

CERTIFICATE OF ACCREDITATION

This is to attest that

INSPECTORATE SERVICES PERU SAC

AVENIDA FAUCETT 444 CALLAO CALLAO, 07006, PERU

Testing Laboratory TL-1127

has met the requirements of AC89, *IAS Accreditation Criteria for Testing Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation.

Effective Date February 20, 2024

IAS ACCREDITED LA

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Accredited to ISO/IEC 17025:2017

Effective Date February 20, 2024

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
ENVIRONMENTAL - CHEMISTRY INORGANIC Natural Water, Wastewater, Saline Water for Human Use and Consumption, Waster for Human Use and Consumption, Wastewater Natural Water, Water for Human Use and Consumption, Wastewater Natural Water, Water for Human Use and Consumption, Wastewater, Process water, Saline Water Sewage sludge, Sediments, Soils	Water for Human Use and	Soluble phosphorus	EPA Method 365.3. 1978 / Phosphorus all forms (Colorimetric, Ascorbic Acid Two Reagent)
	Total volatile solids	SMEWW-APHA-AWWA-WEF Part 2540 E. 24th Ed.2023 Solids. Fixed and Volatile Solids Ignited at 550 °C	
		DBO5 soluble	SMEWW-APHA-AWWA-WEF Part 5210 B. 24th Ed.2023 (Validated - Modified) Biochemical Oxygen Demand (BOD). 5 Day BOD Test
		DQO soluble	SMEWW-APHA-AWWA-WEF Part 5220 C. 24th Ed.2023 (Validated - Modified) Chemical Oxygen Demand (COD). Closed Reflux, Titrimetric Method
	Acidity	SMEWW-APHA-AWWA-WEF Part 2310 B, 24th Ed.2023 Acidity. Titration Method	
	pН	SMEWW-APHA-AWWA-WEF Part 4500 H+B, 24th Ed.2023 pH Value. Electrometric Method	
	Wastewater, Process water,	Temperature	SMEWW-APHA-AWWA-WEF Part 2550 B, 24th Ed.2023 Temperature. Laboratory and Field Methods
		Extractable Barium	Alberta Environment 2009. Item 6.2.2 / EPA 6020B Rev. 2 - July 2014. (Validated - Applied out of scope) Soil Remediation guidelines for barite: Environmental health and

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ENVIRONMENTAL - CHEMISTRY INORGANIC	Sewage sludge, Sediments, Soils (cont'd.)		human health / inductively Coupled Plasma- atomic emission spectrometry
(cont'd.)		Texture	ISP - 410 Ver. 01 Determination of texture in soil, mud and sediment
		Net Acid Generation (NAG)	AMIRA P387A Project ARD Test Handbook, Appendix D. 2002 Net Acid Generation (NAG) Test Procedure. Single Addition NAG.
		NAG leachate	AMIRA P387A Project ARD Test Handbook, Appendix D. 2002 / EPA Method 200.8, Revision 5.4. 1994 (Validated- Modified) Net Acid Generation (NAG) Test Procedure. Single Addition NAG. /Determination of trace elements in waters and wastes by inductively coupled plasma mass spectrometry.
		Synthetic Precipitation Leach Procedure	EPA Method 1312 Rev. 0. 1994 / EPA 6020B Rev. 2. 2014 (Validated-Modified) Synthetic Precipitation Leaching Procedure / Inductively Coupled Plasma-Mass Spectrometry
		Total Organic Carbon	NOM-021-SEMARNAT-2000 (tem 7.1.7(Validated - Applied out of scope). Method AS-07 Walkley and Black. Official Mexican Standard that establishes the specifications of fertility, salinity and classification of soils, study, sampling and analysis.
		Capacity for Cationic Exchange and Interchangeable Cations: CIC; Ca++; Mg++, Na+, K+	ISP - 411 Ver. 01 Determination of Cationic Exchange Capacity and Interchangeable Cations: CIC; Ca++; Mg++, Na+, K+ in soils, sludge and sediments.
		Oils and fats	EPA Method 9071B Rev.02. 1998 n-HEANE EXTRACTABLE MATERIAL (HEM) FOR SLUDGE,

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ENVIRONMENTAL - CHEMISTRY	Sewage sludge, Sediments, Soils (cont'd.)		SEDIMENT, ADN SOLID SAMPLES
INORGANIC (cont'd.)		Electrical conductivity	NOM-021-SEMARNAT-2000 (Validated - Applied out of scope) Method AS-16, AS-18 Official Mexican Standard that establishes the specifications of fertility, salinity and classification of soils, study, sampling and analysis
		Organic matter	NOM-021-SEMARNAT-2000 Item 7.1.7 (Validated applied out of scope) Method AS-07 Walkley and Black. Official Mexican Standard that establishes the specifications of fertility, salinity and classification of soils, study, sampling and analysis
		Calcium Carbonate	NOM-021-SEMARNAT-2000 Item 7.3.25 (Validated - Applied out of scope) Method AS-29 Official Mexican standard that establishes the specifications of fertility, salinity and classification of soils, study, sampling and analysis.
		Salinity	NOM-021-SEMARNAT-2000 / SMEWW-APHA-AWWA-WEF Part-2520-B, 24th Ed. (Validated - Applied out of scope) Method AS-16 Official Mexican Standard that establishes the specifications of fertility, salinity and classification of soils, study, sampling and analysis / Salinity-Electrical Conductivity Method
		Soluble anions: Alkalinity by Cabonates, Alkalinity by bicarbonates; Sulphate; Chloride.	NOM-021-SEMARNAT-2000 (Validated - Applied out of scope) AS-20 Official Mexican Standard that establishes the specifications of fertility, salinity and classification of soils, study, sampling and analysis
	Emissions	Carbon monoxide	EPA METHOD 10:2017 Determination of carbon

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ENVIRONMENTAL - CHEMISTRY INORGANIC (cont'd.)			monoxide emissions from stationary sources (Instrumental Analyzer Procedure)
	Environmental Filters	Weight Determination: Filltros PM 2.5 (High Volume) Environmental Filters	NTP 900.030. 2018 (Validated - Applied out of scope). ENVIRONMENTAL QUALITY MONITORING. Air quality. Reference method for the determination of fine particulate matter as PM10 in the atmosphere
	Air	Hydrogen sulfide (H2S)	CONVENIN 3571:2000 Determination of the concentration of hydrogen sulfide (H2S) in the atmosphere.
		PM2.5 particulate matter (high volume)	NTP 900.030. 2018 (Validated - Applied out of scope). ENVIRONMENTAL QUALITY MONITORING. Air quality. Reference method for the determination of fine particulate matter as PM10 in the atmosphere
		Carbon monoxide (CO)	NTP ISO 4224:2019 Air quality. Determination of Carbon Monoxide in ambient air. Non- dispersive infrared spectrometry method
		Nitrogen Oxides (NOx, NO, NO2)	NTP ISO 7996:2019 Air quality. Determination of the massive concentration of Nitrogen Oxides. Chemiluminescence method
		Ozone (O3)	NTP ISO 13964:2020 Air quality. Determination of ozone in ambient air. Ultraviolet photometry method.
ENVIRONMENTAL – CLIMATOLOGY	Air	Meteorological parameters (Wind direction and wind speed)	ASTM D5741 – 96. 2017 Standard Practice for Characterizing Surface wind using a Wind Vane and Rotating Anemometer
ENVIRONMENTAL CHEMISTRY – ORGANICS	Air	Benzene (C6H6)	NTP ISO 712.108:2021 ENVIRONMENTAL QUALITY MONITORING. Method of

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			measuring the concentration of benzene in ambient air. Part 3: Automatic Aspiration Sampling with In Situ Gas Chromatography. 1st Edition
ENVIRONMENTAL – PHYSICAL MEASUREMENTS	Natural Water, Wastewater		UNE-EN ISO 748:2023 Hydrometry – Measurement of liquid flow in open channels – Velocity area methods using measurements point speed