

3rd February 2025

Ref: GUK-0225-01

By Email only

Mr J. Shaw
Whitshaw Builders Limited
The Workstation
15 Paternoster Row
Sheffield
S1 2BX

James,

10-12 Windmill Hill Lane, Emley Moor, Huddersfield, HD8 9TA

As you are aware, Demolition & Geotechnical Limited ('D&G') have consulted with us regarding your site (the 'Site') at the above address and their recent phase of intrusive ground investigation works carried out to quantify the presence of shallow mining legacy.

Further to correspondence issued by the Coal Authority dated 3rd January 2025, and their request for additional assessment and interpretation of relevant data associated with the Site by a 'competent person', we herein seek to provide the information they require so that Condition 13 as imposed by Kirklees Council may be discharged. In support of this, we have undertaken a review of the following information sources (given below in chronological order) and briefly summarise these to provide some context to the works undertaken:

1. RGS (2024). Phase 1 Environmental Desk Study Report. 10-12 Windmill Hill Road, Emley Moor, Huddersfield, West Yorkshire, HD8 9TA. Ref: C4313/24/E/6607, dated 7th May;
2. Demolition & Geotechnical Limited (2024). *Drilling records*, dated 3rd June;
3. Demolition & Geotechnical Limited (2024). *Summary note Ref: 51048*, undated;
4. RGS (2024). Phase 2 Geo-Environmental Report. 10-12 Windmill Hill Road, Emley Moor, Huddersfield, West Yorkshire, HD8 9TA. Ref: C4313/24/E/6749.rev1, dated 11th December;
5. Coal Authority (2025). *Correspondence to Kirklees Council Re Condition 13 of planning application 2024/44/93510/E*, dated 3rd January.

1. RGS (2024). Phase 1 Environmental Desk Study Report (C4313/24/E/6607)

Following review of the preliminary assessment report prepared by RGS, it is noted that old coal shafts were mapped 50m to the south-east of the Site on the first edition OS plans (dated 1854), but that they were no longer present from c.1959.

The report alludes to the Site being located '*within the specified search distance of an identified mining area*'. The 3rd Brown Metal (3BM) coal seam was identified as being present from 113m to the west.

Reference was made to a GroundSure Report (Ref:GS-ODN-CRE-DIC-ZHS, dated 23rd April 2024), which stated that the Site lies within an area that may be affected by coal mining. Reference was also made to the Coal Authority having undertaken a Coal Mining Risk Assessment ('CMRA') in September 2023 (which included the provision of a Consultants Coal Mining Report). The outcome of that assessment is as follows:

- a) The report drew on information given in the associated Consultants report, on mine abandonment plans NE193 and NE380 (although not provided), and from various geological mapsheets;
- b) The Consultants report indicated that the Site was not in an area where recorded shallow coal mine workings are known, but that workings from between 62-146m bgl are present either beneath the Site or in proximity. The shallowest of these was identified as being the Middleton Main at 62m bgl beneath the Site. Risk from this was considered to be low, however;
- c) The nearest coal crops to the Site were identified as being the Green Lane seam (725m to the west) and the New Hards seam (830m to the west). The report also presented a generalised vertical section based on geological mapsheet SE21SW, with this indicating, in descending order the following coals: Old Hards (2nd Brown Metal), Stone (3rd Brown Metal), Green Lane (Middleton Little), New Hards (Middleton Main), and the Wheatley Lime;
- d) Opencast records for the Heater OCCS suggested that the 2nd Brown Metal coal could be present beneath the Site from 8.0m bgl, with the 3rd Brown Metal coal being present from 20.0m bgl;
- e) Opencast records for the Bunkers Hill OCCS suggested that the 3rd Brown Metal coal could be present beneath the Site from 14.0m bgl;
- f) A medium risk of there being old unrecorded workings was assigned to both these coals;
- g) The nearest recorded coal mine entry was located 61m to the southeast. A low risk was postulated on this basis, although it was stated that a residual risk from unrecorded mine entries exists and should be allowed for;
- h) The aforementioned mining subsidence claims indicated the Site to be within an area associated with mining activity;
- i) In light of the potential presence of shallow coal of the 2nd Brown Metal and 3rd Brown Metal seams beneath the Site, intrusive investigation to determine the presence of any workings in them was identified.

2. **Demolition & Geotechnical Limited (2024). Drilling records**

It is taken that the commission for D&G to undertake a phase of intrusive investigation was based on the outcome of the Coal Authority's CMRA. Based on information obtained from D&G the following may be given:

Borehole Position	Borehole Terminal Depth (m)	Depth to Top of Coal Mining Feature (m)	Depth to Base of Coal Mining Feature (m)	Thickness of Coal Mining Feature (m)	Comment
BH1	30.00	11.70	11.90	0.20	Thin intact coal in all instances. Intact bedrock soils to terminal depths. No recorded working. No indicated loss of flushing medium.
BH2	15.00	11.40	11.60	0.20	
BH3	30.00	11.50	11.70	0.20	
BH4	15.00	11.70	11.90	0.20	
BH5	30.00	11.10	11.30	0.20	

3. **Demolition & Geotechnical Limited (2024). Summary note Ref: 51048**

Reporting provided by D&G summarised the findings of their investigation, the results of which are indicated above in (2). The summary indicated the completion of holes to 30.00m bgl, as per good practice and the generally accepted definition of shallow mining being to 30.00m bgl. It is noted that the boreholes were broadly completed at the plot corners and centrally.

The only coal to be encountered was 0.20m thick, with this being recorded from between c.11.00-12.00m bgl. It was stated by D&G that the recorded coal thickness would not be economic, and as such working in it would not be expected. Overall, the findings of the investigation were consistent and D&G indicated that it would be reasonable to conclude that the Site is not at risk of subsidence issues due to shallow mining and that further works are not required over and above normal advice from a structural engineer with regards to foundation design.

4. RGS (2024). Phase 2 Geo-Environmental Report

Works reported by RGS were based on the completion of three shallow percussive sampler boreholes, in situ field testing, and the installation of three gas piezometers. With respect to mining legacy, no reference was made other than for where ground gas monitoring had been completed.

5. Coal Authority (2025). Correspondence to Kirklees Council Re Condition 13 of planning application 2024/44/93510/E

Correspondence from the Coal Authority in response to consultation made in December 2024 by Kirklees Council in relation to Condition 13 (i.e. *No development shall commence - excluding the demolition of existing structures and site clearance - until a) a scheme of intrusive investigations has been carried out on site to establish the risks posed to the development by past shallow coal mining activity; and b) any remediation works and/or mitigation measures to address land instability arising from coal mining legacy, as may be necessary, have been implemented on site in full in order to ensure that the site is made safe and stable for the development proposed. The intrusive site investigations and remedial works shall be carried out in accordance with authoritative UK guidance.*) indicates that D&G supplied a summary note, including a copy of the drilling records, but that no borehole location plan was provided. All works were completed under Coal Authority permit Ref. 28369, and that a thin coal seam was encountered at a consistent depth of c.11.50m across the site.

D&G identified that they are a contractor and not consultant engineers, and that they are subsequently uninsured to give professional interpretations.

The letter states that whilst details of the investigation have been submitted, no detailed assessment of the findings has been undertaken by an appropriately qualified and competent person. Condition 14 is also referred to, which requires verification be provided by a competent person (NOTE: *it is unknown what that condition relates to*).

The RGS ground investigation report is cited, noting that they make no reference to the mining investigation boreholes undertaken by D&G.

On the basis of the information given in the above referenced documents, and in response to the Coal Authority's recent correspondence to Kirklees Council, we herein provide some further discussion on the outcome of the mining legacy investigation completed by D&G. It should be noted that it is not the intention of this report to confirm or discount the initial mining-related assessments undertaken by either RGS (i.e. their desk study) or the Coal Authority (i.e. their CMRA), so comment is merely based on our understanding of the mining legacy conditions that were anticipated, and the extent to which they have since been proven (NOTE: *we have not been party to the foundation design for the development, or where any ground gas issue has been raised - both of these lie outside the scope of this document so consultations with the relevant third party should be made as required*).

Following review of available information sources ^[1,2,3,4,5], we indicate that the shallowest coal considered likely to underlie the Site would be the 3rd Brown Metal, as this appears to be the dominant coal across the local area given that it is mapped and has been worked historically from nearby opencast; the 2003 (Sheet 77) BGS record indicates that the thickness of this coal was between 0.0m and 0.8m (the Coal Authority CMRA suggested a thickness of 0.5-0.6m based on records they observed); as with any coal seam, some variation should be expected.

As indicated on the geological plans the area is heavily faulted and disturbed, although there is a clear trend for the direction of younging to be towards the north-east. Notwithstanding this, the overlying (and younger) 2nd

¹ British Geological Survey (2003). Huddersfield, England and Wales, Sheet 77. Solid & Drift. 1:50,000 (Keyworth, Nottingham: British Geological Survey);

² British Geological Survey (2003). Emley Moor, England and Wales, Sheet SE21SW. Solid & Drift. 1:10,000 (Keyworth, Nottingham: British Geological Survey);

³ UKRI (2024). <http://www.bgs.ac.uk/map-viewers/geoindex-onshore>;

⁴ Mining Remediation Authority (2024). <https://datamine-cauk.hub.arcgis.com>;

⁵ Mining Remediation Authority (2024). <https://www2.groundstability.com>.

Brown Metal coal is largely absent from the area, based on the mapping, and appears to be more prevalent to the north at Flockton Moor; on balance, the likelihood of this seam being encountered beneath the Site would be low to very low. The 2nd Brown Metal coal is also indicated to be discontinuous, as presented on the various stratigraphic columns attached to the BGS plans, which again supports its likely absence. The younger Flockton seams lie above the Site, in succession, and would not be expected to be present. Deeper coals would not lie within the zone of potential influence; it is understood that recorded workings are from 62.00m bgl.

The anticipated depth to the 3rd Brown Metal coal beneath the Site, as postulated by the Coal Authority, is not in dispute, although there should be expected some variation depending on which geological plan is used and where the distance from 'crop to Site' is measured; there are variations between plans and no coal crop is straight. Broadly speaking, a depth of c.20.0m bgl appears to be there or thereabouts, although the dip rate could also vary (say from 3° to 4° or more), which would also have a localised effect. That said, the proven depth to coal, on the basis of D&G's drilling records, is within the range c.11.00-12.00m, which is more consistent with the depth the Coal Authority determined from the Bunkers Hill OCCS data. Notwithstanding the theoretical assumptions given in the preliminary reports though, it should be noted that actual physical drilling proves all. On this basis, the coal as encountered is thin (0.20m), it would have been uneconomic to have been worked, and there are no other recorded seams above or below. All bedrock materials are understood to have been intact, and for there to have been no loss of flush in any of the five boreholes (the positions of which are appended on Figure 0225-01-001, based on information provided by D&G). Furthermore, information provided by the Client indicates that no evidence of mining legacy at the surface was noted during construction, with the ground at founding level being intact and consistent with that typically recorded when developing on Coal Measures deposits; risk associated with unrecorded mine entries, for example, is therefore considered to be very low to negligible.

In summary, we concur with D&G's commentary in that it is reasonable to conclude that the Site is not at risk of subsidence issues due to shallow mining legacy (i.e. that within 30.00m of the surface), and that further works are not required. Whilst the local area has a noted history of mining legacy, particularly where the surficial extraction of coal has occurred from opencast, underground working appears to be deep and to lie beyond the zone of influence. There's no accounting for where coal may occur in areas that are heavily faulted, until drilled, although in this instance it would appear that the coal beneath the Site is undisturbed and thin.

On the basis of Site specific data, it is considered that the Site may be determined as being safe and stable in accordance with the National Planning Policy Framework^[6], namely paragraphs 196(a) and 197 (Ground Conditions and Pollution) which state (in relation to mining legacy) that planning policies and decisions should ensure that:

Para.196: a) a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation);

Para.197: Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner.

If you require any further assistance, please do not hesitate to contact us.

Regards,

Andrew Spooner BSc (Hons) MPhil MEnvSc FGS
Director

For and on behalf of
Groundsmiths (UK) Ltd

Enc. Borehole Locations Plan (0225-01-001).


⁶ Department for Levelling Up, Housing & Communities (2024). National Planning Policy Framework. <https://www.gov.uk/government/publications/national-planning-policy-framework--2>, 12th December.



BOUNDARY DETAILS

 900mm high stone wall



 D&G rotary openhole borehole position (depth to coal).

Source: Langley Architectural, Drawing Ref. 2042-23-004/Rev.A, dated June 2023.

Project: Windmill Hill Lane, Emley Moor		Client: Whitshaw Builders Limited	
Drawing: Borehole Locations Plan		Drawn/Checked: AJS	
Project No: 0225-01	Drawing No: 001	Date: Feb. 2025	
GROUNDSMITHS GEOTECHNICAL ENGINEERS			

