



Sirius Geotechnical & Environmental Ltd

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Mr Jonathan Power
Hartwood Estates Ltd
Hangmanstone Depot
Sheffield Road
Birdwell
Barnsley
S70 5TR

27th August 2008

Ref. C1634/MB/2784

Dear Jonathan

RE: Sheffield Road. Birdwell

Please find attached the results of the four outstanding gas/groundwater monitoring visits undertaken at the above site, since the issue of our Geoenvironmental Appraisal Report in June 2008.

The results recorded from the additional gas monitoring visits have revealed greater concentrations of carbon dioxide and methane in comparison to the results from the initial two visits. Maximum methane and carbon dioxide concentrations of 1.2% v/v and 4.7% v/v were recorded in BHR3 on 3rd July 2008 and 4th August 2008, respectively.

No positive initial or constant gas emission rates were detected.

The recorded concentrations of VOC's recorded from the outstanding gas monitoring visits do not exceed concentrations previously recorded.

Based on the maximum recorded concentrations of methane and carbon dioxide recorded over the additional gas monitoring period, and applying a value of 0.1l/h for gas flow (the minimum limit of detection of the Gas Data GFM 430 gas analyser) in order to derive a gas screening value (GSV), a worst case GSV of 0.0012 l/h and 0.0047 l/h for methane and carbon dioxide, respectively, has been derived. As such, it is considered that the GSVs are representative of Characteristic Situation (CS) 1 – CIRIA C665 (Table 8.5).

However, taking into consideration the maximum recorded concentration of methane being 1.2% v/v the site falls into CS 2. Taking the worse case readings the site should be classified as **CS 2**. This necessitates a well constructed/reinforced groundfloor slab, a gas proof hydrocarbon resistant

Also at:

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membrane, all joints and penetrations sealed and possibly passively ventilated underfloor sub-space or positively pressurised underfloor subspace.

We trust that the above and attached is satisfactory and self explanatory and that you will forward this information for the appropriate regulatory approvals.

Our invoice for the outstanding gas monitoring visits is attached for your approval.

Yours sincerely

Mark Brennan
Principal Engineer
For and on behalf of
Sirius Geotechnical and Environmental Ltd

Enc: - Groundwater/gas monitoring results 6th and 20th June, 3rd July and 4th August 2008.

Invoice