

FORMER WERNOS WASHERY

PENYBANC ROAD, TYCROES, AMMANFORD,

CARMARTHENSHIRE,

Coal Mining Hazard Risk Assessment (Western Area)

Report No. G40001.0033

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0. FOREWORD

The recommendations made and opinions expressed in the report are based upon study of Ordnance Survey sheets, geological maps both current and past, where available, and referenced archive mine plans.

Where other plan sources, borehole records from adjacent sites and published data are also considered, these are specifically referred to in the text.

We regret that no responsibility can be held for conditions that have not been revealed by the plan sources referred to. Whilst the report may suggest the likely configuration of strata below the site, this is only indicative and no liability can be accepted for its accuracy.

1. INTRODUCTION

Upon the instruction of the Client, Intertrust International Management Ltd, Quantum Geotechnical have been commissioned to undertake a desk study based site specific Coal Mining Hazard Risk Assessment to aid decision making in the proposed development of land partially occupied by the former Wernos Washery, Tycroes, near Ammanford.

The overall site was the subject of a Geoenvironmental, Geotechnical & Mining Desk Study Report prepared by Quantum Geotechnical in 2008 (Report Ref: *Proposed Development at The Former Wernos Washery Tycroes, Ammanford* - Geoenvironmental, Geotechnical & Mining Desk Study Report, Report No. P081177 May 2008) which should be read in conjunction with this current Report.

This Report only discusses the western half of the Washery site as defined in the earlier report. Further stages of reporting will be necessary to discuss the prevailing ground conditions, specific mining hazard mitigations measures and site infrastructure, as well as the overall situation on the eastern part of the site.

The area of the site which this Report covers is highlighted in Figure 1 included in Appendix I of this Report.

This Report summarises the findings of the earlier desk based searches of archival data together with a discussion of the with respect to historical mining. Additional mine plan sources have been accessed in order to delineate mine hazard zones over the site, as regards mine entries, shallow mine workings and former opencast workings, to provide a site hazard plan.

The scope of this Report does not extend to the wider issues of actual ground conditions, site infrastructure, drainage or any potential environmental/contamination issues.

General notes on the techniques employed by Quantum Geotechnical are described in the Foreword together with the limitations inherent in this type of work.

2. THE SITE

2.1. Overview of Site

The site under review exists as an irregularly shaped, undulating parcel of land. Located midway between Tycroes and the town of Ammanford, the site comprises numerous elevated adjoining fields defined by hedgerows, partially used as pastureland with areas of woodland to the south-eastern and north-eastern parts of the site.

The general aspect is shown on the aerial photograph presented below (not to scale).



The approximate National Grid Reference of the site centre is $261250E$, $211000N$ with a nearby postcode of SA18 3GA.

2.2. Site History

A summary of the site history with specific reference to its mining history is presented below. A set of the available 1:2,500 scale Ordnance Survey plans from which this narrative is abstracted are presented in Appendix II.

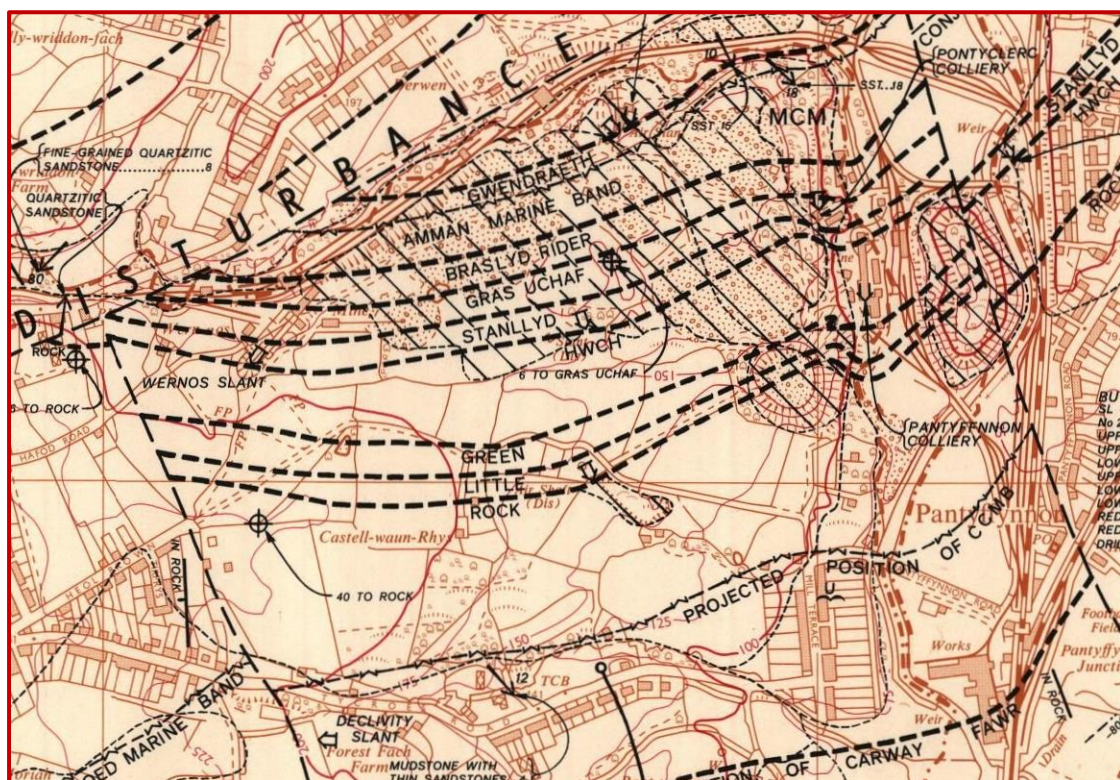
<u>Map Edition</u>	<u>Observations</u>
1880	The 1 st Edition Ordnance Survey mapping of the site area details little by the way of mining activity. A single <i>Coal Pit</i> is plotted in the central-western portion of the site (at around the position of Coal Authority Mine Entry 261210-002) and further <i>Old Coal Pit</i> toward the central-eastern fringe of the study site (at around the position of Coal Authority Mine Entry 261210-004). An <i>Old Clay Pit</i> is detailed in the northern part of the site. Further mine features are located beyond the boundary of the study site.
1906	The 2 nd Edition OS mapping highlights the two features contained on the earlier edition. Several other mining related features are detailed, with potentially three <i>Old Shafts (Coal)</i> in the central-north-eastern part of the site (at around the position of Coal Authority Mine Entries 261210-058/059/060). The <i>Wernos Colliery</i> is mapped in the northern part of the site, close to the <i>Clay Pit</i> previously mentioned. The colliery is distinguished by several rail lines and spoil tips and a <i>Slant</i> (tunnel entrance, or adit) suggesting underground tracks towards the south-west (at around the position of Coal Authority Mine Entry 261210-128).
1918	By the 3 rd Edition OS the only mining activity detailed by the mapping is the old shaft located in the central-western are of the site and the <i>Slant</i> of the <i>Wernos Colliery</i> . The footprint of the colliery has expanded with more rail lines and soil, but no other significant features.
1960	By the 1960 edition survey, only the mine entry associated with the <i>Wernos Colliery</i> remains mapped. The adit entrance is farther south-west than on previous survey, indicating that the mine has developed somewhat with probably twin rails at this juncture, compared to a single track previously (at around the position of Coal Authority Mine Entry 261210-129). The associated soil heaps have extended significantly by this time, but not onto the study site.
1976	By the 1976 edition all mining related features in the study site are no longer detailed except for the cutting at the <i>Wernos Colliery</i> slant. The rails and mine buildings are not present.
1994-1997	The most recent mapping at this larger scale shows no mining related features, historical, opencast or otherwise.

In order to provide a more complete commentary on the site history between the editions reviewed above, the smaller scale maps of the area have been consulted for completeness (scales of 1:10,560 & 1:10,000).

Map Edition	Observations
1979	The 1:10,000 scale map of 1979 shows the extent of spoil heaps associated with the former Wernos Colliery to extend over a large area to the north of the study site, but not encroach on it. No mining features are detailed.
1988-1992	The next edition map covering surveys between 1988 and 1992 show the majority of the eastern part of this study site to be formed of spoil type feature. The area to the north previously detailed as spoil has been restored. No indication of mining, opencast or otherwise, is detailed.
2002	The more recent edition map at 1:10,000 scale shows the site as it is at present with current land uses and field boundaries shown.

2.3. Published Geology

The British Geological Survey sheet SN61SW (at 6 inch to 1 mile scale) shows the geological setting of the site. Structurally the site is shown to lie immediately south of the southwest–northwest trending *Pontyclerc Disturbance*; a large structural fault down-throwing to the north. A general dip of the underlying solid geology across the site is indicated to range from 10 – 18° in a south-easterly direction. An extract of the Geological map is presented below (not to scale).



The site is located within an area which has clearly undergone extensive coal mining activity. There are several mine adits, pits and shafts located within the larger area related to numerous coal crops and

conjectured coal seams.

Within the site under review, as defined in the plan presented in Appendix I, there are a total of six identified coal seams on the geological map crossing the site in a west-east direction. The dashed line indicates the seam position is conjectural rather than proved. From south to north, these seams rank as; Rock, Little, Green, Hwch, Stanllyd and Gras Uchaf coal seams. Further seams that outcrop north of the site (the Braslyd Rider, and the Gwendraeth seams) will also underlie the site.

Within the site under review there are a total of four mine adits or shafts detailed on the geological map. Only one of the four entries are named, the *Wernos Slant*.

3. MINING HISTORY

3.1. Coal Authority Mining Report

A Coal Authority Mining Report (ref: 00030310-08, April 2008) was obtained by Quantum as part of the desk study in 2008 and is presented in Appendix III for completeness.

The report which covers the whole Wernos Washery site states that the site is in the likely zone of influence from workings in ten seams of coal at shallow to 300m depth, last worked in 1966. The site is also in the likely zone of influence from workings of a single fireclay seam at shallow to 50m depth, last worked in 1926.

The site is not within the likely zone of influence of any present underground coal workings, or indeed within an area where the Coal Authority is determining whether to grant a licence for coal extraction by underground methods. However, it does state that reserves of coal exist in the local area which could be worked at some time in the future.

In addition, the property lies within an area where coal has been worked by opencast means. There are no present or pending applications to extract coal by opencast method within 200m and 800m respectively of the site. There are no damage claims or remedial actions required relating to mining subsidence, mine gas emissions or any other hazards relating to coal extraction onsite.

The Report also states that there are 31 coal mine entries within, or within 20m of the overall site boundaries. Twelve are denoted as having been either partially or wholly excavated during past opencast mining, with the remainder having no treatment details on record. A mine entry plan is appended to the Coal Authority Report and locates each of the 31 entries.

3.2. Coal Authority Consultants Report

To supplement the initial Coal Authority Mining Report from 2008, an updated enhanced Coal Authority Consultants Report has been procured for the western area of the former Washery site, to which this current review relates. This is presented in full in Appendix IV.

This enhanced report has records of 23 separate coal seams worked beneath the site between 1867 and 1958. Of these, six of the records relate to what are considered to be “shallow” workings i.e. that are within 30m of the surface and therefore of potential risk. These are recorded as being within three different seams; the *Lower Four Foot*, *Four Foot* and *Caerau* seams. Relating these seam names to those seams named on the geological mapping is not clear, with further discussion with the Coal Authority providing little clarity on this.

Notwithstanding this, it is evident that there are shallow seams recorded as being worked beneath parts of the site. The seams at shallow depth are up to 2.1m thick with seam dips (and therefore likely workings dips) of up to 32°, generally towards the south west.

The Consultants Report concludes that there are unlikely to be any *unrecorded* workings beneath the site.

The Consultants Report indicates that there are fourteen recorded mine entries within or close to the study area. No additional records are presented on the site that were not previously identified.

The nine mine entries identified that lie within the review site are summarised below, with comments included by the Coal Authority:

Reference	Type	Grid Reference		Comments
261211-002	Shaft	261217E	210945N	"This mine entry may have been partially or wholly excavated during past opencast mining"
261211-004	Shaft	261409E	210959N	"This mine entry may have been partially or wholly excavated during past opencast mining"
261210-007	Shaft	261110E	210922N	
261210-008	Shaft	261111E	210856N	
261211-058	Shaft	261417E	211059N	"This mine entry may have been partially or wholly excavated during past opencast mining"
261211-059	Shaft	261472E	211048N	"This mine entry may have been partially or wholly excavated during past opencast mining"
261211-060	Shaft	261473E	211039N	"This mine entry may have been partially or wholly excavated during past opencast mining"
261211-128	Adit	261243E	211200N	
261211-129	Adit	261206E	211161N	

The Report also includes reference to mine roadways that may be present beneath the site, associated with underground workings or mine entries. No details of the location of these are presented.

The plan accompanying the Report summarises the seam outcrop positions on the site, the mine entry positions and the extent of opencast mining.

3.3. Mining History

The mining history of the area that can be inferred from historical mapping, geological map and mining records is that extensive coal workings have been undertaken beneath, and on, the site.

In order to provide better particulars of the extent, and hence risk, from the historical mining affecting the site, additional plans have been sourced from The Coal Authority.

3.3.1. *Shallow Mine workings*

Recorded shallow mineworkings are reported to be present beneath the overall western area site. The Coal Authority state within their Consultants Report that un-recorded workings are not likely to be present.

From consultation with The Coal Authority a total of 64 abandonment plans exist for the site area that may or may not show the extent of recorded workings. Considering the effects of the opencast operations within the site boundary, obtaining all these mine plans was not considered cost effective.

The information contained in the Coal Authority Consultants Report confirms that three particular seams are worked at 'shallow' depth, less than 30m depth, the *Lower Four Foot*, *Four Foot* and *Caerau* seams. We have not been able to ascertain with confidence the correlation between these seam names and those detailed on the Geological Map or mine plans obtained.

Notwithstanding this, the Coal Authority interactive mapping portal (<http://mapapps2.bgs.ac.uk/coalauthority/home.html>) shows the extent of known shallow mine workings as depicted in the shading detailed in the screenshot presented below (not to scale):



This infers that a swathe of the southern portion of the Western Area of the site that is under review would be affected by shallow workings. However, as discussed in Section 3.3.3. the effect of the subsequent opencast working has reduced the risk to large parts of the site from shallow mineworkings.

3.3.2. *Mine Entries*

The Coal Authority record nine mine entries on their database as being within the overall site boundary.

From our additional discussions with The Coal Authority, the records from which these plots are taken are as follows:

Reference	Type	Provenance
261211-002	Shaft	Ordnance Survey Carmarthenshire Sheet 48.11 1870/1900/1920 (1:2,500)
261211-004	Shaft	Ordnance Survey Carmarthenshire Sheet 48.11 1870/1900 (1:2,500)
261210-007	Shaft	Ab. Plan 'P449' – Not available to Coal Authority
261210-008	Shaft	Ab. Plan 'PD100' – Not available to Coal Authority
261211-058	Shaft	Ordnance Survey Carmarthenshire Sheet 48.11 1900 (1:2,500)
261211-059	Shaft	Ordnance Survey Carmarthenshire Sheet 48.11 1900 (1:2,500)
261211-060	Shaft	Ordnance Survey Carmarthenshire Sheet 48.11 1900 (1:2,500)
261211-128	Adit	Ab. Plan SWA4044 & Ordnance Survey 1962 (1:2,500)
261211-129	Adit	Ab. Plan SWA4044 & Ordnance Survey 1962 (1:2,500)

Those mine entries recorded on Ordnance Survey map editions are considered to be true representation of the position of these features and as such can be considered to have been present at the time of the survey. The names of the shafts are not given on the Ordnance Survey maps consulted (see Appendix II).

The two adits referenced '128' and '129' relate to the *Wernos Colliery* which was only closed in 1965. But both adit positions refer to the same mine entrance, with the initial adit being driven from the north-easterly position (Entry '128') and later obliterated by the development of the colliery by the second entry ('129').

The two shafts referenced as '007' and '008' on the western fringe of the site are only recorded on the Coal Authority database, having been plotted from loaned plans at some time in the past and the information transferred from the two mine plans to the Coal Authority's master plan. The location of these two plans have to date not been ascertained despite investigations with the Carmarthenshire and Glamorgan Archive services. The provenance of these two particular shafts cannot be confirmed.

3.3.3. Opencast Workings

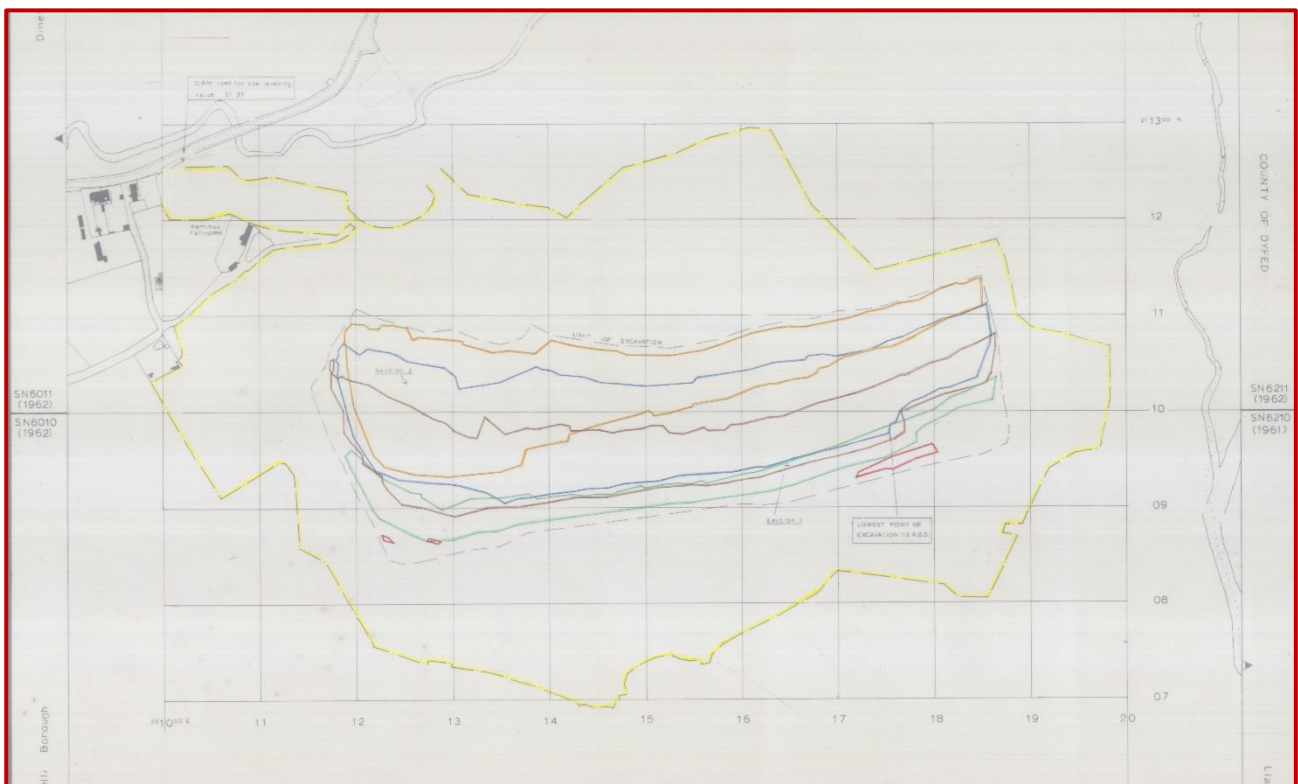
Opencast workings are known to have taken place on the overall site. The extent of opencast operations are also shown on the Coal Authority interactive mapping portal, as presented below by grey shading (not to scale):



This area matches that on the plan accompanying the Coal Authority's Consultant Report (Appendix IV).

This encompasses much of the current study area. However, further enquiries with The Coal Authority have revealed mine records that show the actual extent of the opencast excavations, which are far less than indicated above. The Coal Authority Reports and portal show the geographical limit of the opencast mine site; not the limit of excavation.

Abandonment Plan SWR2771 (presented in full in Appendix V and as extract below – not to scale) shows the 'Limit of Excavation' of the opencast workings.



The significance of this information is twofold: This defines the area of the study site that is affected by backfilling and restoration of the ground; and also the seams that were encountered in the opencast and 'worked-out' as part of that operation.

The consequence of these points is that the actual area affected by opencast workings is far reduced than suggested by the Coal Authority Reports (although they do refer to the geographical boundary of the opencast affecting the site); and the second point is that the area suggested to be affected by former shallow workings, as described in Section 3.3.1. have been effectively removed by the excavation of the seams in the opencast area.

4. DISCUSSION

4.1. Ground Conditions

No records have been revealed from our searches of our archive as to the type or condition of any soils on the site. The geological mapping shows Glacial Till (boulder clay) mantling the site, however this mapping pre-dates the opencast operations on the site. As such while Till is likely to be present over the majority of the site, where the opencast working has been reclaimed, the in-situ composition, and therefore characteristics, of these soils cannot be assessed without physical investigation.

4.2. Shallow Mine Workings

The Coal Authority information states that from their records the site has been mined at shallow depth in a series of coal seams across the site.

Three seams are plotted on the geological map as outcropping through the centre of the site (see map extract in Section 2.3), namely the *Green*, *Rock* and *Little* seams. Records exist of these seams having been worked from the nearby *Panttyffynnon Colliery* and as such shallow workings can be expected to be present south of their respective outcrops. Precise depths and positions of any workings have not been determined as part of this study.

The extent to which these workings present a risk to the site is mitigated somewhat by the more recent opencast working of the site, as highlighted in Section 3.3.3. The *Green*, *Rock* and *Little* coal seams were extracted from surface excavations, as were three lower seams in the local sequence (the *Yard*, *Penny Pieces* and *Soap* seams) which are not detailed on the geological map.

Therefore within the limits of the opencast excavations, the coal and associated workings will have been removed, and presumably backfilled to some method or specification. However, beyond the limit of the opencast excavations, there is the risk that shallow mineworkings still exist beneath the site, which do present a residual risk to the development of the site.

The summary hazard plan included in Appendix V highlights these area of risk.

In addition to the seams outcropping through the site, there are several coal seam that outcrop in the north western portion of the site that will also underlie the site at potentially shallow depth. These seams are also known to have been worked in the general area, so cannot be discounted from presenting a residual risk to the site. At the regional dip of the seams in this area, only those seams within and close to the northern boundary of the site will affect the site under review, namely the *Hwch*, *Stanllyd* and possibly *Gras Uchaf*. The areas of risk are also highlighted in the plan included in Appendix V.

4.3. Mine Entries

The Coal Authority Report states that they have records of nine mine entries that could affect the site under review.

From our study of available historical maps and abandonment plans we have found evidence to confirm the presence of seven of these mine entries.

Shaft Ref. 261211-002 position is confirmed by Ordnance Survey mapping;
Shaft Ref. 261211-004 position is confirmed by Ordnance Survey mapping;
Shaft Ref. 261211-058 position is confirmed by Ordnance Survey mapping;
Shaft Ref. 261211-059 position is confirmed by Ordnance Survey mapping;
Shaft Ref. 261211-060 position is confirmed by Ordnance Survey mapping.

These features, owing to their age, will unlikely to be of significant size and hence difficult to pinpoint by investigation. They all however fall within the limit of the opencast excavations and therefore will probably have been revealed in those excavations and the evidence of their position and condition been lost as part of that work. The opencast records obtained as part of this study show no reference to their existence, position or condition.

What can be inferred is that any restoration work will have backfilled these shafts to some degree, but are probably not 'treated' by capping as the Coal Authority report no records of such.

Adit Ref. 261211-128 position is confirmed by Ordnance Survey mapping;
Adit Ref. 261211-129 position is confirmed by Ordnance Survey mapping.

The former of the two adit entrances referenced was the original adit entrance to the Wernos Colliery. This was effectively developed over by subsequent improvement and enlargement of the entrance to the mine. It is concluded that this entrance no longer exists. The second reference entry may still be in evidence on site and present a risk to the immediate area as well as in the zone of the roadway extending south west from the adit entrance. The workings from this mine entry are located farther to the west, off the study site.

The two remaining mine shafts, referenced 261210-007 and 261210-008 are on the very western boundary of the site. The provenance of the position of these two mine shafts has not been confirmed at the time of writing.

4.4. Opencast Workings

The Coal Authority Consultants Report shows a large area of the site to be affected by opencast workings.

Plans obtained show the limit of the actual excavations that formed the opencast workings to cover far less of the site. The plan extract in Section 3.3.3 shows this.

The extent of excavation is interpolated on to the summary plan included in Appendix V.

The level of restoration of this area is not known, but is likely to have been undertaken to a method specification. The condition of these soils for future development would have to be confirmed by investigation.

The mine shafts that have been shown to be located within the area of opencast are likely to have been revealed at that time and backfilled to some level of treatment, although this cannot be confirmed. The risk from these shafts therefore cannot be quantified accurately but any risk will be able to be mitigated by engineering rather than location and treatment.

5. CONCLUSIONS

A mining desk study has been carried out for the western part of the former Wernos Washery site, Tycroes, Ammanford. The area covered by this study is shown on the plan included in Appendix I.

The Coal Authority Consultants Report for the site (Appendix IV) indicates that shallow (less than 30m depth) coal workings underlie the site in three coal seams. We have not been able to correlate the seam names quoted by the Coal Authority with any confidence to those seam names on the geological map.

Our searches have concluded that the *Hwch* and *Stanllyd* seams outcrop in the very north and north western part of the site and may underlie the northern part of the site at relatively shallow depth. A postulated zone of risk is depicted on the summary hazard plan included in Appendix V.

In addition to this the seams worked out as part of the opencast works will underlie the site at shallow depth beyond the limits of those excavations that also may present a risk to the development of the site. A postulated zone of risk from these is presented in Appendix V.

The actual risk to the development of the site from all these seams will need to be confirmed by physical investigation by borehole drilling.

The presence of these seams at potentially shallow depth does not render the site to be at unacceptable risk, but this needs careful consideration to ensure the necessary mitigation measures are incorporated in the scheme design and construction, such as reinforced foundations and possibly ground treatment.

The five mine shafts identified in the Coal Authority Consultants Report for the site, the position of which is confirmed by Ordnance Survey mapping, within the limits of the opencast working are likely to have been destroyed by these works and as such should present a negligible risk to the site.

As part of development of the site, further discussions would have to be conducted with the Coal Authority to confirm this and to ensure that any subsequent searches of these areas show these particular shafts to be of low or no risk.

The restoration works, post-opencast working, should have engineered the soils to an acceptable level and partially treated any remnants of the shafts. The geotechnical characteristics of the areas of backfill/restoration would need confirming prior to development of this area.

The more westerly adit entrance of the former *Wernos Colliery*, located at the north western part of the site, does present a risk to the development of the site, along with the roadway running south-west from the

opening. A walkover survey, to try and pinpoint this, and further investigation would be necessary to define the risk from this feature.

The existence of the two remaining shafts located on the very south western boundary of the site remain unproven. The records of their plotting are no longer held by The Coal Authority and further discussions with the Carmarthenshire and Glamorgan Archive services have proved inconclusive.

At the positions plotted, these shafts may however not present a risk to the development of the site. Investigation to refute their position may be required in the future if development is proposed in this area.

A tentative hazard plan has been postulated interpolating seam outcrops and mine entry positions with a 'sterile' or hazard zone around these that would require further investigation or could remain as undeveloped areas. This is presented in Appendix V.

5.1. Recommendations

From our searches, we have concluded that there is a risk of shallow mine workings existing beneath the site in the areas highlighted in the plan included in Appendix V.

These will need to be investigated by drilling boreholes if development is proposed in these areas.

Similarly once more precise knowledge of the development of the site is known then further assessment of the position of the mine entry of the former Wernos Colliery identified in the north western part of the site will be necessary. This applies also to the two un-verified shafts in the south western area of the site.

The five shafts positioned within the former opencast worked area are considered to present a very low or negligible risk to the site owing to the fact they will have been excavated out as part of the opencast workings. The geotechnical characteristics of the restored ground after opencast working will need to be confirmed.

On a general note, as part of any development of the site, any excavations should be carefully supervised and should any anomalies or areas of soft ground or backfilling be found, we would recommend that the advice of an engineering geologist be sought. Care should be taken to ensure that foundations are placed in natural ground and not in variable fill material unless adequate treatment of the ground has been carried out. We would point out that no laboratory tests nor in-situ tests have been undertaken within the superficial deposits and information regarding its load bearing capacity is therefore not available.

6. REFERENCES

Ordnance Survey Plans :-

- OS Carmarthenshire Sheet 48.11: 1880, 1906, 1918, 1960, 1976 & 1997 at 1:2,500 scale

British Geological Survey :-

- Geological Survey Sheet SN61SW, 1:10,560 (1972)
- <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>
- Memoir of the Geological Survey of England & Wales. 'The Geology of the South Wales Coalfield Part VII. The Country Around Ammanford', 1907.

Coal Authority :-

- Coal Authority Mining Report No. 00030310, 22nd April, 2008.
- Coal Authority Consultants Coal Mining Report No. 51001689140001, 15th November, 2017.
- <http://mapapps2.bgs.ac.uk/coalauthority/home.html>
- Abandonment Plans:
 - SWR2771 *Wernos Colliery Opencast* (1983)
 - SWA4044 *Wernos Colliery – Little Seam* (undated)
 - SWR669 *Wernos Colliery – Rock Seam* (undated)
 - 14485 *Wernos Colliery – Little Vein* (1943)

APPENDIX I – SITE PLAN



Site Details:
 Wernos Washery, Penybanoc
 Road, Ammanford,
 Carmarthenshire

Client Ref: P081177
Report Ref: HMD-213-82656-Left
Grid Ref: 261024, 211072

Map Name: National Grid
Map date: 1994-1997
Scale: 1:1,250
Printed at: 1:5,000

Surveyed ? Revised ? Edition NA Copyright NA Levelled NA	Surveyed 1997 Revised ? Edition NA Copyright NA Levelled NA
	Surveyed ? Revised ? Edition NA Copyright NA Levelled NA

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Production date: 31 March 2008
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APPENDIX II – HISTORICAL ORDNANCE SURVEY SHEETS




Site Details:
 Wernos Washery, Penybanoc
 Road, Ammanford,
 Carmarthenshire

Client Ref: P081177
Report Ref: HMD-213-82656-Left
Grid Ref: 261024, 211072

Map Name: National Grid
Map date: 1994-1997
Scale: 1:1,250
Printed at: 1:5,000

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Production date: 31 March 2008
Page 1

Site Details:

Wernos Washery, Penyban
Road, Ammanford,
Carmarthenshire

Client Ref: P081177
Report Ref: HMD-213-82656-Left
Grid Ref: 261024, 211072

Map Name: National Grid

Map date: 1976

Scale: 1:2,500

Printed at: 1:5,000

Surveyed 1976
Revised 1976
Edition NA
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Levelled 1956

Surveyed 1976
Revised 1976
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Page 2






Site Details:
 Wernos Washery, Penybanac
 Road, Ammanford,
 Carmarthenshire

Client Ref: P081177
Report Ref: HMD-213-82656-Left
Grid Ref: 261024, 211072

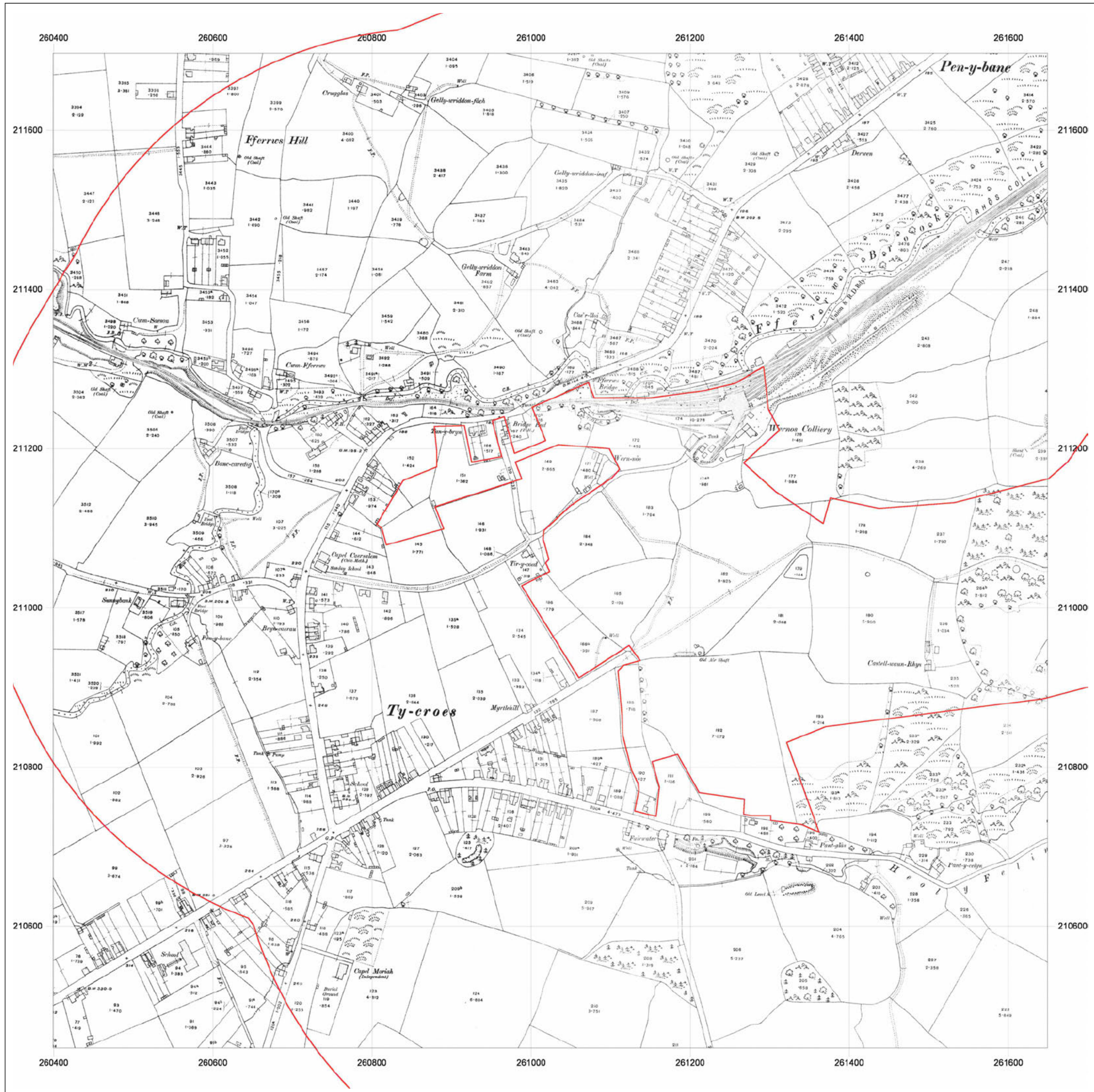
Map Name: National Grid
Map date: 1960
Scale: 1:2,500
Printed at: 1:5,000

Surveyed 1960
 Revised 1960
 Edition NA
 Copyright 1962
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Surveyed 1960
 Revised 1960
 Edition NA
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 Levelled 1956

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Site Details:

Wernos Washery, Penybanc
Road, Ammanford,
Carmarthenshire

Client Ref: P081177
Report Ref: HMD-213-82656-Left
Grid Ref: 261024, 211072

Map Name: County Series

Map date: 1918

Scale: 1:2,500

Printed at: 1:5,000

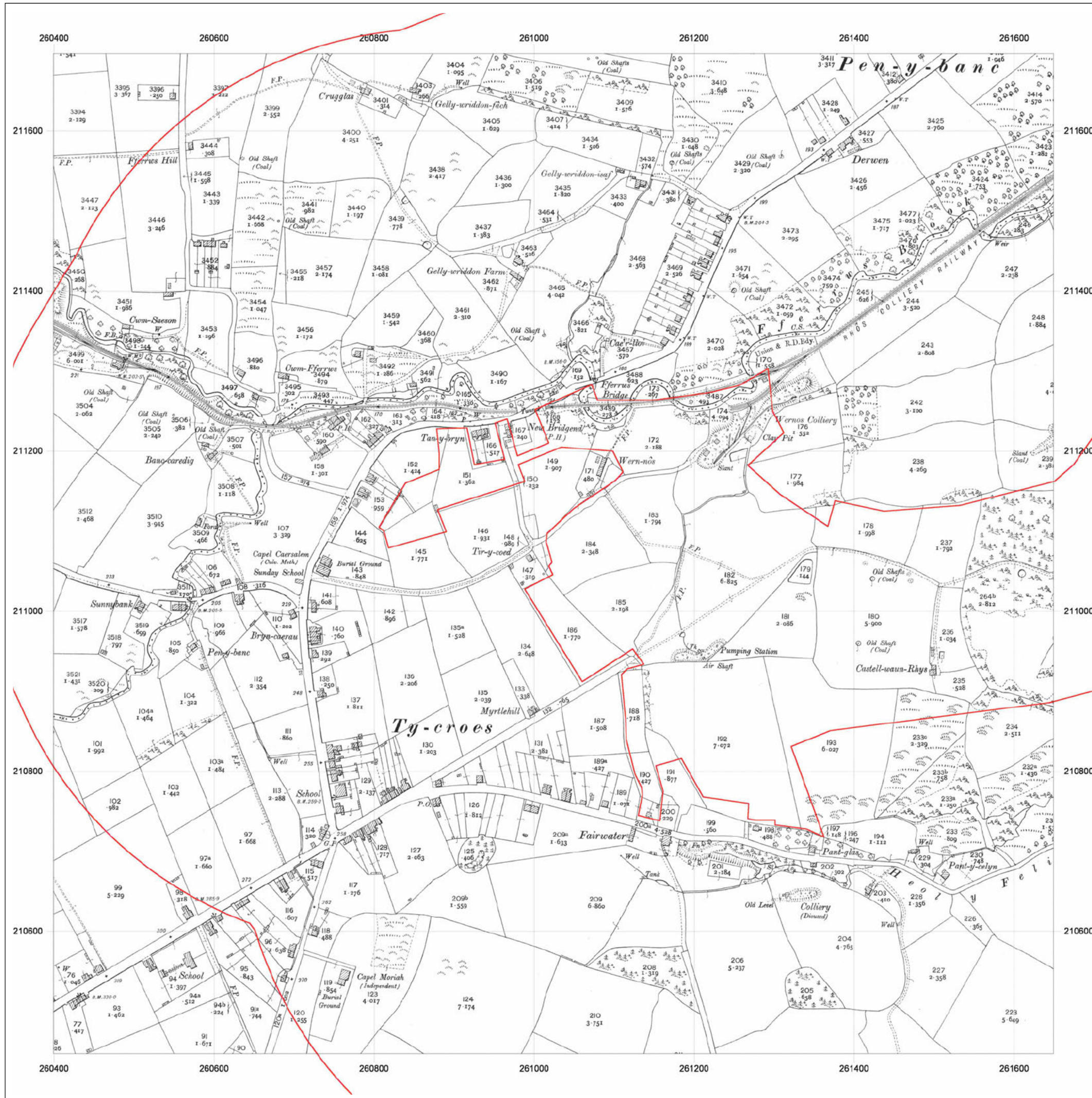
Surveyed 1918
Revised 1918
Edition NA
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Site Details:
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Road, Ammanford,
Carmarthenshire

Client Ref: P081177
Report Ref: HMD-213-82656-Left
Grid Ref: 261024, 211072

Map Name: County Series
Map date: 1906
Scale: 1:2,500
Printed at: 1:5,000

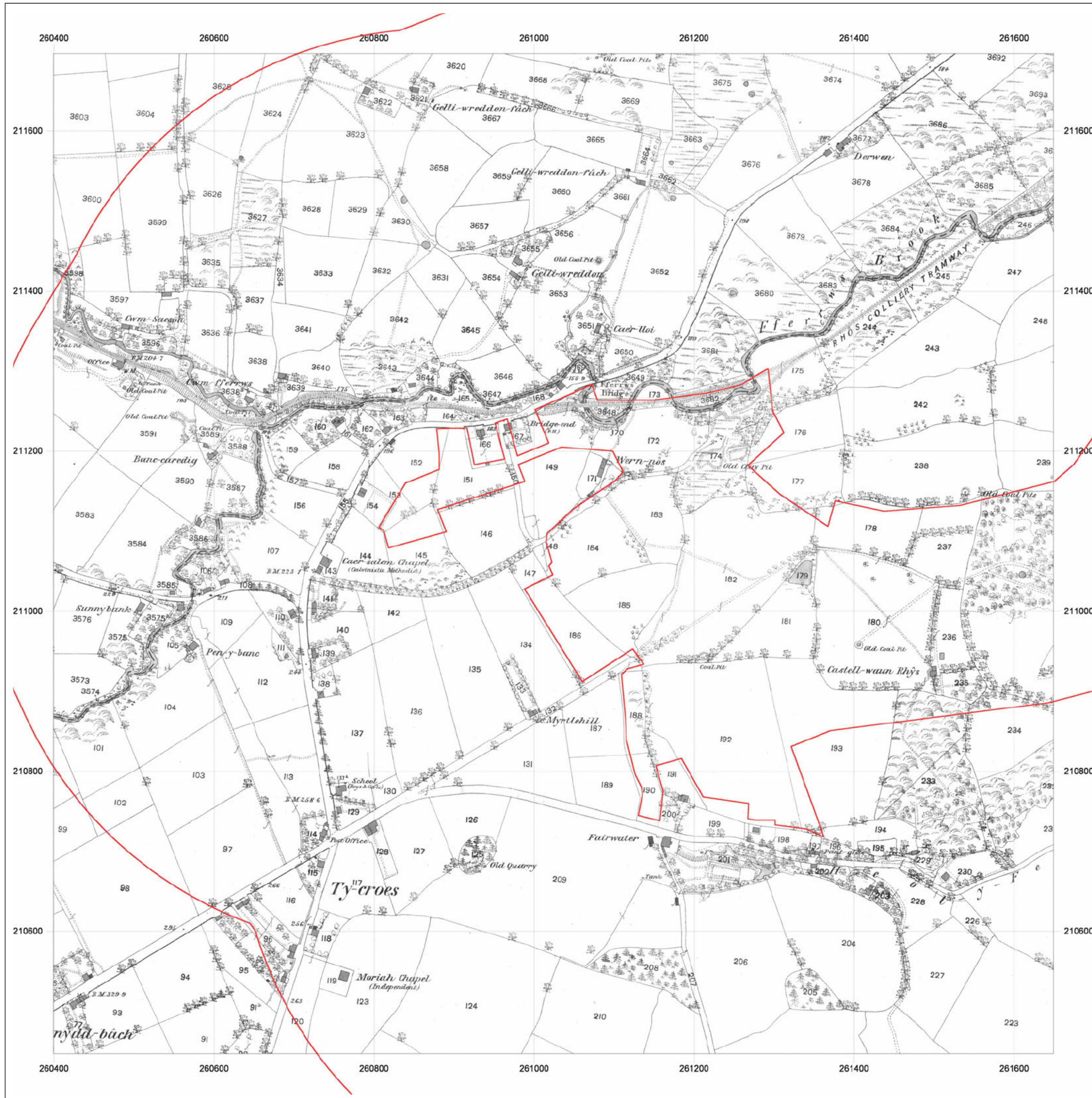
Surveyed 1906
Revised 1906
Edition NA
Copyright NA
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Production date: 31 March 2008
Page 5




Site Details:
 Wernos Washery, Penybanc
 Road, Ammanford,
 Carmarthenshire

Client Ref: P081177
Report Ref: HMD-213-82656-Left
Grid Ref: 261024, 211072

Map Name: County Series
Map date: 1880
Scale: 1:2,500
Printed at: 1:5,000

Surveyed 1880
 Revised 1880
 Edition NA
 Copyright NA
 Levelled NA

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Production date: 31 March 2008
Page 6

APPENDIX III – COAL AUTHORITY MINING REPORT (WASHERY SITE, 2008)

Issued by:

The Coal Authority, Mining Reports Office, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire NG18 4RG
 On-Line Service: www.coalminingreports.co.uk - Phone: 0845 762 6848 - DX 716176 MANSFIELD 5

JOHN STARK,
 QUANTUM (GB) LTD,
 BYNEA HOUSE,
 HEOL Y BWLCH,
 BYNEA,
 LLANELLI,
 CARMARTHENSHIRE,
 SA14 9SU

Person dealing with this matter:	Paul Heap
Our reference:	00030310-08
Your reference:	P081177
Electronic Ref:	EME_00009298670001_005
RRUID:	005.00009298670001
Date of your enquiry:	09 April 2008
Date we received your enquiry:	09 April 2008
Date of issue:	22 April 2008

This report is for the property described in the address below and the attached plan.

Coal and Brine Report

Wernos Washery, Penybanc, Ammanford, Carmarthenshire

This report is based on and limited to the records held by, the Coal Authority, and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Coal mining	Yes
Brine extraction	No

Information from the Coal Authority

Underground Coal Mining

Past

The property is in the likely zone of influence from workings in 10 seams of coal at shallow to 300m depth, and last worked in 1966.

The property is in the likely zone of influence from workings in 1 seam of fireclay at shallow to 50m depth, and last worked in 1926.

Present

The property is not in the likely zone of influence of any present underground coal workings.

Future

The property is not in an area for which the Coal Authority is determining whether to grant a licence to remove coal using underground methods.

The property is not in an area for which a licence has been granted to remove coal using underground methods.

The property is not in an area that is likely to be affected at the surface from any planned future workings.

However reserves of coal exist in the local area which could be worked at some time in the future.

No notice of the risk of the land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

Mine entries

Within, or within 20 metres of, the boundary of the property there are 31 mine entries, the approximate positions of which are shown on the attached plan.

Coal Authority records disclose the following information:

261211-025. This mine entry may have been partially or wholly excavated during past opencast mining

261211-053. This mine entry may have been partially or wholly excavated during past opencast mining

261210-007. No treatment details.

261211-060. This mine entry may have been partially or wholly excavated during past opencast mining

261211-055. No treatment details.

261210-008. No treatment details.

261210-006. No treatment details.

261211-050. No treatment details.

261211-090. No treatment details.

261211-048. No treatment details.

261211-054. No treatment details.

261211-027. No treatment details.

261211-026. This mine entry may have been partially or wholly excavated during past opencast mining

261210-002. This mine entry may have been partially or wholly excavated during past opencast mining

261211-091. No treatment details.

261211-058. This mine entry may have been partially or wholly excavated during past opencast mining

261211-094. No treatment details.

261211-128. No treatment details.

261211-061. No treatment details.

260211-039. No treatment details.

261211-059. This mine entry may have been partially or wholly excavated during past opencast mining

261211-129. No treatment details.

261211-052. This mine entry may have been partially or wholly excavated during past opencast mining

261211-096. This mine entry may have been partially or wholly excavated during past opencast mining

261211-127. No treatment details.

261211-095. This mine entry may have been partially or wholly excavated during past opencast mining

261211-035. No treatment details.

261211-032. No treatment details.

261211-051. No treatment details.

261210-010. This mine entry may have been partially or wholly excavated during past opencast mining

261210-004. This mine entry may have been partially or wholly excavated during past opencast mining

Records may be incomplete. Consequently, there may exist in the local area mine entries of which the Coal Authority has no knowledge.

Coal-mining geology

At the surface, there are no known faults or other lines of weakness due to coal mining that have made the property unstable.

Opencast Coal Mining

Past

The property is within the boundary of an opencast site from which coal has been removed by opencast methods.

Present

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

Future

The property is not within 800 metres of the boundary of an opencast site for which the Coal Authority is determining whether to grant a licence to remove coal by opencast methods.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

Coal-mining subsidence

The Coal Authority has not received a damage notice or claim for the property since 1 January 1984. There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority has not received a request to carry out preventive work before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

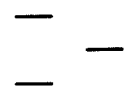
There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property.

Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

Withdrawal of Support

The property is not in an area for which a notice of entitlement to withdraw support has been published.



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

Working Facilities Orders

The property is not in an area for which an Order has been made under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

Payments to Owners of Former Copyhold Land

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

Comments on Coal Authority information

Where development proposals are being considered, technical advice should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. This is necessary due to the Public Safety implications of any development in these circumstances.

Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Additional remarks

This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions 2006. The report is compliant with Home Information Pack requirements.

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Ordnance Survey (OS) has carried out a Positional Accuracy Improvement Programme to make sure that the maps it produces are accurate. We have no control over who is using the improved information. In some cases, the position of surface features and mining features on the map may have changed. This is because we have updated our database in line with Ordnance Survey's improved maps.

Issued by: The Coal Authority, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG

Date: 21 Apr 2008

Ground stability report at: Wernos Washery, Penybanc, Ammanford, Carmarthenshire

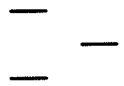
Reference number: 00030310-08

Cost: £85.11

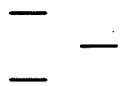
Plus VAT: £14.89

Total received: £100.00

VAT registration number: 598 5850 68


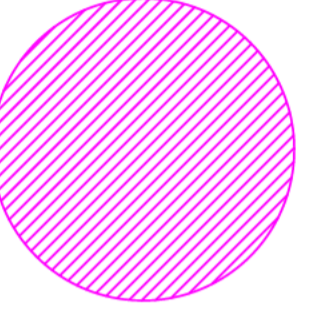


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Revision Number: _____ Date: _____
 Revisions:

-  MINE ADDIT
-  MINE SHAFT
-  MINE ENTRY HAZARD ZONE

WERNOS WASHERY
SHAFT AND ADDIT LOCATION PLAN SHOWING MINE ENTRY HAZARD ZONES

FIGURE NUMBER: 3	JOB NUMBER: P081177	DATE: 27/05/08	SCALE: Horiz: 1:2500 Vert: 1:2500
Drawn By: MILES DAVIS	Checked By: RM	Approved By - Date: RM - 30/05/08	File Name: SHAFTLP.DWG



Quantum Geotechnical Ltd
 tY bERWIG, Bynea, Llanelli, Carmarthenshire, SA14 9ST
 tel: 01554 744880 fax: 01554 776150
 email: enquiries@quantum-gb.co.uk

APPENDIX IV – COAL AUTHORITY CONSULTANTS COAL MINING REPORT



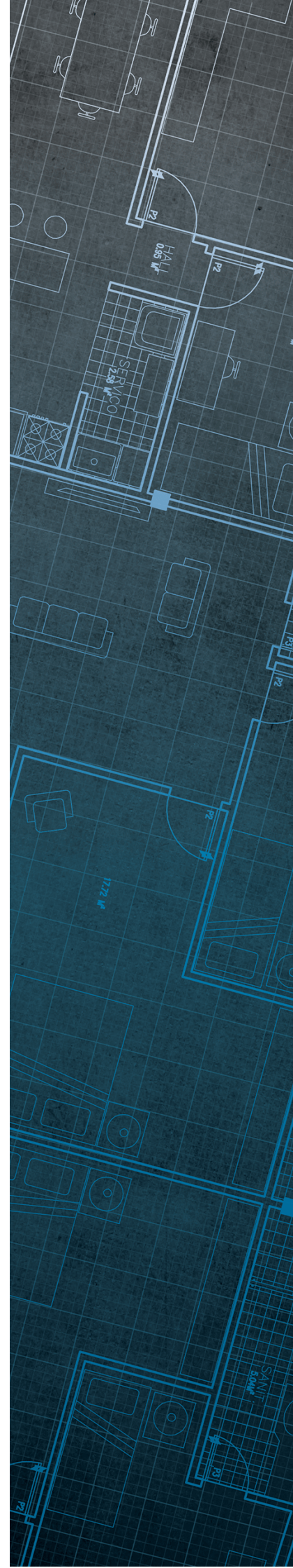
The Coal
Authority

Consultants Coal Mining Report

Former Wernos Washery (western
Area)
Tycroes
Ammanford
Carmarthenshire
SA18 3QL

Date of enquiry: 15 November 2017
Date enquiry received: 15 November 2017
Issue date: 15 November 2017

Our reference: 51001689140001
Your reference: G40001/0033



Consultants

Coal Mining Report

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

Client name

Quantum Geotechnical

Enquiry address

Former Wernos Washery (western Area)
Tycroes
Ammanford
Carmarthenshire
SA18 3QL

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

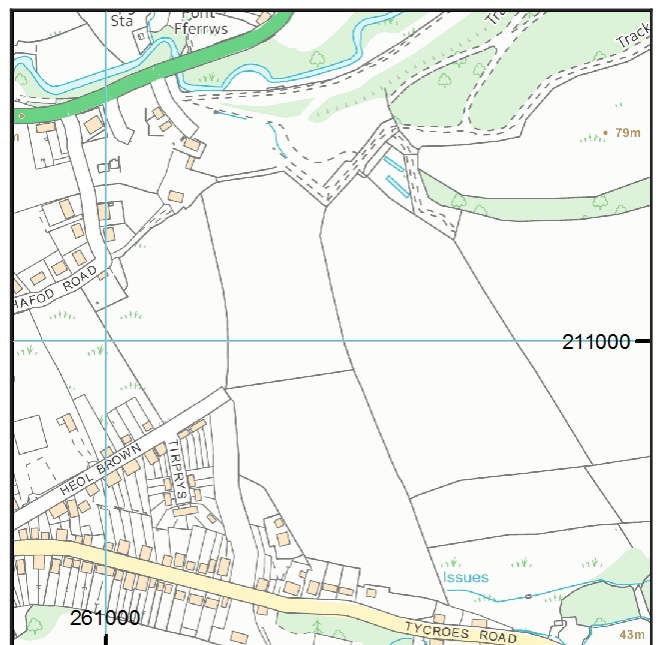
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	LOWER FOUR FOOT	Coal	4YQ4	0	Beneath Property	23.5	South	100	1909
unnamed	LOWER FOUR FOOT	Coal	4YQ7	0	Beneath Property	16.8	South-West	100	1909
unnamed	FOUR FOOT	Coal	4YPV	5	Beneath Property	0.0	East	100	1900
unnamed	LOWER FOUR FOOT	Coal	4SGT	10	Beneath Property	14.6	South	100	1900
unnamed	CAERAU	Coal	4YPS	11	Beneath Property	31.1	South-East	210	1927
unnamed	LOWER FOUR FOOT	Coal	4SGU	13	Beneath Property	18.6	South	100	1900
unnamed	CAERAU	Coal	4YPT	32	Beneath Property	32.0	South-East	210	1920
unnamed	LOWER FOUR FOOT	Coal	4YQ5	32	Beneath Property	17.4	South	100	1909
unnamed	UPPER 6FT RIDER	Coal	4HH8	38	Beneath Property	16.7	South-East	120	1900
unnamed	FOUR FOOT	Coal	4HH2	44	Beneath Property	21.0	South-East	190	1867
unnamed	FOUR FOOT	Coal	4YPX	45	Beneath Property	22.6	South	90	1907
unnamed	CAERAU	Coal	4HHC	63	Beneath Property	25.2	South-East	210	1927
unnamed	CAERAU	Coal	4HHD	76	Beneath Property	25.5	South-East	210	1927
unnamed	FOUR FOOT	Coal	4HGZ	76	Beneath Property	9.0	South-East	157	1910
unnamed	UPPER 6FT RIDER	Coal	4HH7	82	Beneath Property	16.9	South-East	120	1900
unnamed	UPPER NINE FOOT	Coal	4YQJ	108	North	10.2	South-East	170	1901
unnamed	UPPER 6FT RIDER	Coal	4HH5	113	Beneath Property	8.1	South	120	1935
unnamed	GELLIDEG	Coal	4YQD	154	Beneath Property	24.1	South	84	1942
PANTYFYNNON	LOWER FOUR FOOT	Coal	4HI2	154	South-West	5.6	South-East	102	1929
unnamed	LOWER FOUR FOOT	Coal	4HI1	169	South-West	9.4	East	102	1909
unnamed	UPPER NINE FOOT	Coal	4HHU	178	South	15.5	South-East	323	1958
PANTYFYNNON	FIVE FOOT GELLIDEG	Coal	4HHJ	243	Beneath Property	19.6	South-East	87	1948

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	FIVE FOOT GELLIDEG	Coal	4HHK	303	South-East	17.2	South-East	87	1949

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

Distance to spine roadway (m)	Direction to spine roadway
Within	N/A
Within	N/A
Within	N/A
Within	N/A
3.8	North-East
Within	N/A

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	260211-039	260973 211161		Coal	
Shaft	261210-002	261217 210945	This mine entry may have been partially or wholly excavated during past opencast mining	Coal	
Adit	261210-003	261316 210645		Coal	
Shaft	261210-004	261409 210959	This mine entry may have been partially or wholly excavated during past opencast mining	Coal	
Shaft	261210-007	261110 210922		Coal	
Shaft	261210-008	261111 210856		Coal	
Shaft	261211-027	261573 211145		Coal	
Shaft	261211-055	261543 211150		Coal	
Shaft	261211-057	261014 211348		Coal	
Shaft	261211-058	261417 211059	This mine entry may have been partially or wholly excavated during past opencast mining	Coal	
Shaft	261211-059	261472 211048	This mine entry may have been partially or wholly excavated during past opencast mining	Coal	
Shaft	261211-060	261473 211039	This mine entry may have been partially or wholly excavated during past opencast mining	Coal	
Adit	261211-128	261243 211200		Coal	
Adit	261211-129	261206 211161		Coal	

Abandoned mine plan catalogue numbers

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

146	SW187	SWR2804
691	SWA4056	CRO47
SWR1457	SWA4032	SWR2625

Our records show we have more plans than those shown above which could affect the enquiry boundary.

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

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
2FT NINE MID LEAF	Coal	Yes	24.1	North-West	93
2FT NINE MID LEAF	Coal	Yes	Within	N/A	96
6FT BOTTOM LEAF	Coal	Yes	Within	N/A	57
6FT BOTTOM LEAF	Coal	Yes	Within	N/A	76
CAERAU	Coal	Yes	Within	N/A	79
LOWER 9FT AND BUTE	Coal	Yes	15.5	North	93
LOWER FOUR FOOT	Coal	Yes	Within	N/A	90
LOWER FOUR FOOT	Coal	Yes	Within	N/A	98
LOWER NINE FOOT	Coal	Yes	Within	N/A	80
LOWER NINE FOOT TOP LEAF	Coal	Yes	Within	N/A	85
MIDDLE 9FT TOP LEAF	Coal	Yes	Within	N/A	83
MIDDLE 9FT TOP LEAF	Coal	Yes	6.0	North-West	112
RED VEIN	Coal	Yes	Within	N/A	87
UNNAMED	Coal	Yes	Within	N/A	88
UNNAMED	Coal	No	Within	N/A	92
UNNAMED	Coal	No	7.2	North-West	96
UNNAMED	Coal	Yes	Within	N/A	99
UNNAMED	Coal	Yes	Within	N/A	101
UNNAMED	Coal	No	Within	N/A	104
UNNAMED	Coal	No	Within	N/A	254
UPPER 6FT RIDER	Coal	Yes	Within	N/A	56
UPPER 6FT RIDER	Coal	Yes	Within	N/A	261
UPPER FOUR FOOT	Coal	Yes	Within	N/A	96
UPPER FOUR FOOT	Coal	Yes	Within	N/A	103
UPPER NINE FOOT	Coal	Yes	Within	N/A	86

Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Faults under or close to the property recorded.

Opencast mines

Please refer to the "Summary of findings" map (on separate sheet) for details of any opencast areas within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

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

Site investigations

Distance to site investigation (m)	Direction
Within	N/A

See Section 4 for further information.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

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

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

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

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

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

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

Payments to owners of former copyhold land

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

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

Site investigations

The site is within an area of previous interest. It is close to where the Coal Authority has received information relating to past site investigations.

The site requires further investigation and may influence how you approach your risk assessment.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

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

Past underground coal mining

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

Probable unrecorded shallow workings

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

Spine roadways at shallow depth

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

Mine entries

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

Abandoned mine plan catalogue numbers

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

Outcrops

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

Geological faults, fissures and breaklines

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

Opencast mines

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

Coal Authority managed tips

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

Site investigations

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

Remediated sites

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

Coal mining subsidence

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

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

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

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

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

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

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

Future underground mining

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

Coal mining licensing

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

Court orders

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

Section 46 notices

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

Withdrawal of support notices

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

Payment to owners of former copyhold land

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








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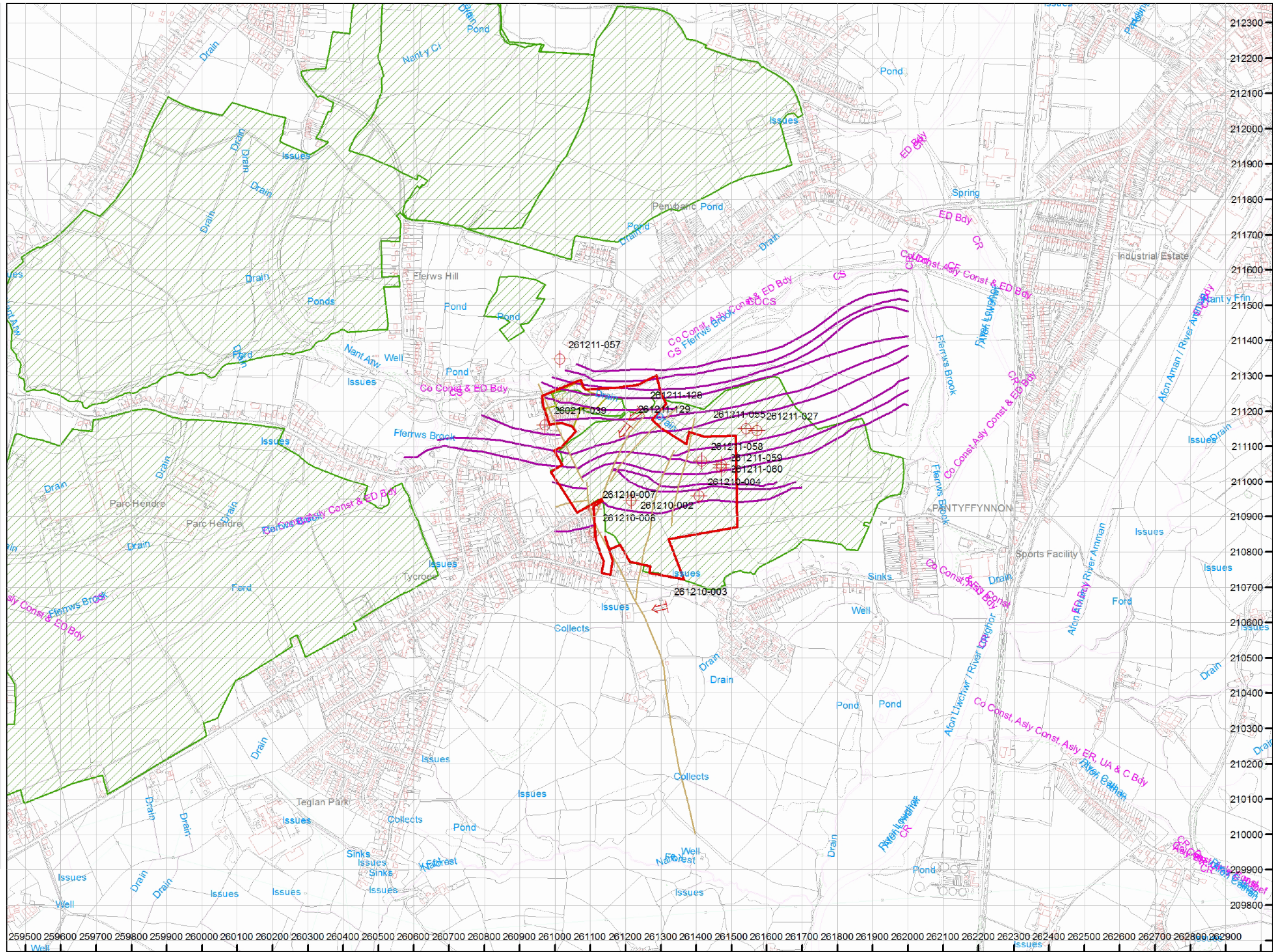
VAT receipt

Issued by	The Coal Authority 200 Lichfield Lane Mansfield Nottinghamshire NG18 4RG
Tax point date	15 November 2017
Issued to	QUANTUM GEOTECHNICAL BYNEA INDUSTRIAL BYNEA BUSINESS PARK, HEOL Y BWLCH BYNEA LLANELLI DYFED SA14 9SU
Property search for	FORMER WERNOS WASHERY (WESTERN AREA) TYCROES AMMANFORD CARMARTHENSHIRE SA18 3QL
Reference number	51001689140001
Date of issue	15 November 2017
Cost	£101.70
VAT @ 20%	£20.34
Total received	£122.04
VAT registration	598 5850 68

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

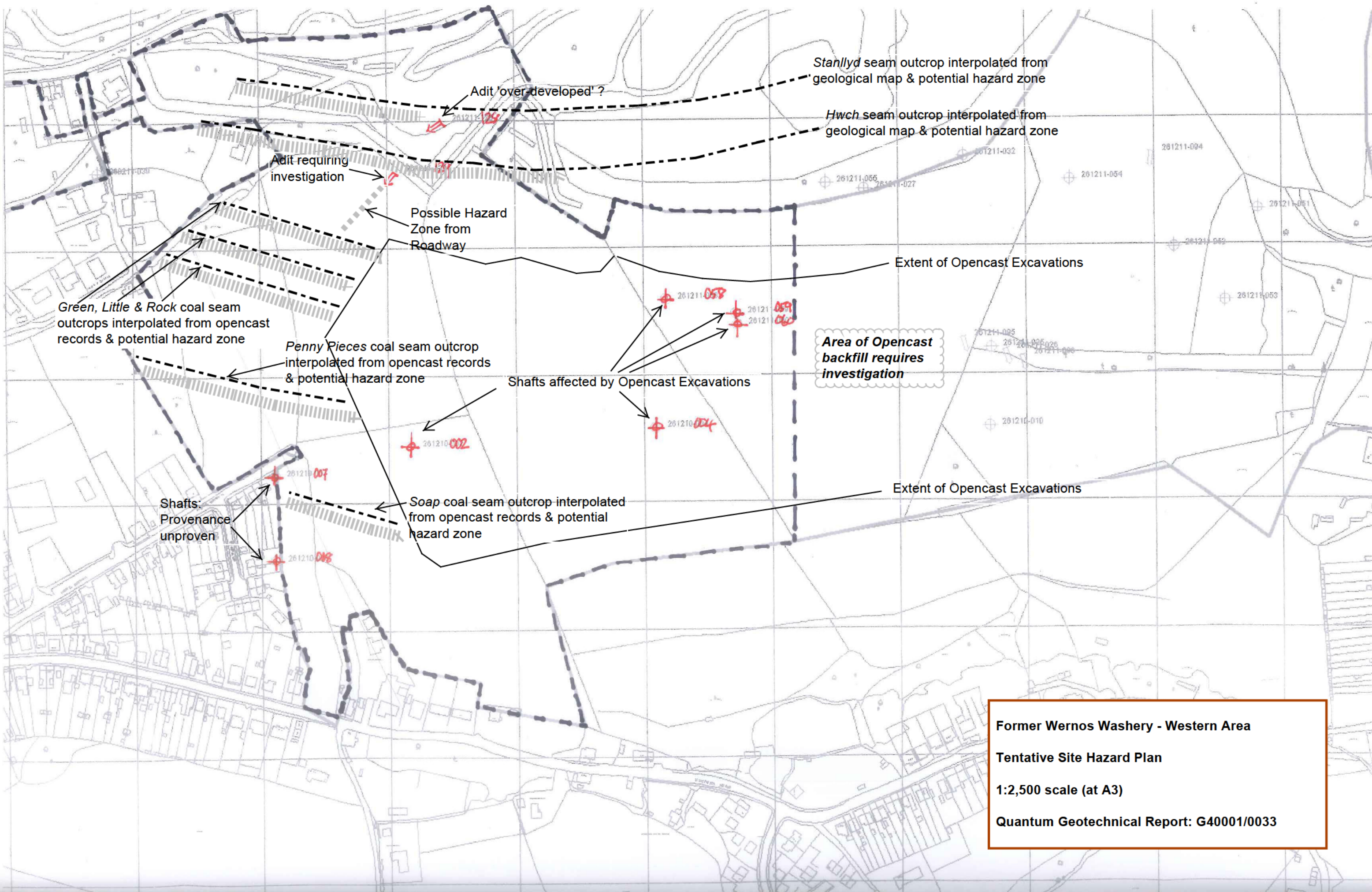
Key

- Approximate position of the enquiry boundary shown 
- Disused mine shaft 
- Disused adit 
- Outcrop 
- Geological faults 
- Unlicensed opencast site 
- Site investigations 



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APPENDIX V – SUMMARY HAZARD PLAN



Former Wernos Washery - Western Area
Tentative Site Hazard Plan
1:2,500 scale (at A3)
Quantum Geotechnical Report: G40001/0033