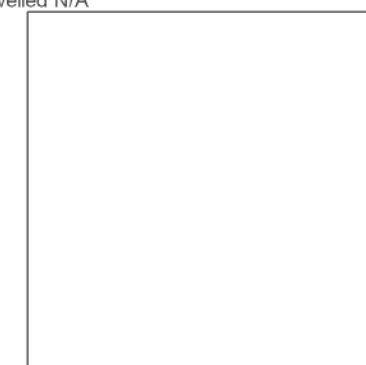
Map date: 1918

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1918
 Revised 1918
 Edition N/A
 Copyright N/A
 Levelled N/A

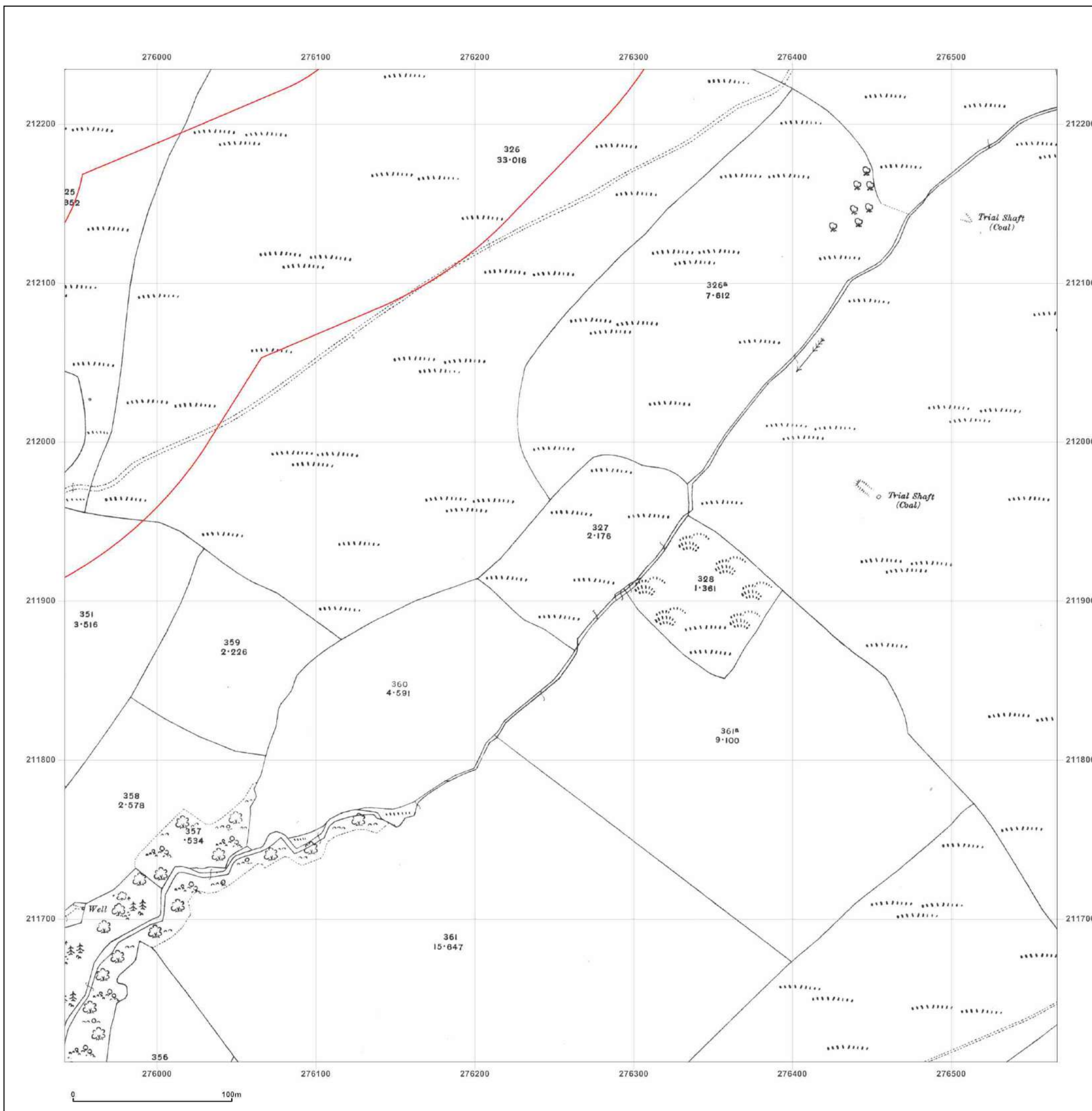


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Site Details:

276031, 212872

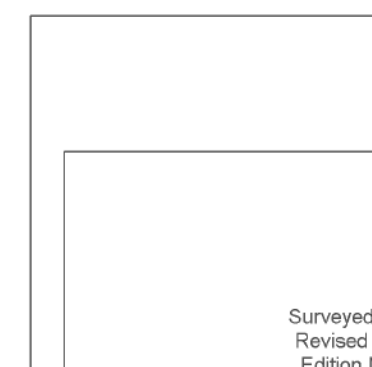
Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_1
Grid Ref: 276254, 211922

Map Name: National Grid

Map date: 1953

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled 1953

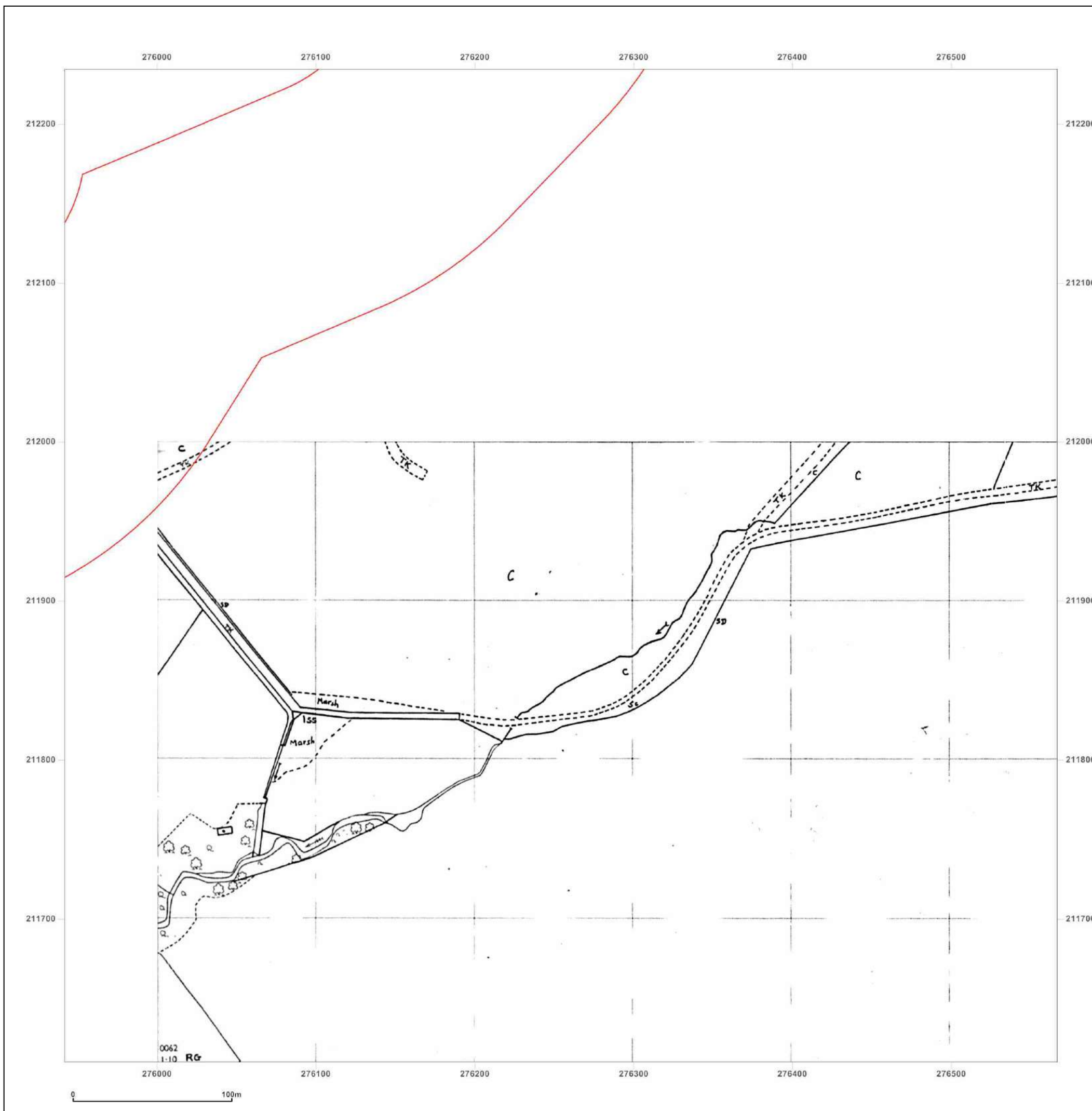


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Production date: 06 June 2019

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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_1
Grid Ref: 276254, 211922

Map Name: National Grid

Map date: 1961-1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
 Revised 1961
 Edition N/A
 Copyright 1962
 Levelled 1956

Surveyed 1962
 Revised 1962
 Edition N/A
 Copyright 1964
 Levelled 1953

Surveyed 1961
 Revised 1961
 Edition N/A
 Copyright 1962
 Levelled 1956

Surveyed 1962
 Revised 1962
 Edition N/A
 Copyright 1964
 Levelled 1953

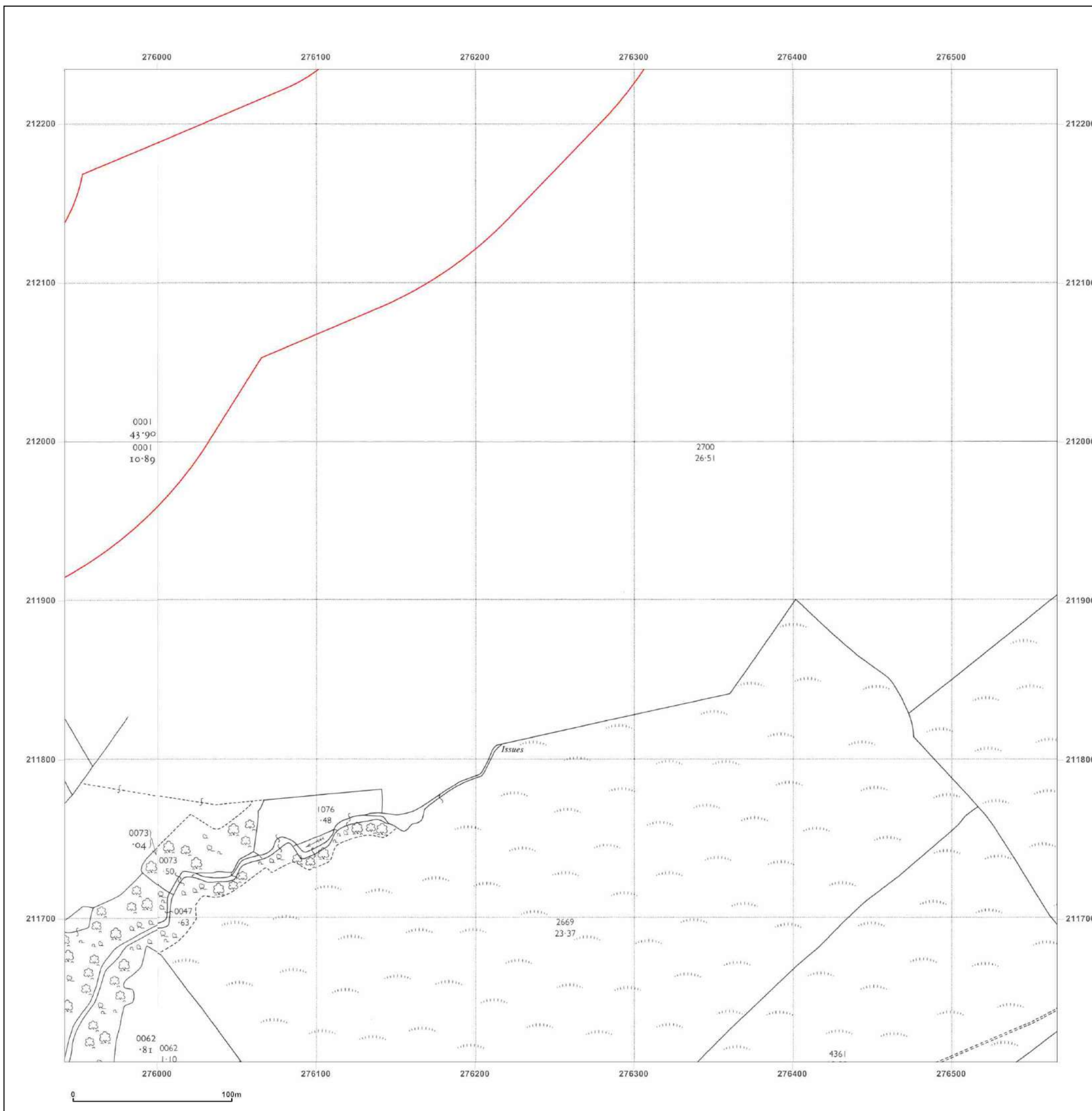


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Production date: 06 June 2019

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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_1
Grid Ref: 276254, 211922

Map Name: National Grid

Map date: 1962-1964

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

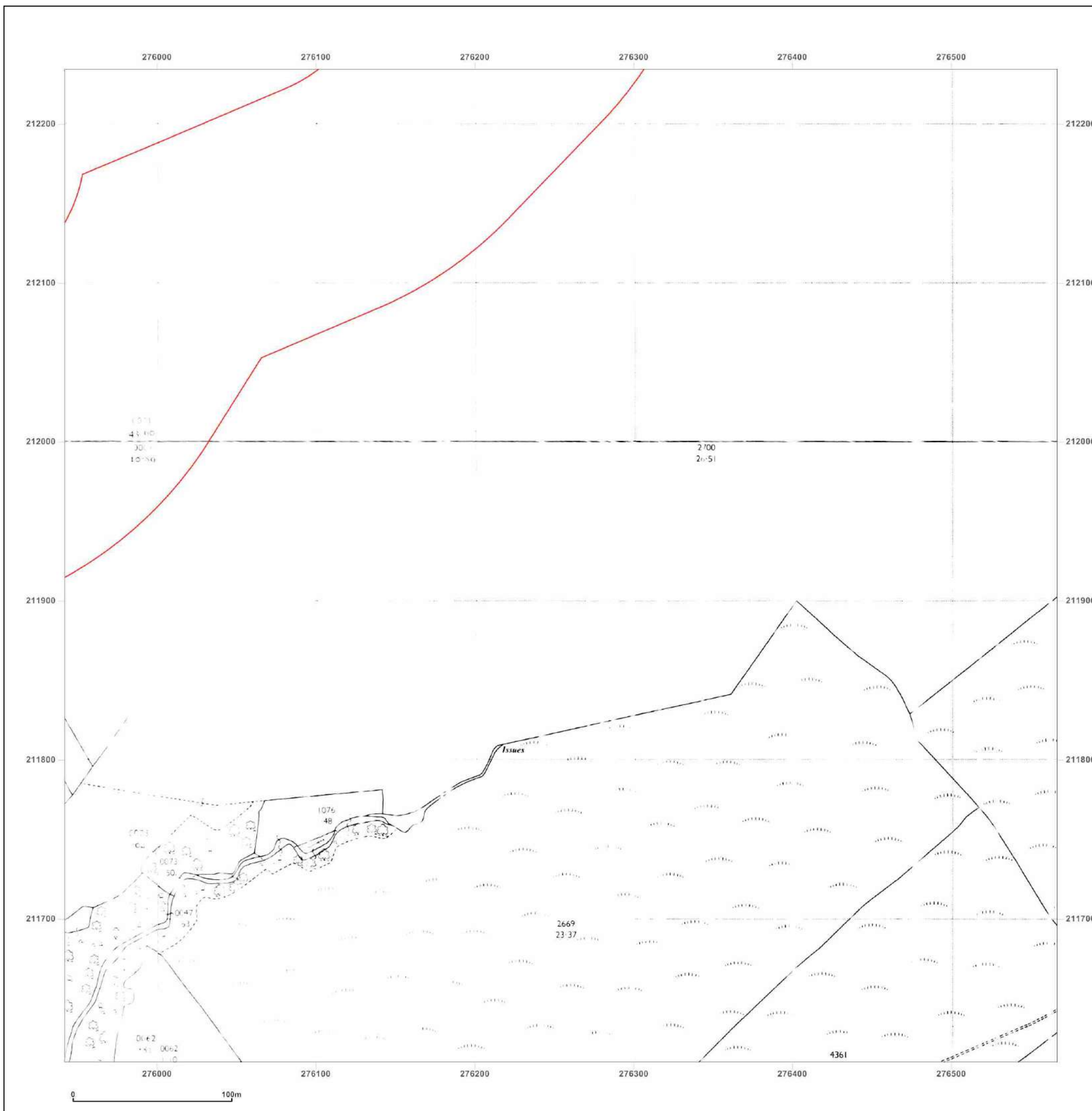


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_1
Grid Ref: 276254, 211922

Map Name: National Grid

Map date: 1981-1985

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1982
 Levelled 1956

Surveyed 1962
 Revised 1985
 Edition N/A
 Copyright 1986
 Levelled 1953

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

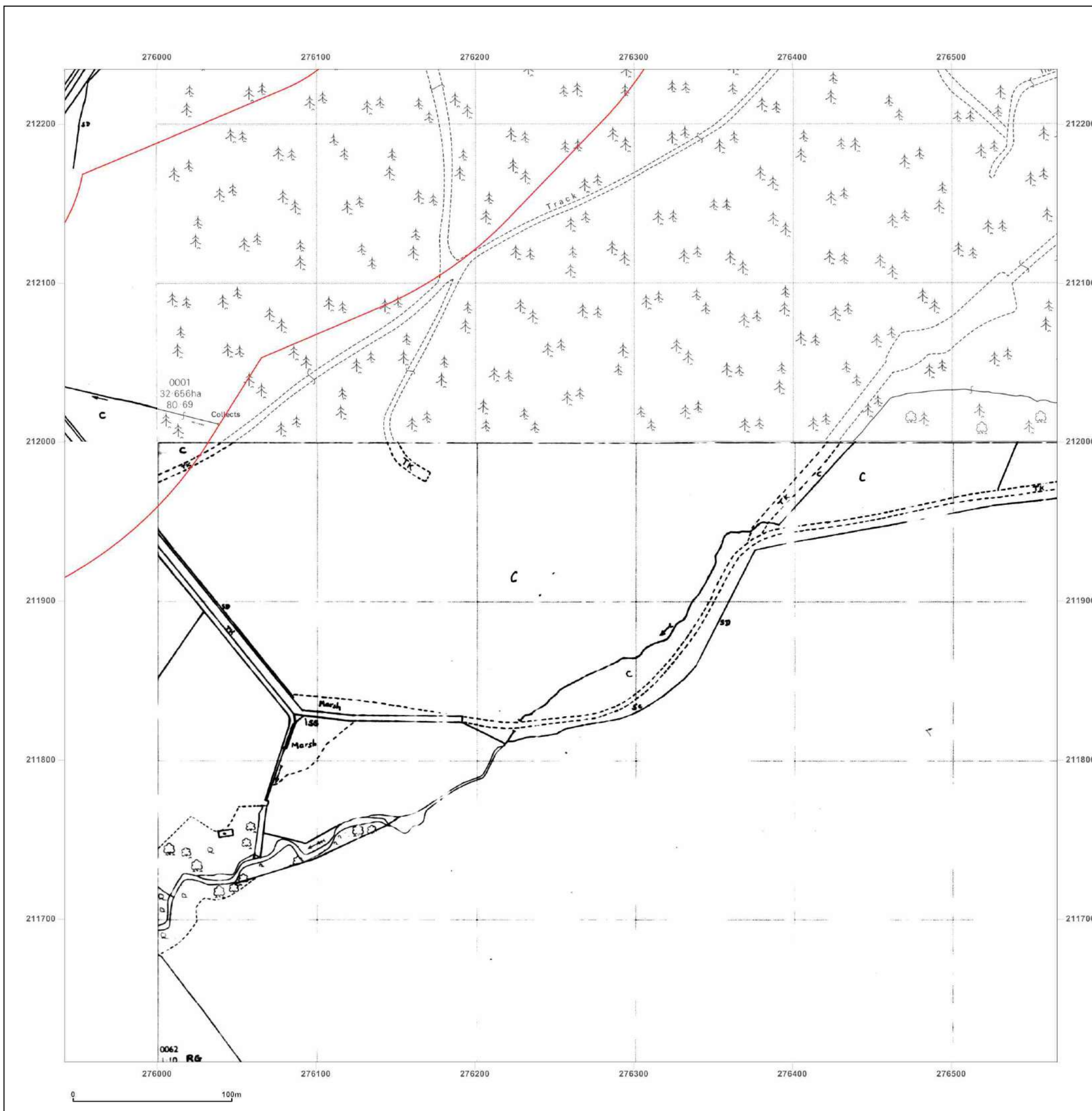


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_1
Grid Ref: 276254, 211922

Map Name: National Grid

Map date: 1985-1990

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1985
 Levelled 1963

Surveyed 1956
 Revised 1990
 Edition N/A
 Copyright 1990
 Levelled 1956

Surveyed 1953
 Revised 1985
 Edition N/A
 Copyright 1985
 Levelled 1953

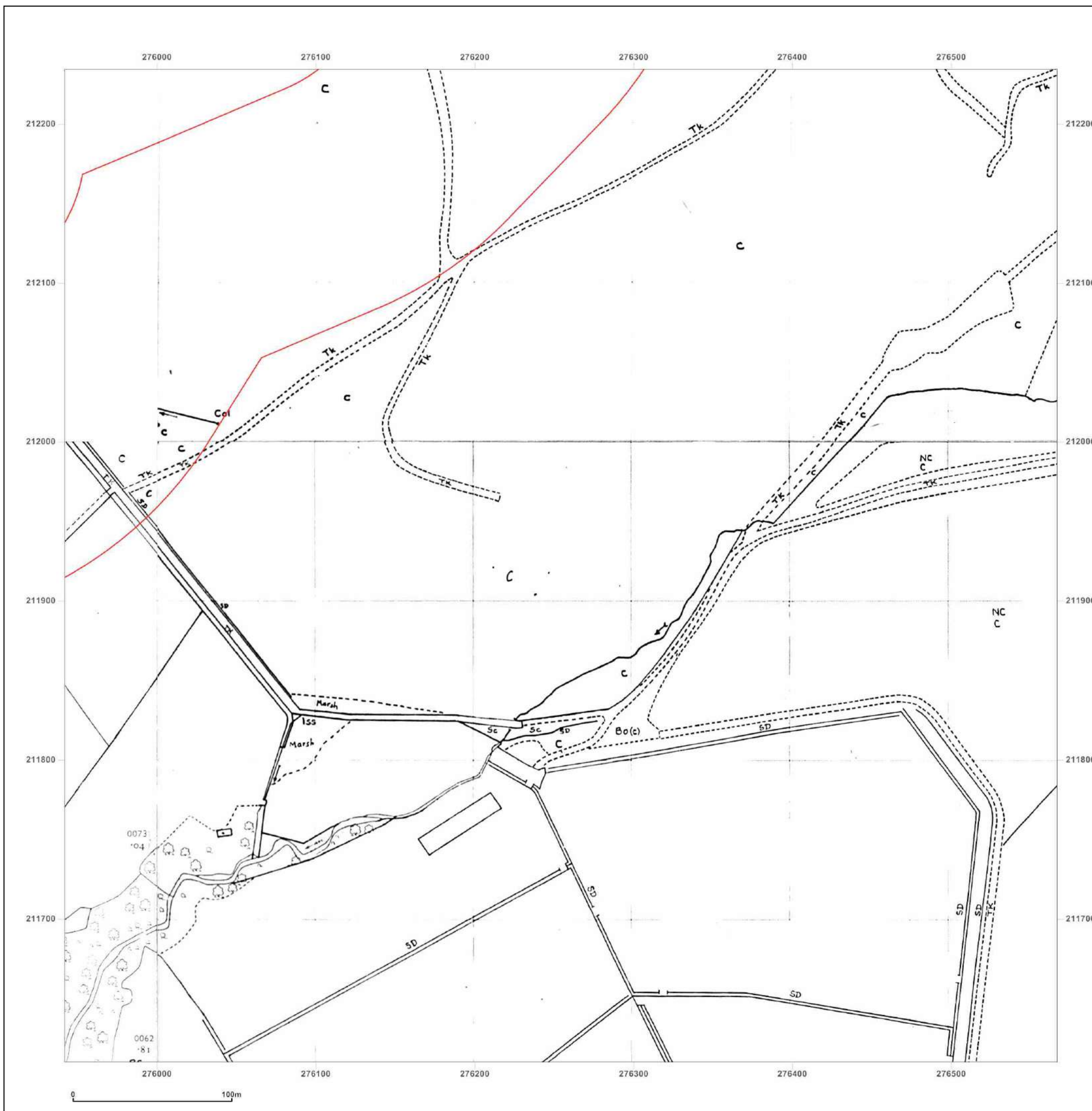


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Production date: 06 June 2019

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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_1
Grid Ref: 276254, 211922

Map Name: National Grid

Map date: 1986-1991

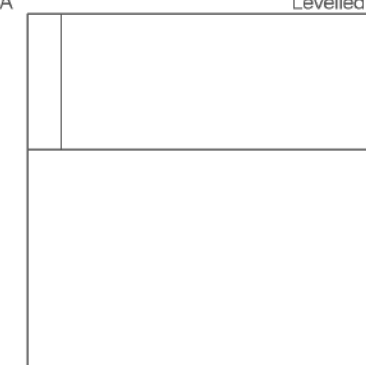
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Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

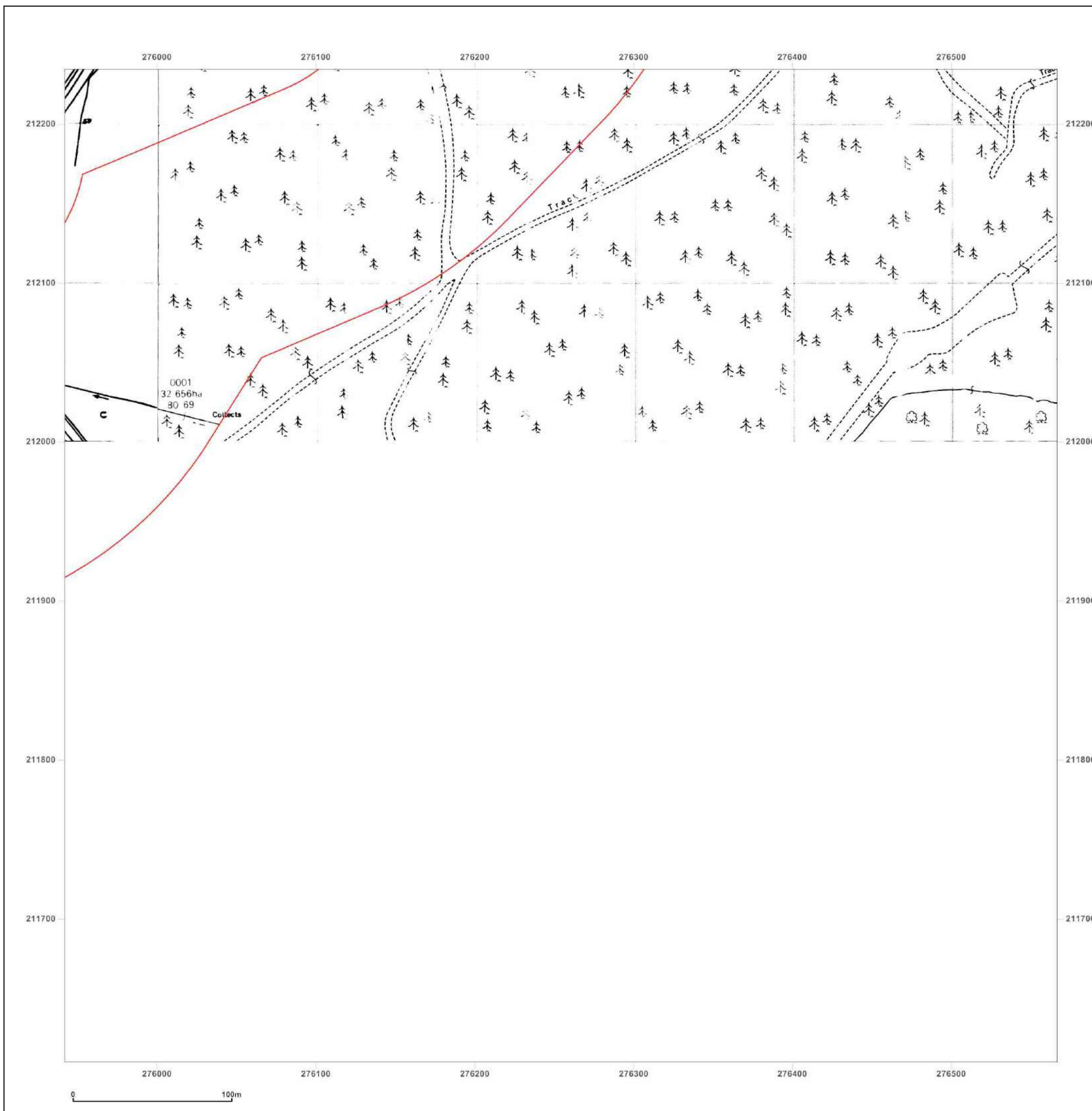


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_1
Grid Ref: 276254, 211922

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1993
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A

Surveyed 1993
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A

Surveyed 1993
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A

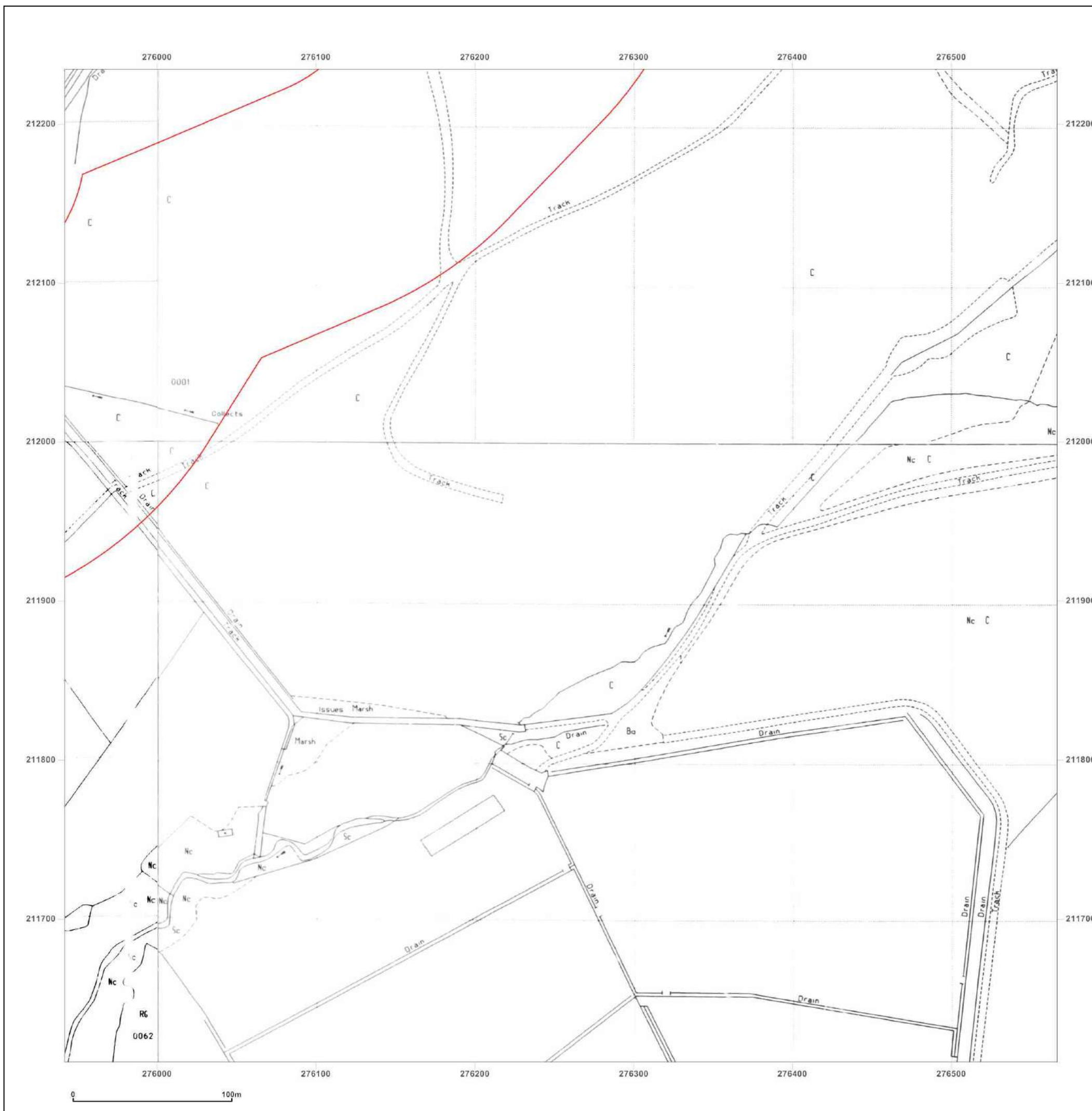


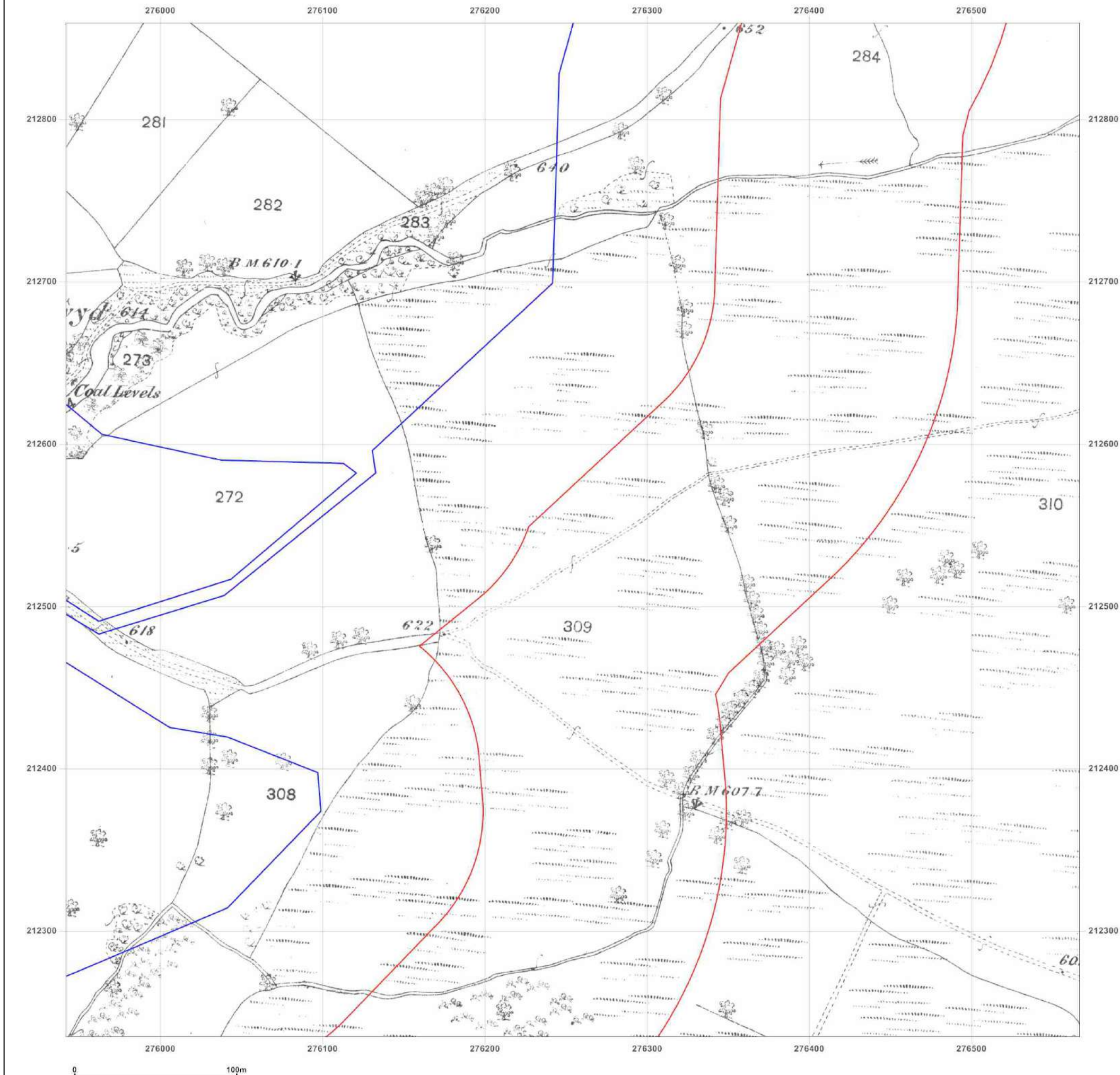
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Production date: 06 June 2019

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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_2
Grid Ref: 276254, 212547

Map Name: County Series

Map date: 1877

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1877
Revised 1877
Edition N/A
Copyright N/A
Levelled N/A



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Production date: 06 June 2019

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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_2
Grid Ref: 276254, 212547

Map Name: County Series

Map date: 1905

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1905
 Revised 1905
 Edition N/A
 Copyright N/A
 Levelled N/A

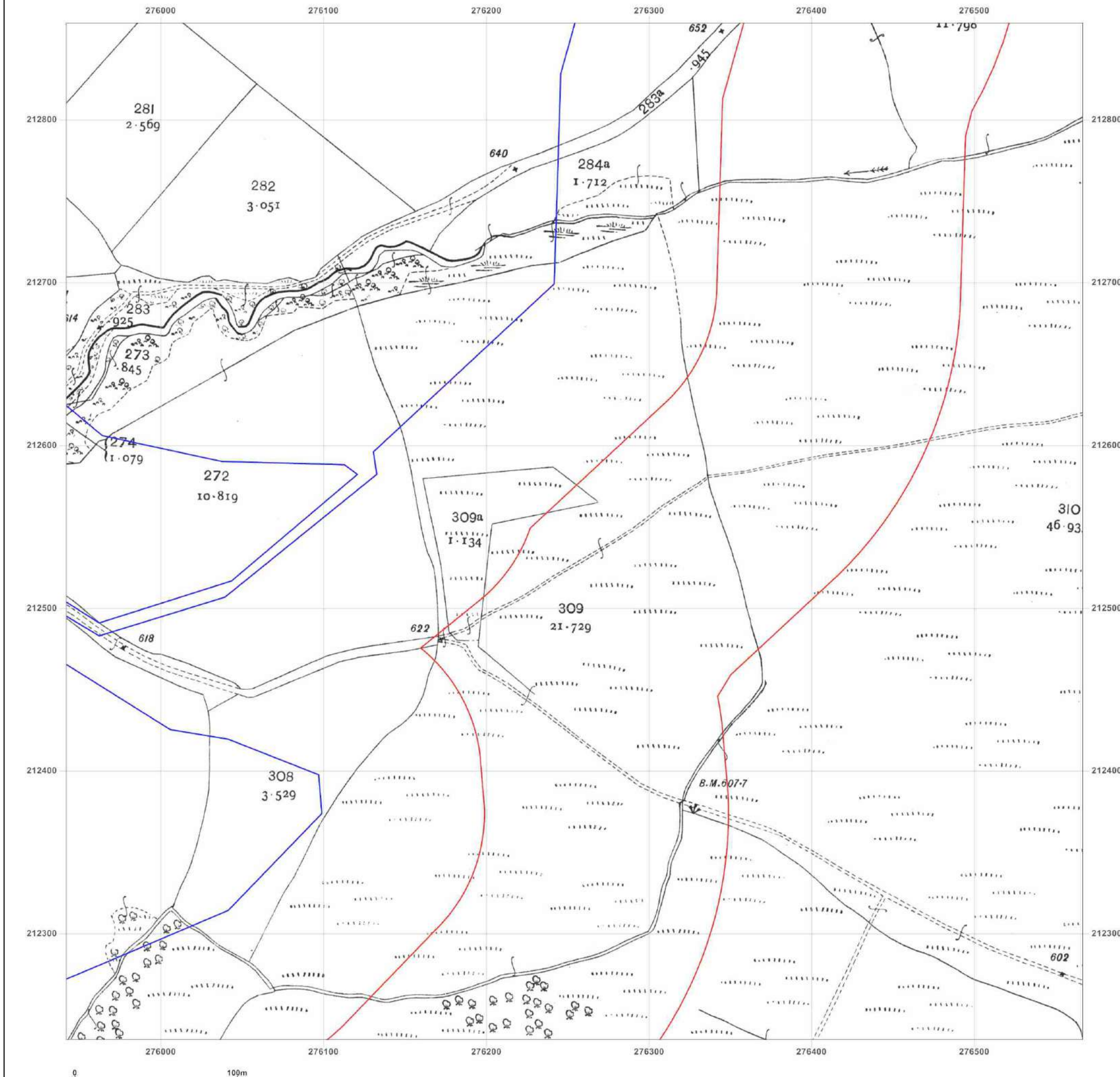


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Production date: 06 June 2019

Map legend available at:
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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_2
Grid Ref: 276254, 212547

Map Name: County Series

Map date: 1918

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1918
 Revised 1918
 Edition N/A
 Copyright N/A
 Levelled N/A

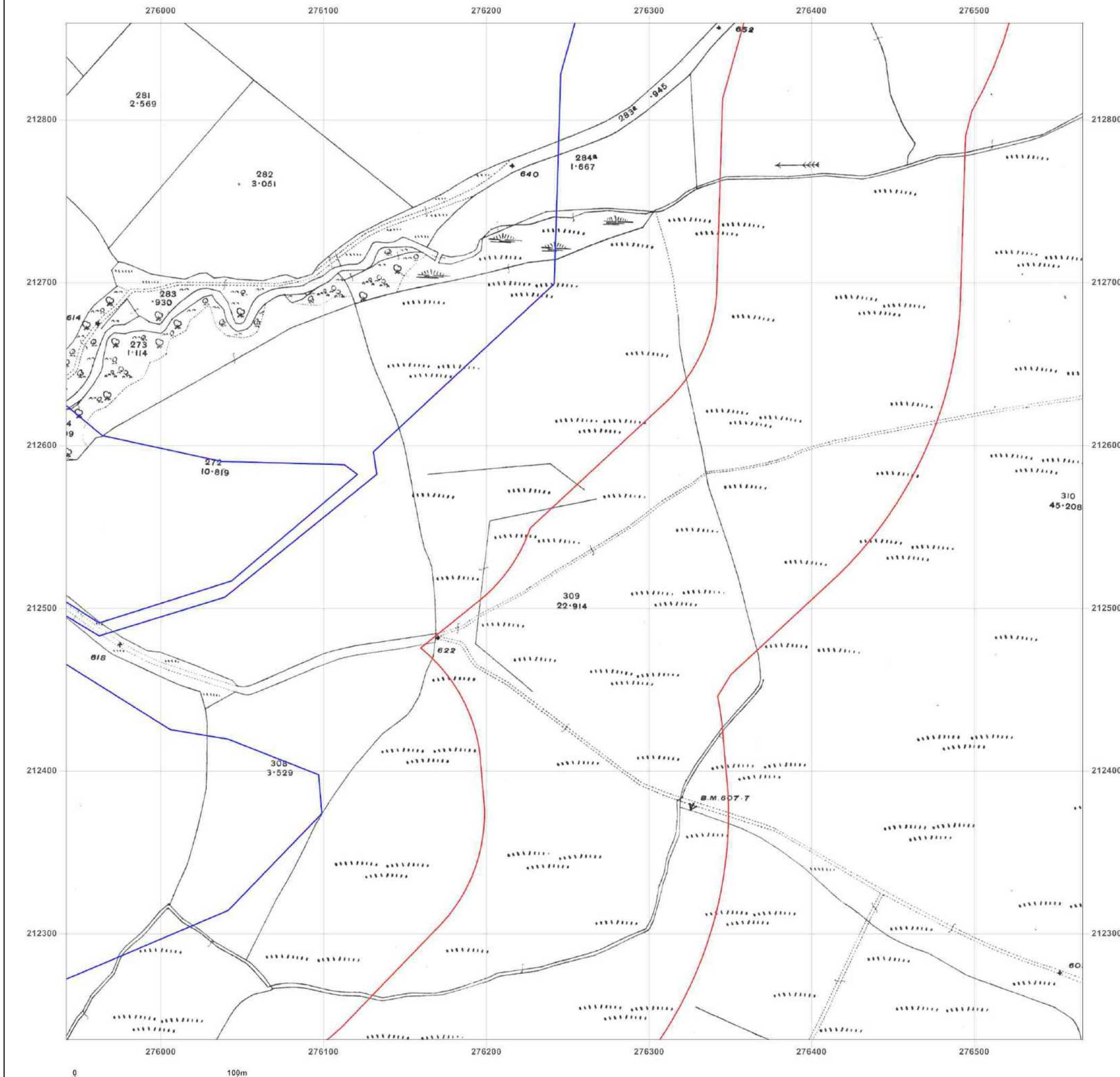


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Production date: 06 June 2019

Map legend available at:
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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_2
Grid Ref: 276254, 212547

Map Name: National Grid

Map date: 1961-1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
 Revised 1961
 Edition N/A
 Copyright 1962
 Levelled 1956

Surveyed 1962
 Revised 1962
 Edition N/A
 Copyright 1964
 Levelled 1953

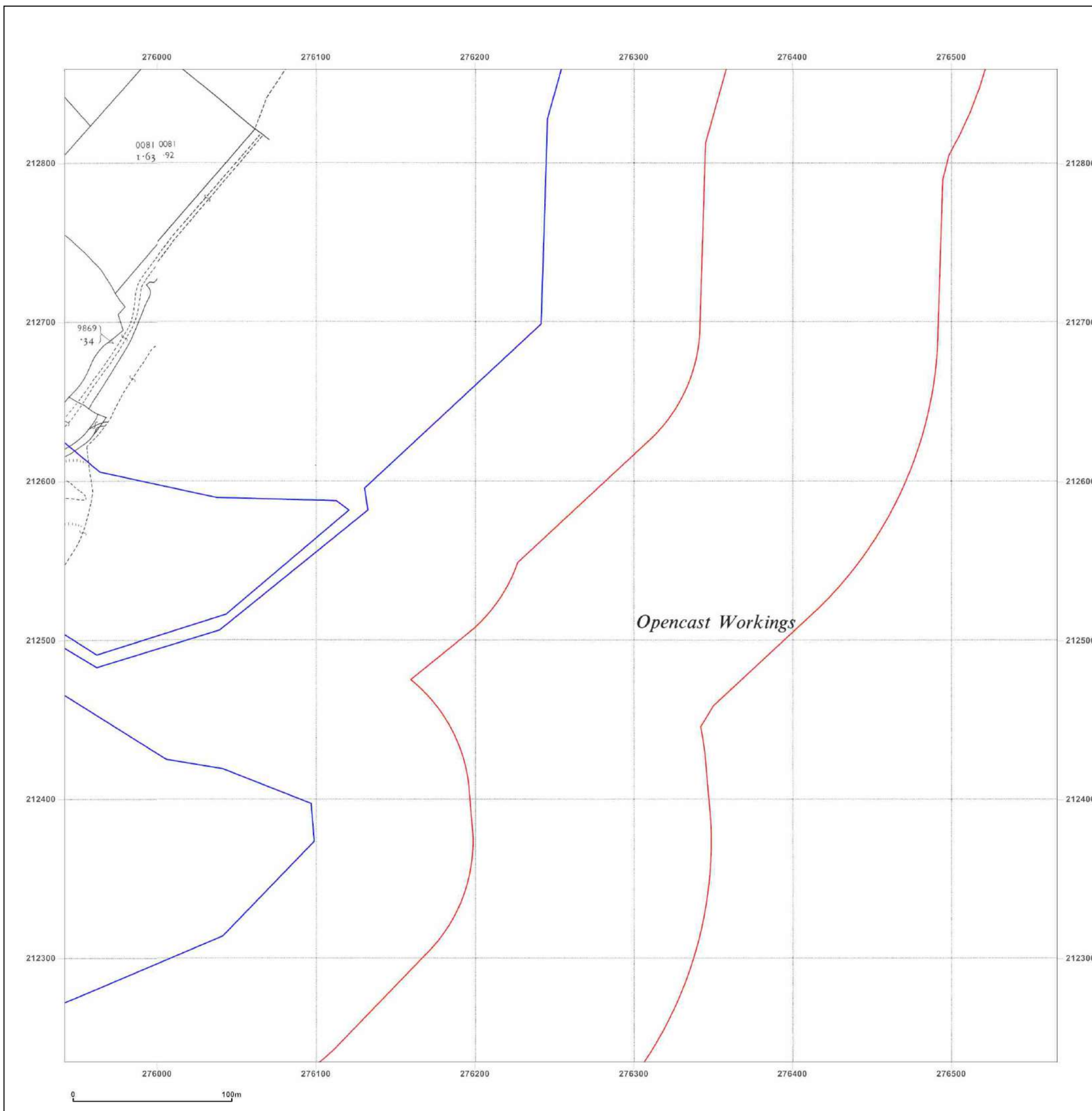


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_2
Grid Ref: 276254, 212547

Map Name: National Grid

Map date: 1962-1964

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

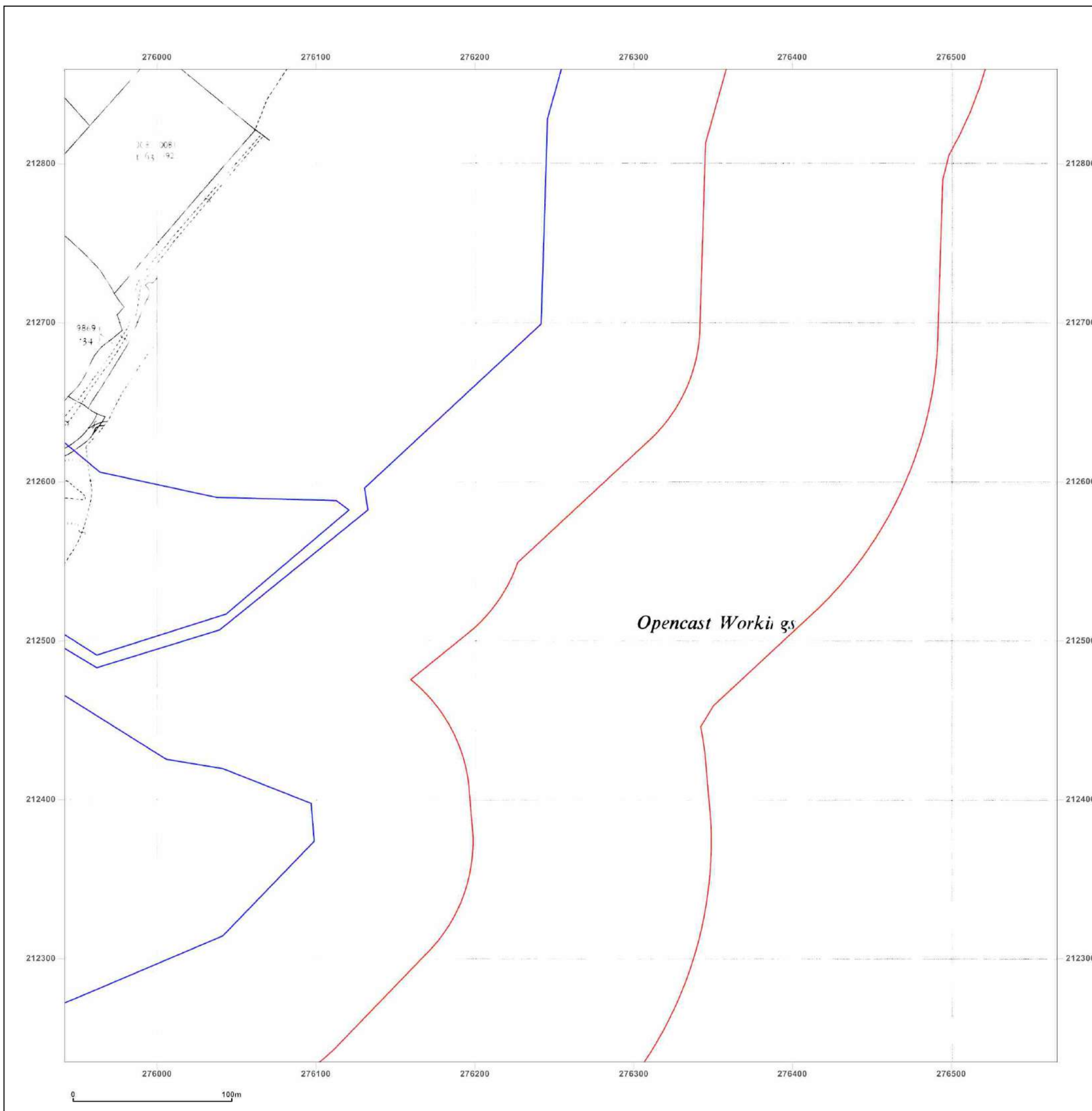


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_2
Grid Ref: 276254, 212547

Map Name: National Grid

Map date: 1982-1985

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1982
 Levelled 1956

Surveyed 1962
 Revised 1985
 Edition N/A
 Copyright 1986
 Levelled 1953

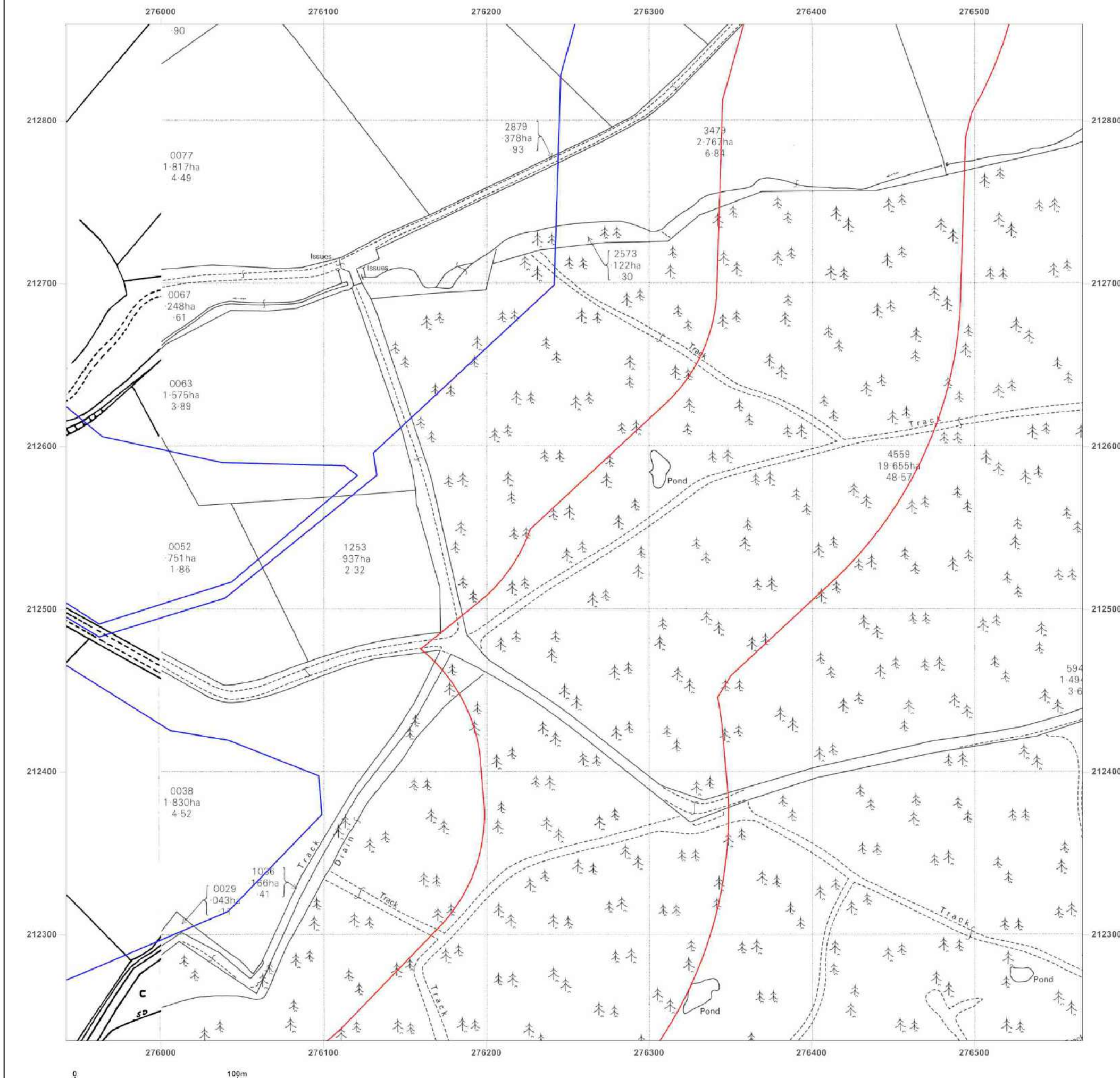


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_2
Grid Ref: 276254, 212547

Map Name: National Grid

Map date: 1985

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1985
 Levelled 1963

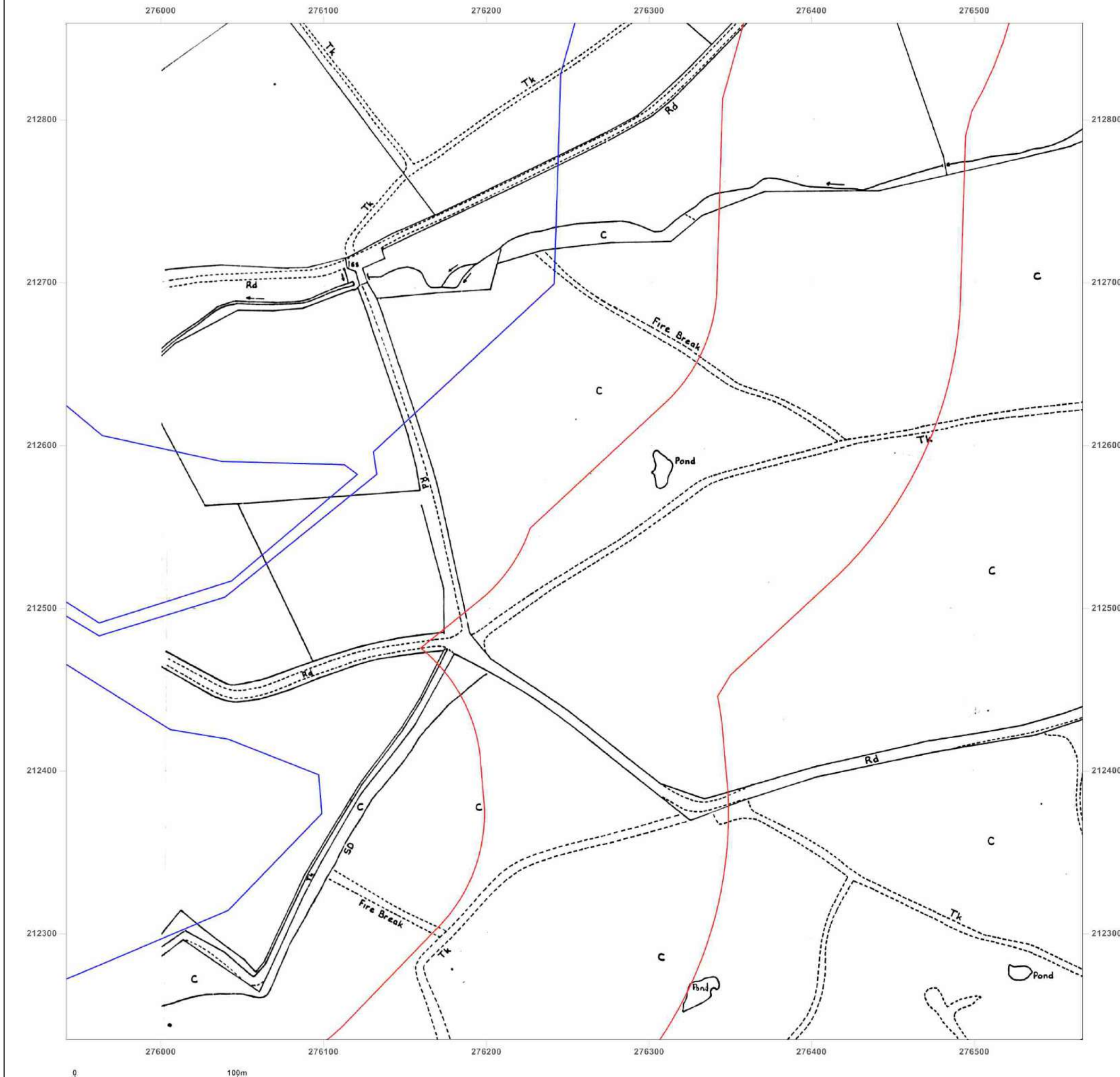


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Production date: 06 June 2019

Map legend available at:
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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_2
Grid Ref: 276254, 212547

Map Name: National Grid

Map date: 1986-1991

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

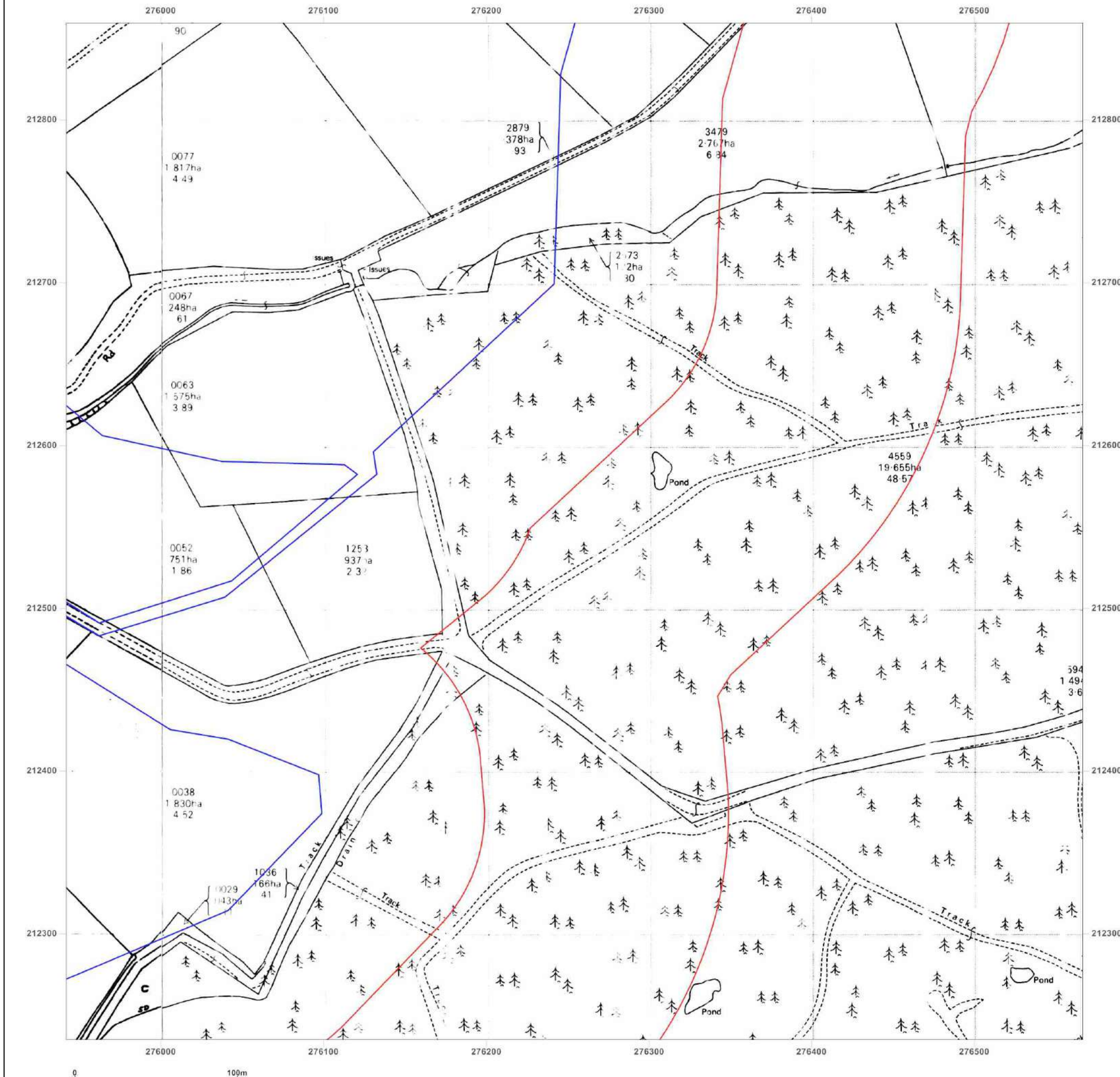


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_2
Grid Ref: 276254, 212547

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1993
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A

Surveyed 1993
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A

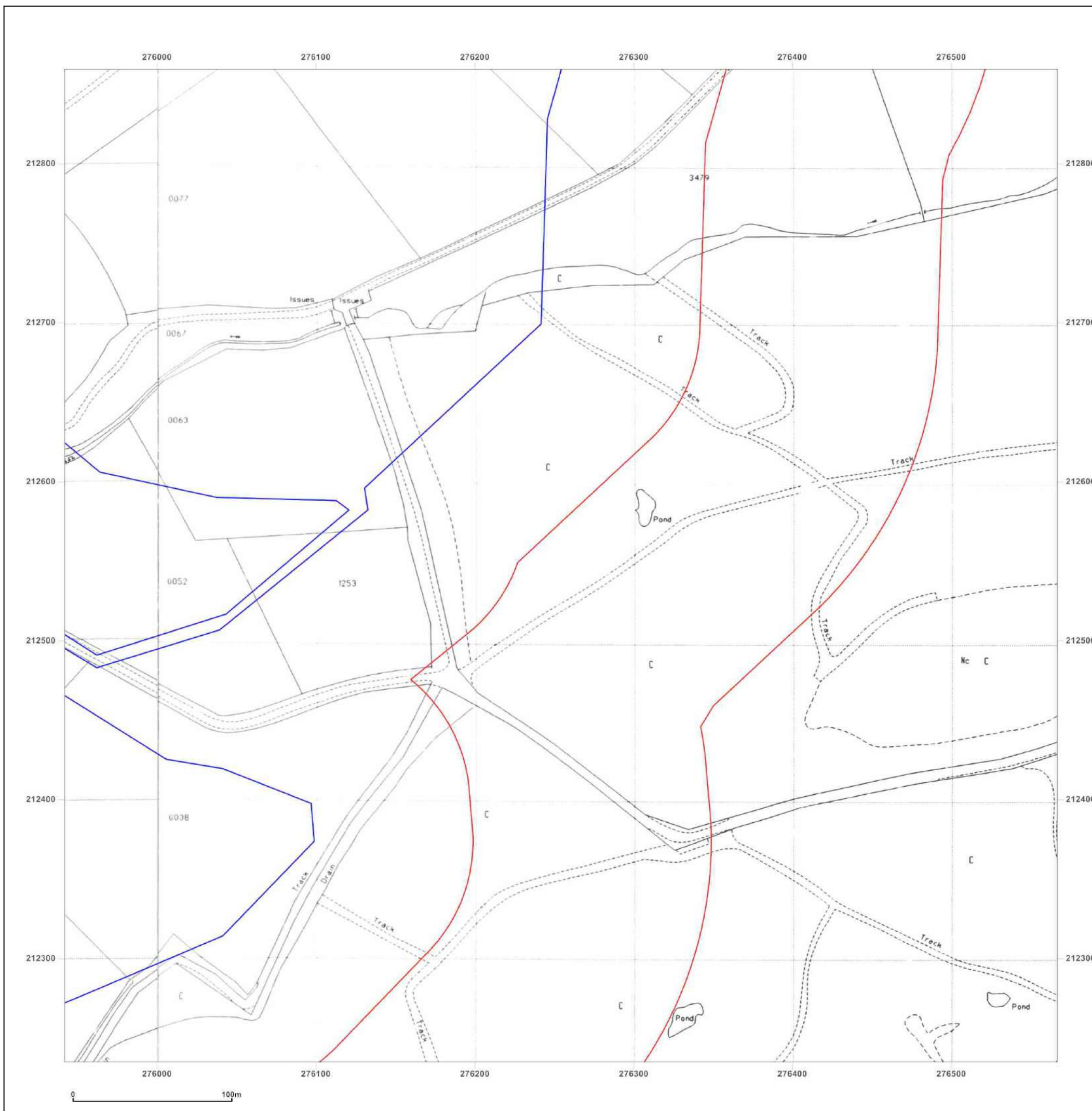


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_3
Grid Ref: 276254, 213173

Map Name: County Series

Map date: 1877

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1877
 Revised 1877
 Edition N/A
 Copyright N/A
 Levelled N/A

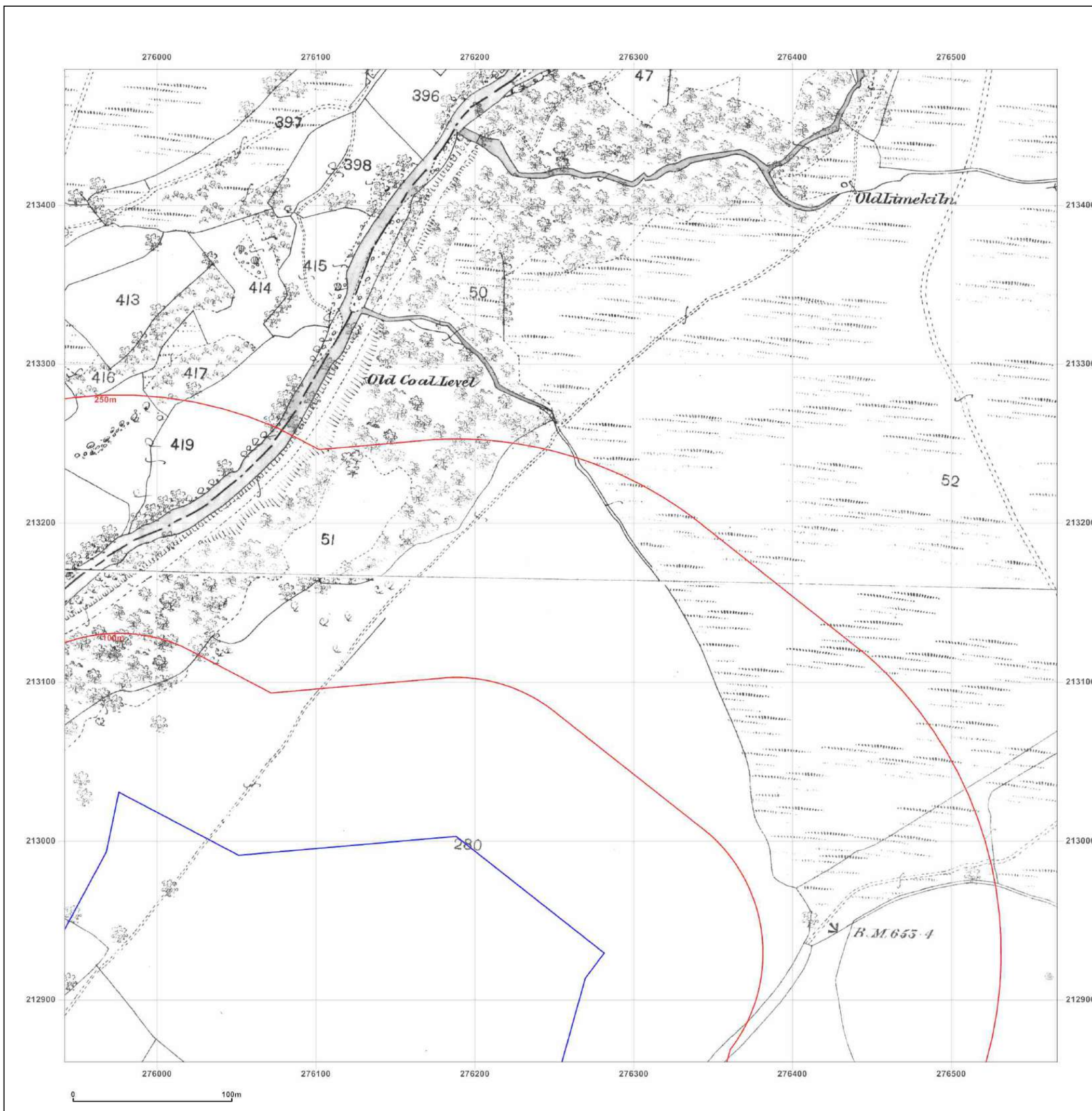


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Production date: 06 June 2019

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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_3
Grid Ref: 276254, 213173

Map Name: County Series

Map date: 1891

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

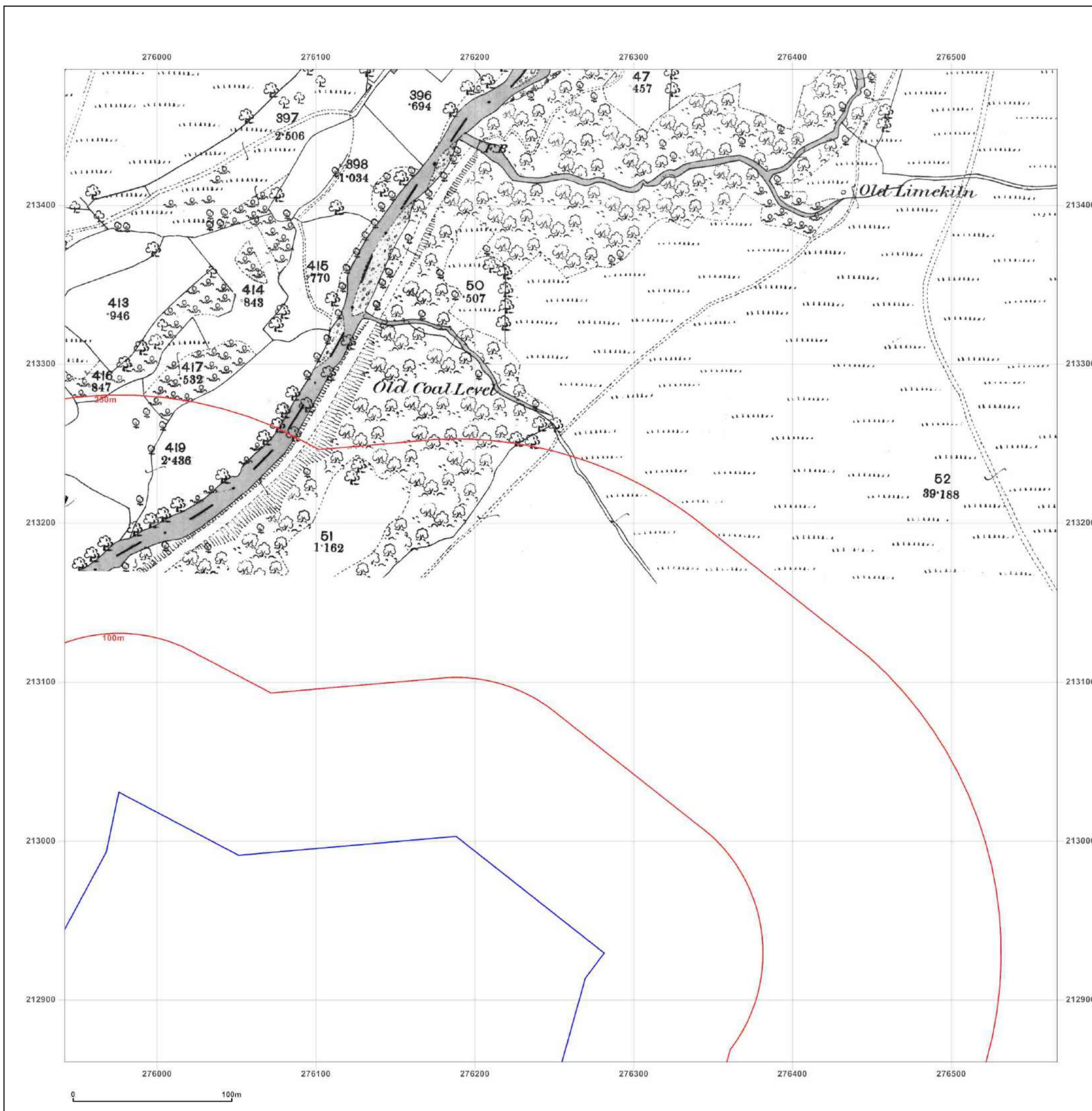


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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_3
Grid Ref: 276254, 213173

Map Name: County Series

Map date: 1905

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1905
 Revised 1905
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1905
 Revised 1905
 Edition N/A
 Copyright N/A
 Levelled N/A

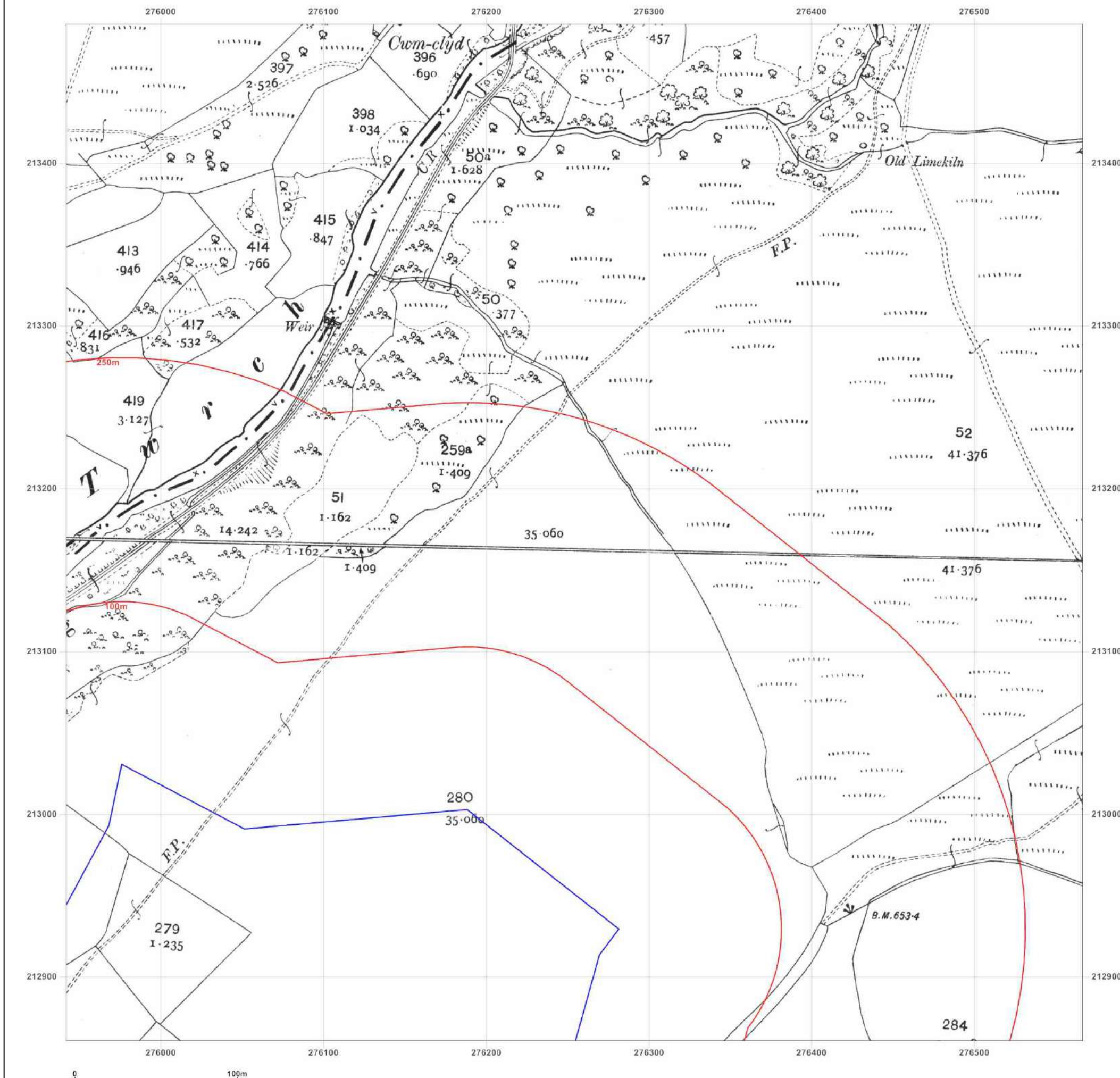


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Production date: 06 June 2019

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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_3
Grid Ref: 276254, 213173

Map Name: County Series

Map date: 1918-1919

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1919
 Revised 1919
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1918
 Revised 1918
 Edition N/A
 Copyright N/A
 Levelled N/A

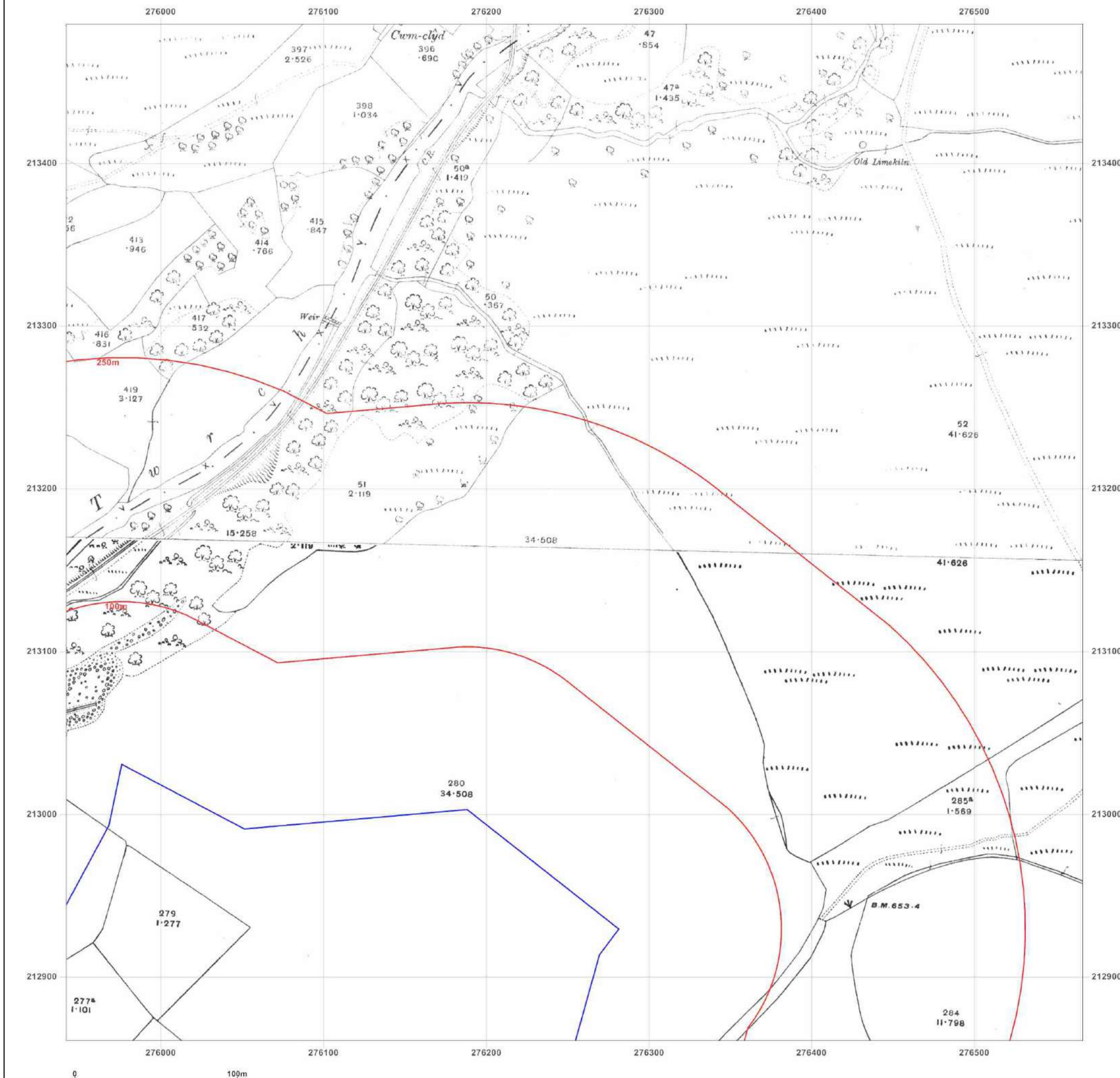


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Production date: 06 June 2019

Map legend available at:
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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_3
Grid Ref: 276254, 213173

Map Name: National Grid

Map date: 1961-1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
 Revised 1961
 Edition N/A
 Copyright N/A
 Levelled 1956

Surveyed 1962
 Revised 1962
 Edition N/A
 Copyright 1964
 Levelled 1953

Surveyed 1961
 Revised 1961
 Edition N/A
 Copyright 1962
 Levelled 1956

Surveyed 1962
 Revised 1962
 Edition N/A
 Copyright 1964
 Levelled 1953

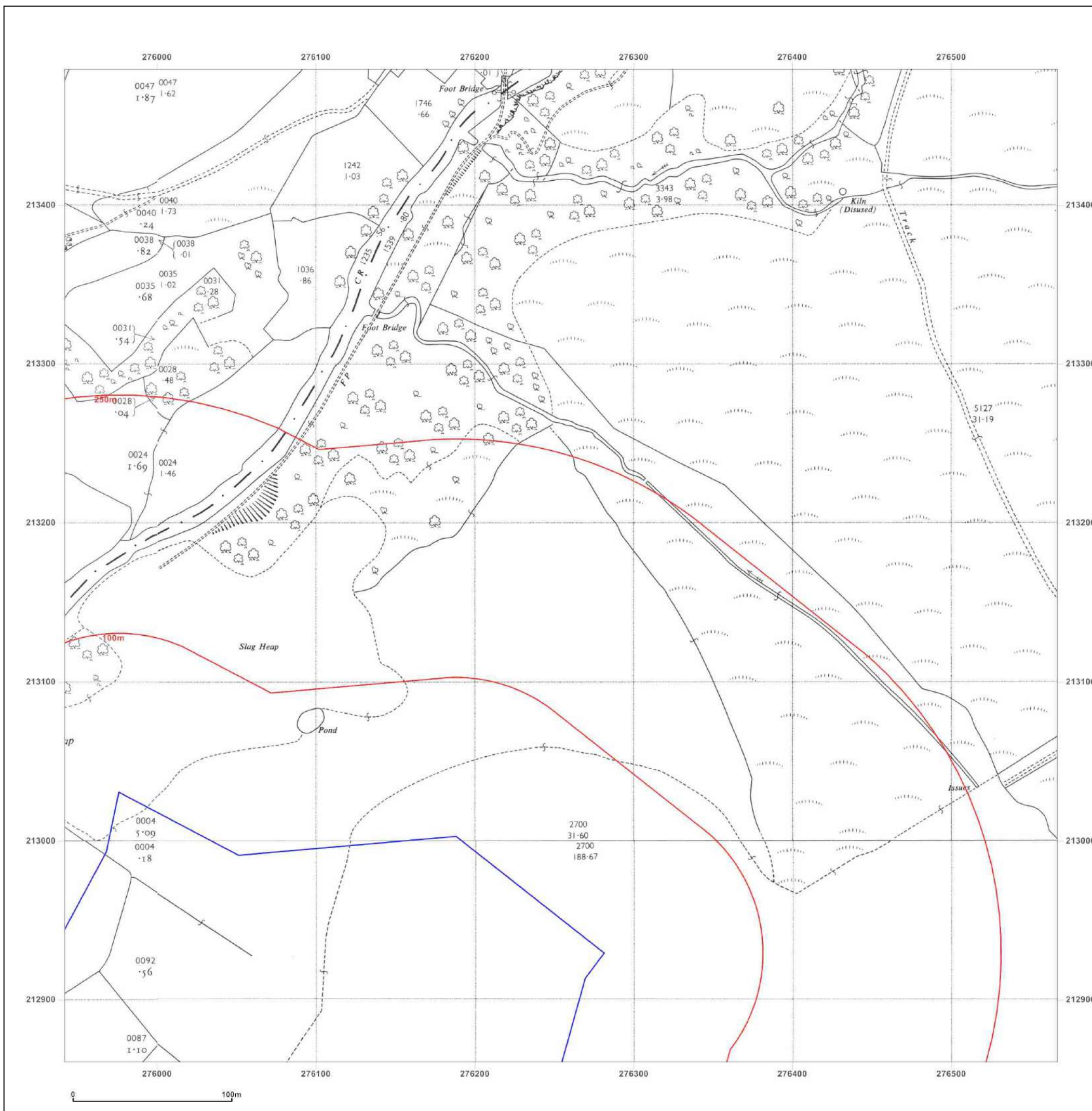


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Production date: 06 June 2019

Map legend available at:
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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_3
Grid Ref: 276254, 213173

Map Name: National Grid

Map date: 1962-1964

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

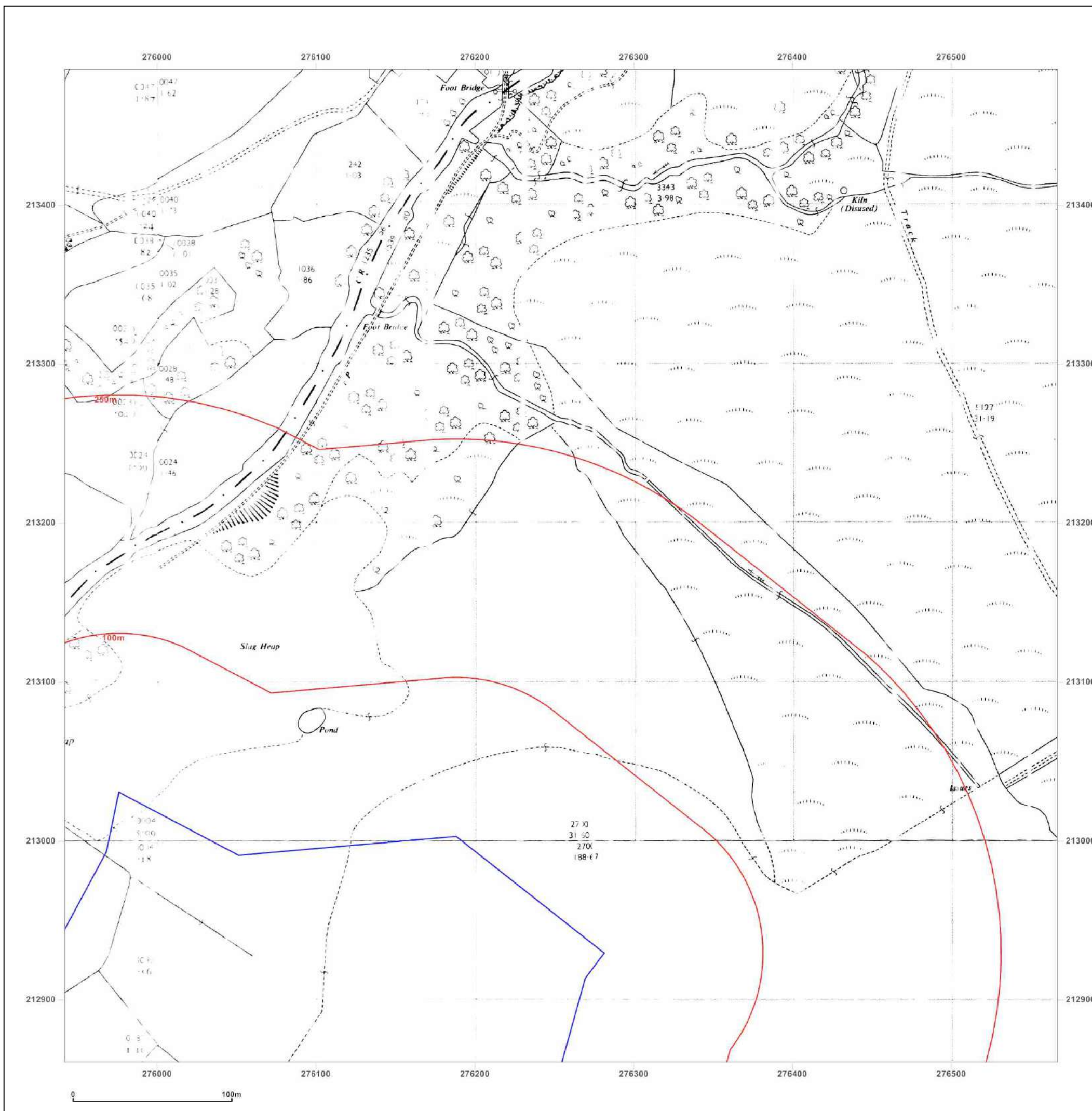


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Production date: 06 June 2019

Map legend available at:
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Site Details:

276031, 212872

Client Ref: Bryn_Henllys_Extension
Report Ref: GS-6079654_LS_2_3
Grid Ref: 276254, 213173

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1993
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A

Surveyed 1993
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A

Surveyed 1993
 Revised N/A
 Edition N/A
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 Levelled N/A

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 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A

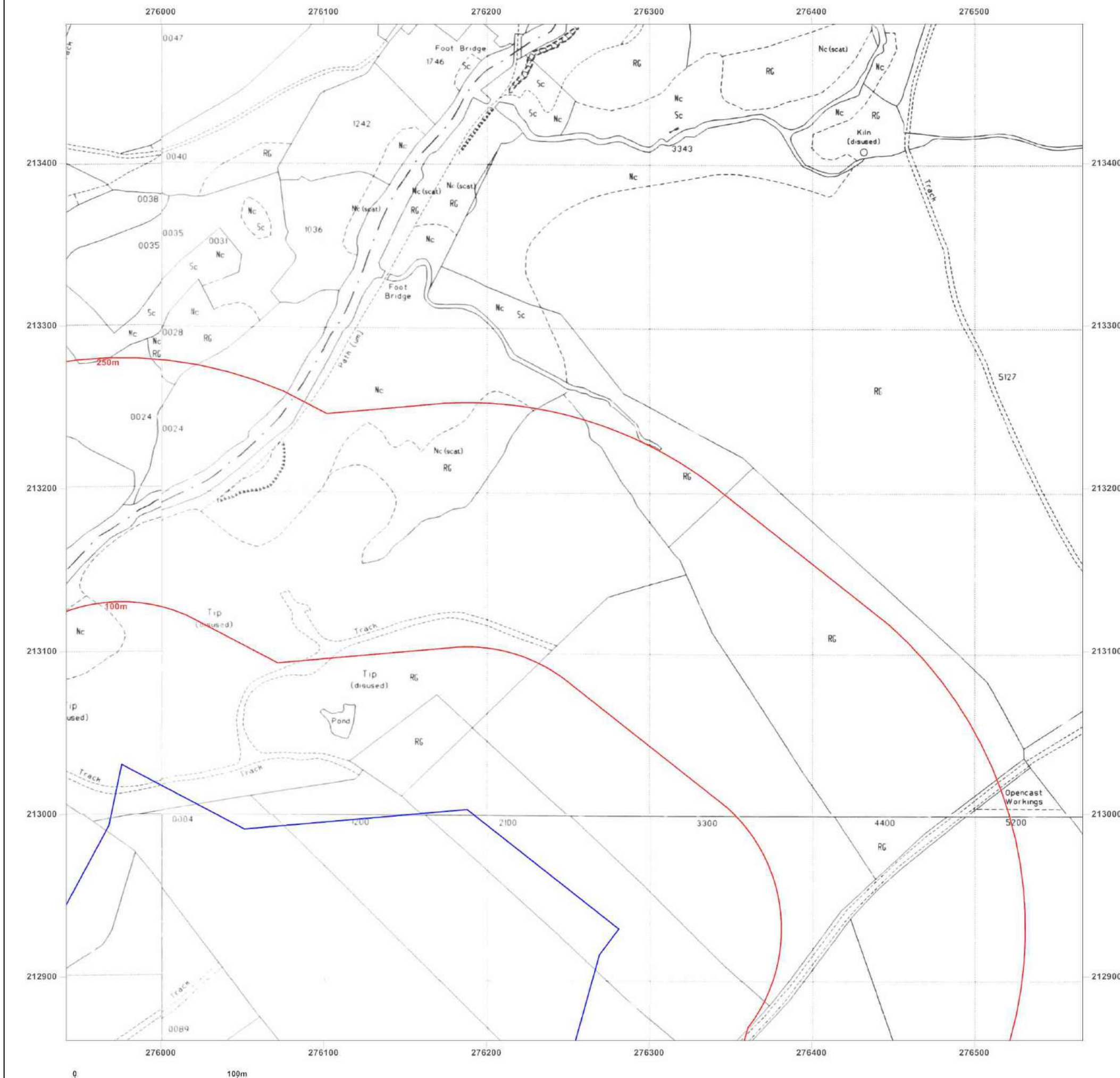


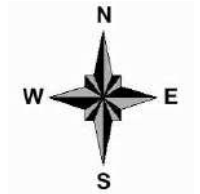
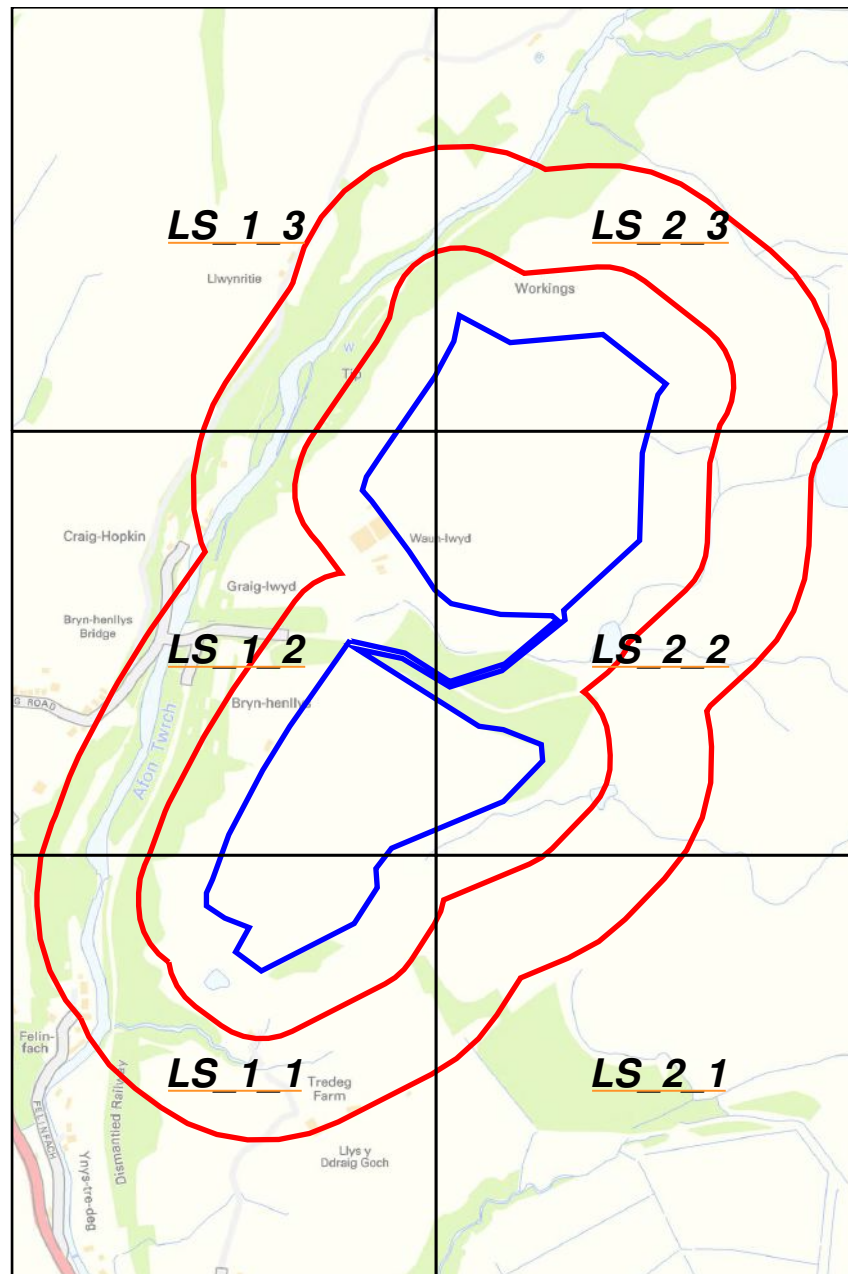
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1:2500 Scale Grid Index

APPENDIX 10.7 EXPLOSIVE ORDNANCE ASSESSMENT


Hallett, Bethan

From: Sven Leman <sven.leman@zetica.com>
Sent: 12 June 2019 16:48
To: Hallett, Bethan
Cc: Research
Subject: RE: UXO Preliminary Report

Follow Up Flag: Follow up
Flag Status: Completed

Afternoon Bethan

Please find the PDSA below as requested. Any further queries, don't hesitate to contact us.

	
Pre-Desk Study Assessment	
Site:	Bryn Henllys Extension, Cwm-Twrch Uchaf, Wales
Client:	Wardell Armstrong LLP
Contact:	Bethan Hallett
Date:	12 th June 2019
Pre-WWI Military Activity on or Affecting the Site	None identified.
WWI Military Activity on or Affecting the Site	None identified.
WWI Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: ■ Transport infrastructure and public utilities.
WWI Bombing	None identified on the Site.
Interwar Military Activity on or Affecting the Site	None identified.
WWII Military Activity on or Affecting the Site	None identified.
WWII Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: ■ Transport infrastructure and public utilities.
WWII Bombing Decoys (within 5km of Site)	None.
WWII Bombing	During WWII the Site was located in the Rural District (RD) of Ystradgynlais, which officially recorded 6No. High Explosive (HE) bombs with a bombing density of 0.3 bombs per 405 hectares (ha). No readily available records have been found to indicate that the Site was bombed.
Post-WWII Military Activity on or Affecting the Site	None identified.

Recommendation	A detailed desk study, whilst always prudent, is not considered essential in this instance.
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This summary is based on a cursory review of readily available records. Caution is advised if you plan to action work based on this summary.

It should be noted that where a potentially significant source of UXO hazard has been identified on the Site, the requirement for a detailed desk study and risk assessment has been confirmed and no further research will be undertaken at this stage. It is possible that further in-depth research as part of a detailed UXO desk study and risk assessment may identify other potential sources of UXO hazard on the Site.

Kind regards

Sven

Dr Sven Leman

Risk Assessor

Zetica Limited



T. 01993 886 682 | E. sven.leman@zetica.com | W. www.zeticauxo.com | T. [@ZeticaUXO](https://twitter.com/ZeticaUXO)

From: Sven Leman

Sent: 06 June 2019 15:12

To: Hallett, Bethan

Cc: Research

Subject: RE: UXO Preliminary Report

Afternoon Bethan

That's not a problem. We'll get a PDSA completed for you as quickly as possible.

Kind regards

Sven

Dr Sven Leman

Risk Assessor

Zetica Limited



T. 01993 886 682 | E. sven.leman@zetica.com | W. www.zeticauxo.com | T. [@ZeticaUXO](https://twitter.com/ZeticaUXO)

From: Hallett, Bethan [mailto:bhallett@wardell-armstrong.com]
Sent: 06 June 2019 15:10
To: Sven Leman
Cc: Research
Subject: UXO Preliminary Report

Hello Sven,

Could I please request a preliminary UXO report for the following site:

Bryn Henllys Extension, Cwm-Twrch Uchaf, SA9 2UX.

The approximate grid reference for the site is 275917, 212511. Please find a screenshot of the site boundary attached.

Could you please also provide a cost if a detailed desk study is required?

Thank you.

Kind regards,

Bethan Hallett | Engineering Geologist
Wardell Armstrong LLP
Tudor House, 16 Cathedral Road, Cardiff, CF11 9LJ
t: 029 2072 9191 m:



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FIGURE 10.1 SITE LOCATION PLAN

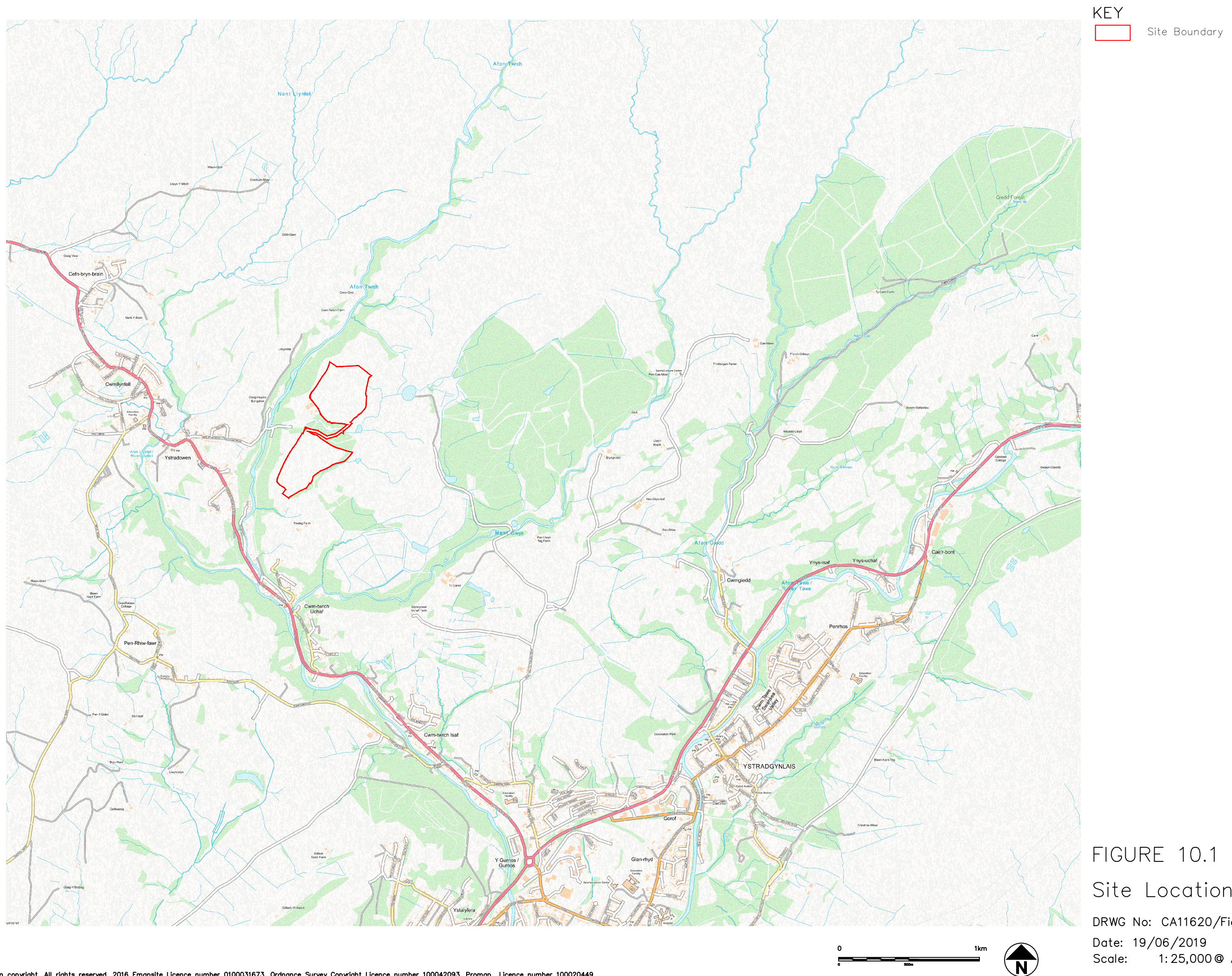
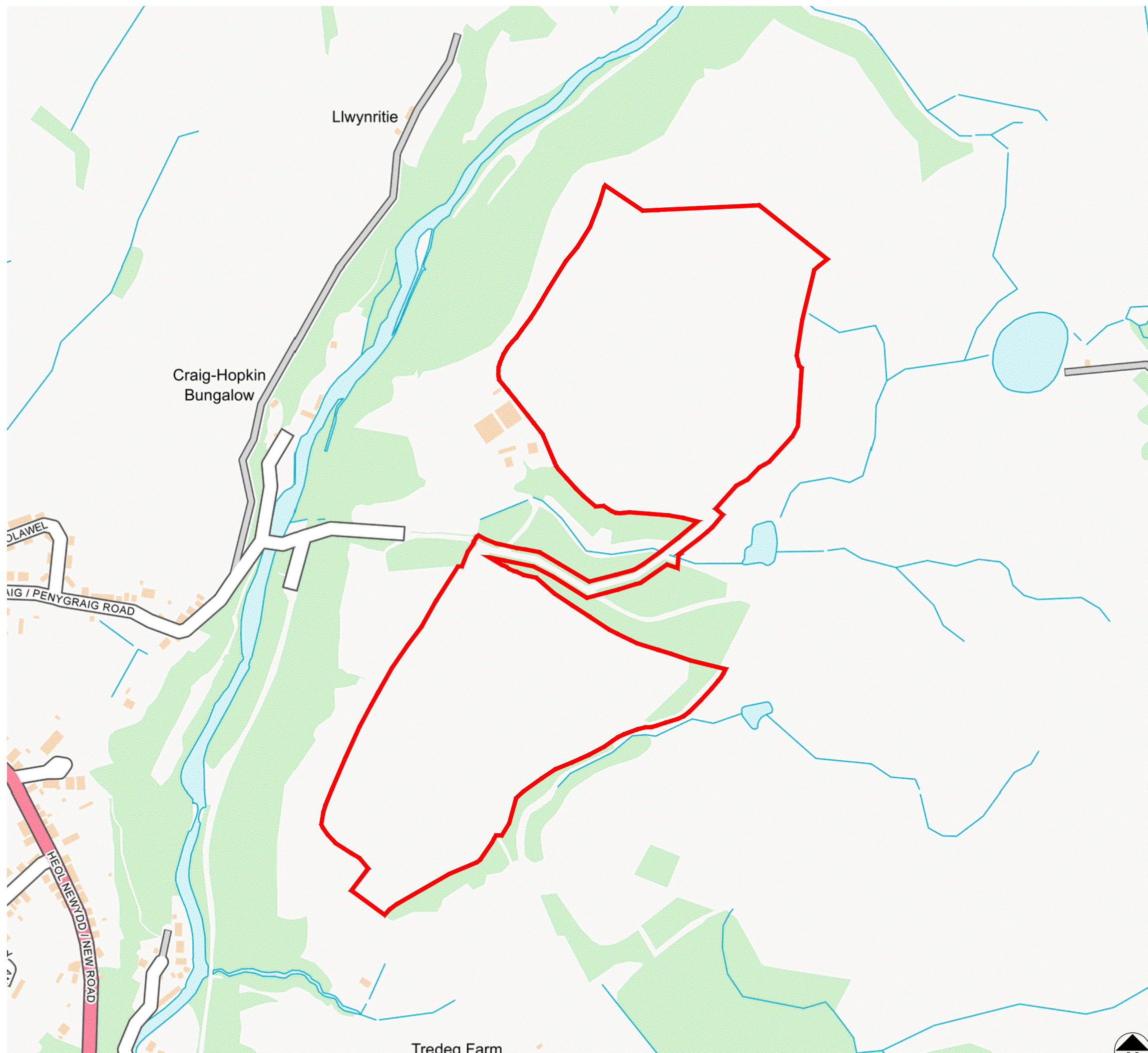


FIGURE 10.1
Site Location Plan

DRWG No: CA11620/Figure 10.1 REV:
Date: 19/06/2019
Scale: 1:25,000 @ A3

FIGURE 10.2 SITE LOCATION PLAN



KEY
Site Boundary

FIGURE 10.2
Site Location Plan

DRWG No: CA11620/Figure 10.2 REV:
Date: 27/06/2019
Scale: 1:5,000 @ A3