PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

QED Environmental Systems, Inc.

2355 Bishop Circle West, Dexter, MI 48130

(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2017

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system
(as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Chemical Calibration (Landtec Gas Analyzers)

(As detailed in the supplement)

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen
President/Operations Manager

Perry Johnson Laboratory Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
March 3, 2010	December 21, 2019	April 30, 2022

Accreditation No.:	*Certificate No.:*
66916	L19-645

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjlabs.com

Certificate of Accreditation: Supplement

QED Environmental Systems, Inc.
2355 Bishop Circle West, Dexter, MI 48130
Contact Name: Tim Wheeler Phone: 734-726-6097

Accreditation is granted to the facility to perform the following calibrations:

Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
REV 0 Gas Analyzers [F] Carbon Dioxide At the listed fixed point Concentration	50 %	1.46 %	Geotechnical Instruments Temperature controlled Chamber w/ Traceable Reference Gases
	15 %	0.99 %	
	5 %	0.49 %	
Methane At the listed fixed point Concentrations	50 %	1.39 %	
	15 %	0.80 %	
	5 %	0.43 %	
Oxygen At the listed fixed point Concentrations	21 %	0.27 %	
REV 1 Gas Analyzers [F] Carbon Dioxide At the listed fixed point Concentration	50 %	1.20 %	
	15 %	0.71 %	
	5 %	0.43 %	
Methane At the listed fixed point Concentrations	50 %	1.05 %	
	15 %	0.65 %	
	5 %	0.41 %	
Oxygen At the listed fixed point Concentrations	21 %	0.25 %	
5K Gas Analyzers [F] Carbon Dioxide At the listed fixed point Concentration	50 %	1.19 %	
	15 %	0.71 %	
	5 %	0.43 %	
Methane At the listed fixed point Concentrations	50 %	1.03 %	
	15 %	0.66 %	
	5 %	0.42 %	
Oxygen At the listed fixed point Concentrations	21 %	0.25 %	

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Landtec/Viasensor Gas Analyzers Carbon Dioxide At Fixed Point Concentration [F]	50 %	1.19 %	Geotechnical Instruments Temperature Controlled Chamber w/ Automated Software and Reference Gases
	15 %	0.71 %	
	5 %	0.43 %	
Landtec/Viasensor Gas Analyzers Methane At Fixed Point Concentration [F]	50 %	1.03 %	
	15 %	0.66 %	
	5 %	0.42 %	
Landtec/Viasensor Gas Analyzers Oxygen At Fixed Point Concentration [F]	21 %	0.25 %	

1. The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represents the smallest measurement uncertainty attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is typically expressed at a confidence level of 95 % using a coverage factor *k* (usually equal to 2). The actual measurement uncertainty associated with a specific calibration performed by the laboratory will typically be larger than the CMC for the same calibration since capability and performance of the device being calibrated and the conditions related to the calibration may reasonably be expected to deviate from ideal to some degree.

2. The laboratories range of calibration capability for all disciplines for which they are accredited is the interval from the smallest calibrated standard to the largest calibrated standard used in performing the calibration. The low end of this range must be an attainable value for which the laboratory has or has access to the standard referenced. Verification of an indicated value of zero in the absence of a standard is common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.

3. The presence of a superscript F means that the laboratory performs calibration of the indicated parameter at its fixed location. Example: Outside Micrometer[F] would mean that the laboratory performs this calibration at its fixed location.