



# PERRY JOHNSON LABORATORY ACCREDITATION, INC.

## Certificate of Accreditation

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

**Laboratorio Tecnológico de Metalurgia LTM S.A. de C.V.**  
**Carretera a Tecoripa KM 3.5 # 351, Parque Industrial**  
**Hermosillo, Sonora, México. C.P. 83299**

*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:

**Chemical and Mechanical Testing**  
*(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.

For PJLA:

*Initial Accreditation Date:*

*Issue Date:*

*Expiration Date:*

January 01, 2020

December 04, 2025

February 29, 2028

*Accreditation No.:*

*Certificate No.:*

104432

L25-962

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.pjilabs.com](http://www.pjilabs.com)*



# Certificate of Accreditation: Supplement

## Laboratorio Tecnológico de Metalurgia LTM S.A. de C.V.

Carretera a Tecoripa KM 3.5 # 351, Parque Industrial  
Hermosillo, Sonora, México. C.P. 83299  
Contact Name: Rodrigo Martinez Peñuñuri. Phone: 662-251-0503

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

| FIELD OF TEST | ITEMS, MATERIALS, OR PRODUCTS TESTED      | COMPONENT, CHARACTERISTIC, PARAMETER TESTED      | SPECIFICATION OR STANDARD METHOD         | TECHNOLOGY OR TECHNIQUE USED                                       | FLEX CODE | LOCATION OF ACTIVITY |
|---------------|-------------------------------------------|--------------------------------------------------|------------------------------------------|--------------------------------------------------------------------|-----------|----------------------|
| Chemical      | Ores, Metallurgical and Related Materials | Determination of Elements                        | Internal Procedure PT_003, Section 4.3   | Inductively Coupled Plasma Optical Emission Spectroscopy (ICP OES) | F1, F4    | F                    |
| Chemical      | Ores, Metallurgical and Related Materials | Fire Assay- Determination of Gold (Au)           | Internal Procedure PT_001, Section 4.6   | Gravimetric Method                                                 | F1, F4    | F                    |
| Chemical      | Ores, Metallurgical and Related Materials | Fire Assay- Determination of Silver (Ag)         | Internal Procedure PT_001, Section 4.6   | Gravimetric Method                                                 | F1, F4    | F                    |
| Chemical      | Ores, Metallurgical and Related Materials | Determination of Silver (Ag)                     | ASTM E1898                               | Atomic Absorption Spectroscopy (AAS)                               | F1, F2    | F                    |
| Chemical      | Ores, Metallurgical and Related Materials | Fire Assay - Determination of Gold (Au)          | Internal Procedure PT_003, Section 4.1.3 | Atomic Absorption Spectroscopy (AAS)                               | F1, F4    | F                    |
| Chemical      | Ores, Metallurgical and Related Materials | Determination of Total Copper (Cu)               | Internal Procedure PT_003, Section 4.1.3 | Atomic Absorption Spectroscopy (AAS)                               | F1, F4    | F                    |
| Chemical      | Ores, Metallurgical and Related Materials | Determination of Sequential Copper (Cu)          | Internal Procedure PT_011, section 4.3.  | Atomic Absorption Spectroscopy (AAS)                               | F1, F4    | F                    |
| Chemical      | Ores, Metallurgical and Related Materials | Determination of Sequential Zinc (Zn)            | Internal Procedure PT_011, Section 4.4.  | Atomic Absorption Spectroscopy (AAS)                               | F1, F4    | F                    |
| Chemical      | Ores, Metallurgical and Related Materials | Determination of Elements by Whole Rock Analysis | Internal Procedure PT_012, Section 4.5.  | Inductively Coupled Plasma Optical Emission Spectroscopy (ICP OES) | F1, F4    | F                    |
| Chemical      | Ores, Metallurgical and Related Materials | Fire Assay- Determination of Gold (Au)           | Internal Procedure PT_003, Section 4.2   | Microwave Plasma Atomic Emission Spectroscopy (MP-AES)             | F1, F4    | F                    |



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|---------------|--------------------------------------------|--------------------------------------------------------|-----------------------------------------|------------------------------|-----------|----------------------|
| Mechanical    | Rocks, Metallurgical and Related Materials | Bulk Density                                           | ASTM C914                               | Wax Immersion                | F1, F2    | F                    |
| Mechanical    | Rocks, Metallurgical and Related Materials | Determination of Bond Work Index (BW <sub>i</sub> )    | Internal Procedure PT_016, Section 4.3. | Bond Ball Mill               | F1, F4    | F                    |
| Mechanical    | Rocks, Metallurgical and Related Materials | Determination of Bond Abrasion Index (A <sub>i</sub> ) | Internal Procedure PT_016, Section 4.4. | Bond Abrasion Mill           | F1, F4    | F                    |

1. Location of activity:

**Location Code**

F

**Location**

Conformity assessment activity is performed at the CAB's fixed facility

2. Flex Code:

- F0: When no flexibility is identified. There are no changes to items tested, 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 test a new item, material, matrix, or product similar in composition to item, material, matrix, or product identified on the scope
- 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 parameter/component/analyte to an accredited test method identified on the scope
- F4: 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
- F5: The laboratory has the capability to introduce a validated method that is equivalent to an accredited method (using same technology or technique) identified on the scope for the same parameter, component, or analyte identified on the line item of the scope.