

14th July 2022

Mr S Pearce
69a Quarmby Rd
Huddersfield
West Yorkshire
HD3 4EA

REF: 2112-21

Dear Mr Pearce

Many thanks for forwarding the response form Kirklees Council regarding their objection to the risk assessments made in our report, referenced GES 2112-21 PII Report.

Having considered the comments made, we would reply with the following:

Ground Gas Issues

GES disagrees with the assessment provided by Kirklees Council in their letter of the 27th June 2022.

The reasoning behind our risk assessment is based on the following:

CL:aire RB17 and TB17 along with other publications suggest that Made Ground with a thickness of 1.00 m or less has neither the potential to generate or transmit hazardous ground gases in sufficient volumes to represent a risk to local receptors.

For example, RB17 states, where there is no credible source of gas below a site or a pathway for gas to migrate from external sources gas monitoring is not considered to be necessary.

In this case, it is not the generation potential that is under consideration, but the transmissivity of the Made Ground.

The maximum depth of Made Ground to the Sandstone bedrock recorded on site was 0.8 mbgl. As such it is not considered sufficiently thick enough to allow the transmission of gas in sufficient volumes to pose a risk to the property.

In order for any gas to migrate for the nearby landfill, it must do so through the local strata.

The geological maps of the area indicate that there are no Superficial Deposits underlying the site, and that the site sits directly on the Sandstone Bedrock (Rough Rock Sandstone Formation). This was confirmed during the site investigation.

Although Sandstone is permeable, it has a low K value, typically 10^{-10} to 10^{-6} m/s; it typically has a far lower transmissivity, meaning it less likely to facilitate the migration of ground gases through its matrix. Any hazardous ground gases will follow the route of least resistance to atmosphere. Any landfill gas encountering a Sandstone bedrock will therefore be deterred from flowing laterally by the low permeability / transmissivity.



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Additionally, it is accepted best practice that ground gas monitoring wells are installed with a section of solid pipe complete with Bentonite filled annulus to a depth of 1.00 mbgl in order prevent drawing in atmospheric air and thus diluting any gas monitoring results. There is insufficient depth of material above the Bedrock to allow for such an installation.

Furthermore, various publications and guidance documents also indicate that gas monitoring within the Made Ground is not advisable. There is no other material in which to install the monitoring section of any gas monitoring standpipe.

GES stands by the assessment and conclusions presented in our report.

Hardstanding At TP03

The question regarding the clarification of the cover provided is something you will have to answer directly.

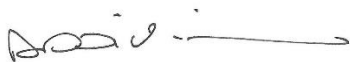
However, from our log for TP03 we recorded a layer of gravel over a macadam to a depth of 15 cm. Under this is a 24 cm layer of Made Ground. It is our opinion that the layer of macadam will prevent access to the underlying Made Ground.

Furthermore, reviewing the photographs of the site, TP03 is located in the area where access is required to the electrical substation at the rear of that area. As such you would not be allowed to lay this area to grass as access would be required at all times. We further note that this area is separately fenced off from your property, further reducing access.

I would however ask that you confirm this is in fact an accurate assessment of the situation regarding this area of your property.

If we can be of any further assistance, please do not hesitate to contact us accordingly.

Yours sincerely,



Andrew Dickinson
Associate Director
GeoEnviro Solutions Ltd



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Site: Quarmby Road, Huddersfield

Client: Mr Stephen Pearce

Job Reference: 2112-21

A.



B.



- A. View of the area encompassing TP03, showing the sub-station
- B. View of the area encompassing TP03 from the road, showing the separate gated access.