

COAL AUTHORITY MINING REPORT REVIEW

Tyne & Wear Building Preservation Trust

**St Hilda's Colliery Head Stock
South Shields**



Our Ref: SES/TWBPT/SH/1#1CM

Date: 29th July 2016

Client:

Tyne & Wear Building Preservation Trust
Alderman Fenwick's House
98-100 Pilgrim Street
Newcastle
NE1 6SQ

COAL AUTHORITY MINING REPORT REVIEW

**St Hilda's Colliery Head Stock
South Shields**

A statement prepared on behalf of *Soil Environment Services* by:



Louise Tavasso BSc
Environmental Consultant

Checked by:



Dr Robin S Davies BSc PhD MISoilSci PGC *Contaminated Land Management*
Managing Director

This statement has been prepared by Soil Environment Services with all reasonable skill, care and diligence, within the terms of The Contract with The Client. The statement is the property of The Client who can assign this to any third party who will then be afforded the same assurances as detailed within the terms of the original Contract with The Client.

Soil Environment Services

Agricultural Land Classification, Contaminated Land
Risk Assessment, Mineral Extraction Soil Planning
Unit 8, Stocksfield Hall, Northumberland, NE43 7TN
Telephone 01661 844827
1210 Parkview, Arlington Business Park, Reading, RG7 4TY
Telephone 0118 9657523
www.soilenvironmental.com

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COAL AUTHORITY REPORT

1. INTRODUCTION

This report reviews the information in the Coal Authority report (Appendix A) specifically in regard to the potential for the site to be at risk from ground gases: methane and carbon dioxide.

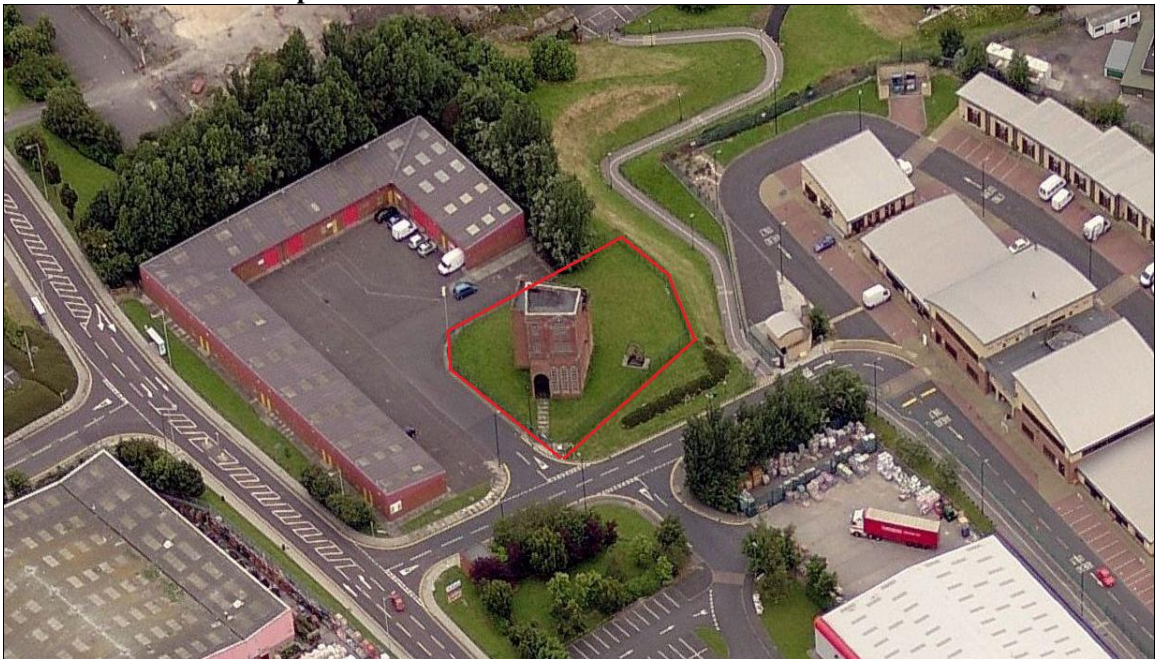
Location of the Coal Authority report relates:

St Hilda's
Station Road
South Shields
Tyne & Wear
NE33 1RA

OS Grid Ref: 436179, 566828

The boundary of the site to which this report relates is outlined in red in Photo 1.

PHOTO 1 Site location plan



The site has been the subject of a Phase 1 desktop study (Soil Environment Services Ltd, Report Ref: SES/ TWBPT/SH/1#1/1#1 July 2016).

2 GEOLOGY

BGS maps indicate that the site is located on:

Superficial geology

1:50 000 scale superficial deposits description: Glaciolacustrine Deposits, Devensian - Clay and Silt. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by ice age conditions.

Bedrock geology

1:50 000 scale bedrock geology description: Pennine Middle Coal Measures Formation - Mudstone, Siltstone and Sandstone. Sedimentary Bedrock formed approximately 309 to 312 million years ago in the Carboniferous Period. Local environment previously dominated by swamps, estuaries and deltas.

A BGS borehole log (BGS ID 17315656, BGS Reference NZ36NE872 – Figure 1) mapped on the site indicates:

FIGURE 1 Borehole log

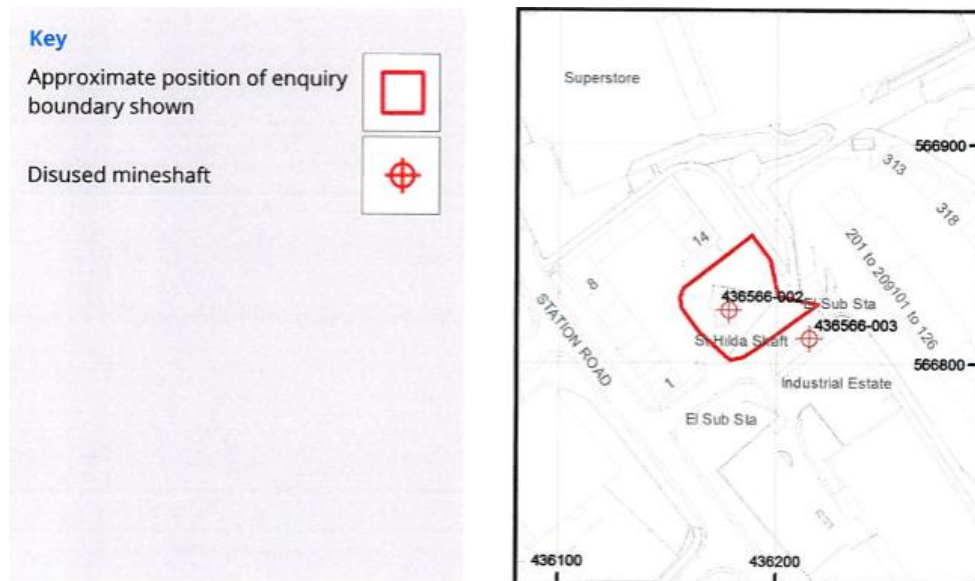
NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
Nunnery Floor 1940. A.O.D. 43.66 A.O.D. 35.16					
	Soil	1	-	1	-
	Red Clay	4	-	5	-
	Brown Clay and Sand	14	-	19	-
	Sand, water.	2	-	21	-
	Blue Stony Clay	13	6	34	6
	Blue Metal	1	-	35	6
	Brown Metal	2	8	38	2
	Blue Metal	2	2	40	4
	Post		3	40	7
	Blue Metal	1	11	42	6
	Black Stone		2	42	8
	Blue Metal	1	5	44	1
- 9.51	Coal		7	44	8
	Thill	1	-	45	8
	Brown Post	7	1	118	11
	Soft Brown Metal	10	-	119	9
	Black stone and coal	7	-	120	4
	Blue Metal soft	5	6	125	10

3 CONCLUSIONS AND REMEDIAL OPTIONS

The Coal Authority (CA) report undertaken for the site indicates the following:

- The site is in a surface area that could be affected by underground mining in five seams of coal at 140 m and 280 m depth, last worked in 1925. The CA states that any ground movement from these coal workings should have stopped. Therefore the risk to the ground surface from recorded workings is assessed as **negligible**. The site is not in the likely zone of influence from any present or future workings.
- The property is not within the boundary of an opencast site from which coal has been removed by opencast methods. The CA confirms that the property does not lie within 200 m of an opencast site for which coal is being removed or within 800 m of a boundary of an opencast site for which a licence to remove coal by opencast methods has been granted. The risk from current, future or opencast workings is therefore classed as **negligible**.
- There are no records of any mine gas emissions requiring action by the CA within the boundary of the property. The risk from mine gas emissions is classed as **negligible**. *This does not preclude a risk from ground gases from other sources. However the Phase 1 desktop report did not identify any significant issues from ground gases.*
- The Coal Authority is not aware of any evidence of damage arising from geological faults or lines of weakness affected by coal mining.
- The Coal Authority has not received a damage notice or claim for the subject property or any property within 50 m since October 1994.
- The property has not been subject to remedial works.

- Within, or within 20 m of the boundary of the property, there are two mine entries.



Coal Authority records indicate that the mine shaft located on the site has been infilled with clean hard-core and concrete plugged. No treatment details for the mine shaft to the south of the site are available.

The Coal Authority can provide a Mine Entry Interpretive Report for the likelihood on mining subsistence damage that may have occurred where mines were sunk in connection with coal mining operations. It would be advisable to obtain this report for the property.

Where coal measures lie close to the ground surface, foundations could potentially penetrate or encounter coal seams. The risk from ingress and accumulation of potential ground gases from near surface coal seams is generally assessed as low as it is unlikely that coals will be present at or close to foundation depth. The borehole log for the site (Figure 1) identifies coal from 20 m bgl. It is advisable that a thickness of at least 0.5 m of clay should be present between any shallow coals and the base of foundations if any shallow coal is encountered. Some precautionary mitigation may be required.

A visual inspection from a competent person should be undertaken during development works to ascertain ground conditions and coal depths encountered on the site.

APPENDIX A

Coal Authority report