

Earth Environmental
& Geotechnical

Coal Mining Risk Assessment

Vista Engineering

Carr Brook Works

Whaley Bridge

May 2014

On behalf of

VISTA ENGINEERING



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1.0 INTRODUCTION

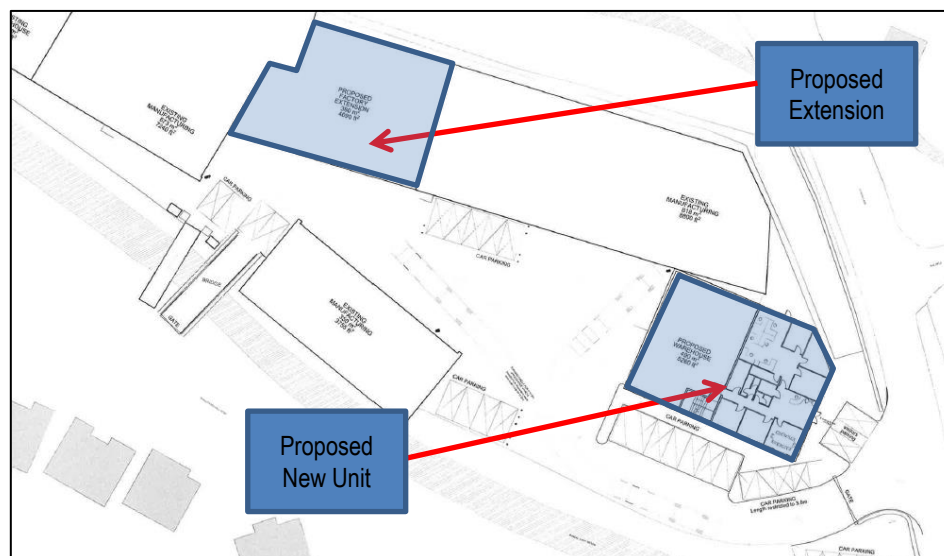
Appointment

- 1.1 Earth Environmental & Geotechnical Ltd was commissioned by Ian Normanshire of SWF Consulting on behalf of Vista Engineering (the client) to undertake a Coal Mining Risk Assessment for a proposed development at a factory complex on Elnor Lane, Whaley Bridge.

Proposed Development

- 1.2 It is understood that the client has applied to High Peak Borough Council for planning permission for the demolition of an existing office and storage warehouse and the construction of new office and warehouse, together with the extension of an existing warehouse to create a new manufacturing space.
- 1.3 Vista Engineering is a manufacturer of wall ties, fixings and complimentary ancillary products.
- 1.4 As part of the planning submission the council has requested the completion of a Coal Mining Risk Assessment as *“the site falls within a Coal Mining Development Referral Area”*.
- 1.5 A development layout plan has been provided by the client and is shown below in Figure 1.

Figure 1 Development Layout Plan



Objective

- 1.6 The purpose of the Coal Mining Risk Assessment is to collate available geological, mining and historical data in order to assess the potential for the site to be affected by underground mining. This report has been drafted in accordance with the Coal Authority Coal Mining Risk Assessment Template, January 2011.

Sources of Information

1.7 The Coal Mining Risk Assessment comprises of a review of the following information sources:

- Online British Geological Survey maps and data.
- Geological Survey of England & Wales, SK08SW, Scale 1/10,560, 1975.
- Coal Authority Mining Report, dated 1st May 2014.
- Coal Authority Interactive Map Viewer.
- British Geological Survey online borehole records.
- GroundSure Report, dated 11th April 2014, provided by the client.
- Google Earth imagery.

2.0 SITE LOCATION AND DESCRIPTION

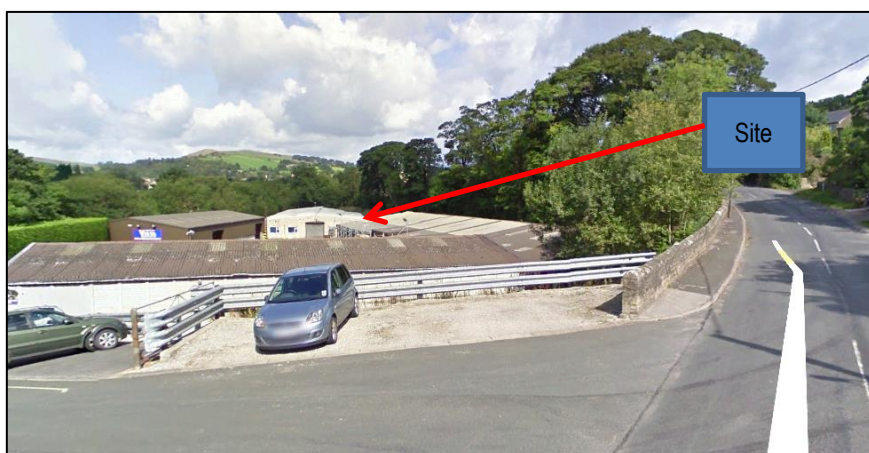
- 2.1 The site is located on Elnor Lane in the market town of Whaley Bridge. The factory complex is located within a Zone 2 and Zone 3 floodplain (source GroundSure report) of the partially culverted Randal Carr Brook.
- 2.2 A location plan is shown below as Figure 2.

Figure 2 Site Location Plan



- 2.3 Figure 3 (below) provides a photograph showing the site frontage.
- 2.4 The site is centred at Ordnance Survey National Grid Reference SK01450 80351, postcode SK23 7JN.
- 2.5 The two development areas lie at an elevation of approximately 181mAOD to 184mAOD.

Figure 3 View of Site Frontage



Site Utility Services

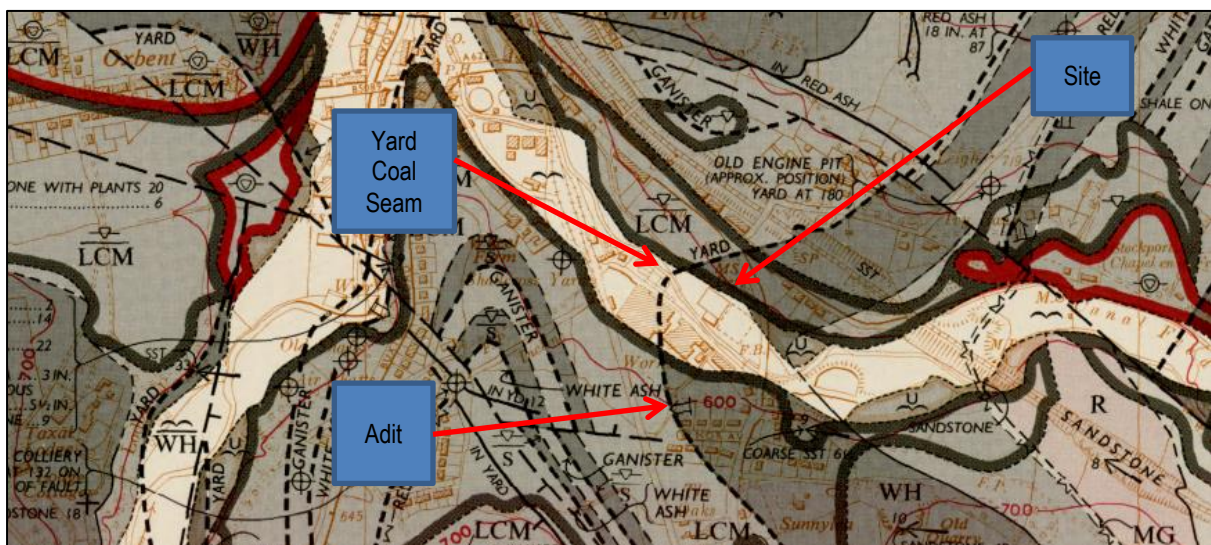
- 2.6 A site service plan has not been provided by the client. The status of all services should be checked with the statutory providers prior to any development (including site investigation) commencing.

3.0 ASSESSMENT OF DATA

Geological Information

- 3.1 The geology of the site has been determined from acquisition of geological maps for the area and examination of Coal Authority records.
- 3.2 The British Geological Survey map SK08SW shows the site to be underlain by a combination of Alluvium (clay, silt, sand and gravel), River Terrace Deposits (sand and gravel) and Glacial Till (clay).
- 3.3 The geological map shows that the Yard coal seam is inferred to outcrop to the west of the two development areas.
- 3.4 Local dip direction is to the west at an angle of inclination of nine degrees and an adit on the Yard coal seam outcrop, to the south of the site, confirms the dip direction.
- 3.5 The British Geological Survey borehole database provides no information which allows for further interpretation of the local geology.
- 3.6 Figure 4 (below) shows an extract of the geological map.

Figure 4 Extract of Geological Map

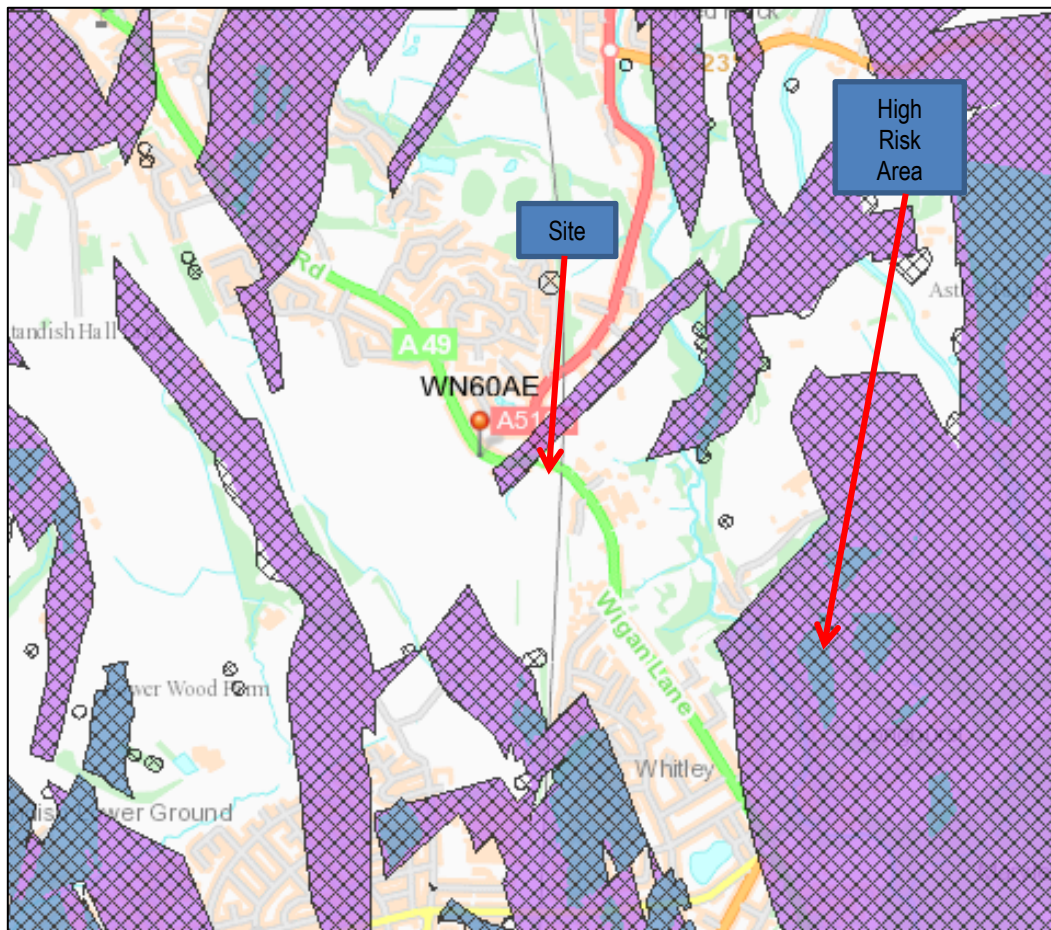


Coal Authority Records

- 3.7 A Coal Authority Mining Report has been acquired for the site and this reveals that the property not within the zone of likely physical influence on the surface from past underground workings.
- 3.8 The Coal Authorities interactive map shows that the two development areas are not located within a Development High Risk Area.
- 3.9 Figure 5 (overleaf) shows an extract from the Coal Authority Online Interactive Viewer.

- 3.10 There is no record of a damage notice or subsidence claim for a property within 50metres of the development area.
- 3.11 There are no mine entries on the site or within 20m of the site boundary or any recorded gas emissions within the property boundary.

Figure 5 Extract from Coal Authority Online Interactive Viewer



4.0 COAL MINING RISK ASSESSMENT

Scope of Coal Mining Risk Assessment

- 4.1 Objectives of the coal mining risk assessment are to provide a desk based assessment of available geological and mining information relating to the site (and wider area) and to use this information so as to identify risks present to the development from the legacy of mining.
- 4.2 As part of the risk assessment potential mitigation measures (if required) should be considered, including any necessary remedial works.
- 4.3 The outcome of the risk assessment should demonstrate to the Local Authority that the proposed development is, or can be made safe (and stable) to meet the requirements of PPS14 "Development on Unstable Land".

Data Limitations

- 4.4 It should be appreciated that it did not become a legal requirement to deposit coal mining abandonment plans until the 1870's and that this requirement was not rigorously enforced for some time after. Many shallow coal seams were worked prior to the introduction of first edition Ordnance Survey Maps and information on these workings is often not available. Therefore if coal seams were accessible then invariably they could have been worked by formal or informal means.
- 4.5 It is also possible that if unrecorded workings are present then unrecorded mine entries may be present.

Coal Mining Risks

- 4.6 The risks associated with coal mining are as follows:
- Collapse of relict workings beneath buildings causing damage to the building fabric and infrastructure.
 - Migration of mine gases from old mine works and mine entries resulting in build-up of flammable and asphyxiating gases in confined areas.
 - Consolidation of relict workings and overlying strata causing structural defects in building fabric and infrastructure.
 - Failure of mine entries causing loss of ground beneath building and external areas.
 - Spontaneous combustion of old mineworkings.

Summary of Risk

- 4.7 The Coal Authority Mining Report has identified no potential shallow mineworkings associated with the two development areas. The Yard coal seam outcrops at the western boundary of the Carr Brook Works, with a dip direction to the west.

- 4.8 Given that there are no reported subsidence claims within 50m of the property boundary any surface workings or underground mining related subsidence is considered to be very low.
- 4.9 The coal seams in the area are not recorded as being combustible on the Coal Authority database.

Proposed Mitigation Strategy

- 4.10 There is no evidence of former coal mine activity being present at a shallow depth beneath the two development areas.
- 4.11 Intrusive works are not considered necessary to establish whether shallow coal mineworkings are present beneath the two development areas.



APPENDIX 1

COAL AUTHORITY MINING REPORT



APPENDIX 2

LIMITATIONS

LIMITATIONS

This contract was completed by Earth Environmental & Geotechnical Ltd on the basis of a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with all reasonable skill, and care, bearing in mind the project objectives, the agreed scope of works, the prevailing site conditions, the budget and staff resources allocated to the project.

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The services are based upon Earth Environmental & Geotechnical Ltd observations of existing physical conditions at the site gained from a walkover survey of the site together with Earth Environmental & Geotechnical Ltd interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and whilst Earth Environmental & Geotechnical Ltd have no reason to doubt the accuracy and that it has been provided in full from those it was requested from, the items relied on have not been verified.

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Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable and as investigation excavations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and Earth Environmental & Geotechnical Ltd] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The normal speed of investigation usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.



Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan, but is (are) used to present the general relative locations of features on, and surrounding, the site.