

CERTIFICATION OF CALIBRATION



Date Of Calibration: 26-Mar-2021

Certificate Number: G503221_1/27767

Issued by: QED Environmental Systems Ltd.

Customer: Structural Soils Limited

Spring Lodge 172 Chester Road Helsby
Frodsham Cheshire WAG 0AR UNITED KINGDOM

Description: Gas Analyser

Model: GA5000

Serial Number: G503221

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	59.7		0.42
Carbon Dioxide (CO ₂)			
Certified Gas (%)	Instrument Reading (%)		Uncertainty (%)
5.0	5.0		0.074
15.0	15.0		0.13
40.0	40.2		0.29
Oxygen (O ₂)			
Certified Gas (%)	Instrument Reading (%)		Uncertainty (%)
21.4	21.5		0.25

The inwards assessment was carried out 18-Mar-2021.

The maximum adjustment is larger than the specification limit.

Inwards assessment data is available if requested.

All concentrations are molar.

CH₄, CO₂ readings recorded at : 31.8 °C ± 2.5 °C

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

Barometric Pressure : 0995 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:111 IGC Instance:111

Page 1 of 2 | LP015GIUKAS-2.5

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

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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
995	995

Additional Gas Cells		
Gas	Certified Gas (ppm)	Instrument Reading (ppm)
CO	486	486
H ₂ S	53.6	54

Internal Flow	
Applied (l/hr)	Instrument Reading (l/hr)
5	5.1
10	10

Date of Issue : 31-Mar-2021

Approved by Signatory

Dawn Hemings

Laboratory Inspection

End of Certificate

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.

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Page 2 of 2 | LP015GIUKAS-2.5

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SERVICE REPORT



Issued by: QED Environmental Systems Ltd.

Customer Name: Structural Soils Limited

Model: GA5000

Date of Service: 31-Mar-2021

Part Number: GA5KB0B0-101

Service Engineer: Ricky Cottrill

Serial Number: G503221

Calibration Engineer: Suk Balrey

Verification / Approved By: Dawn Hemings

Signature:

A handwritten signature in blue ink, appearing to be 'Dawn Hemings', written over a horizontal line.

Reason for Return (Inc. Customer Comments):

Returned for full service and calibration

Service Comments/Feedback:

This instrument was tested against known certified gas values and the user calibration was seen to be worse than the factory calibration for the following channels: CH4 CO2 . Common reasons for this are an out of date or poor user calibration. Regular user calibrations carried out in accordance with our operating manual will help to optimise performance. For further information on user calibration please visit the FAQ section of our website.

Thank you for returning your gas analyser to the QED Service Centre for full service and calibration. We are pleased to inform you that the analyser was received and fully assessed by one of our experienced Service Engineers and no significant faults or issues were observed during the assessment. Our extensive service was carried out, and any necessary components replaced. The analyser has successfully passed all of our rigorous testing and quality checks and has been calibrated using our bespoke, state of the art calibration facility.

For further information about how to get the best use from your instrument please visit our YouTube channel <http://www.youtube.com/GeotechTV> and on our Website <https://qedenv.com>

We have replaced the battery because it is over 2 years old. This is in accordance to the battery cell manufacturer's recommendation.

The CO electrochemical sensor has been replaced due it being over 2 years old in accordance with the manufacturer's recommendations, and also as a proactive measure based on our experience of the typical lifetime of this type of sensor.

If you require any further assistance with your instrument please email our Technical Support Team at technical@qedenv.co.uk or call us on +44 (0) 333 800 0088 (Monday to Thursday 08.30 - 17.00 & Friday 08.30 - 15.30) UK time zone.

Next Service Due: 26-Sep-2021

Our ISO accreditation for our customised auto-calibration facilities	Number of days we aim to complete your service within	Number of checks instruments are subject to when serviced	Number of countries from which we service instruments /accessories each year	Number of calibrations completed in last 12 months	Minimum number of service interventions we process each month	Cost for fully assured analyser collection for our UK customers
17025	5	50	65	7,384	340	25

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