PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Global Calibration Gases, LLC

1090 Commerce Blvd. North, Sarasota, FL 34243

(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

(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

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

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
March 01, 2011	March 09, 2023	June 30, 2025

Accreditation No.:	*Certificate No.:*
69191	L23-201

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

Global Calibration Gases, LLC
1090 Commerce Blvd. North, Sarasota, FL 34243
Contact Name: Dale Hyler Phone: 941-722-7203

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

Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Calibration Gas Cylinder [F]	0.000 01 % mol fraction to 0.05 % mol fraction	0.000 002 1 % mol fraction	Trace Moisture Concentration Electrolytic Hygrometer LWI 5.5
	0.000 001 % mol fraction to 1 % mol fraction	0.000 012 % mol fraction	Trace Oxygen Concentration Electrochemical Oxygen Analyzer LWI 5.4
	0.01 % mol fraction to 100 % mol fraction	0.023 % mol fraction	Gas Mixture Concentration (GC and TCD) WI-103, LWI 5.14
	0.1 % mol fraction to 25 % mol fraction	0.023 % mol fraction	Percent Oxygen Concentration (Paramagnetic Oxygen Analyzer) Teledyne 3000MA Manual
	0.000 01 % mol fraction to 0.1 % mol fraction	0.000 012 % mol fraction	Trace Hydrogen Sulfide Concentration (Electrochemical Analyzer) Interscan RM 17-200 Manual
	0.000 01 % mol fraction to 0.1 % mol fraction	0.000 012 % mol fraction	Percent Sulfur Dioxide Concentration (Non-Dispersive Infrared Analyzer) Horiba VIA-510 Manual
	0.000 01 % mol fraction to 0.2 % mol fraction	0.000 012 % mol fraction	Percent Nitric Oxide Concentration (Chemicailuminescence Analyzer) WI-102
	0.000 01 % mol fraction to 0.1 % mol fraction	0.000 012 % mol fraction	Percent Nitrogen Dioxide Concentration (Chemicailuminescence Analyzer) WI-102
Gravimetric Balance [F]	0.000 01% mol fraction to 100 % mol fraction	0.000 031 % mol fraction	Gas Mixture Concentration Manufacturer Calibration

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.

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

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.