CERTIFICATION OF CALIBRATION

4533

Date Of Calibration: 02-Feb-2023

Certificate Number: G503522_2/32112

Issued by: QED Environmental Systems Ltd.

Customer: **Structural Soils Limited**
Spring Lodge 172 Chester Road Helsby
Frodsham Cheshire WA6 0AR UNITED KINGDOM

Description: Gas Analyser

Model: GA5000

Serial Number: G503522

UKAS Accredited results:

Results after adjustment :

Methane (CH_4)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
5.0	4.9	0.072
15.0	14.9	0.13
60.0	59.6	0.42

Carbon Dioxide (CO_2)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
5.0	5.0	0.074
15.0	15.1	0.13
40.0	40.0	0.29

Oxygen (O_2)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
21.5	21.5	0.25

The inwards assessment was carried out 31-Jan-2023.
The maximum adjustment is larger than the specification limit.
Inwards assessment data is available if requested.

All concentrations are molar.

CH_4, CO_2 readings recorded at : 31.6 °C ± 2.5 °C

O2 readings recorded at : 22.3 °C ± 2.5 °C

Barometric Pressure : 1015 mbar ± 4 mbar

Method of Test : The analyser is calibrated in a temperature controlled chamber using a series of reference gases, in compliance with procedure LP004.

Instrument has passed calibration as the measurement result is within the specification limit. The specification limit takes into account the measurement uncertainty.
The results relate only to the item calibrated

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Calibration Instance:114 IGC Instance:114

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QED Environmental Systems Ltd. Cyan Park - Unit 3, Jimmy Hill Way, Coventry, CV2 4QP, UNITED KINGDOM

Registered in England and Wales 1898734

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The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Calibrations marked 'Non-UKAS Accredited results' on this certificate have been included for completeness.

Non-UKAS accredited results after adjustment:

Barometer (mbar)	
Reference	**Instrument Reading**
1015	1016

Additional Gas Cells		
Gas	**Certified Gas (ppm)**	**Instrument Reading (ppm)**
CO	505	505
H_2S	52.6	53

Internal Flow	
Applied (l/hr)	**Instrument Reading (l/hr)**
5.0	5.1
10.0	10.1

Date of Issue : 06-Feb-2023 **Approved by Signatory**

Laura McBride

Laboratory Inspection

End of Certificate

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