



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. Alta Vista
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:

Initial Accreditation Date:

October 09, 2020

Issue Date:

October 09, 2020

Expiration Date:

October 31, 2022

Tracy Szerszen
President

Accreditation No.:

103248

Certificate No.:

L20-603

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

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.pjlab.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: 833-140-4576

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 (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Iron (Fe) - Portable X-Ray Fluorescence Spectrometer ^F	0.047 % of Fe	0.004 5 %	Reference Material CDA 642 Internal Procedure PROC-006
	0.2 % of Fe	0.009 6 %	Reference Material SS-5083 BS Internal Procedure PROC-006
	0.31 % of Fe	0.011 %	Reference Material SS-4032 B Internal Procedure PROC-006
	0.53 % of Fe	0.017 %	Reference Material TI-6-6-2 Internal Procedure PROC-006
	0.77 % of Fe	0.01 %	Reference Material Alloy K-500 Internal Procedure PROC-006
	1.1 % of Fe	0.029 %	Reference Material Alloy 6B Internal Procedure PROC-006
	17.84 % of Fe	0.074 %	Reference Material Hastaloy X Internal Procedure PROC-006
	40.6 % of Fe	0.15 %	Reference Material CDA 642 Internal Procedure PROC-006
Tin (Sn) - Portable X-Ray Fluorescence Spectrometer ^F	0.15 % of Sn	0.003 9 %	Reference Material CDA 360 Internal Procedure PROC-006
	1.97 % of Sn	0.012 %	Reference Material Ti-6-2-4-2 Internal Procedure PROC-006



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Tin (Sn) – Portable X-Ray Fluorescence Spectrometer ^F	2 % of Sn	0.033 %	Reference Material Ti-6-6-2 Internal Procedure PROC-006
	3.4 % of Sn	0.038 %	Reference Material 32XPB11 Internal Procedure PROC-006
	4.58 % of Sn	0.02 %	Reference Material CDA 836 Internal Procedure PROC-006
	9.75 % of Sn	0.042 %	Reference Material CDA 937 Internal Procedure PROC-006
	62.38 % of Sn	0.11 %	Reference Material 91X S63PR2 Internal Procedure PROC-006
Copper (Cu) – Portable X-Ray Fluorescence Spectrometer ^F	0.032 % of Cu	0.002 9 %	Reference Material AISI 416 Internal Procedure PROC-006
	0.049 % of Cu	0.003 %	Reference Material SS-5083 BS Internal Procedure PROC-006
	0.362 % of Cu	0.008 7 %	Reference Material Nitronic 60 Internal Procedure PROC-006
	0.38 % of Cu	0.008 3 %	Reference Material AISI 321 Internal Procedure PROC-006
	0.4 % of Cu	0.013 %	Reference Material 17-7PH Internal Procedure PROC-006
	0.49 % of Cu	0.025 %	Reference Material Ti-6-6-2 Internal Procedure PROC-006



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Copper (Cu) - Portable X-Ray Fluorescence Spectrometer ^F	0.89 % of Cu	0.03 %	Reference Material SS-4032 B Internal Procedure PROC-006
	2.23 % of Cu	0.033 %	Reference Material Custom 455 Internal Procedure PROC-006
	3.25 % of Cu	0.024 %	Reference Material 20CB3 Internal Procedure PROC-006
	4.56 % of Cu	0.05 %	Reference Material 74X HB Internal Procedure PROC-006
	11.18 % of of Cu Cu	0.1 %	Reference Material 73X SC11 Internal Procedure PROC-006
	30.22 % of Cu	0.043 %	Reference Material Alloy K-500 Internal Procedure PROC-006
	61.5 % of Cu	0.091 %	Reference Material CDA 360 Internal Procedure PROC-006
	90.54 % of Cu	0.053 %	Reference Material 32X PB11 Internal Procedure PROC-006
	91.2 % of Cu	0.087 %	Reference Material CDA 642 Internal Procedure PROC-006



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Nickel (Ni) - Portable X-Ray Fluorescence Spectrometer ^F	0.12 % of Ni	0.005 4 %	Reference Material AISI 416 Internal Procedure PROC-006
	0.36 % of Ni	0.006 5 %	Reference Material CDA 937 Internal Procedure PROC-006
	0.78 % of Ni	0.009 2 %	Reference Material CDA 836 Internal Procedure PROC-006
	0.89 % of Ni	0.03 %	Reference Material SS-4032 B Internal Procedure PROC-006
	2.25 % of Ni	0.032 %	Reference Material Alloy 6B Internal Procedure PROC-006
	7.21 % of Ni	0.16 %	Reference Material 17-7PH Internal Procedure PROC-006
	8.28 % of Ni	0.038 %	Reference Material Custom 455 Internal Procedure PROC-006
	8.5 % of Ni	0.044 %	Reference Material Nitronic 60 Internal Procedure PROC-006
	9.64 % of Ni	0.053 %	Reference Material AISI 321 Internal Procedure PROC-006
	33.31 % of Ni	0.078 %	Reference Material 20CB3 Internal Procedure PROC-006



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Nickel (Ni) - Portable X-Ray Fluorescence Spectrometer ^F	38.44 % of Ni	0.12 %	Reference Material Inco 909 Internal Procedure PROC-006
	47.37 % of Ni	0.068 %	Reference Material Hastaloy X Internal Procedure PROC-006
	64.3 % of Ni	0.093 %	Reference Material Alloy K-500 Internal Procedure PROC-006
Titanium (Ti) - Portable X-Ray Fluorescence Spectrometer ^F	0.23 % of Ti	0.011 %	Reference Material AISI 321 Internal Procedure PROC-006
	1.11 % of Ti	0.021 %	Reference Material Custom 455 Internal Procedure PROC-006
	1.58 % of Ti	0.018 %	Reference Material Inco 909 Internal Procedure PROC-006
Niobium (Nb) - Portable X-Ray Fluorescence Spectrometer ^F	0.021 % of Nb	0.003 7 %	Reference Material AISI 321 Internal Procedure PROC-006
	0.25 % of Nb	0.003 9 %	Reference Material Custom 455 Internal Procedure PROC-006
	0.52 % of Nb	0.009 2 %	Reference Material 20CB3 Internal Procedure PROC-006
	5 % of Nb	0.045 %	Reference Material Inco 909 Internal Procedure PROC-006



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Molybdenum (Mo) - Portable X-Ray Fluorescence Spectrometer ^F	0.011 % of Mo	0.001 1 %	Reference Material AISI 416 Internal Procedure PROC-006
	0.31 % of Mo	0.009 1 %	Reference Material Nitronic 60 Internal Procedure PROC-006
	0.32 % of Mo	0.003 9 %	Reference Material AISI 321 Internal Procedure PROC-006
	0.44 % of Mo	0.004 4 %	Reference Material 17-7PH Internal Procedure PROC-006
	0.46 % of Mo	0.009 7 %	Reference Material 1.25Cr-.5Mo Internal Procedure PROC-006
	0.83 % of Mo	0.009 3 %	Reference Material Alloy 6B Internal Procedure PROC-006
	2 % of Mo	0.026 %	Reference Material Ti-6-2-4-2 Internal Procedure PROC-006
	2.06 % of Mo	0.021 %	Reference Material 20CB3 Internal Procedure PROC-006
	4.79 % of Mo	0.025 %	Reference Material Tool Steel M-2 Internal Procedure PROC-006
	8.78 % of Mo	0.058 %	Reference Material Hastaloy X Internal Procedure PROC-006
Manganese (Mn) - Portable X-Ray Fluorescence Spectrometer ^F	0.36 % of Mn	0.015 %	Reference Material 20CB3 Internal Procedure PROC-006



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Manganese (Mn) - Portable X-Ray Fluorescence Spectrometer ^F	0.45 % of Mn	0.008 6 %	Reference Material 1.25Cr-.5Mo Internal Procedure PROC-006
	0.68 % of Mn	0.021 %	Reference Material Hastaloy X Internal Procedure PROC-006
	0.71 % of Mn	0.018 %	Reference Material AISI 416 Internal Procedure PROC-006
	0.76 % of Mn	0.021 %	Reference Material SS-5083 BS Internal Procedure PROC-006
	0.83 % of Mn	0.015 %	Reference Material 17-7PH Internal Procedure PROC-006
	0.99 % of Mn	0.023 %	Reference Material Alloy 6B Internal Procedure PROC-006
	1.35 % of Mn	0.019 %	Reference Material AISI 321 Internal Procedure PROC-006
	8.58 % of Mn	0.05 %	Reference Material Nitronic 60 Internal Procedure PROC-006
Chromium (Cr) - X-Ray Fluorescence Spectrometer ^F	0.101 % of Cr	0.006 5 %	Reference Material SS-5083 BS Internal Procedure PROC-006
	1.12 % of Cr	0.01 %	Reference Material 1.25Cr-.5Mo Internal Procedure PROC-006



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Chromium (Cr) - Portable X-Ray Fluorescence Spectrometer ^F	3.86 % of Cr	0.062 %	Reference Material Tool Steel M-2 Internal Procedure PROC-006
	4.14 % of Cr	0.038 %	Reference Material Tool Steel T-1 Internal Procedure PROC-006
	13.05 % of Cr	0.049 %	Reference Material AISI 416 Internal Procedure PROC-006
	16.37 % of Cr	0.03 %	Reference Material 17-7PH Internal Procedure PROC-006
	18.14 % of Cr	0.059 %	Reference Material AISI 321 Internal Procedure PROC-006
	19.42 % of Cr	0.07 %	Reference Material 20CB3 Internal Procedure PROC-006
	21.9 % of Cr	0.056 %	Reference Material Hastaloy X Internal Procedure PROC-006
	28.8 % of Cr	0.094 %	Reference Material Alloy 6B Internal Procedure PROC-006
Tungsten (W)- Portable X-Ray Fluorescence Spectrometer ^F	0.78 % of W	0.014 %	Reference Material Hastaloy X Internal Procedure PROC-006
	3.42 % of W	0.024 %	Reference Material Alloy 6B Internal Procedure PROC-006



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Tungsten (W)- Portable X-Ray Fluorescence Spectrometer ^F	5.98 % of W	0.07 %	Reference Material Tool Steel M-2 Internal Procedure PROC-006
	17.26 % of W	0.28 %	Reference Material Tool Steel T-1 Internal Procedure PROC-006
Cobalt (Co) - Portable X-Ray Fluorescence Spectrometer ^F	0.41 % of Co	0.025 %	Reference Material Tool Steel M-2 Internal Procedure PROC-006
	1.58 % of Co	0.02 %	Reference Material Hastaloy X Internal Procedure PROC-006
	12.88 % of Co	0.084 %	Reference Material Inco 909 Internal Procedure PROC-006
	60.9 % of Co	0.26 %	Reference Material Alloy 6B Internal Procedure PROC-006
Lead (Pb) - Portable X-Ray Fluorescence Spectrometer ^F	0.04 % of Pb	0.002 5 %	Reference Material 74X CA8 Internal Procedure PROC-006
	1.038 % of Pb	0.014 %	Reference Material 32X PB11 Internal Procedure PROC-006
	2.71 % of Pb	0.04 %	Reference Material CDA 360 Internal Procedure PROC-006
	5.49 % of Pb	0.073 %	Reference Material CDA 836 Internal Procedure PROC-006



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Lead (Pb) - Portable X-Ray Fluorescence Spectrometer ^F	9.5 % of Pb	0.1 %	Reference Material CDA 937 Internal Procedure PROC-006
Zinc (Zn) - Portable X-Ray Fluorescence Spectrometer ^F	0.049 % of Zn	0.002 2 %	Reference Material SS-5083 BS Internal Procedure PROC-006
	0.098 % of Zn	0.005 1 %	Reference Material SS-4032 B Internal Procedure PROC-006
	1.5 % of Zn	0.028 %	Reference Material 32X PB11 Internal Procedure PROC-006
	4.18 % of Zn	0.043 %	Reference Material CDA 836 Internal Procedure PROC-006
	35.3 % of Zn	0.1 %	Reference Material CDA 360 Internal Procedure PROC-006
Vanadium (V) - Portable X-Ray Fluorescence Spectrometer ^F	1.12 % of V	0.012 %	Reference Material Tool Steel T-1 Internal Procedure PROC-006
	1.83 % of V	0.03 %	Reference Material Tool Steel M-2 Internal Procedure PROC-006
	5.43 % of V	0.052 %	Reference Material Ti-6-6-2 Internal Procedure PROC-006
Aluminum (Al) - Portable X-Ray Fluorescence Spectrometer ^F	1.18 % of Al	0.063 %	Reference Material 17-7PH Internal Procedure PROC-006



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Aluminum (Al) - Portable X-Ray Fluorescence Spectrometer ^F	3.02 % of Al	0.067 %	Reference Material Alloy K-500 Internal Procedure PROC-006
	5.45 % of Al	0.1 %	Reference Material Ti-6-6-2 Internal Procedure PROC-006
	5.87 % of Al	0.12 %	Reference Material Ti-6-2-4-2 Internal Procedure PROC-006
	6.7 % of Al	0.078 %	Reference Material CDA 642 Internal Procedure PROC-006
Silicon (Si) - Portable X-Ray Fluorescence Spectrometer ^F	0.089 % of Si	0.013 %	Reference Material Ti-6-2-4-2 Internal Procedure PROC-006
	0.157 % of Si	0.009 %	Reference Material SS-5083 BS Internal Procedure PROC-006
	0.41 % of Si	0.015 %	Reference Material Inco 909 Internal Procedure PROC-006
	0.47 % of Si	0.016 %	Reference Material AISI 416 Internal Procedure PROC-006
	0.58 % of Si	0.014 %	Reference Material 1.25Cr-.5Mo Internal Procedure PROC-006
	1.84 % of Si	0.031 %	Reference Material CDA 642 Internal Procedure PROC-006



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Silicon (Si) - Portable X-Ray Fluorescence Spectrometer ^F	3.67 % of Si	0.037 %	Reference Material Nitronic 60 Internal Procedure PROC-006
	12 % of Si	0.2 %	Reference Material SS-4032 B Internal Procedure PROC-006

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.
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.