PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Petroservicios Industriales, S.A. de C.V.

Olmo #206, Col. AltaVista
Tampico, Tamaulipas, México. CP. 89240

(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:*
October 09, 2020	September 22, 2024	October 31, 2026

Acreditation No.:	*Certificate No.:*
103248	L24-717

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

Petroservicios Industriales, S.A. de C.V.
Olmo #206, Col. AltaVista
Tampico, Tamaulipas, México. CP. 89240
Contact Name: Paulina Castro Gama Phone: 833-217-0966

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 MEASUREMENT METHOD OR PROCEDURES USED
Iron (Fe) - Portable X-Ray Fluorescence Spectrometer[F]	0.047 % of Fe	0.004 8 %	Reference Material CDA 642	PROC-006 Internal Procedure
	0.2 % of Fe	0.009 6 %	Reference Material SS-5083 BS	
	0.31 % of Fe	0.011 %	Reference Material SS-4032 B	
	0.53 % of Fe	0.018 %	Reference Material TI-6-6-2	
	0.77 % of Fe	0.011 %	Reference Material Alloy K-500	
	1.1 % of Fe	0.031 %	Reference Material Alloy 6B	
	17.84 % of Fe	0.081 %	Reference Material Hastaloy X	
	40.6 % of Fe	0.17 %	Reference Material INCO 909	
Tin (Sn) - Portable X-Ray Fluorescence Spectrometer[F]	0.15 % of Sn	0.004 %	Reference Material CDA 360	
	1.97 % of Sn	0.013 %	Reference Material Ti-6-2-4-2	
	2 % of Sn	0.037 %	Reference Material Ti-6-6-2	
	3.4 % of Sn	0.038 %	Reference Material 32XPB11	
	4.58 % of Sn	0.022 %	Reference Material CDA 836	
	9.75 % of Sn	0.047 %	Reference Material CDA 937	
	62.38 % of Sn	0.11 %	Reference Material 91X S63PR2	
Copper (Cu) – Portable X-Ray Fluorescence Spectrometer[F]	0.032 % of Cu	0.002 8 %	Reference Material AISI 416	
	0.049 % of Cu	0.003 %	Reference Material SS-5083 BS	
	0.362 % of Cu	0.009 %	Reference Material Nitronic 60	
	0.38 % of Cu	0.008 3 %	Reference Material AISI 321	
	0.4 % of Cu	0.014 %	Reference Material 17-7PH	
	0.49 % of Cu	0.029 %	Reference Material Ti-6-6-2	

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Copper (Cu) - Portable X-Ray Fluorescence Spectrometer[F]	0.89 % of Cu	0.03 %	Reference Material SS-4032 B	PROC-006 Internal Procedure
	2.23 % of Cu	0.033 %	Reference Material Custom 455	
	3.25 % of Cu	0.025 %	Reference Material 20CB3	
	4.56 % of Cu	0.05 %	Reference Material 74X HB	
	11.18 % of Cu	0.1 %	Reference Material 73X SC11	
	30.22 % of Cu	0.047 %	Reference Material Alloy K-500	
	61.5 % of Cu	0.1 %	Reference Material CDA 360	
	90.54 % of Cu	0.053 %	Reference Material 32X PB1	
	91.2 % of Cu	0.1 %	Reference Material CDA 642	
Nickel (Ni) - Portable X-Ray Fluorescence Spectrometer[F]	0.12 % of Ni	0.005 3 %	Reference Material AISI 416	
	0.36 % of Ni	0.006 9 %	Reference Material CDA 937	
	0.78 % of Ni	0.009 8 %	Reference Material CDA 836	
	0.89 % of Ni	0.03 %	Reference Material SS-4032 B	
	2.25 % of Ni	0.034 %	Reference Material Alloy 6B	
	7.21 % of Ni	0.18 %	Reference Material 17-7PH	
	8.28 % of Ni	0.04 %	Reference Material Custom 455	
	8.5 % of Ni	0.047 %	Reference Material Nitronic 60	
	9.64 % of Ni	0.056 %	Reference Material AISI 321	
	33.31 % of Ni	0.085 %	Reference Material 20CB3	
	38.44 % of Ni	0.14 %	Reference Material Inco 909	

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Nickel (Ni) - Portable X-Ray Fluorescence Spectrometer[F]	47.37 % of Ni	0.082 %	Reference Material Hastaloy X	PROC-006 Internal Procedure
	64.3 % of Ni	0.1 %	Reference Material Alloy K-500	
Titanium (Ti) - Portable X-Ray Fluorescence Spectrometer[F]	0.23 % of Ti	0.012 %	Reference Material AISI 321	
	1.11 % of Ti	0.023 %	Reference Material Custom 455	
	1.58 % of Ti	0.019 %	Reference Material Inco 909	
Niobium (Nb) - Portable X-Ray Fluorescence Spectrometer[F]	0.021 % of Nb	0.003 6 %	Reference Material AISI 321	
	0.25 % of Nb	0.004 3 %	Reference Material Custom 455	
	0.52 % of Nb	0.01 %	Reference Material 20CB3	
	5 % of Nb	0.052 %	Reference Material Inco 909	
Molybdenum (Mo) - Portable X-Ray Fluorescence Spectrometer[F]	0.011 % of Mo	0.001 1 %	Reference Material AISI 416	
	0.31 % of Mo	0.01 %	Reference Material Nitronic 60	
	0.32 % of Mo	0.004 1 %	Reference Material AISI 321	
	0.44 % of Mo	0.005 2 %	Reference Material 17-7PH	
	0.46 % of Mo	0.007 %	Reference Material 1.25Cr-.5Mo	
	0.83 % of Mo	0.01 %	Reference Material Alloy 6B	
	2 % of Mo	0.029 %	Reference Material Ti-6-2-4-2	
	2.06 % of Mo	0.023 %	Reference Material 20CB3	
	4.79 % of Mo	0.029 %	Reference Material Tool Steel M-2	
	8.78 % of Mo	0.064 %	Reference Material Hastaloy X	

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Manganese (Mn) - Portable X-Ray Fluorescence Spectrometer[F]	0.36 % of Mn	0.015 %	Reference Material 20CB3	PROC-006 Internal Procedure
	0.45 % of Mn	0.009 2 %	Reference Material 1.25Cr-.5Mo	
	0.68 % of Mn	0.022 %	Reference Material Hastaloy X	
	0.71 % of Mn	0.018 %	Reference Material AISI 416	
	0.76 % of Mn	0.021 %	Reference Material SS-5083 BS	
	0.83 % of Mn	0.016 %	Reference Material 17-7PH	
	0.99 % of Mn	0.025 %	Reference Material Alloy 6B	
	1.35 % of Mn	0.02 %	Reference Material AISI 321	
	8.58 % of Mn	0.054 %	Reference Material Nitronic 60	
Chromium (Cr) - X-Ray Fluorescence Spectrometer[F]	0.101 % of Cr	0.006 5 %	Reference Material SS-5083 BS	
	1.12 % of Cr	0.011 %	Reference Material 1.25Cr-.5Mo	
	3.86 % of Cr	0.071 %	Reference Material Tool Steel M-2	
	4.14 % of Cr	0.042 %	Reference Material Tool Steel T-1	
	13.05 % of Cr	0.053 %	Reference Material AISI 416	
	16.37 % of Cr	0.034 %	Reference Material 17-7PH	
	18.14 % of Cr	0.064 %	Reference Material AISI 321	
	19.42 % of Cr	0.077 %	Reference Material 20CB3	
	21.9 % of Cr	0.06 %	Reference Material Hastaloy X	
	28.8 % of Cr	0.1 %	Reference Material Alloy 6B	

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Tungsten (W)- Portable X-Ray Fluorescence Spectrometer[F]	0.78 % of W	0.015 %	Reference Material Hastaloy X	PROC-006 Internal Procedure
	3.42 % of W	0.026 %	Reference Material Alloy 6B	
	5.98 % of W	0.08 %	Reference Material Tool Steel M-2	
	17.26 % of W	0.31 %	Reference Material Tool Steel T-1	
Cobalt (Co) - Portable X-Ray Fluorescence Spectrometer[F]	0.41 % of Co	0.028 %	Reference Material Tool Steel M-2	
	1.58 % of Co	0.021 %	Reference Material Hastaloy X	
	12.88 % of Co	0.096 %	Reference Material Inco 909	
	60.9 % of Co	0.3 %	Reference Material Alloy 6B	
Lead (Pb) - Portable X-Ray Fluorescence Spectrometer[F]	0.04 % of Pb	0.002 6 %	Reference Material 74X CA8	
	1.038 % of Pb	0.014 %	Reference Material 32X PB11	
	2.71 % of Pb	0.043 %	Reference Material CDA 360	
	5.49 % of Pb	0.083 %	Reference Material CDA 836	
	9.5 % of Pb	0.11 %	Reference Material CDA 937	
Zinc (Zn) - Portable X-Ray Fluorescence Spectrometer[F]	0.049 % of Zn	0.002 2 %	Reference Material SS-5083 BS	
	0.098 % of Zn	0.005 1 %	Reference Material SS-4032 B	
	1.5 % of Zn	0.028 %	Reference Material 32X PB11	
	4.18 % of Zn	0.048 %	Reference Material CDA 836	
	35.3 % of Zn	0.1 %	Reference Material CDA 360	

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Vanadium (V) - Portable X-Ray Fluorescence Spectrometer[F]	1.12 % of V	0.013 %	Reference Material Tool Steel T-1	PROC-006 Internal Procedure
	1.83 % of V	0.033 %	Reference Material Tool Steel M-2	
	5.43 % of V	0.056 %	Reference Material Ti-6-6-2	
Aluminum (Al) - Portable X-Ray Fluorescence Spectrometer[F]	1.18 % of Al	0.066 %	Reference Material 17-7PH	
	3.02 % of Al	0.068 %	Reference Material Alloy K-500	
	5.45 % of Al	0.1 %	Reference Material Ti-6-6-2	
	5.87 % of Al	0.12 %	Reference Material Ti-6-2-4-2	
	6.7 % of Al	0.08 %	Reference Material CDA 642	
Silicon (Si) - Portable X-Ray Fluorescence Spectrometer[F]	0.089 % of Si	0.013 %	Reference Material Ti-6-2-4-2	
	0.157 % of Si	0.009 %	Reference Material SS-5083 BS	
	0.41 % of Si	0.016 %	Reference Material Inco 909	
	0.47 % of Si	0.016 %	Reference Material AISI 416	
	0.58 % of Si	0.015 %	Reference Material 1.25Cr-.5Mo	
	1.84 % of Si	0.033 %	Reference Material CDA 642	
	3.67 % of Si	0.039 %	Reference Material Nitronic 60	
	12 % of Si	0.2 %	Reference Material SS-4032 B	

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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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.

4. Measurement uncertainties obtained for calibrations performed at customer sites can be expected to be larger than the measurement uncertainties obtained at the laboratories fixed location for similar calibrations. This is due to the effects of transportation of the standards and equipment and upon environmental conditions at the customer site which are typically not controlled as closely as at the laboratories fixed location.