

Our Ref: MW/16204/Gas

Your Ref:

Contact: Michael Watkins

3rd February 2024

Castell Construction Limited (by email)

For the attn. of Mr Craig Weymouth,

Dear Craig,

PRELIMINARY GROUND GAS RISK ASSESSMENT: PROPOSED RESIDENTIAL DEVELOPMENT AT MARYATT WALK, NEWPORT.

Five of a proposed six rounds of in-situ gas monitoring have been carried out to date. The results of the monitoring are appended to the letter and are discussed below.

Three ground gas monitoring wells were installed in BH202, BH204 and BH206.

The installations were tested for carbon dioxide, methane, oxygen, carbon monoxide and hydrogen sulphide using a Gas Analyser GA2000/5000.

Recorded gas concentrations are summarised in **Table 1**.

Table 1 Measured Gas Concentration Summary

Gas	Minimum (% V/V)	Maximum (% V/V)
Methane	0.0	2.9
Carbon Dioxide	0.6	9.1
Oxygen	0.3	21.4

Methane levels peaked at 2.9% V/V. Carbon dioxide levels varied between 0.6% and 9.1% V/V. Oxygen concentrations varied between 0.3% and 21.4% V/V.

The gas flow rate from the boreholes was also assessed, a maximum flow rate of 0.1l/hr was recorded.

Based on a flow rate of 0.1 l/hr and the highest recorded carbon dioxide concentration of 9.1%, a gas screening value of 0.0091 l/hr is calculated, as follows:
 $(9.1/100) \times 0.1 = 0.0091 \text{ l/hr}$

The results are presented at the rear of this letter.

Conclusion

When this monitoring result is compared with Table 8.5 of CIRIA report C665, the site is classified as 'Gas Characteristic Situation 2' (GS2) in line with recommendations provided in CIRIA C665.

The above classification will be revisited following the remaining gas monitoring results.

I trust that the above is to your satisfaction, however, if you have any queries or require any further information, please do not hesitate to contact me.

Yours sincerely
for: Terra Firma (Wales) Ltd

A handwritten signature in purple ink, appearing to read 'M Watkins', with a large, sweeping flourish at the end.

Michael Watkins

Enc.

Gas Monitoring Results

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The graph displays the monthly mean precipitation index (PDI) over time. The y-axis is labeled from 980 to 1040 in increments of 10. The x-axis shows dates from 07 Dec to 25 Jan. The data points are connected by a line, showing a fluctuating trend. A red star is placed at the lowest point of the series, which occurs around 03 Jan with a value of approximately 985.



Figure 1 is a line graph showing the daily variation of the number of cases in the Veneto region from January 7 to January 31, 2020. The y-axis represents the number of cases, ranging from 970 to 1040. The x-axis shows dates from 09 Jan to 30 Jan. The data points are connected by a solid line. A red star is placed on the data point for January 23, 2020, which corresponds to the date of the first case in the Veneto region.

Drawings

