john newton & partners
jnpgroup
Consulting Engineers

Report on: Coal Mining Risk Assessment

The Cliffe
High Street
Clayton West
Huddersfield
HD8 9NS

Chesham
Brighouse
Midlands
Sheffield
Teesside

For: Robert Bowett

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Associate

Date: 04 January 2016

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Issue Record

Job Number: B20825

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Date: 04 January 2016

Revision	Change Overview	Reason for Change	Date
A	Description of proposed development	Instruction from client	04/01/2016

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COAL MINING RISK ASSESSMENT

1 INTRODUCTION

Robert Bowett has submitted a planning application for the proposed residential development at The Cliffe, High Street, Clayton West, Huddersfield, HD8 9NS of five dwellings.

JNP Group has been commissioned to prepare a Coal Mining Risk Assessment Report of the proposed development site, in order to provide the Local Planning Authority with information on coal mining and an assessment of its impact on land stability.

1.1 Site Location and Description

The site is located on High Street in the village of Clayton West, approximately 12.5km south east of Huddersfield. Refer to Appendix A for a location plan of the development site.

1.2 Description and Layout of Proposed Development

It is proposed to build four new dwellings in addition to the existing dwelling. Refer to Appendix A for a proposed site layout.

1.3 Scope of the Coal Mining Risk Assessment

The purpose of this Coal Mining Risk Assessment Report is to:

- Present a desk-based review of all available information on the coal mining issues which are relevant to the application site;
- Use that information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues;
- Set out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any necessary remedial works and/or demonstrate how coal mining issues have influenced the proposed development; and
- Demonstrate to the Local Planning Authority that the application site is, or can be made, safe and stable to meet the requirements of national planning policy with regard to development on unstable land.

2 SOURCES OF INFORMATION USED TO INFORM THIS REPORT

The following sources of information have been obtained upon which the risk assessment of coal mining issues has been based. Reports/extracts are appended.

- An up-to-date Coal Mining Report (Appendix B) including information obtained from a visit to The Coal Authority's Mining Records Office in Mansfield, Nottinghamshire, if necessary.
- Geological information obtained from the British Geological Survey including the 1:50,000 Series Solid and Drift Edition (Appendix C) and nearby borehole location records (Appendix D).
- A site history based on historic Ordinance Survey mapping of the area (Appendix E).
- Past desk-based assessments of ground conditions for the application site or adjacent/nearby sites.
- Results of past intrusive site investigation works undertaken to assess ground conditions for the application site or adjacent/nearby sites.

3 IDENTIFICATION AND ASSESSMENT OF SITE SPECIFIC COAL MINING RISKS

The table below summarises the potential risks associated with coal mining legacy for the proposed development site, identified from the sources listed in Section 2.

Coal Mining Issue	Yes	No	Risk Assessment
Underground coal mining (recorded at shallow depths)		x	
Underground coal mining (probable at shallow depths)	x		Yes
Mine entries (shafts and adits)		x	
Coal mining geology (fissures)		x	
Record of past mine gas emissions		x	
Recorded coal mining surface hazard		x	
Surface mining (opencast workings)		x	

3.1 Geology

Examination of the published solid and drift map of the area indicates the site to lie in an area of Sandstone and Middle Coal Measures, shales and mudstones.

The surrounding area has a complex geology with faults and coal seams surrounding the site. There is a fault line approximately 250m south of the site running southwest to northeast with the downthrow side on the south and another fault line running northwest to southeast approximately 750m north of the site with the downthrow side to the north.

The Coal Mining Search Report confirms that the site is in the likely zone of influence from workings in the Whinmoor seam of coal at a depth of 48m. This seam is 95cm thick and was last worked pre 1900. The seam outcrops approximately 350m west of the site. These mine workings do not pose any significant risk to the site as there is a sufficient cover of strata overlying any voids created by mining activities and any settlement is likely to have stopped and will not affect the site.

The Coal Mining Search Report suggests that there are possible ancient shallow mining workings within the likely zone of influence on the surface in the vicinity of the property, for which no accurate plans or records exist. The geological map shows that there may by two coal seams present between the Whinmoor seam and the surface. These can be identified as the Blocking/Top Silkstone seam and the Black Band seam which outcrop 100m and 250m west of the site. It is possible that these seams have been worked in the past and if there is insufficient cover of competent strata overlying any voids created by possible mining activities then these voids could migrate upwards by successive roof collapse over many years and cause ground instability at the surface.

3.2 Borehole Logs

Borehole SE21SE118 is approximately 570m northwest of the site. It penetrated down 33.8m and shows a 0.9m layer of coal at a depth of 27.6m.

There are ten boreholes located around the Dearne Park Industrial Estate and the Kirkless Light Railway, approximately 500m north of the site. They vary in depth from 2.0m to 5.5m and show made ground over weathered brown mudstone. The made ground comprises of colliery waste and varies between 0.4m and 2.4m in depth.

Another 2.0m borehole located approximately 430m north of the site (SE21SE189) shows made ground from colliery waste over brown sandstone.

No coal has been recorded as the boreholes only just penetrated to natural ground.

3.3 Mine Entries

The Coal Mining Search Report states that there is no knowledge of any mine entries within 20m of the property or the boundary of the property. There are no tips or lagoons in the vicinity of the site. The digital map confirms the above information. The geological map shows Park Mill colliery located approximately 1200m north of the site, at a lower level to the site.

3.4 Opencast Working

The Coal Mining Search Report states that the property is not within the boundary of a former opencast site or situated within 200m of the boundary of a currently operating opencast site. There are no opencast workings currently planned within 800m of the site.

3.5 Intrusive Investigation of Nearby Site

Not available.

3.6 Possible Ancient Shallow Coal Workings

The Coal Mining Search Report states that the site is located within an area of ancient coal mining. The Coal Authority map show that the site is in an area where there are probable shallow coal mining works present.

4 MITIGATION STRATEGY PROPOSED

The desk based assessment cannot conclude at this stage with any certainty the extent of the coal mining risks on the site. There are seams expected to be present at shallow depth, and deeper, with a risk of influence on the surface if they had been mined.

The Coal Mining Search Report suggests that there are possible ancient shallow mining workings within the likely zone of influence on the surface in the vicinity of the property, for which no accurate plans or records exist. The studies of the geological sequence of strata shown on the BGS map suggests that the possible risk is from workings from the Top Silkstone and Black Band seams located near the site. There may be workings present at shallow depths which pose a risk to the proposed development and this should be investigated further.

It would be prudent to investigate the actual strata below the site by driving a borehole to 30m depth. If coal is encountered, or greater confidence in the below ground strata is required, then the number of boreholes could be increased to three to provide a three dimensional view of the strata.

5 THE COAL AUTHORITY PERMISSION

Prior written permission from The Coal Authority is required for intrusive activities which will disturb or enter any coal seams, coal mine workings or coal mine entries (shafts and adits). Further information on The Coal Authority's permissions process can be found at:

www.coal.gov.uk/services/permissions/index.cfm

This permission has not been requested at this stage.

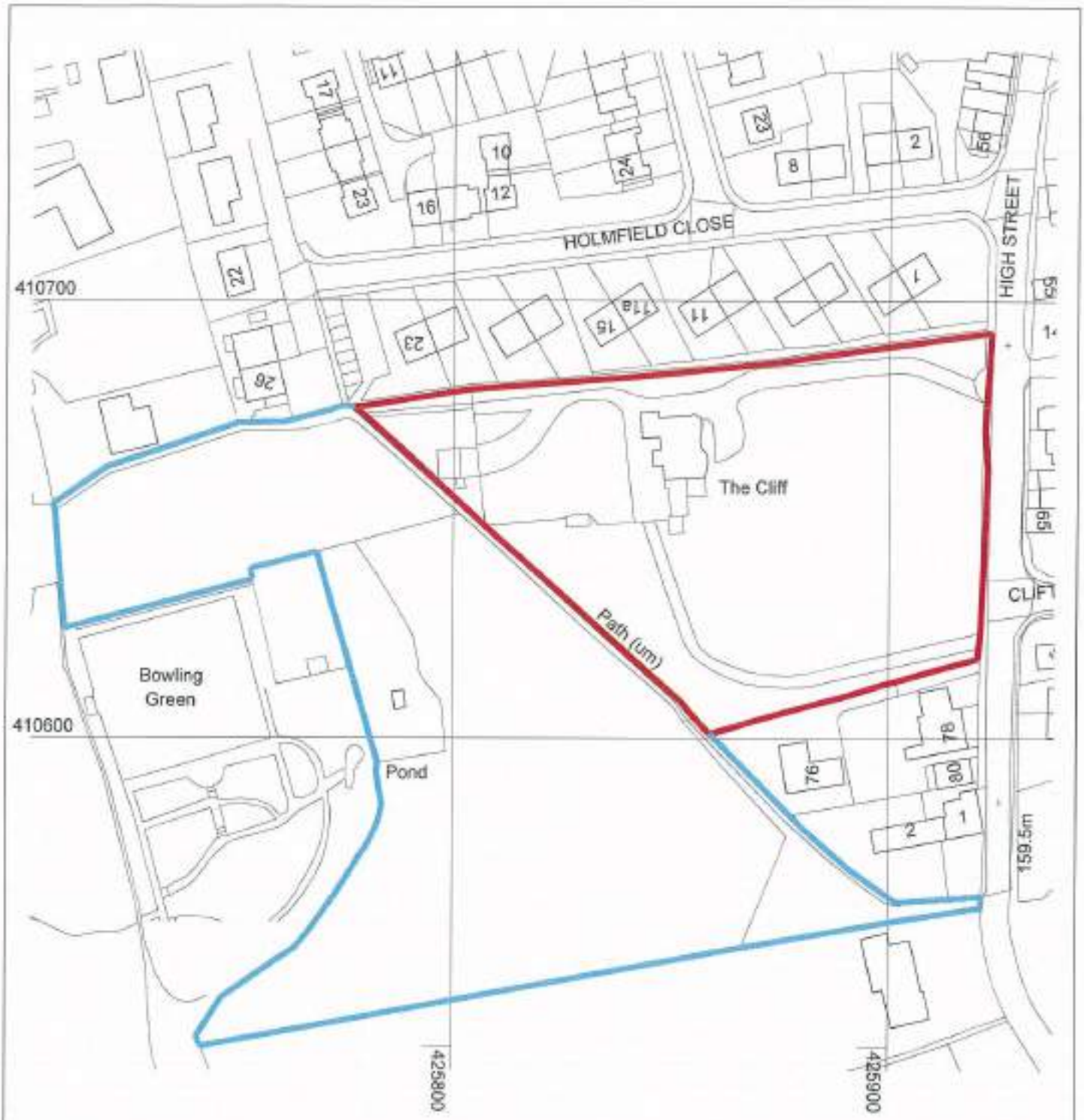
6 CONCLUSIONS AND RECOMMENDATIONS

The property is within the likely zone of influence of ancient mine workings at a depth of 48m as highlighted by the Coal Mining Search Report although ground movement caused by the works should have stopped by now. In addition the Coal Authority also believe that there is coal at or close to the surface which may have been worked in the past. There are coal seams identified to the west suggesting this may be the case. We expect the risk of these workings affecting the site to be high and these seams should be investigated prior to development.

It is recommended carry out a detailed investigation of the site, including the drilling of several boreholes to a depth of 30m to determine the location of any shallow coal seams or workings beneath the footprint of the proposed development. Any workings or voids revealed within a depth that may have an influence at the surface will require grouting.

The investigation will allow an appropriate set of mitigation measures to be put in place in order to reduce the effect on the proposed structures on the site.

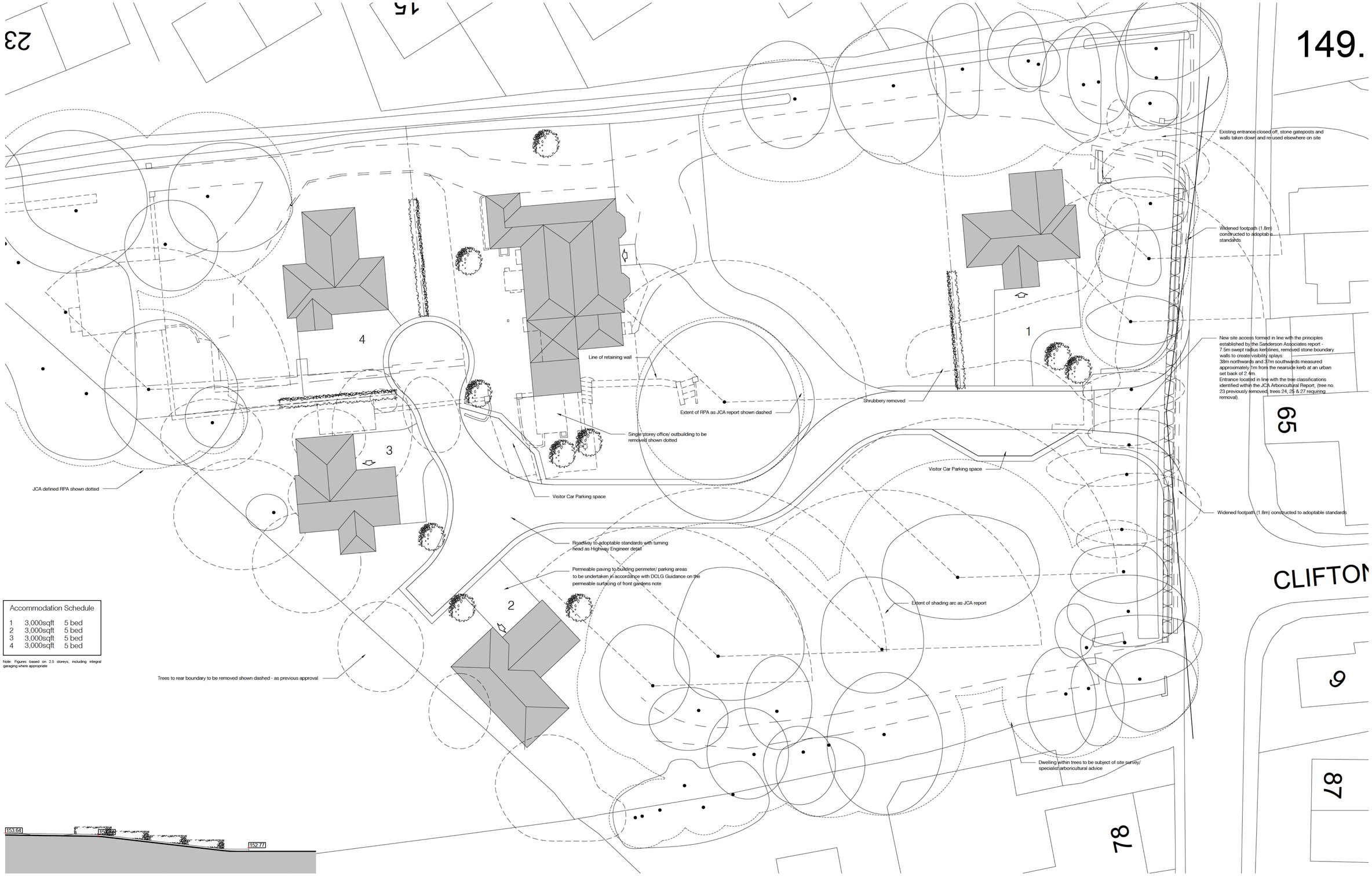
Appendix A



Drawings based on Ordnance Survey (Streetwise License No 100047474)

0 10 20 30 40 50 60m
Scale 1:1250

Project	Proposed Residential development, The Cliffe, Clayton West
Client	Mr R Bowett, The Cliffe, High Street, Clayton West HD8 9NS
Dwg Title	00_Site Location
Scale	1: 1250 @ A4
Date	Sept 15



Accommodation Schedule

1	3,000sqft	5 bed
2	3,000sqft	5 bed
3	3,000sqft	5 bed
4	3,000sqft	5 bed

Note: Figures based on 2.5 storeys, including integral garaging where appropriate

Entrance Section

Drawings based on Ordnance Survey (Streetwise License No 100047474) and preliminary survey – design and drawing content subject to further Site Surveys, Structural Survey, Site Investigations, Planning and Statutory Requirements and Approvals.

The Cliffe_Clayton West

Rev.	Des.	Date
A	Numbers reduced	11.15

0 2 4 6 8 10m
Scale 1: 200

jg

Architecture and Design, The Studio, Cliff Pit Lane, Brighouse HD6 4HW T: 01484 717119 info@jg-c.co.uk www.jg-c.co.uk

Project	Proposed Residential development, The Cliffe, Clayton West
Client	Mr R Bowett, The Cliffe, High Street, Clayton West HD8 9NS
Dwg Title	01_Indicative Layout Rev.A
Scale	1: 200 @ A1
Date	Aug 14

Appendix B

B20825

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By

David Bellis
CONSULTING SURVEYORS

Coal Mining Search Report

Incorporating Cheshire Brine Enquiries

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COPSO
AFFILIATE MEMBER

Coal Mining Search Report

Incorporating Cheshire Brine Enquiries

Serial Number 328217

Client detail :

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8 Mornington Terrace
Harrogate
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HG1 5DH
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Tel 01423 529911
Fax 01423 529922

Search produced by M J Peace

Property details:

62 High Street
Clayton West
Huddersfield
HD8 9NS

Your ref : B20825
Purchaser :
Vendor :

In accordance with your instructions received 06 Oct 2015 we have inspected plans and records of coal mine workings and have made enquiries with respect to Cheshire brine extraction in relation to the above property and can report as follows :

1. **SEAM DETAILS FOR PAST UNDERGROUND COAL MINING :** In relation to the property the undermentioned seam(s) have been worked within the likely zone of physical influence on the surface.

Seam	Depth (m)	Sect (cm)	Date	Remarks
Whinmoor	48	95	Pre 1900	Subjacent

2. **SEAM DETAILS FOR CURRENT AND FUTURE UNDERGROUND COAL MINING :** The undermentioned seam(s) are currently being worked, or licenses to work are being determined, or have been granted to work, within the likely zone of physical influence on the surface in relation to the property.

Seam	Depth (m)	Sect (cm)	Date	Remarks
				Coal in reserve - no workings currently planned.

3. **UNDERLYING GEOLOGY :**

The property is situated in an area of Sandstone and Middle Coal Measures, shales and mudstones.

There are no faults or abnormal features relevant to the property.
Outcrop of the Blocking Coal Seam.

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4. OPENCAST COAL MINING :

Past Opencast Workings : The property is not situated within the boundary of a former opencast coal mining site.

Present Opencast Workings : The property is not situated within 200m of the boundary of a currently operating opencast coal mining site.

Future Opencast Workings : The property is not situated within 800m of the boundary of an opencast site for which a license to extract coal by opencast methods has been granted or a license to do so is currently being determined.

5. SHAFTS, ADITS (MINE ENTRIES) AND ADDITIONAL INFORMATION :

We have no knowledge of any shafts or adits within 20 metres of the property or the boundary of the property.

There are no tips or lagoons in the vicinity of the property.

There are possible ancient shallow coal mining workings within the likely zone of influence on the surface in the vicinity of the property, for which no accurate plans or records exist.

6. NOTICES IN RELATION TO FUTURE COAL MINING ACTIVITY :

We have no knowledge of any intention to work coal by underground methods within influencing distance on the surface in the vicinity of the property for which notices have been issued under the Coal Mining Subsidence Act 1991.

7. PAST COAL MINING RELATED SUBSIDENCE :

Our investigations have shown no evidence of coal mining related subsidence claims in relation to the property in the past 10 years.

8. CONCLUSION (COAL MINING) : In the light of the above facts we conclude that in relation to coal mining :

Old workings are present but all settlement is likely to have completed long ago.
In our opinion it is unlikely that coal will be worked in the forseeable future.

COAL MINING RISK LEVEL : We recommend that the transaction is treated as :

Where this report is to be used for development purposes particular attention is drawn to the paragraphs below concerning the ownership of in situ coal, coal workings and the risks from mine gases.

Please note that the overall coal mining risk level above is based upon an assessment of the detailed information contained in the body of the report. The risk assessment must be used in conjunction with the detailed report.

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If development of the property is being considered then all necessary enquiries and investigations should be completed prior to the commencement of works to ensure that proposals follow good engineering practice for development in mining areas. The Coal Authority has ownership of in situ coal, coal mines (both current and disused) and coal mine shafts and adits. Activities that intersect, enter or disturb any of the Coal Authority's interests require the written permission of the Authority.

Any development proposals should consider risks to the development, or adjacent property, of generating or displacing underground gases where coal seams or former mining works are disturbed. The need for effective measures to prevent gasses entering public properties should be assessed and properly addressed. These actions are necessary due to the public safety implications of development in these circumstances.

CHESHIRE BRINE EXTRACTION INFORMATION :

The property lies outside the Cheshire Brine Compensation District as prescribed by the Cheshire Brine Pumping (Compensation for Subsidence) Act 1952.

With respect to coal mining there is nothing to prevent a claim being made under the provisions of the Coal Mining Subsidence Act 1991 and subsequent legislation, but it must not be inferred that the Coal Authority or their licensees will necessarily accept that any damage has been caused as a result of mining subsidence.

If you require any further information or amplification please contact CoalSearchPlus+ on 01423 529911 or via our website www.coalsearch.plus.com.

This report is prepared in accordance with the CoalSearchPlus+ terms and conditions as published on the CoalSearchPlus+ website (www.coalsearch.plus.com) on the date of issue of this report.

This is a Coal Mining Search Report and is not to be interpreted as being part of an Environmental Assessment of the property.

We cannot be held responsible for the accuracy of the information provided to us by third party organisations.

The information and/or material supplied is composed from data based in many cases on measurements and records of various standards of reliability and age. We cannot be held responsible for the accuracy of such information.

This search report is based upon the privately owned CoalSearchPlus+ mining record database and plans and records publicly available at the time of inspection from the Coal Authority, including British Geological Survey and Ordnance Survey data. Organisations reserve the right to vary their proposals and intentions as to their future mining operations without prior notice save as provided in the Coal Mining (subsidence) Act 1991 and the Coal Industry Act 1994.

Coal Authority Address : The Coal Authority, 200 Lichfield Lane Berry Hill, Mansfield, Nottinghamshire, HG18 4RG
British Geological Survey Address : British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham NG12 5GG

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The information contained in this report relates to the property address given by the individual or organisation ordering the report. Where a plan indicating the property location and boundary is supplied with the instruction the report is based on that information. Where no plan is supplied the report is based on the property location as defined in publicly available mapping data. At all times it remains the responsibility of the instructing organisation or individual to define the boundary of the property.

Additional notes applicable to Residential Coal Mining Reports only:

David Bellis Consulting Surveyors Ltd is not aware of any personal or business relationship between the person conducting or preparing the search and any person involved in the sale of the property.

This report is a desk study of existing published geological and coal mining records and the CoalSearchPlus+ coal mining database. In order to compile this report enquiries have been made relating to the following :

Past Coal Mining – the existence of any previously worked seams of coal within influencing distance on the surface in relation to the property including an indication of the location, depth and age of the workings.

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Present Coal Mining - the existence of any currently worked seams of coal within influencing distance on the surface in relation to the property including an indication of the location, depth and age of the workings. The existence of coal that could be worked at some time in the future will be enquired into and detail of any relevant licenses disclosed where available.

Underlying Geology - the underlying geology of the property will be reviewed and briefly described in relation to coal mining.

Opencast Coal Mining - the existence of past present and future opencast coal mining, specifically :

- if the property is situated within the boundary of a former opencast site. In the case of old opencast workings it must be understood that records are often unclear regarding the site boundary and/or worked areas. Published records will be reviewed to give our opinion of the existence of relevant former opencast coal workings.
- if the property is situated within 200m of the boundary of a currently operating opencast site.
- if the property is situated within 800m of the boundary of an opencast for which either a license to extract coal by opencast methods has been granted or a license to do so is currently being determined.

Shafts, Adits (Mine Entries) and Additional Information – the existence of any mine entries within 20m of the property or the boundary of the property and its associated land and buildings (the definition of the boundary of the property is the responsibility of the individual or organisation ordering this report). Where a mine entry is found to exist the approximate location of the mine entry will be indicated on a plan to be provided by the instructing organisation or individual. The existence of unworked coal will be enquired into and our opinion regarding the likelihood of it being worked at some time in the past will be given where relevant. Any other relevant coal mining related features discovered will be noted.

Notices in relation to future coal mining activity – the existence of notices indicating an intention to work coal by underground methods in the future.

Past coal mining related subsidence – if any publicly available records indicate coal mining related subsidence affecting the property in the past 10 years.

Coal Mining Risk Level – the opinion of David Bellis Consulting Surveyors of the risk posed to the property from coal mining given all the information contained in the report. The risk to the property is given in relation to the majority of the housing stock in the immediate area.

Cheshire Brine – the location of the property in relation to the Cheshire Brine Compensation District and any relevant information to the property regarding brine extraction.

Additional information, including answers to many frequently asked questions, can be found on the CoalSearchPlus+ website, www.coalsearch.plus.com

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- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

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Tel: 01722 333306, E-mail: admin@tpos.co.uk

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.

Complaints should be sent to:

Mr M. Peace, Director, David Bellis Consulting Surveyors Ltd, 8 Mornington Terrace, Harrogate, North Yorkshire, HG1 5DH
Tel : 01423 529911 Fax : 01423 529922 Email : contact@coalsearch.plus.com

Date : 09 Oct 2015 Signed :

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- promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

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TPOs Contact Details:

The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk.

PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE

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   a) The Service Provider is David Bellis Consulting Surveyors Ltd, trading as CoalSearchPlus+.
   b) The Applicant is the individual, Organisation, or appointed officer of said Organisation placing a Request with the Service Provider.
   c) The Third Party Provider is any Organisation from which the Service Provider obtains data and/or information on behalf of the Applicant in the normal course of fulfilling the Applicants Request.
   d) The request is a formal Request by the Applicant with CoalSearchPlus+ to retrieve specific data and/or information.
2. CoalSearchPlus+ accept Requests only on the basis that the Applicant is acting as a principal and is directly liable for payment of our invoice or account.
3. It is the policy of CoalSearchPlus+ to observe confidentiality with regard to the identity and affairs of our customers to the extent permitted by law, but, in common with other service providers, we may be required exceptionally to disclose information to governmental and other public authorities.
4. The placing of a Request by the Applicant with CoalSearchPlus+ confirms acceptance of these terms and conditions.
5. Any Order Form produced by CoalSearchPlus+, either printed or published on the CoalSearchPlus+ website, is an invitation to treat. The Applicant makes an offer to buy from CoalSearchPlus+ by the submission of a Request, subject to clause 10. Acceptable modes of transmission for a Request are facsimile (fax), telephone, electronic mail(e-mail), online transmission via the CoalSearchPlus+ website only, Document Exchange (DX), Royal Mail or courier appointed by the Applicant.
6. Orders will be accepted on order forms other than CoalSearchPlus+ forms however these will be accepted under the standard CoalSearchPlus+ terms and conditions only, subject to Clause 10.
7. CoalSearchPlus+ reserves the right to refuse any Request.
8. CoalSearchPlus+ reserves the right to cancel any Request at any time.
9. Proof of transmission of a Request by the Applicant does not constitute proof of receipt by CoalSearchPlus+.
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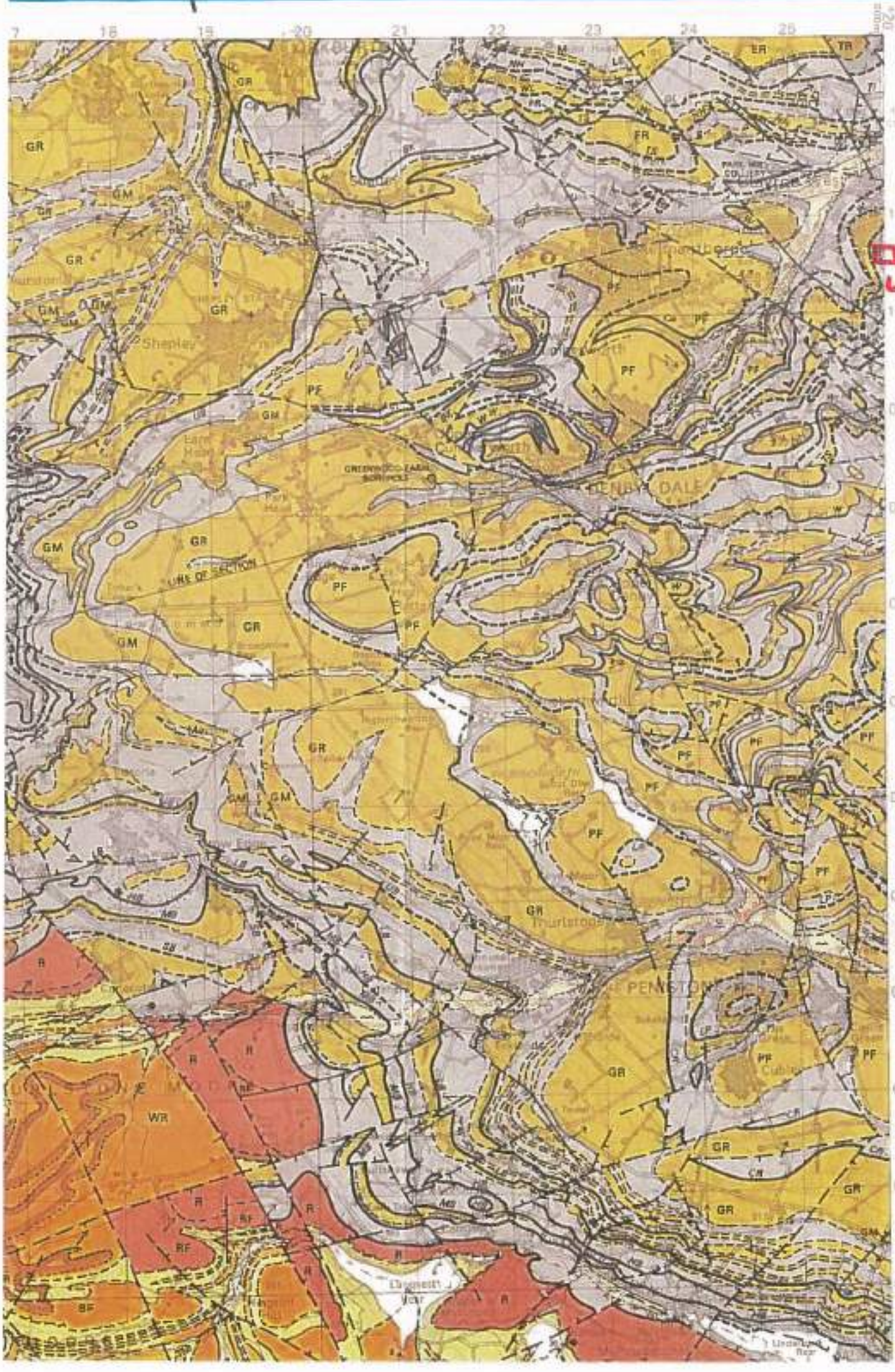
20. The data and/or information that a coal mining search report is based on is constantly being updated. A CoalSearchPlus+ coal mining search report is based on the most up to date information available at the time that the report is produced however it cannot be guaranteed that the information and/or data will not become obsolete at some time in the future. Responsibility for the supply of accurate and up to date information to CoalSearchPlus+ lies with the data supplying organisations listed in 16.
21. A CoalSearchPlus+ coal mining search report relates only to coal mining and minerals worked in relation to coal mining. Other reports may be required in relation to other minerals.
22. A CoalSearchPlus+ coal mining search report is not a substitute for site investigation or a mining survey. Depending on the content of a coal mining search report, or whether development is intended, the Applicant must decide whether a site investigation or mining survey is required.
23. CoalSearchPlus+ coal mining reports comply with the Search Code.

Serial Number 328217

24. All CoalSearchPlus+ reports are covered by professional indemnity insurance. The content of CoalSearchPlus+ coal mining search reports does not prevent any future claim being made by the Applicant against the Coal Authority in respect of coal mining related subsidence.
25. Any liability in the instance of negligence by CoalSearchPlus+ or its employees in the interpretation of coal mining data and/or the production and provision of coal mining reports will be limited to the extent of the CoalSearchPlus+ Professional Indemnity Insurance or the value of the loss caused by the negligence, whichever is the lower.
26. All CoalSearchPlus+ coal mining search reports give the information detailed in the services section of the CoalSearchPlus+ website and summarised in the report. Further explanation of this information is available in the Glossary and/or the Frequently Asked Questions areas of the CoalSearchPlus+ website. Alternatively contact CoalSearchPlus+ who will be happy to explain the content of a report.
27. The Request is fulfilled when all reports, data and/or information requested by the Applicant have been retrieved and/or compiled by CoalSearchPlus+ and delivered by electronic mail (e-mail) or fax or post or document exchange (DX) or a combination of these methods as required by the Applicant. Alternative delivery arrangements are at the discretion of CoalSearchPlus+.
28. If Requests for multiple reports, data and/or information relating to multiple addresses were made on a single order form these will be fulfilled individually by the delivery of the reports, data and/or information relating to each individual address being treated as an individual Request.
29. CoalSearchPlus+ is not responsible for any loss or misdelivery of retrieved data and/or information caused by failure of Document Exchange (DX), Royal Mail or internet service provider. Most retrieved data and/or information is archived by CoalSearchPlus+ and a copy may be requested by the Applicant. If the data and/or information could not be archived CoalSearchPlus+ reserves the right to treat the request as a new Request.
30. Delivery, by whatever agreed means, will be accompanied by an invoice. Delivery by electronic mail may be followed up with a paper invoice by post or DX. Where Applicants have agreed account facilities with CoalSearchPlus+ invoicing may be on a monthly basis. In all cases the Applicant agrees to provide CoalSearchPlus+ with remuneration for the full amount shown on the invoice, including all Fees, Taxes and Disbursements.
31. The Applicant will be liable for payment of the full invoice amount within 14 days from the date of receipt of the invoice. CoalSearchPlus+ reserve the right to charge for costs and expenses incurred in recovering late payments and to charge interest at the rate of 8% above the Bank of England base rate per annum for the full period that the payments are overdue.
32. Where full payment of the invoice is not made by the Applicant within 14 days from receipt of the invoice CoalsSearchPlus+ reserve the right to withdraw account facilities from the Applicant and cancel any individual agreements concerning fees or other Terms and Conditions that may have been made between the Applicant and CoalSearchPlus+.
33. Where possible the Applicant will receive Advance Notice of the cost of the Request, including all Fees, Taxes and Disbursements, prior to receipt of the invoice. This advance notice will take the form of the price for the service requested as published on the CoalSearchPlus+ website, or the price as individually agreed between CoalSearchPlus+ and the Applicant.
34. Additional Fees, Taxes and Disbursements may arise during the course of data and/or information retrieval, over and above Advance Notice costs as in clause 33. The Applicant is liable for any such additional costs. Where possible, the Applicant is notified of additional costs prior to fulfilment of the Request.
35. If the Applicant shall pay in advance of receipt of the invoice, then the Applicant remains liable for any underpayment.
36. Any overpayment on the part of the Applicant will be refunded. Arrangements for refunds are agreed on a case-by-case basis, through discussion between CoalSearchPlus+ and the Applicant.
37. The Applicant may cancel the Request in whole or in part at any time prior to Clause 27.
38. If the Applicant cancels the Request in whole or in part prior to Clause 27, the Applicant remains liable for all Fees, Taxes and Disbursements already accrued prior to the Cancellation.
39. CoalSearchPlus+ accept no liability for any loss incurred by the Applicant or the Applicants client where the Applicant is acting as an agent for a client, due to late fulfilment and delivery of the Request.
40. CoalSearchPlus+ accept no liability for any loss to the Applicant, or the Applicant's client where the Applicant is acting as an agent for a client, due to any negative outcome of a report provided in the process of the correct and accurate fulfilment of the Request.
41. Any disputes relating to the provision of coal mining search reports should be addressed to the Practice Principal, CoalSearchPlus+ in the first instance. Disputes will be settled according to the CoalSearchPlus+ complaints procedure detailed in each report.
42. Independent Dispute Resolution - If you make a complaint and we are unable to resolve it to your satisfaction you may refer the complaint to The Property Ombudsman scheme (website: www.tpos.co.uk email:admin@tpos.co.uk Tel: 01722 333306). We will cooperate fully with the Ombudsman during an investigation and comply with his final decision.
43. Third Party and subcontractor Terms and Conditions shall apply in addition to these clauses. Should any conflict arise between CoalSearchPlus+ Terms and Conditions and Third Party or Subcontractor Terms and Conditions, then CoalSearchPlus+ Terms and Conditions prevail unless and until CoalSearchPlus+ expressly states otherwise in writing and/or courts of England and Wales establish otherwise.
44. No variation to these Terms and Conditions is effective unless and until CoalSearchPlus+ expressly agrees in writing.
45. CoalsearchPlus+ reserves the right to alter these terms and conditions as appropriate, without notice, at any time. Such amended Terms and Conditions will become effective upon publication on the CoalSearchPlus+ website.
46. These Terms and conditions are subject to English Law and the exclusive jurisdiction of the courts of England and Wales.

Appendix C

BGS Map Sheet 86



EXPLANATION of Geological Signs Colours and Abbreviations

RECENT

- *Alluvium*
- *River Terrace*
- *Sand & Gravel*

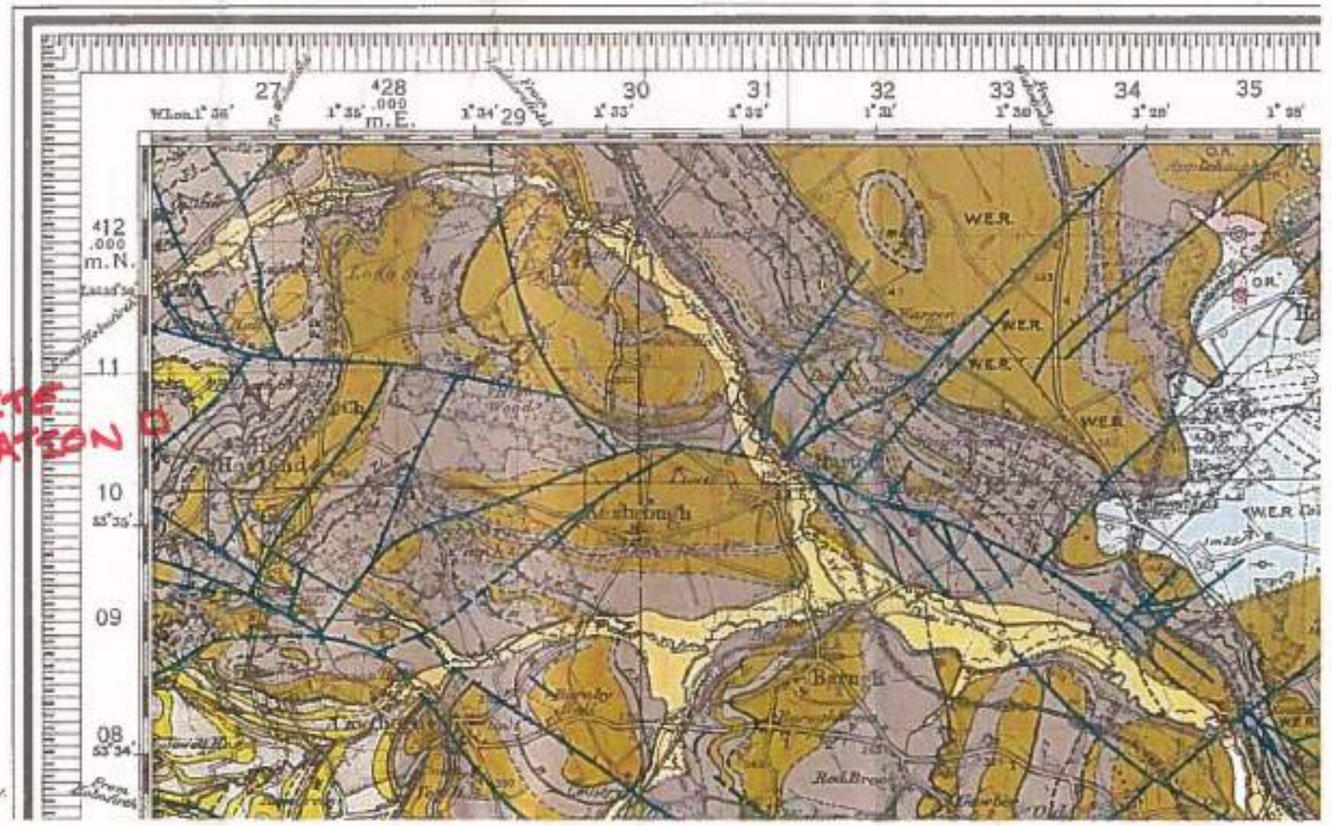
GLACIAL

- *Fluvio-glacial Gravel*
- *Sand & Gravel*
- *Boulder Clay*

- *Dip of strata, the angle in degrees.*
- *Dip proved underground.*
- *Horizontal strata.*
- *Gently inclined strata.*
- *Mine Shaft.*
- *Mine Shaft abandoned.*
- *Borehole.*
- W.B. *Water Bore.*
- *Mine Mouth.*
- *Mine Mouth abandoned.*
- *Landslips.*
- *Faults, cross-mark on downthrow side.*
- *Coal-crops.*
- *Gold lines are Mineral Veins.*
- *Geological boundaries (Solid).*
- *Boundaries, coal crops and faults, where uncertain, are shown broken.*
- *Geological boundaries (Drift).*
- *Fossil localities.*
- M.M.B. *Mansfield Marine Band.*
- *Marine Bands.*
- *Carbonicola Bands.* } *Vertical Section only.*

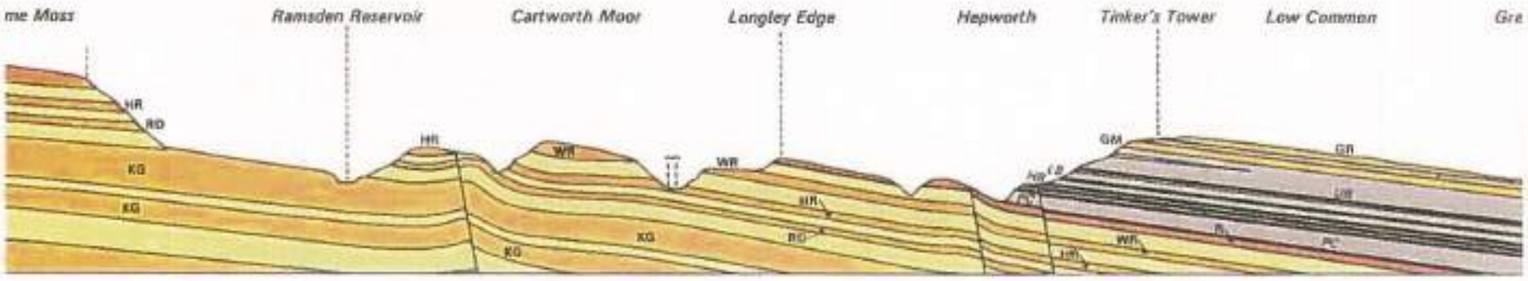
BGS Map Sheet 87

ORDNANCE SURVEY OF GREAT BRITAIN



BGS Map Sheet 86

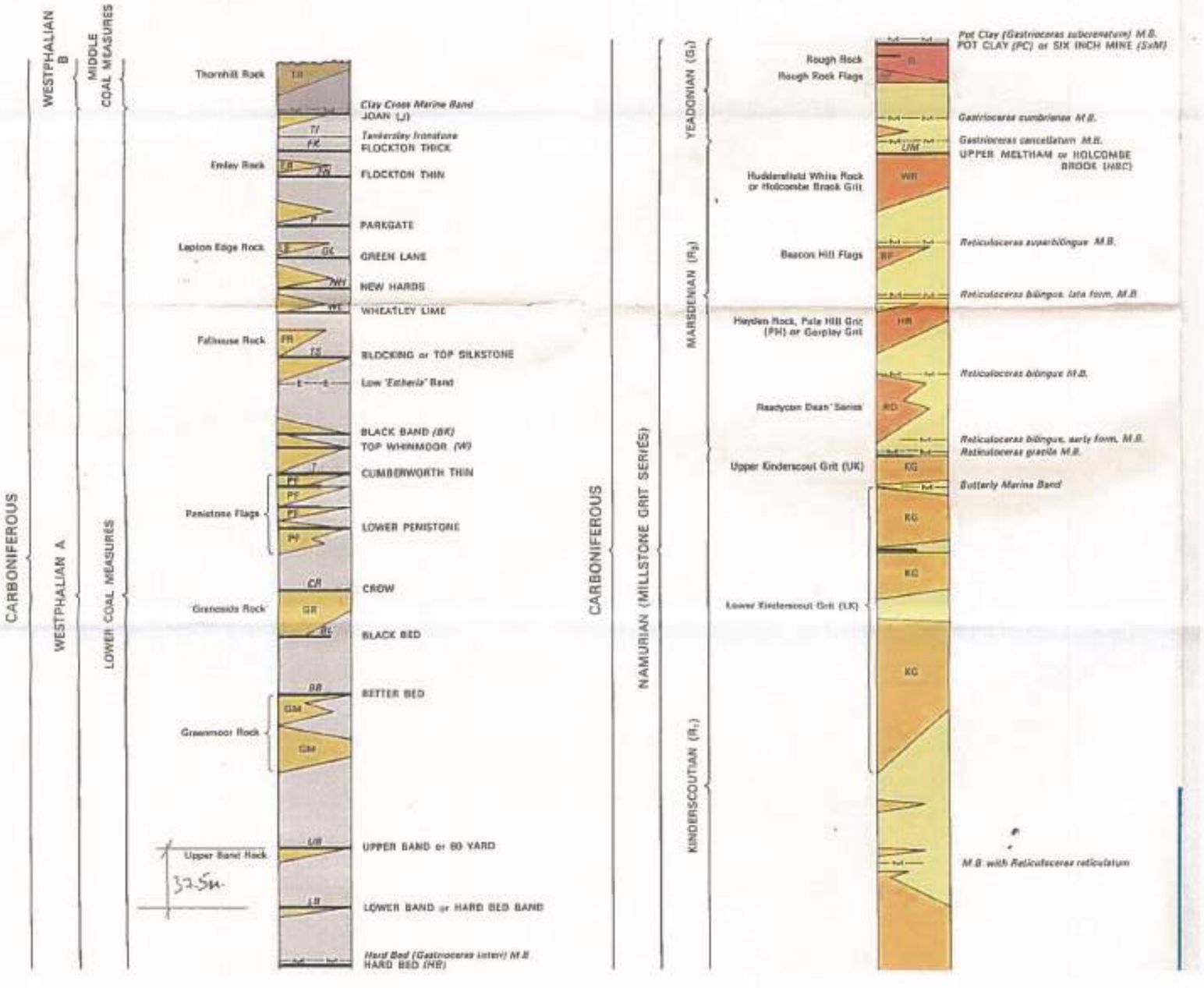
GENERAL RELATIONS OF THE ROCKS ALONG THE LINE DRAWN ON THE MAP



Horizontal Scale 1:50 000 (Vertical exaggeration 3×)



GENERALIZED VERTICAL SECTIONS
SCALE 1:3000



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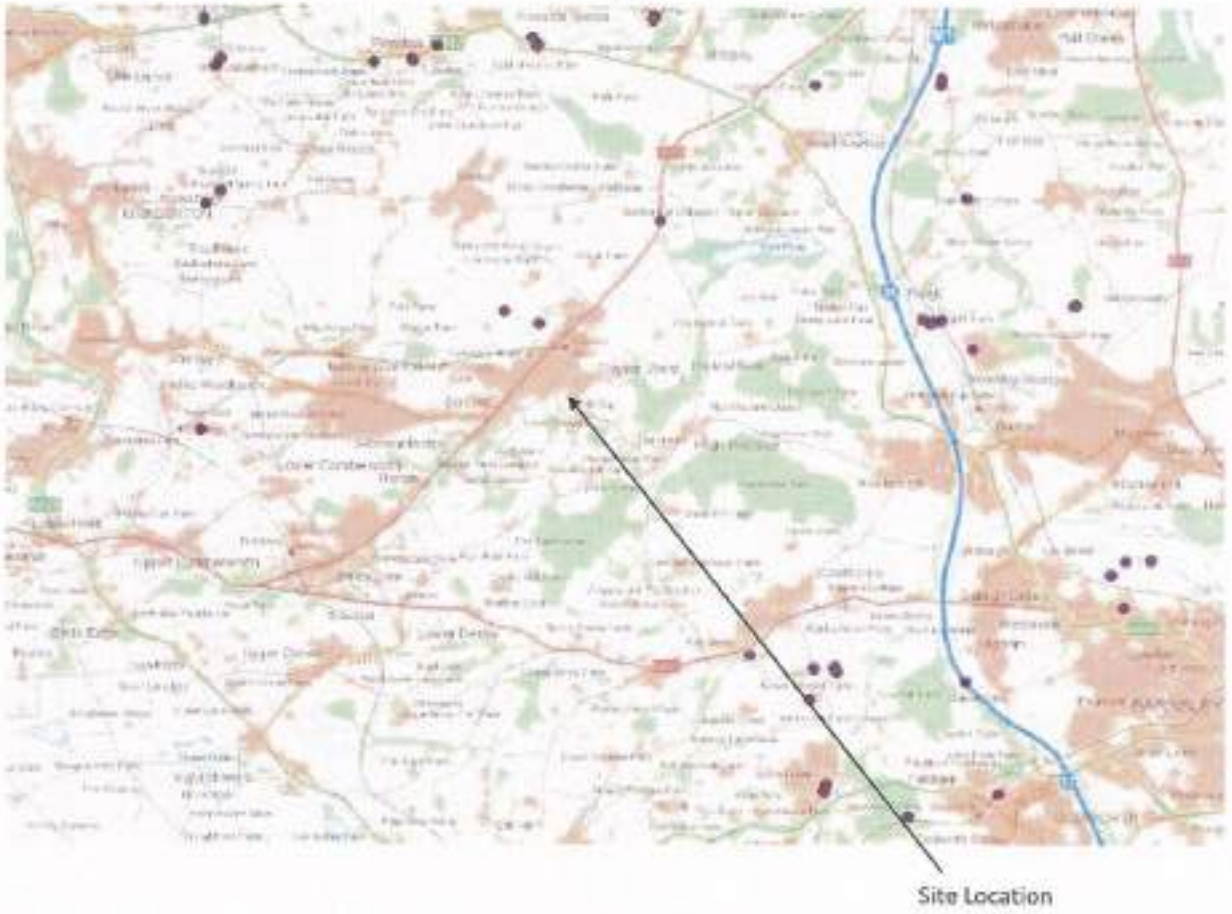
Coal Authority

Monitoring Points



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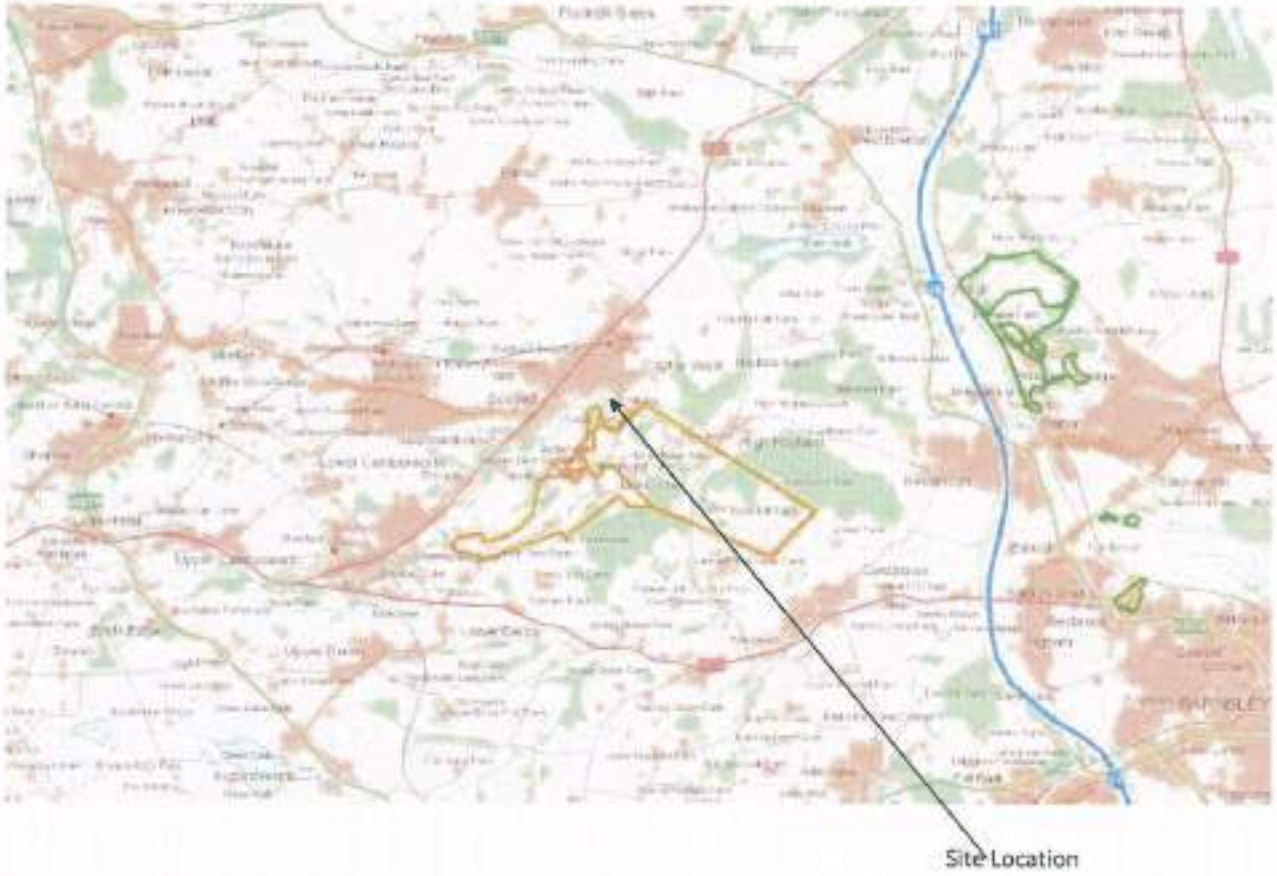
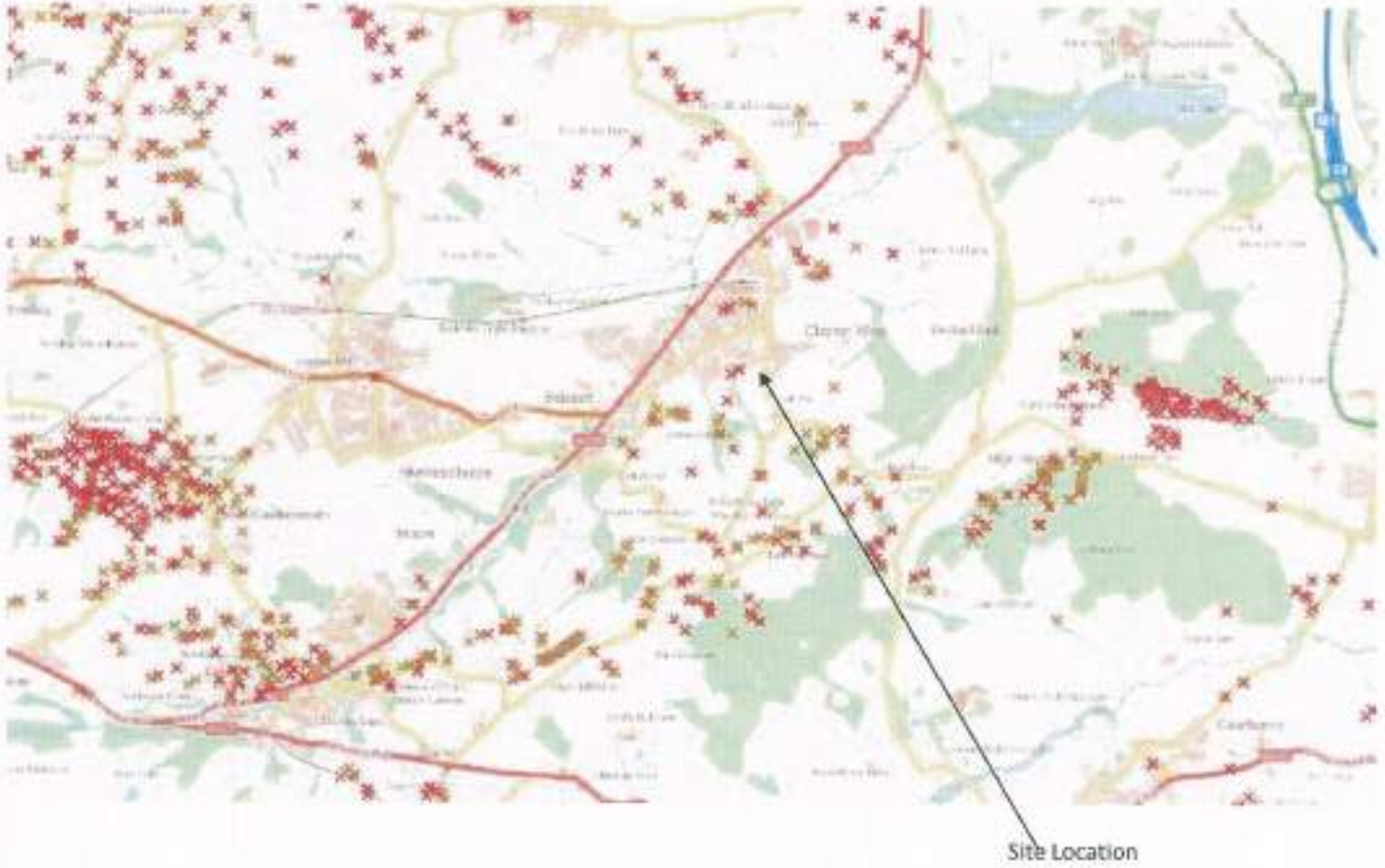
Licence Areas



Mine Entry



Abandoned Mines Catalogue



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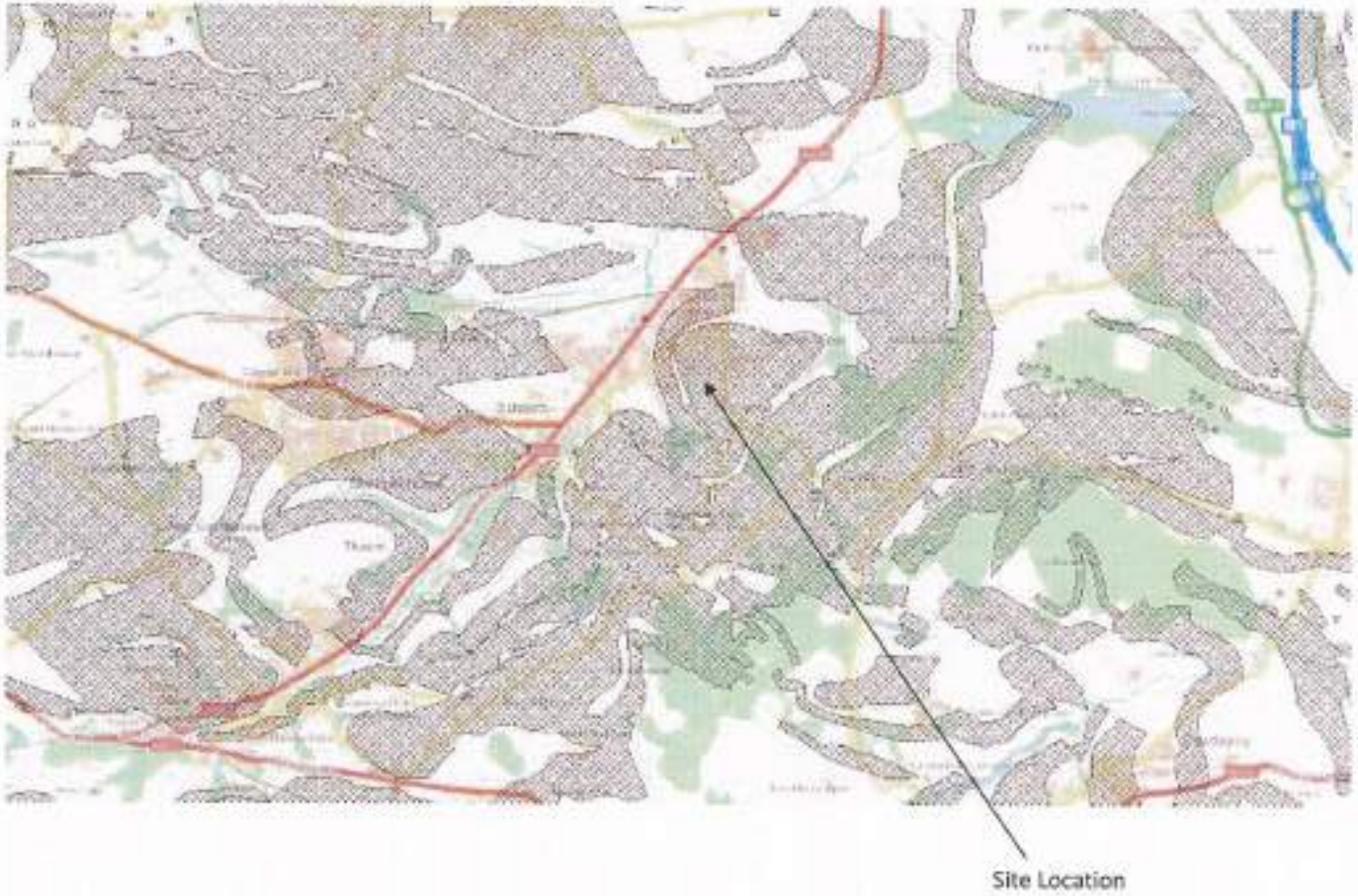
Development High Risk Area



Surface Coal Resource Areas



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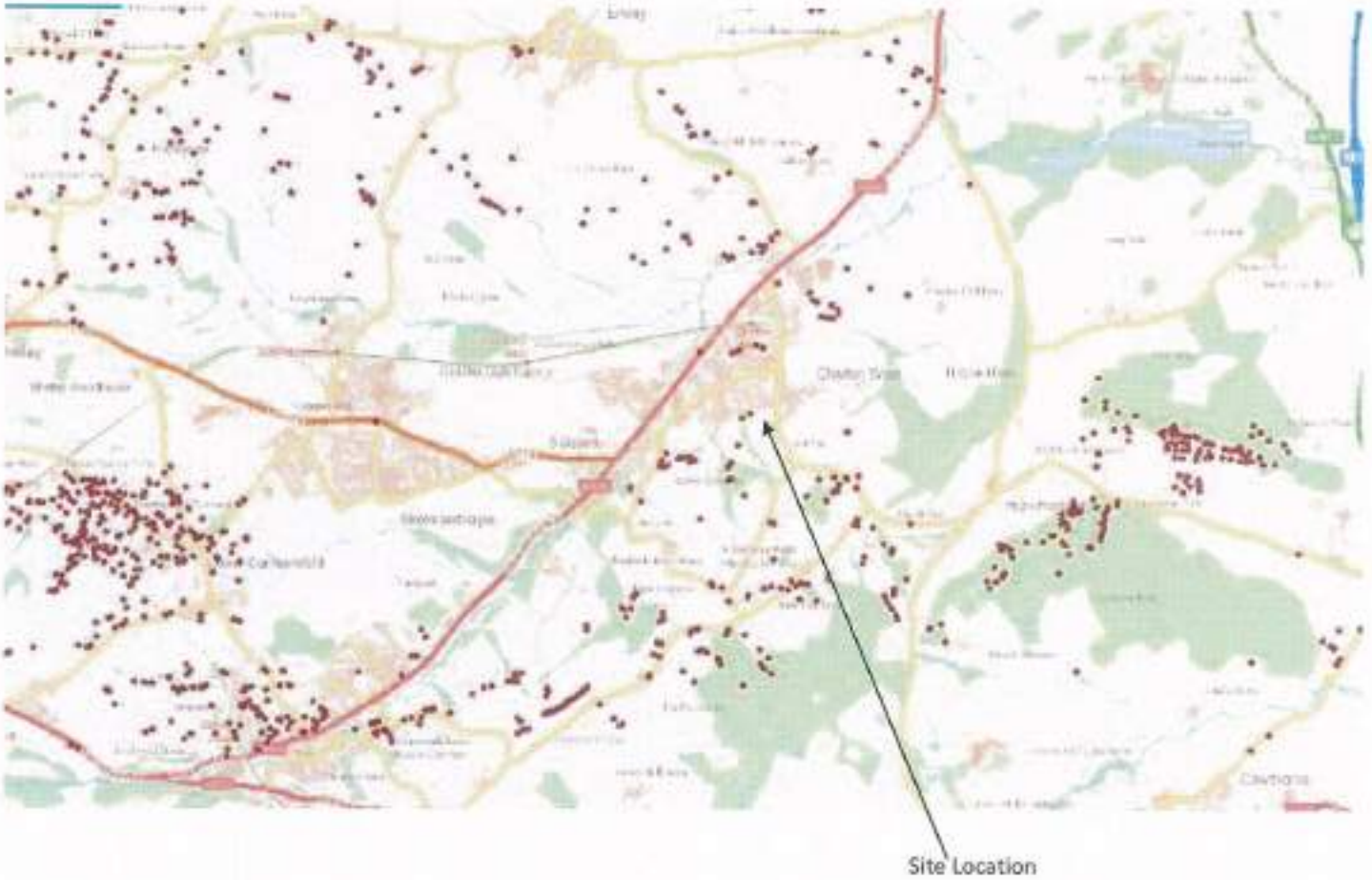
Mine Entry Potential Zone of Influence



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Mine Gas Sites



Surface Mining



Past Shallow Coal Mine Workings



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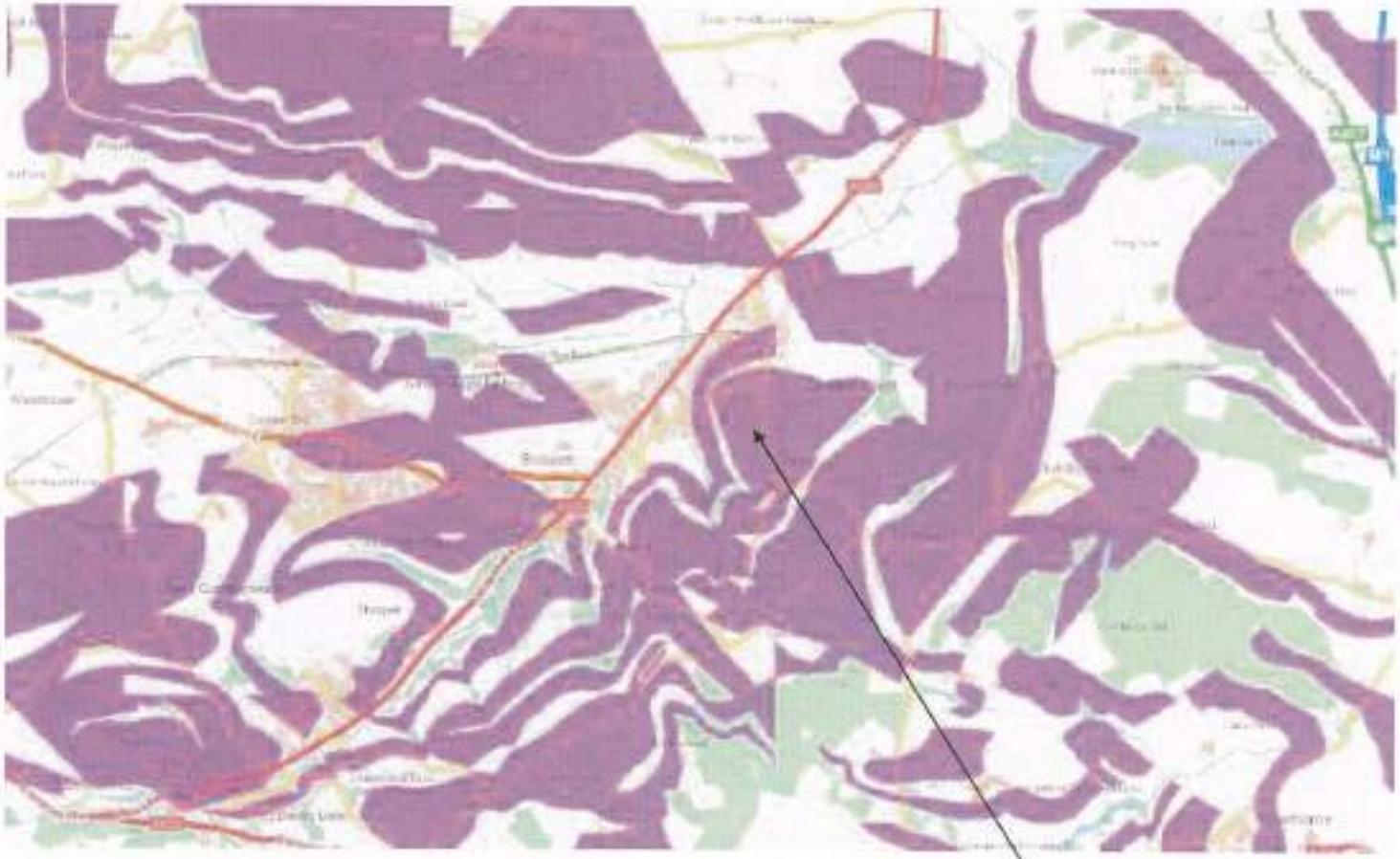
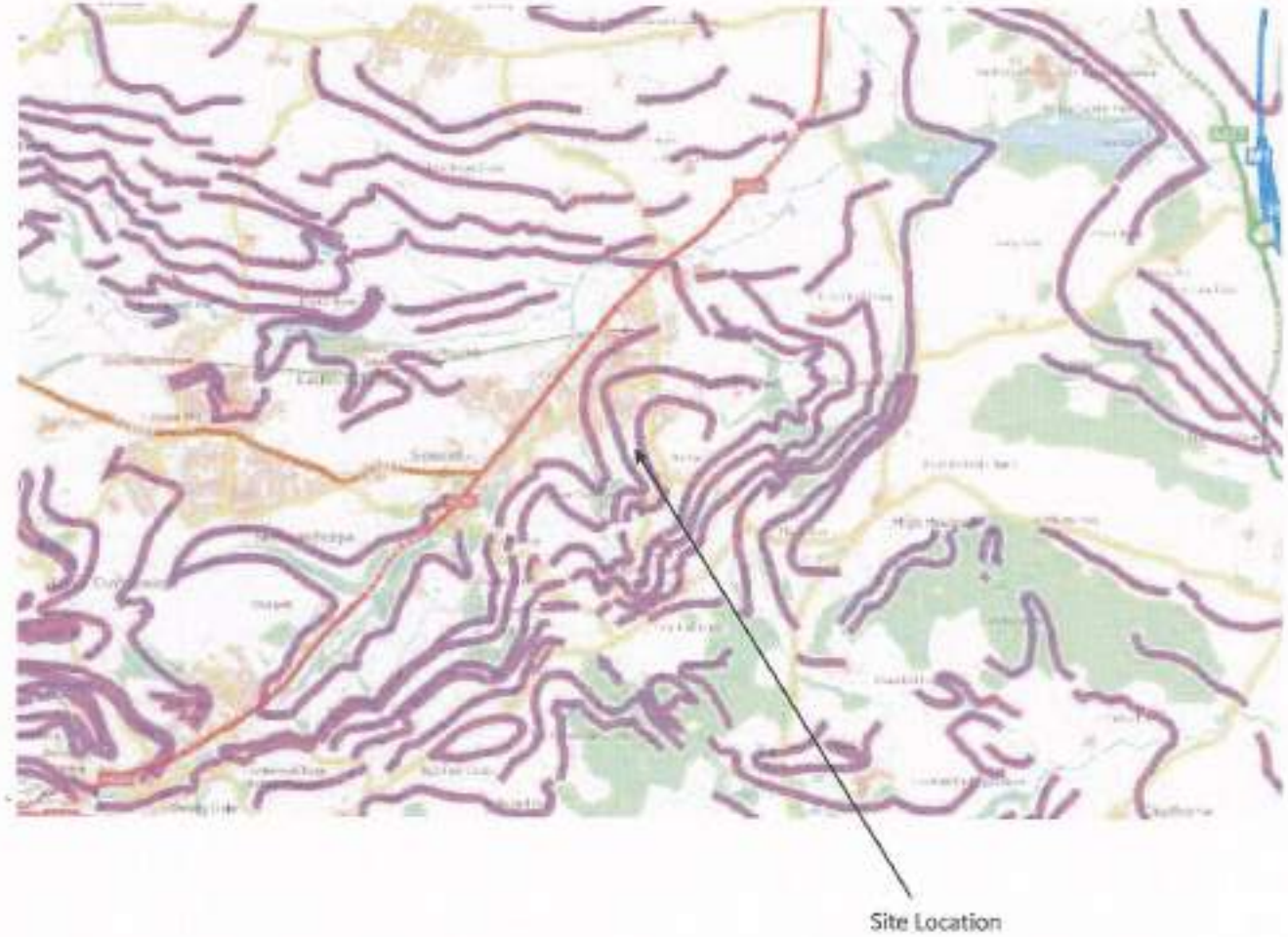
Probable Shallow Coal Mine Workings



Coal Outcrops



Appendix D

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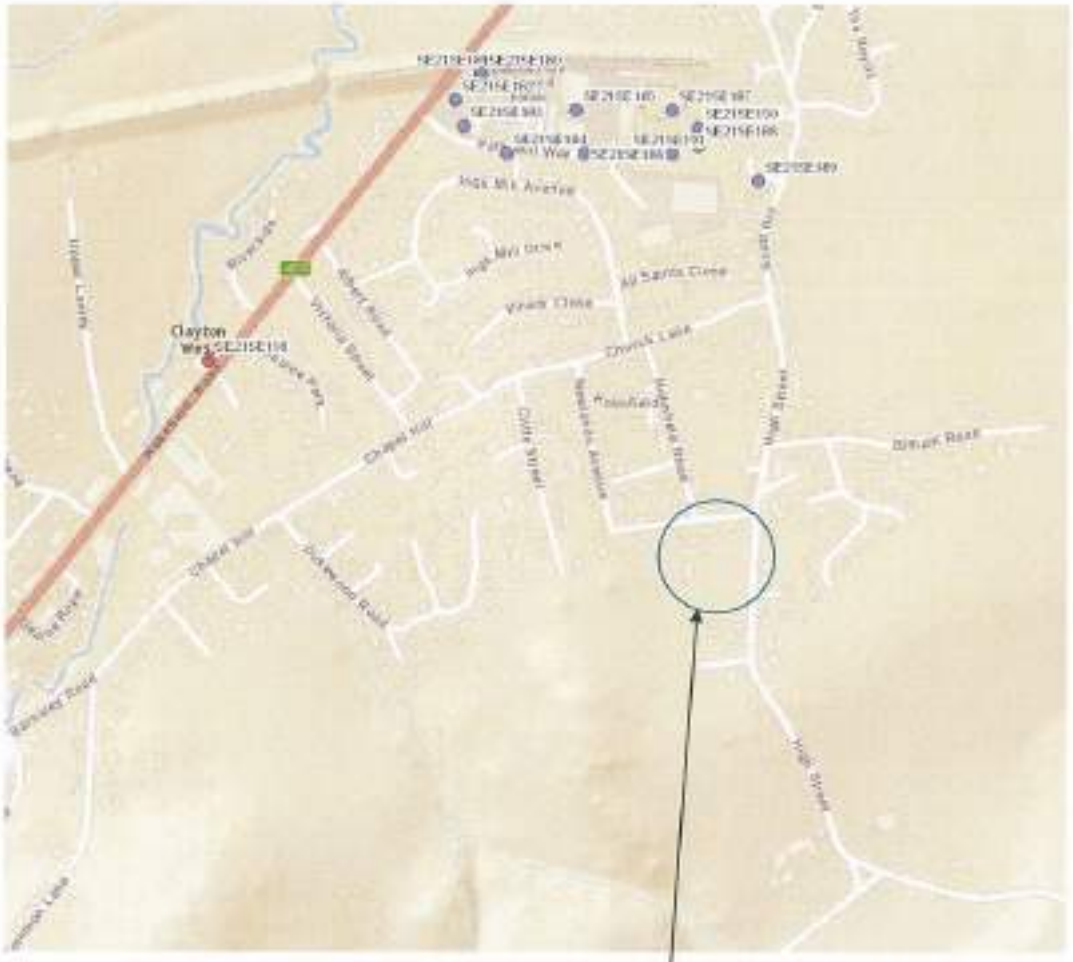
Borehole Information



Borehole SE21SE181

Norwest Holst Soil Engineering Ltd.

Borehole No. **1A**

BOREHOLE LOG

Contract No. F803B
Location Clayton West
Client Kirklees N.C.
Method of Boring Percussion
Diameter of Borehole 150mm

SE 21SE 181
2561 1123

Sheet 1 of 1
Chainage
Ground Level m.A.O.D.
Date 10/8/88

Description of Strata	Legend	Depth Below G.L. (m)	O.D. Level (m)	Casing Depth or Sampling	Sampling and Casing	"N" R.O.D.%	Daily Progress
MADE GROUND: Colliery waste		0.60					
Highly weathered brown MUDSTONE		1.20					
Grey MUDSTONE		2.00			1.50	85 for 210mm	

Type of Sample

S.P.T. Undisturbed
C.P.T. Vane
Jar Water
Bulk Piezometer

Remarks (Observations of Ground Water etc.)

Groundwater not encountered

Borehole SE21SE182

Norwest Holst Soil Engineering Ltd.

Borehole No. 2

BOREHOLE LOG

Contract No. F8038
Location Clayton West
Client Kirklees M.C.
Method of Boring Percussion
Diameter of Borehole 150mm

SE21SE-182
2558 1120

Sheet 1 of 1
Chainage
Ground Level ~A.O.D.
Date 10/8/88

Description of Strata	Legend	Depth Below G.L. (m)	O.D. Level (m)	Casing Depth or Sampling	Sampling and Casing	"N" R.Q.D.%	Daily Progress
TOPSOIL		0.40					
Firm grey/brown mottled silty CLAY		1.30			1.00 (d6)		
Weathered grey/brown MUDSTONE		2.50			2.00	118 for 285mm	

Type of Sample

- S.P.T.
- C.P.T.
- Jar
- Bulk
- Undisturbed
- Vane
- Water
- Piezometer

Remarks (Observations of Ground Water etc.)

Groundwater not encountered

Borehole SE21SE183

Norwest Holst Soil Engineering Ltd.

Borehole No. 3

BOREHOLE LOG

Contract No. 78078
Location Clayton West
Client Kirklees M.C.
Method of Boring Percussion
Diameter of Borehole 150mm

SE21SE - 183
2559 1117

Sheet 1 of 1
Chainage
Ground Level MADE
Date 10/8/88

Description of Strata	Legend	Depth Below C.L. (m)	O.D. Level (m)	Casing Depth of Sampling	Sampling and Casing	"N" (N.O.D.)	Data Progress
MADE GROUND: Colliery Waste		0.40					
Completely weathered brown clayey MUDSTONE		1.60			1.00 (37)		
Highly weathered brown MUDSTONE		2.40			2.00	38	
Grey MUDSTONE		3.50			3.00	124 for 76mm	

Type of Sample
S.P.T. Undisturbed
C.P.T. Vane
Jar Water
Bulk Piezometer

Remarks (Observations of Ground Water etc.) () 10.00 blows
Groundwater not encountered

Borehole SE21SE184

Norwest Holst Soil Engineering Ltd.

Borehole No. 4

BOREHOLE LOG

Contract No. F8308
Location Clayton West
Client Kirklees M.C.
Method of Boring Percussion
Diameter of Borehole 150mm

SE21SE-184
2564 1114

Sheet 1 of 1
Chainage
Ground Level ±0.00
Date 8/8/88

Description of Strata	Legend	Depth Below G.L. (m)	O.D. Level (m)	Casing Depth or Sampling	Sampling and Casing	"N" N.O.D.S.	Daily Progress
MADE GROUND: Colliery Waste		1.70			1.00	14	
MADE GROUND: Soft brown silty clay with coal fragments		2.80			2.00 (12)		
MADE GROUND: Grey silt		2.90 / 3.00			3.00 (61)		
Firm brown silty CLAY					4.00	40	
Completely weathered grey/brown clayey MUDSTONE		4.70			5.00		
Brown MUDSTONE		5.50				121 for 180mm	

Type of Sample
S.P.T. Undisturbed
C.P.T. Vane
Jar Water
Bulk Piezometer

Remarks (Observations of Ground Water etc.) () U100 blows
Slight seepage at 2.50m

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Borehole SE21SE185

Norwest Holst Soil Engineering Ltd.

Borehole No. 5

BOREHOLE LOG

Contract No. E8038
Location Clayton West
Client Kirklees M.C.
Method of Boring Percussion
Diameter of Borehole 150mm

SE21SE-185
2572 1119

Sheet 1 of 1
Chainage
Ground Level ... m A.O.D.
Date 10/8/88

Description of Strata	Legend	Depth Below O.D. (m)	O.D. Level (m)	Casing Depth of Sampling	Sampling and Casing	"N" R.Q.D.%	Daily Progress
MADE GROUND: Colliery Waste		0.90			1.00		
Highly weathered grey/brown MUDSTONE		1.60				46	
Brown and grey MUDSTONE		2.50			2.00	214 for 210mm	

Type of Sample
B B.P.T. U Undisturbed
D C.P.T. V Vane
O Jar W Water
● Bulk P Piezometer

Remarks (Observations of Ground Water etc.)
Groundwater not encountered

Borehole SE21S1186

Norwest Holst Soil Engineering Ltd.

Borehole No. 6

BOREHOLE LOG

Contract No. F8038
Location Clayton West
Client Kirklees N.C.
Method of Boring Percussion
Diameter of Borehole 150mm

SE21SE - 186
2573 1114

Sheet 1 of 1
Chainage
Ground Level ... m A.O.D.
Date 9/8/88

Description of Strata	Legend	Depth Before G.L. (m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Casing	"N" / R.Q.D.%	Daily Progress
MADE GROUND: Colliery Waste		0.40					
Completely weathered brown clayey MUDSTONE		2.25			1.00 (36) 2.00 (79)		
Weathered brown MUDSTONE		2.80					
Brown MUDSTONE		3.50			3.00	122	

Type of Sample

- S.P.T.
- Undisturbed
- C.P.T.
- Vane
- Jar
- Water
- Bulk
- Piezometer

Remarks (Observations of Ground Water etc.)

Groundwater not encountered

Borehole SE21SE187

Norwest Holst Soil Engineering Ltd.

Borehole No. 7

BOREHOLE LOG

Contract No. FH038
Location Clayton West
Client Kirklees M.C.
Method of Boring Percussion
Diameter of Borehole 150mm

SE21SE - 187
2583 1119

Sheet 1 of 1
Chainage
Ground Level m A.O.D.
Date 11/8/88

Description of Strata	Legend	Depth Below G.L. (m)	O.D. Level (m)	Casing Depth or Sampling	Sampling and Casing	"N" / R.O.D.%	Data Progress
MADE GROUND: Colliery Waste		0.20					
CONCRETE		0.40					
MADE GROUND: Colliery Waste					1.00	11	
		2.40			2.00	12	
Completely weathered brown clayey MUDSTONE		2.60			3.00		
Weathered grey/brown MUDSTONE		3.50				97 for 580mm	

Type of Sample

- S.P.T.
- Undisturbed
- C.P.T.
- Vane
- Jar
- Water
- Bulk
- Piezometer

Remarks (Observations of Ground Water etc.)

Groundwater not encountered

Borehole SE21SE188

Norwest Holst Soil Engineering Ltd.

Borehole No. 8

BOREHOLE LOG

Contract No. F8036
Location Clayton West
Client Kirklees M.C.
Method of Boring Percussion
Diameter of Borehole 150mm

SE21SE - 188
2586 1115

Sheet 1 of 1
Chainage
Ground Level m.A.O.D.
Date 8/8/88

Description of Strata	Legend	Depth Below G.L. (m)	O.D. Level (m)	Casing Depth in Sampling	Sampling and Casing	"N" R.Q.D.%	Daily Progress
MADE GROUND: Colliery Waste		0.40					
Firm brown mottled silty CLAY grading to completely weathered brown mudstone		2.30			1.00 (33) 2.00 (66)		
Weathered grey/brown SANDSTONE		3.50			3.00	78 for 115mm	

Type of Sample

S.P.T. Undisturbed
C.P.T. Vane
Jar Water
Bulk Piezometer

Remarks (Observations of Ground Water etc.) 1) 9500 blows
Groundwater not encountered

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Borehole SE21SE189

Norwest Holst Soil Engineering Ltd.

Borehole No. 9

BOREHOLE LOG

Contract No. 88038
Location Clayton West
Client Kirklees M.C.
Method of Boring Percussion
Diameter of Borehole 150mm

SE 21 SE - 189
2593 (11)

Sheet 1 of 1
Chainage
Ground Level m A.O.D.
Date 8/8/88

Description of Strata	Legend	Depth Below G.L. (m)	O.D. Level (m)	Casing Depth & Sampling	Sampling and Coring	"N" B.S.D.%	Daily Progress
MADE GROUND: Colliery Waste		0.50					
Weathered brown SANDSTONE		1.60			1.50	50 for 30mm	
Brown SANDSTONE		2.00					

Type of Sample
D S.P.T. ■ Undisturbed
D. C.P.T. X Vane
D Jar △ Water
● Bulk Piezometer

Remarks (Observations of Ground Water etc.)
Groundwater not encountered

Borehole SE21SE190

Norwest Holst Soil Engineering Ltd.

Borehole No. **10**

BOREHOLE LOG

Contract No. FRC08
Location Clayton West
Client Kirklees M.C.
Method of Boring Percussion
Diameter of Borehole 150mm

SE21SE-190
2586 1117

Sheet 1 of 1
Chainage
Ground Level m.A.O.D.
Date 11/8/88

Description of Strata	Legend	Depth Below G.L. (m)	O.D. Level (m)	Casing Depth or Sampling	Sampling and Casing	"N" R.C.D.%	Daily Progress
MADE GROUND: Colliery Waste		1.80			1.00	16	
Stiff yellow/grey mottled silty CLAY		2.35			2.00 (49)		
Weathered grey/brown MUDSTONE		3.50			3.00	132	

Type of Sample

- S.P.T.
- Undisturbed
- C.P.T.
- Vane
- Jar
- Water
- Bulk
- Piezometer

Remarks (Observations of Ground Water etc.) () U100 blows
Groundwater not encountered

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Borehole SE21SE191

Norwest Holst Soil Engineering Ltd.

Borehole No. 11

BOREHOLE LOG

Contract No. P0098
Location Clayton West
Client Kirklees M.C.
Method of Boring Percussion
Diameter of Borehole 150mm

SE21SE 191
2585 1114

Sheet 1 of 1
Chainage
Ground Level ..... m A.O.D.
Date 11/8/88

Description of Strata	Legend	Depth Below O.D. (m)	O.D. Level (m)	Casing Depth & Sampling	Sampling and Coring	"N" B.O.D.%	Daily Progress
MADE GROUND: Colliery Waste		0.80			1.00 (41)		
Completely weathered brown clayey MUDSTONE		2.20			2.00 (103)		
Grey/brown MUDSTONE		3.50			3.00	50 for 40mm	

Type of Sample
S.P.T. Undisturbed
C.P.T. Vane
Jar Water
Bulk Piezometer

Remarks (Observations of Ground Water etc.) () 0100 blows
Groundwater not encountered

Borehole SE21SE118

M HUCKLAND

CENTRAL L.S.
NORTH EAST E.A.

SE21/42

FORM WR-38

National Rivers Authority
..... Region

SE 21/SE 118

NRA No.

(Please type)

BOREHOLE RECORD

A. SITE DETAILS

Borehole drilled for	J. S. AUCKLAND
Location	108-112 WAKEFIELD RD. SCISSETT - HUDDERSFIELD.
NGR (6 fig.)	SE 2520 1040 — Please attach site plan
Ground Level (if known) ..	
Drilling Company	MALMAC CONSTRUCTION LTD.
Date of drilling	Commenced: 1-12-95 Completed: 10-12-95

B. CONSTRUCTION DETAILS

Borehole datum (if not ground level)..... G.L. above m below GL
(point from which all measurements of depth are taken eg flange, edge of chamber, etc)

Borehole drilled diameter ..... 275 mm from 0.00 to 9.00 m/depth
150 mm from 9.00 to 33.80 m/depth
____ mm from ____ to ____ m/depth

Casing material and type (eg plain steel, plastic slotted) ____ diameter ____ mm from ____ to ____ m/depth
STEEL diameter 150 mm from 0.00 to 9.00 m/depth
____ diameter ____ mm from ____ to ____ m/depth
____ diameter ____ mm from ____ to ____ m/depth

Grouting details ..... GROUTED STEEL CASING.

Water struck at ..... 5.80 – 20.00 m (depth below datum - mbd)
29.10 m (depth below datum - mbd)

Rest water Level on completion ..... ARTESIAN mbd

C. TEST PUMPING SUMMARY (Please supply full details on Forms WR-38)

Test Pumping Datum (if different from borehole datum) 0.80 above m ~~below borehole~~ datum (mbd)

Pump Suction Depth ..... 25 mbd

Water Level (Start of Test) ..... 0.51 mbd

Water Level (End of Test) ..... 1.72 mbd

Pumping rate ..... 67.86 m³/d : l/s

for 24 days/hours

Recovery to ..... 0.57 mbd in 24 mins : hrs : days
(from end of pumping)

Date(s) of measurements 20-12-95

RECEIVED N.G.D.C.
DIG. 20-7-97

NGDC ACCESSION NUMBER 28680

FORM WR-38 (cont.)

NRA No.	

(Please type)

D. STRATA LOG

Geological Classification (BGS only)	Description of strata	Thickness m	Depth m
Made Ground	FILL	1-00	1-00
Drift	CLAY BROWN	2-20	3-20
Lower Coal Measures (Pennine Rep)	MUDSTONE GREY	8-80	12-00
	SHALE BLACK	1-80	13-80
	MUDSTONE GREY	6-20	20-00
	SANDSTONE GREY	3-40	23-40
	MUDSTONE GREY	4-20	27-60
Aquifer: Lower Coal Measures (Pennine Rep)	COAL BLACK	0-90	28-50
	MUDSTONE GREY	0-60	29-10
	SANDSTONE GREY	3-90	33-00
	MUDSTONE GREY	0-80	33-80
CJC 22/3/99			

[continue on separate page if necessary]

Other Comments (eg gas encountered, saline water intercepted, etc)

FOR OFFICIAL USE ONLY

FILE ..... CONSENT NO ..... BGS REF NO .....

Appendix E

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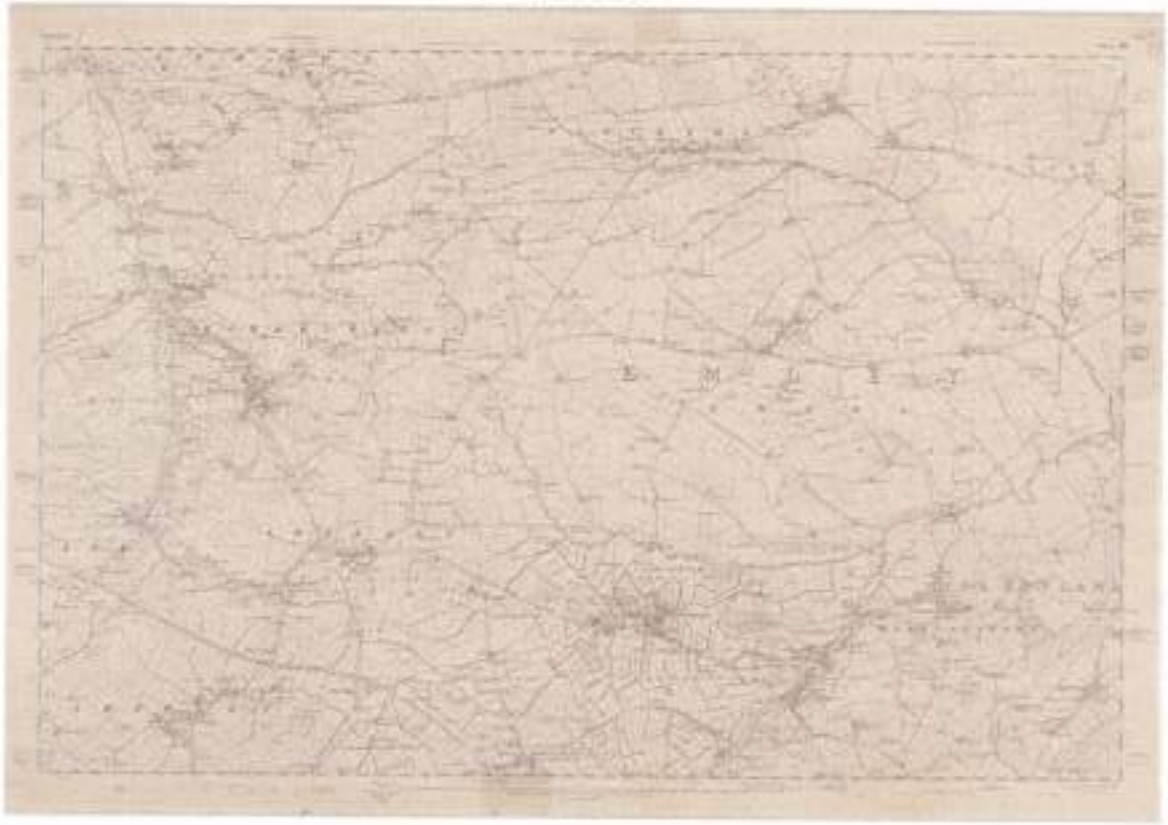
Old Maps

Yorkshire 261

Surveyed: 1849 – 1850

Published: 1854



Yorkshire CCLXI.SE

Surveyed: 1891 – 1892

Published: 1894



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Yorkshire CCLXI.SE

Surveyed: 1904

Published: 1907



Yorkshire CCLXI.SE

Surveyed: 1929

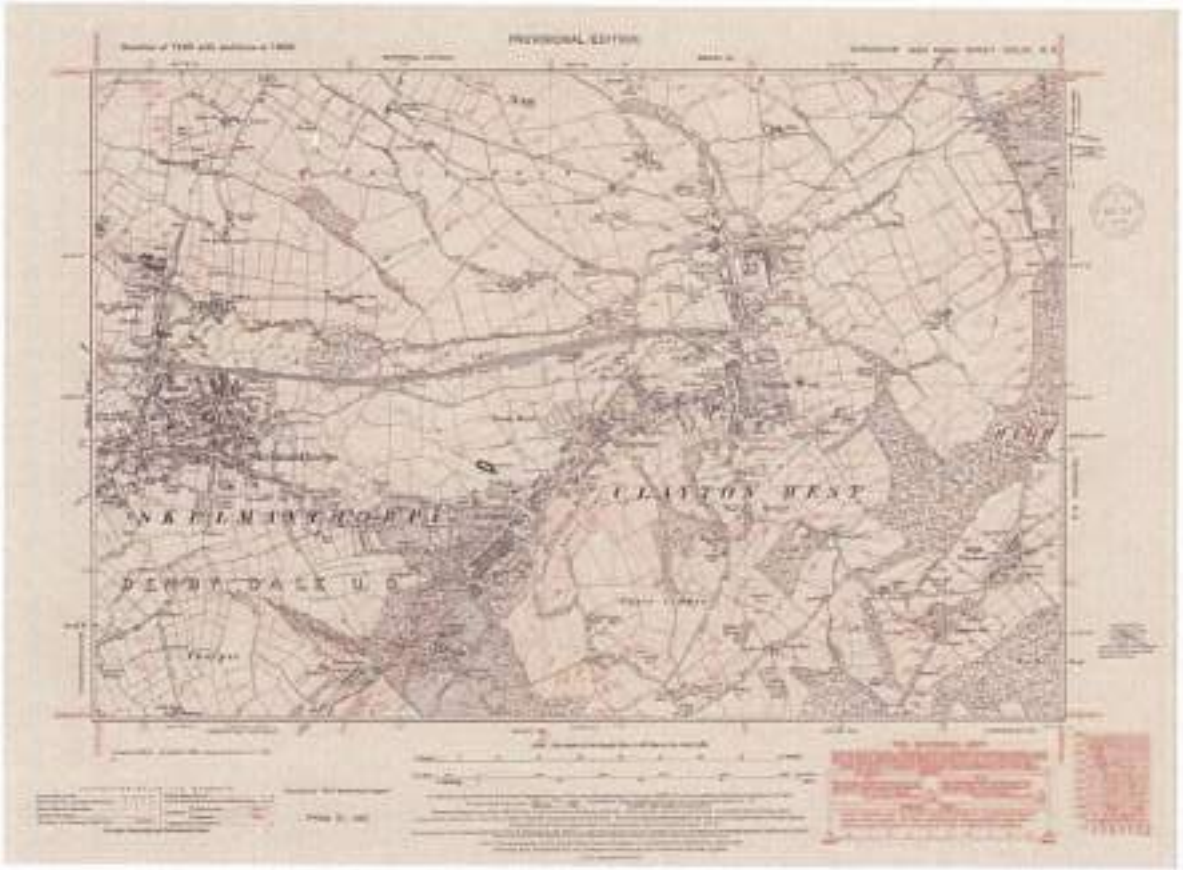
Published: 1932



Yorkshire CCLXI.SE

Surveyed: 1938

Published: 1948



Yorkshire CCLXI.SE

Surveyed: 1948

Published: 1949

