PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Tecnofisica Radiologica, S.C.

Reforma Ote. # 2220, Col. Modelo
Monterrey, Nuevo Leon, México. C.P. 64580

and hereby declares that the Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2017

Whereby, technical competence has been confirmed for the associated scope supplement, in the fields of:

Ionizing Radiation and Radioactivity Calibration

(As detailed in the supplement)

Accreditation claims for conformity assessment activities shall only be made from the addresses referenced within this certificate and shall apply solely to those activities identified in the related scope. This Accreditation is granted subject to the Accreditation Body rules governing the Accreditation referred to above, and the Organization hereby commits to observing and complying with those rules in their entirety.

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
October 17, 2019	December 04, 2025	February 29, 2028

Accreditation No.:	*Certificate No.:*
99046	L25-960

For PJLA:

Tracy Szerszen
President

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.pjlabs.com

Certificate of Accreditation: Supplement

Tecnofisica Radiologica, S.C.

Reforma Ote. # 2220, Col. Modelo
Monterrey, Nuevo Leon, México. C.P. 64580
Contact Name: Brenda Viridiana Delgado Santos. Phone: 811-052-0900

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	EXPANDED MEASUREMENT UNCERTAINTY (±) [1]	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	FLEX CODE	LOCATION OF ACTIVITY
Ionizing Radiation and Radioactivity	Equipment to Measure Kerma/Rate (in Air)	9.7×10^{-5} µGy/s to 4.6 µGy/s	5.7 % of reading	Reference Radiation Source Radionuclide Cs-137 Reference Standard Pressurized Ion Chamber Chronometer Distance meter	ISO 4037	F1, F2	F, O
Ionizing Radiation and Radioactivity	Equipment to Measure Kerma/Rate (in Air)	0.35 µGy/h to 17 mGy/h	5.7 % of reading	Reference Radiation Source Radionuclide Cs-137 Reference Standard Pressurized Ion Chamber Chronometer Distance meter	ISO 4037	F1, F2	F, O
Ionizing Radiation and Radioactivity	Equipment to Measure Ambient Dose Equivalent/Rate (in Air)	1.2×10^{-4} µSv/s to 5.6 µSv/s	5.7 % of reading	Reference Radiation Source Radionuclide Cs-137 Reference Standard Pressurized Ion Chamber Scaler Chronometer Distance meter	ISO 4037	F1, F2	F, O

Certificate of Accreditation: Supplement

Tecnofisica Radiologica, S.C.

Reforma Ote. # 2220, Col. Modelo
Monterrey, Nuevo Leon, México. C.P. 64580
Contact Name: Brenda Viridiana Delgado Santos. Phone: 811-052-0900

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	EXPANDED MEASUREMENT UNCERTAINTY (±) [1]	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	FLEX CODE	LOCATION OF ACTIVITY
Ionizing Radiation and Radioactivity	Equipment to Measure Ambient Dose Equivalent/Rate (in Air)	0.42 µSv/h to 0.02 Sv/h	5.7 % of reading	Reference Radiation Source Radionuclide Cs-137 Reference Standard Pressurized Ion Chamber Scaler Chronometer Distance meter	ISO 4037	F1, F2	F, O
Ionizing Radiation and Radioactivity	Equipment to Measure Personal Dose Equivalent/Rate	1.2×10^{-4} µSv/s to 5.6 µSv/s	6.6 % of reading	Reference Radiation Source Radionuclide Cs-137 Reference Standard Pressurized Ion Chronometer Distance meter	ISO 4037	F1, F2	F
Ionizing Radiation and Radioactivity	Equipment to Measure Personal Dose Equivalent/Rate	0.42 µSv/h to 0.02 Sv/h	6.6 % of reading	Reference Radiation Source Radionuclide Cs-137 Reference Standard Pressurized Ion Chronometer Distance meter	ISO 4037	F1, F2	F
Ionizing Radiation and Radioactivity	Dose Calibrator (Cs-137)	9.25×10^{5} Bq to 9.25×10^{6} Bq	5.5 % of reading	Reference Radiation Source Cs-137	IAEA-TECDOC-602/S	F1, F2	F, O

Certificate of Accreditation: Supplement

Tecnofisica Radiologica, S.C.

Reforma Ote. # 2220, Col. Modelo
Monterrey, Nuevo Leon, México. C.P. 64580
Contact Name: Brenda Viridiana Delgado Santos. Phone: 811-052-0900

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	EXPANDED MEASUREMENT UNCERTAINTY (±) [1]	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	FLEX CODE	LOCATION OF ACTIVITY
Ionizing Radiation and Radioactivity	Dose Calibrator (Co-57)	9.25×10^5 Bq to 1.85×10^8 Bq	5.5 % of reading	Reference Radiation Source Co-57	IAEA-TECDOC-602/S	F1, F2	F, O
Ionizing Radiation and Radioactivity	Dose Calibrator (Ba-133)	9.25×10^5 Bq to 9.25×10^6 Bq	5.5 % of reading	Reference Radiation Source Ba-133	IAEA-TECDOC-602/S	F1, F2	F, O
Ionizing Radiation and Radioactivity	Equipment to Measure Ambient Dose Equivalent/Rate (Neutron, in Air)	5.5×10^{-3} µSv/s to 2.2×10^1 µSv/s	9.2 % of reading	ISO 8529-1 Reference Radiation Source Am-241/Be Neutron Detector 25 cm Bonner Sphere Pulse Generator Distance meter	ISO 8529	F1, F2	F
Ionizing Radiation and Radioactivity	Equipment to Measure Ambient Dose Equivalent/Rate (Neutron, in Air)	20 µSv/h to 0.08 Sv/h	9.2 % of reading	ISO 8529-1 Reference Radiation Source Am-241/Be Neutron Detector 25 cm Bonner Sphere Pulse Generator Distance Meter	ISO 8529	F1, F2	F

1. The CMC (Calibration and Measurement Capability) is expressed in terms of measurement instrument/aspect being calibrated, range, expanded measurement uncertainty, equipment, and method/procedure. The expanded measurement uncertainty 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 measurement uncertainty included on this scope 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.

Certificate of Accreditation: Supplement

Tecnofisica Radiologica, S.C.

Reforma Ote. # 2220, Col. Modelo
Monterrey, Nuevo Leon, México. C.P. 64580
Contact Name: Brenda Viridiana Delgado Santos. Phone: 811-052-0900

Accreditation is granted to the facility to perform the following conformity assessment activities:

2. The laboratory's range of calibration capability for all disciplines for which it is 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. Location of activity:

Location Code	Location
F	Conformity assessment activity is performed at the CAB's fixed facility
O	Conformity assessment activity is performed onsite at the CAB's customer location

4. Measurement uncertainties obtained for calibrations performed at customer sites can be expected to be larger than the measurement uncertainties obtained at the laboratory's 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 laboratory's fixed location.

5. Flex Codes

F0: When no flexibility is identified. There are no changes to items calibrated, characteristics identified or versions of methods except for updating to the most recent version of a standard method after verification.
F1: The laboratory has the capability to introduce a new instrument, quantity, or gauge for an accredited calibration method.
F2: The laboratory has the capability to introduce the newest revision of an accredited authoritative standard method (with no modifications) identified on the scope
F3: The laboratory has the capability to introduce a new revision of an accredited non-standard method using the same technology or technique identified on the scope
F4: The laboratory has the capability to introduce a validated method that is equivalent to an accredited method (using the same Calibration Equipment or Reference Standards identified on the scope for the same parameter, component, or analyte identified on the line item of the scope.