Appendix 2 Verification Monitoring Results

Our Ref: GGS192/ILR/62Marlpool/090312

9th March 2012

SKM Enviros
10 Ty-nant Court
Morganstown
Cardiff
South Glamorgan
CF15 8LW

F.A.O Heidi Hutchings

Dear Heidi,

RE-VERIFICATION MONITORING AT 62 MARLPOOL DRIVE, REDDITCH

1. Introduction

1.1 Ground-Gas Solutions Limited (GGS) has been commissioned by Sinclair Knight Merz Pty Limited (SKM Enviros) to undertake high frequency ground-gas monitoring of the sub-floor void (SFV) of No. 62 Marlpool Drive, Redditch following the installation of a positive pressure gas protection system. The initial verification between 1st November 2011 and 15th November 2011 showed methane concentrations were well below the trigger level set by SKM Enviros, however carbon dioxide concentrations were close to the trigger level for a large proportion of the monitoring period with occasional periods above the trigger level. The average concentration of the monitoring period for carbon dioxide was 1.1% v/v. The 8 hour average during the monitoring period in which the most elevated concentrations were observed was 1.59% v/v.

1.2 Prestige Air Technology Limited have rebalanced and adjusted the positive pressure gas protection system following these results. GGS have been commissioned to undertake a re-verification of the property to confirm that bulk ground-gas concentrations have decreased to below the SKM trigger levels following the systems adjustment.

1.3 This factual letter report summarises the findings of the continuous bulk ground gas re-verification monitoring undertaken at the property.

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2. Methodology

2.1 GGS employed continuous ground gas monitoring techniques using high resolution GasClam® instrumentation at the site. The GGS high resolution GasClam® device was installed on the 21st February 2012 and collected 6th March 2012. The serial number of the GasClam® device deployed was 000004/11/09. This instrument was checked for operation and has a valid calibration certificate (dated 24th October 2011).

2.2 The GasClam® device has been specially equipped with high resolution gas sensors for methane (CH_4) and carbon dioxide (CO_2), along with a gas sensor for oxygen (O_2). Atmospheric pressure was also monitored.

2.3 Data analysis involved converting raw data files downloaded from the GasClam® device into excel spread sheets. The raw data was plotted as time-series data, showing gas concentrations and atmospheric pressure plotted against time. The Time-series graph is included at the end of the letter report.

3. Results

3.1 A summary of the GasClam® results from the sub-floor void are shown in Table 3.1 below, showing the minimum and maximum gas concentrations and atmospheric pressure.

Measurand	Concentrations	
	Min	Max
CH_4 (% v/v)	0.001	0.052
CO_2 (% v/v)	0.054	0.341
O2 (% v/v)	18.6	19.7
Atmospheric Pressure (millibars)	998	1013

Note - % v/v = percentage by volume

Table 3.1 Summary of GasClam® results for the sub-floor void

3.2 SKM Enviros have the set the following bulk gas trigger levels:

- Methane 1.0% v/v
- Carbon Dioxide 1.5% v/v

3.3 The methane and carbon dioxide concentrations recorded at No. 62 Marlpool Drive are now consistently below the trigger levels set by SKM Enviros.

4. Limitations

Ground-Gas Solutions Limited (GGS) has prepared this factual report for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed.

GGS accepts no responsibility for the consequences of this document being used for any purpose or project other than for which it was commissioned or for the consequences arising from this document's use by any third party with whom an agreement has not been executed.

GGS accept no responsibility for the interpretation of this factual data. A reviewer of the data provided must take into account other available information and the context in which this data was collected. For example, sampling point location and construction.

GGS accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this factual report.

The full time-series data set and equipment calibration certificates will be included in the Final GGS Verification DataPack™ which will be submitted on completion of the verification monitoring of all remediated properties which form part of this particular contract.

If you have any queries please do not hesitate to contact me.

Yours sincerely

João Marcos Dyer
Graduate Geo-Environmental Specialist
For and on behalf of Ground-Gas Solutions Ltd.

Enc. Time Series Graph

c.c. Mr Andrew Collins, Prestige Air Technologies Ltd

ground - gas solutions limited

Time Series Graph

Time Series Data:62 Marlpool Drive, Redditch, (external sub-floor monitoring point)