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27 February 2020

Mr Richard Hopkinson
c/o WW Planning
Paradise Farm
Main Road
Hollington
Staffordshire
St10 4HX

Dear Richard

Re: Proposed Residential Development, Site of Former Eaves Cottages, Mobberley

BACKGROUND

As requested, we have reviewed the available information concerning mining legacy issues with a view to outlining potential mitigation measures that may be required to allow safe development of the site for residential use.

A Coal Mining Risk Assessment (CMRA) for the site has been prepared and reported as follows:

Coal Mining Risk Assessment for the development at Former site of Eaves Cottages, Smithy Lane, Mobberley, Stoke-on-Trent, ST10 1TN. Prepared by the Coal Authority for Mr Richard Hopkinson. 26th January 2020.

The CMRA identified two main issues that should be addressed during the development process:

- Potential unrecorded shallow workings in the Alecs (also known as Bullhurst) Coal, which is shown on geological mapping to subcrop on site.
- Suspected presence of mine shaft 400341-006, possibly on site.

The CMRA recommended some intrusive investigation to locate the mine shaft and provide data on potential shallow workings.

GEOLOGY

The site is underlain by solid strata of the Pennine Lower Coal Measures. Specifically the outcrop of the Alecs Coal, known locally as the Slack Coal and in the Potteries area as the Bullhurst Coal, is shown to pass roughly north south through the site. Strata dip to the west so that that seam would be expected to be present only in the western site area. The Alecs Coal is usually present in several leaves, and has an expected thickness in the range 1.5 to 1.8 m. However, the log of a shaft to the south of the site records the seam to be at 6.4 m depth with a thickness locally of 1.2 m. Logs of boreholes held by the BGS and apparently put down as a investigation in support of possible opencast mining area, include one (No 201, copy attached) put down just to the south of the site and records a coal seam 1.1 m thick at 3.8 m depth and one 0.76 m thick at 4.9 m depth, which probably represent two leaves of the Alecs Coal. Sand and gravel is recorded as extending to 1.4 m depth.

POTENTIAL SHALLOW WORKINGS

The Alecs Coal was reported as being solid at the borehole 201 location but other holes in the area report 'gob dirt' indicating that the seam was worked historically at least locally in the area.

The next shallowest coal seam of potential economic interest is the Cobble Coal, expected to have a thickness of about 0.7 m and be about 50 m below the Alecs. It is that seam that was apparently exploited by Shaft 006, which is recorded as being about 46 m deep.

There are no recorded workings below the study area but the available evidence suggests that both the Alecs and Cobble Coals have been worked historically in the area. The depth to the Cobble Seam in relation to seam thickness and potential age of workings is such that any unrecorded workings in that seam are unlikely to pose any significant risk to site development. Workings in the Alecs Coal, may, however, be at very shallow depth, at least below the western site area.

MINE SHAFT 006

The suspected mine shaft on site (006) is not shown on early large scale Ordnance Survey mapping but is shown on the published 1:10,000 geological map of the area and is recorded in 1905 Geological Memoir, referring to workings in the Cobble Coal in the local area, as follows:

"....was last worked from a shaft about 50 yards deep, sunk at the back of the cottages opposite Mobberley; but the coal was only followed a short distance."

There is no record of the diameter of this mine shaft or as to whether it was infilled following abandonment but the CMRA suggests an assumed diameter of up to 2.5 m.

IMPLICATIONS FOR DEVELOPMENT

We understand that at present it is proposed to apply for outline planning approval for a single residence and that the there is some flexibility concerning the final location of the structure on site.

We would agree with the CMRA author that prior to development some investigation of the potential shallow workings in the Alecs Coal should be undertaken and that the suspect shaft on site should be located. The shallow mining investigation could comprise three rotary probe boreholes near the proposed structure location. The shaft could be located either by drilling a series of closely spaced probe holes to bedrock or, as the thickness of overburden in the area appears to be small, by trial trenching.

Depending on the results of this work and the final proposed house location some drilling and grout stabilisation of shallow workings may be required below the building footprint. If found on site the shaft should be treated by pressure grouting and capped at rockhead.

There would normally be a stand-off to treated mine shafts of about 5 m for residential development unless special precautions are taken. However, such precautions could involve extending the foundations of the structure to bedrock, which in the present case is expected to be shallow and which would not therefore represent a significant development constraint. As such the presence of the shaft on site should not significantly affect the technical viability of site development.

CONCLUSIONS

Following granting of planning approval but prior to development investigations should be undertaken to provide data on potential unrecorded shallow mine workings and to locate a suspected mine shaft on site. Depending on the results of that work some remedial precautions are likely to be required, as discussed above. However, subject to the need for such precautions, the present review has identified no mining legacy issues that would preclude safe development of the site for residential usage.

We trust the above meets your present requirements, should you wish to discuss or require further information, please do not hesitate to contact our office.

Yours sincerely

J A Sladen BSc, MSc, CEng, CEnv, MICE, FGS
Director

P/KMP

BOREHOLE RECORDS.

15 NOV 1944

Week Ending

Contractors PERCY BILTON

No. of Rigs 2

Ref. No. S17/4/207

Mobberley Brook

Name of Site ~~Mopley Park~~

Location No.	Ground Level.	Depth to Coal.	Thickness of Coal.	Total Depth.	Remarks.
BH 201			Coal & Shale		Sand & Gravel 4-6
					Mtn-Ground 3-6
		12'-6"	3'-6"		Grey Bind 4-6
				40'-0"	Coal & Shale 3-6
		16'-0"	2-6		Coal 2-6
					Grey Bind 2-0
					Grey Stone 7-0
					Grey Bind 12-6
					3-11-44 4-4-11-44
202			Coal & Shale		Sand & Gravel 5-0
					Mtn-Ground 3-6
		14'-0"	5'-0"	40'-0"	Grey Bind 5-6
					Coal & Shale 5-0
					Grey Bind 2-0
					Grey Stone 7-0
					Grey Bind 12-0
					5-11-44 7-11-44
203					Soil 1-0
					Sand & Gravel 5-6
		14-0	1-0		Grey Bind 3-6
					Dark Bind 3-0
		15-0	5-0 Gob	24-0	Grey Bind 1-0
					Coal 1-0
					Gob Dirt 5-0
					Grey Bind 4-0
					7-11-44 9-11-44

B Clemmons

B Kelly