

6th November 2023

E13431/1 L1.JMS

Hydrock
2 Esh Plaza,
Sir Bobby Robson Way,
Great Park,
Newcastle upon Tyne,
NE13 9BA

For the attention of Mrs. Nicola Watson

To Whom It May Concern:

RE: MIRFIELD – PLANNING CONDITION QUERIES (CONDITION 11)

Igne (formerly DTS Raeburn) undertook a geo-environmental appraisal dated March 2021 for a site located at 119 Huddersfield Road in Mirfield (DTS Report Reference E13431/1). This report was subsequently submitted to Kirklees Council by others, to aid in satisfying Condition 11 of the planning application in relation to land contamination.

Following submission of the report to Kirklees Council additional clarity was requested in relation to the contamination risk assessment as summarised below:

- (1) *We require a revised conceptual site model and risk assessment to be included as this appears to be missing from the report, contrary to LCRM guidance.*
- (2) *Part of the appended information is missing from the report, therefore we cannot confirm the validity of the report contents. All missing appended information must be included, and we expect this to include ground gas data sheets.*
- (3) *The ground gas monitoring undertaken does not appear to include low pressure (<1000mb) and no pressure trend information has been reported.*

Item 1 – Revised conceptual site model and risk assessment

Our risk assessment was provided within Section 9 of the report (Ground Contamination Appraisal). It was found that the levels of ground contamination detected in the tested soil and groundwater samples were considered to present a sufficiently low risk to the proposed development, subject to a number of mitigation measures.

For clarification we have revised the CSM table below.

Table 1 Revised CSM

Potential sources (<i>associated contaminants</i>)
On-site sources: <ul style="list-style-type: none">• Materials used to backfill the former quarry located within the site (contaminants dependant on the nature and source of the backfill materials but could potentially include: <i>metals/metalloids, petroleum hydrocarbons, PAH compounds, acidity/alkalinity (low/high pH), sulphates, asbestos, ground gas</i>)• Demolition of historical buildings (<i>metals</i> (associated with pipework and paint constituents), <i>asbestos</i>)



Off-site sources:

- Former railway sidings located adjacent site to west. Current use of this area for metal working and commercial door manufacture (*metals/metalloids, petroleum hydrocarbons, PAH compounds, acidity/alkalinity (low/high pH), asbestos, glycols*)
- Former PFS adjacent site to east (currently occupied by a vehicle sales, servicing and repair workshop (*petroleum hydrocarbons, volatile organic compounds (VOC), sulphates, acidity/alkalinity (low/high pH), asbestos*))
- Backfilling of former quarries located at about 90m and 200m north-west of site (could include: *metals/metalloids, petroleum hydrocarbons, PAH compounds, acidity/alkalinity (low/high pH), sulphates, asbestos, ground gas*)
- Former railway sidings, turntable and engine shed located at about 100m south of site (*petroleum hydrocarbons, asbestos, metals/metalloids, glycols, acidity/alkalinity (low/high pH)*). However, the DOE Industry Profile for railway land notes that the distribution of these contaminants is typically confined to the running lines.

It is noted that the primary responsibility for ground contamination occurring at the site from off-site sources would lie with the respective site owners/occupiers.

Potential receptors

- Humans: Construction and future maintenance workers, future site users, off-site residents
- Development end use: Proposed buildings, hardstandings, services/utilities and limited peripheral landscaping
- Controlled waters:
 - 'Secondary A' aquifer status of underlying alluvium and Coal Measures bedrock geology
 - River Calder located adjacent south-western boundary of the site

Potential pathways

- Humans: Ingestion, skin contact, inhalation of dust and indoor and outdoor air. These pathways are likely to be largely mitigated post-development due to the proposed coverage by buildings and hardstanding, but may remain potentially active in landscaped areas and with respect to ground gas)
- Development end use: Contact with buried concrete and services/utilities
- Controlled waters
 - Groundwater: leachate migration into pore water from soil contamination, free product flow (if present), dilution and dispersion into groundwater
 - Surface water: hydrogeological flow within groundwater to River Calder, surface water run-off

Recommended Mitigation Measures

The levels of ground contamination detected in the tested soil and groundwater samples were considered to present a sufficiently low risk to the above receptors for the proposed development, subject to the following mitigation measures:

- Placement of a minimum 500mm thickness of suitably clean cover material above any areas of proposed landscaping. Alternatively, further soil sampling and testing in proposed landscaped areas may enable the extent of clean cover material required to be reduced
- Provision of adequate gas protection measures for new buildings under 'Characteristic Situation' Classification CS-2
- Any new underground services should be placed in a corridor of clean fill material
- Procedures should be identified for dealing with unforeseen contamination in the event that this becomes apparent during construction.



Item 2 – Missing appended information

We have provided another copy of the DTS geo-environmental appraisal report, including the information that was mistakenly omitted from the original report (Appendix 1). This now includes Table A – Gas and groundwater monitoring results and Appendix 5 – Geotechnical Laboratory Results.

Item 3 – Gas monitoring under low pressure

Our previous monitoring regime was undertaken following CIRIA guidance and one visit was undertaken at 1004mb and falling pressure which can be considered as a 'shallow low'. However, we have now undertaken a further fifth visit under 'significant low' pressure.

Section 9.4 of Report E1343/1 indicated that the site fell into Characteristic Situation Classification 2 (CS-2) on the basis of the gas concentrations and flow rates detected. An additional round of gas monitoring was undertaken on 3rd November 2023 (during a period of significant low atmospheric pressure) and the results are enclosed as Table A in Appendix 1. These results do not alter the classification of the site as CS-2 and confirm the previous recommendation that that gas protection appropriate to a 'Characteristic Situation' Classification CS-2 as defined by CIRIA (2007) should be incorporated into the proposed structures.

We trust that the information above and appended is satisfactory, however if you require anything further, please contact the undersigned.

Yours faithfully,

A handwritten signature in black ink, appearing to read "James Stokes".

James Stokes
Associate Director

Enc.

Appendix 1 - Revised Copy of DTS Report E13431/1

