

Our Ref: H4020-24_L002
Date: 24 January 2024

Neath Port Talbot County Borough Council
By email

For the attention of Tom Philips

Dear Sir

TECHNICAL NOTE: NANT Y CAFN CONTAMINATED LAND PRE-COMMENCEMENT CONDITIONS

1 INTRODUCTION

SOCOTEC UK Limited (SOCOTEC) were commissioned by Neath Port Talbot County Borough Council (NPT) to carry out a geoenvironmental appraisal of their Nant Y Cafn site (Report ref. H3091-23/N2) to support the planning submission for a commercial development. The report has been submitted to NPT Planning and the Environmental Health Unit have responded requesting further investigation or information to support their requirements to enable the discharge of the outstanding pre-commencement conditions relating to contaminated land.

The outstanding pre-commencement conditions are:

1. *(3). Notwithstanding the details within the submitted Ground Investigation Report (H3091-23/N2), no construction work shall commence on site until a further report to assess the nature and extent of contamination on the site, and confirmation of whether or not it originates on the site, has been first submitted to and provided in writing with the Local Planning Authority.*
2. *(4). No construction work shall commence on site until a remediation scheme to bring the site to a condition suitable for the intended use by removing any unacceptable risks to human health, buildings, other property and the natural and historic environment shall be prepared and submitted to and approved in writing with the Local Planning Authority.*

2 PRE-COMMENCEMENT CONDITION 3 – GROUND GAS RISK ASSESSMENT

2.1 Background

Based on the findings of the SOCOTEC Geoenvironmental Appraisal, it was considered that no further work is required to assess the risk presented by chemical contamination. However, there is a potential ground gas risk which we have recommended is addressed.

SOCOTEC recommended in the Geoenvironmental Appraisal that further ground gas monitoring and assessment be undertaken although, at the time, the period to complete a longer monitoring programme was constrained by the project deadline. The reduced data set gave us less confidence and more uncertainty of the gas regime, so SOCOTEC wanted to conduct further visits to support the assessment if this could be accommodated before the start of the project.

NPT Planning has questioned whether this further gas monitoring and assessment is required to fully assess the risk prior to support the discharge of Condition 3.

2.2 Re-appraisal of Gas Regime

For reasons stated in the re-appraisal below, we consider that gas protection measures (CS2) are appropriate for the low sensitivity of the development, degree of risk presented by the current monitoring data, ground conditions and sources of ground gases identified.

It would have been ideal to have completed the additional rounds of ground gas monitoring and review the data. However, after reviewing the ground gas risk assessment and current Conceptual Site Mode (CSM) for the site, we would question if any additional rounds of monitoring data would be of any benefit at this present time, with seasonally higher groundwater levels this time of year potentially submerging the response zones and restricting ground gas flows. It is considered that further visits at present are unlikely to result in a change to the current assessment.

Based on our review of the CSM and potential sources of ground gas identified, i.e., limited Made Ground, Alluvium and a Coal Mining Area with shallow seams (though no recorded workings reported directly beneath the site), it is considered unlikely that the ground gas regime could be downgraded from CS2 to CS1 - though it is noted that very low flow rates and low gas concentrations have been identified.

Similarly, based on the current CSM and available gas data, it is considered unlikely that an upgrade of the Characteristic Situation to CS3, and respective protection measures, would be required at this site. Therefore, the precautionary CS2 gas protection measures as recommended are considered appropriate in these circumstances, based on the existing gas monitoring data and CSM.

Our assessment had been based on the CSM, where the potential sources of ground gases were considered to be based on the geology beneath the site (Made Ground, Alluvium and Coal Measures), rather than directly from worked coal seams (where a GSV and CS would not apply, as per CL:AIRE Good Practice for Risk Assessment for Coal Mine Gas Emissions). The SOCOTEC investigations identified that:

- There are limited potential sources of ground gas identified on or adjacent to the site.
- There are no current or historical coal mine workings recorded beneath the site, and there are no mapped mine entries (which would provide a link between the source and the site) either on site or within a 20m radius of the site.
- The site is underlain by shallow groundwater and a thin stratum of Glacial Till.
- Most of the monitoring installations are either partially saturated (particularly where Alluvium was present at WSN03) or fully saturated, and data from these positions will therefore not be representative of the gas regime. Even additional monitoring data would be compromised for this reason.

A number of rounds of monitoring have been completed, including during low atmospheric pressure events (i.e. indicating potential worst-case conditions – though the drop in pressure range at the time of monitoring was unknown), using the shallow installation across the site, which is sufficient to characterise the gas regime with caution.

3 PRE-COMMENCEMENT CONDITION 4 - REMEDIATION STRATEGY

To our knowledge a Remediation Strategy (RS) has not been prepared to date and SOCOTEC have not been involved in this element of work.

If the above observations about the gas risk assessment are approved, and it is agreed that no further ground gas monitoring and risk assessment is needed, the RS required by planning can be submitted by NPT.

This RS will comprise a similar type of report / design information which was provided to planning for the Glynn Corrwg development. i.e., covering remedial measures needed to mitigate the potential risk from ground gas ingress. The RS shall be compiled in accordance with the Environment Agency Land Contamination Risk Management Framework.

The RS shall incorporate the details for the gas protection measures for a proposed land use sensitivity Type D, as detailed in the British Standard BS8485:2015+A1 2019 (Code of Practice for the Design of Protective

Measures from Methane and Carbon Dioxide Ground Gases for New Developments) and incorporate the proposed design drawings and specification of membranes etc. showing how this shall be constructed. This strategy should also describe how the construction of the gas protection measures will be validated / verified to confirm they have been installed correctly to mitigate the risks to human health.

We trust the information provided above is sufficient to address the outstanding issue relating to Condition 3 and support Condition 4. However, if you require any further information, please do not hesitate to contact me.

Yours faithfully,
For SOCOTEC UK Ltd



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