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Our Ref: P7178 - CMRA-1
Date: 10th September 2015

Mr James Hardwick
Premier Properties Ltd
Belmont Street
Swadlincote
Derbyshire
DE11 2JU

Dear Mr Hardwick

RE: Proposed development at Land adjacent to, 8 Woodview Road, Newhall

We have as requested carried out a Coal Mining Risk Assessment in accordance with guidance provided by the Coal Authority and as required by the Local Authority as part of the planning process.

The result of our assessment is detailed below:-

1.0 Introduction

It is proposed to develop the site with a 2 storey residential dwelling and detached garage.

As far as we are aware the site has not been the subject of a Desk Study (Phase 1) or Intrusive Ground Investigation (Phase 2). Recommendations will be made as to how the risks associated with coal mining can be mitigated.

A site location plan is attached to the Coal Authority mining report included in Appendix A.

2.0 Sources of Information

The following sources of information have been used:-

- Coal Authority Mining Report
- BGS Geological Mapping at a scale of 1:10,000
- BGS Borehole Records

3.0 Identification and assessment of site specific risks

The Coal Authority (CA) mining report confirms that the site is in the likely zone of influence from recorded workings in 5 seams of coal at 90m to 230m depth last worked in 1960. However, the Coal Authority confirms that any ground movement from the above mentioned coal seams should by now have stopped. Therefore, the risk posed to the ground surface from recorded workings is assessed as **negligible**.

The CA report confirms the likely presence of coal seams at or close to the ground surface that may have been worked at some time in the past. Accordingly the risk posed to the ground surface from any un-recorded workings in shallow coal seams is assessed as **high**.

The CA confirms that the site does not lie within the boundary of an opencast site from which coal has been removed, within 200m of the boundary of an opencast site from which coal is being removed by opencast methods. The CA confirms that the property does not lie within 800m of an opencast site for which a licence has been granted or is currently being determined. The CA confirms that the site is not within the boundary of an opencast from which coal has been removed by opencast methods. The risk from current, future or past opencast workings is therefore assessed as **negligible**.

The CA does not report any coal mining entries within, or within 20 metres of the boundary of the property. Therefore, the risk posed to the ground surface from recorded mine entries is assessed as **negligible**.

The CA also confirms that their records may be incomplete, consequently, there may exist in the local area mine entries of which the Coal Authority have no knowledge and if shallow un-recorded workings are present beneath the site, the risk of un-recorded mine entries should be increased to **moderate**.

The CA states there is no record of mine gas emissions requiring action by the CA within the boundary of the property. It seems reasonable to conclude that the risk to the proposed development from mine gas emissions is **negligible**. However, this does not preclude a risk from ground gases from other sources.

Where coal measures strata lies close to the ground surface foundations could potentially penetrate or encounter coal seams within their excavation. There is therefore a potential for spontaneous combustion. The risk from spontaneous combustion from near surface coal seams is generally assessed as **low** but some form of precautionary mitigation might be required.

The CA reports a subsidence claim within 50m of the property boundary. The location of the subsidence claim is roughly along the same strike as the site.

4.0 Mitigation Strategy Proposed

The mitigation strategy proposed relates to the potential presence of shallow un-recorded workings and mine entries.

The geological mapping and BGS borehole records suggest the following:-

- The geological mapping does not record superficial deposits underlying the site. Solid geology comprises Coal Measures strata comprising mudstone, sandstone and coal.
- Rockhead is likely to be close to surface.
- The local strata have been calculated as dipping 9° east.

- The outcrop of the Over Main Coal lies 20m to the west of the site and as the dip of the strata is to the east, this seam is likely to underlie the site at shallow depth.
- The Lower Kilburn is indicated to outcrop to the east of the site and therefore will not underlie it.
- Given the dip of strata and the distance from the site of the Over Main Coal outcrop, it is likely to underlie the site at a depth of circa 3m to 8m begl. The thickness Over Main Coal is recorded to be circa 1.4m to 2.7m in nearby BGS boreholes. One of the BGS boreholes records evidence for workings in the Over Main Coal.
- Stratigraphically below the Over Main Coal is the Nether Main Coal. The separation of the two is recorded to be 7.6m to 10m and the thickness of the Nether Main Coal is recorded to be 2.4m to 2.8m in thickness.
- The Little Woodfield has a separation from the Nether main coal of 12m and a recorded thickness of 0.9m and is often occurs in two leaves.
- The underlying Stockings Coal is likely to be the shallowest coal recorded to have been worked.

Due to the shallow depth of potentially productive coal seams beneath the site there is a **high** risk of shallow unrecorded workings and accordingly a **moderate** risk of unrecorded mine entries affecting the surface stability.

There is a potential of encountering shallow coals at or close to founding depths that might present a risk to the proposed structures due to the potential for combustion within the seam creating sufficient volume change to affect foundations. Therefore the risk from spontaneous combustion remains **low**.

5.0 Summary of Risks and Recommendations

The risks can be summarised as follows:-

Recorded Workings – **Negligible**.

Un-recorded shallow workings– **High**.

Recorded Mine entries– **Negligible**.

Un-recorded Mine entries – **Moderate**.

Mine gas emissions – **Negligible**.

Opencast workings – **Negligible**.

Spontaneous combustion – **Negligible**.

To reduce the risk to the site from unrecorded shallow workings and unrecorded mine entries to negligible the following measures should be undertaken:

- Probe drilling to a depth of 30m begl to prove whether the depth and condition of the Over Main, Nether Main and Little Woodfield coals, all of which may lie within influencing distance of the surface. If workings are encountered grouting is likely to be required.
- A site strip to natural strata to look for visual anomalies in the soils, suggestive of potential mine entries. If any are suspected, a probe drilling investigation should be undertaken to

accurately determine diameter and depth. If a shaft is located then stabilisation will be required, furthermore a no-build exclusion zone may be applied to the development.

A precautionary approach has been adopted and should shallow coal be encountered and the following plot specific advice should be adhered to:-

- A cover of mudstone / clay of 0.5m thickness be maintained between the shallow coals and the base of the foundations. A thickness of at least 0.5m of clay should also be maintained above coals out cropping in garden areas.
- Poor quality or thin coals < 0.5m in thickness are not considered to be a risk.
- Foundations that are likely to have less than 0.5m of cover will have to be deepened through the coal.

6.0 Relevant Appendices

Appendix A – Site Layout and Boundary Plan

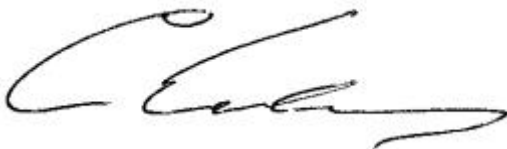
Appendix B - Coal Authority Mining Report which includes a site location plan.

We trust that the information provided is sufficient for your current requirements. If you require any additional information or clarification of the contents of this letter then do not hesitate to contact me.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Nicola Rowley', enclosed within a hand-drawn oval.

Nicola Rowley BSc FGS

A handwritten signature in black ink, appearing to read 'Clive Kirby', written in a cursive style.

Clive Kirby FGS C.Geol.



A P P E N D I X A

**GRM Development Solutions provides
multi-disciplinary consultancy services, UK-wide:**

- Geotechnical and Geo-environmental Services
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Issued by:

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Our reference: **51000982035001**
Your reference: **P7178**
Date of your enquiry: **04 September 2015**
Date we received your enquiry: **04 September 2015**
Date of issue: **04 September 2015**

This report is for the property described in the address below and the attached plan.

Non-Residential Coal Authority Mining Report

8 WOODVIEW ROAD, NEWHALL, SWADLINCOTE, DE11 0UG

This report is based on and limited to the records held by, the Coal Authority, and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Coal mining	See comments below
Brine Compensation District	No

Information from the Coal Authority

Underground coal mining

Past

The property is in the likely zone of influence from workings in 5 seams of coal at 90m to 230m depth, and last worked in 1960.

Any ground movement from these coal workings should have stopped by now.

In addition the property is in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered prior to any site works or future development activity. Your attention is drawn to the Comments on Coal Authority Information section of the report.

Present

The property is not in the likely zone of influence of any present underground coal workings.

Future

The property is not in an area for which the Coal Authority is determining whether to grant a licence to remove coal using underground methods.

The property is not in an area for which a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area that is likely to be affected at the surface from any planned future workings.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notice of the risk of the land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

Records may be incomplete. Consequently, there may exist in the local area mine entries of which the Coal Authority has no knowledge.

Coal mining geology

The Authority is not aware of any evidence of damage arising due to geological faults or other lines of weakness that have been affected by coal mining.

Opencast coal mining

Past

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

Present

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

Future

The property is not within 800 metres of the boundary of an opencast site for which the Coal Authority is determining whether to grant a licence to remove coal by opencast methods.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

Coal mining subsidence

There are 1 claim(s) within 50 metres of the property boundary that do not match the property address. These are shown on the attached plan.

The Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

If further subsidence damage claims information is required in addition to that provided in this report, the Authority need to manually search their records. For further advice on how to order this additional information visit www.groundstability.com or telephone 0345 7626 848.

Mine gas

There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property.

Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

Withdrawal of support

The property is not in an area for which a notice of entitlement to withdraw support has been published.

The property is not in an area for which a notice has been given under section 41 of the Coal Industry Act 1994, revoking the entitlement to withdraw support.

Working facilities orders

The property is not in an area for which an Order has been made under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

Payments to owners of former copyhold land

The property is not in an area for which a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Comments on Coal Authority information

In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore if development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Additional Remarks

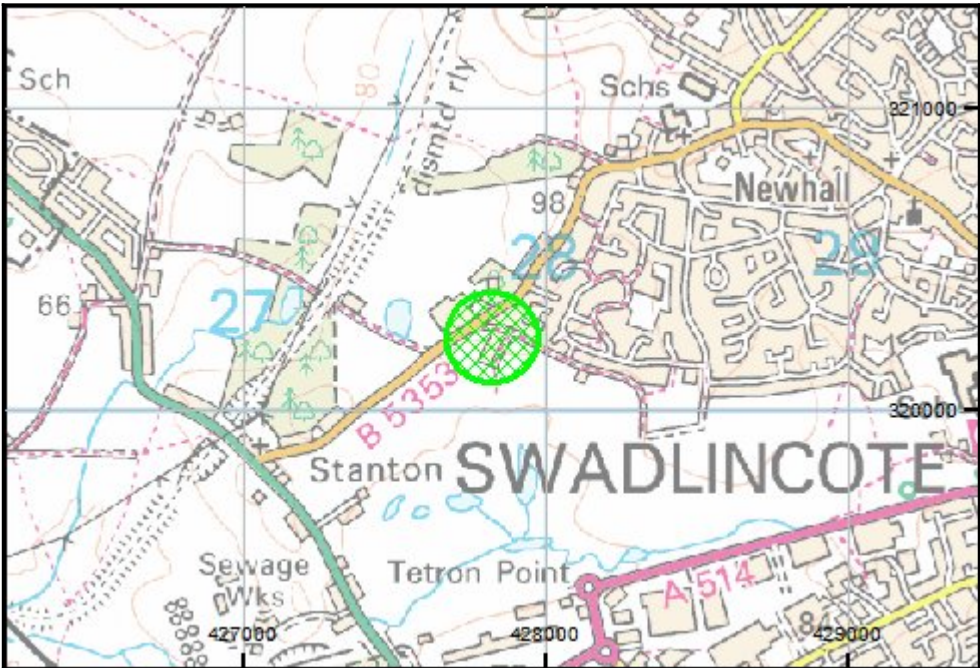
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Location map



Approximate position of property



Enquiry boundary

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Key

Approximate position of enquiry boundary shown



Coal Claims

