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Testing Laboratory TL-1007

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 November 4, 2022

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ANALYTICAL LABORATORY E.I.R.L

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Accredited to ISO/IEC 17025:2017 *Effective Date November 4, 2022*

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
ENVIRONMENTAL MICROBIOLOGY (Field collection + Lab Testing)	Water for human use and consumption, Natural Water Wastewater, Saline Water	Total Coliform - MPN method	SMEWW-APHA-AWWA-WEF Part 9221 B, 24th Ed. 2022, Multiple-Tube Fermentation Technique for Members of the Coliform Group. Standard Total Coliform Fermentation Technique
		Fecal Coliform (Thermotolerant) – MPN method	SMEWW-APHA-AWWA-WEF Part 9221 F.2, 24th Ed. 2022, Multiple-Tube Fermentation Technique for Members of the Coliform Group. Escherichia coli Procedure Using Fluorogenic Substrate. Simultaneous Determination of Thermotolerant Coliforms and E.coli
		Escherichia Coli -MPN method	SMEWW-APHA-AWWA-WEF Part 9221 F.2, 24th Ed. 2022, Multiple-Tube Fermentation Technique for Members of the Coliform Group. Escherichia coli Procedure Using Fluorogenic Substrate. Simultaneous Determination of Thermotolerant Coliforms and E. coli
		Fecal Enterococci or Intestinal Enterococci – MPN method	SMEWW-APHA-AWWA-WEF Part 9230 B, 24th Ed. 2022, Fecal Enterococcus/Streptococcus Groups. Multiple-Tube Technique
		Heterotrophic Plate Count (HPC). Pour Plate Method	SMEWW-APHA-AWWA-WEF Part 9215 B, 24th Ed. 2022, Method
	Water for human use and	Total Coliform - UFC/ 100mL	SMEWW-APHA-AWWA-WEF Part 9222 B, 24th Ed. 2022,

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ENVIRONMENTAL MICROBIOLOGY (Field collection + Lab Testing) (continued)	consumption, Natural Water		Membrane Filter Technique for Members of the Coliform Group. Standard Total Coliform Membrane Filter Procedure using Endo Media
		Fecal Coliform (Thermotolerant) - UFC / 100mL	SMEWW-APHA-AWWA-WEF Part 9222 D, 24th Ed. 2022, Membrane Filter Technique for Members of the Coliform Group. Thermotolerant (Fecal) Coliform Membrane Filter Procedure
		Escherichia coli - UFC / 100mL	SMEWW-APHA-AWWA-WEF Part 9222 H, 24th Ed. 2022, Membrane Filter Technique for Members of the Coliform Group. Partitioning E. coli from MF Total Coliform using EC-MUG Broth
		Coliform total	Hach Method 10029. Rev. 11 (2018) *Coliform total and E. coli*
		E. coli	
	Air	Aerobic mesophilic (Count) in air Enumeration of mesophilic aerobic microorganisms. Plate count methods. Method 1 (Standard plate count, plate count per seeding in whole medium or count) plate of aerobic microorganisms	APHA. Ch 3, Part 3.101. 5th Ed. 2015 // ICMSF Method 1, page. 117-124, 2da Ed. Reimpression 2000 Microbiological monitoring of the food processing environment. Air sampling methods. Sedimentation methods
		Molds (Count) in air Mold and yeast counts. Method of counting molds and yeasts by plating throughout the medium	APHA. Ch 3, Part 3.101. 5th Ed. 2015 // ICMSF. Page. 165-167, 2da Ed. Reimpression 2000 Microbiological monitoring of the food processing environment. Air sampling methods. Sedimentation method
		Yeasts (Count) in air Mold and yeast counts. Method of counting molds and yeasts by plating throughout the medium	APHA. Ch 3, Part 3.101. 5th Ed. 2015 // ICMSF. Page. 165-167, 2da Ed. Reimpression 2000 Microbiological monitoring of the food processing environment. Air sampling

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			methods. Sedimentation methods
ENVIRONMENTAL CHEMISTRY (Field Measurement)	Water for Human Use and Consumption, Natural Water, Wastewater, Sea Water	Conductivity	SMEWW-APHA-AWWA-WEF Part 2510 B. 24th Ed. 2022 Conductivity. Laboratory Method
		pH	SMEWW-APHA-AWWA-WEF Part 4500-H+ B. 24th Ed. 2022 pH Value. Electrometric Method
		Temperature	SMEWW-APHA-AWWA-WEF Part 2550 B. 24th Ed. 2022 Temperature. Laboratory and Field Methods
		Dissolved Oxygen	SMEWW-APHA-AWWA-WEF Part 4500-O G. 24th Ed. 2022 Oxygen (Dissolved). Membrane Electrode Method
		Turbidity	SMEWW-APHA-AWWA-WEF Part 2130 B. 24th Ed. 2022 Turbidity. Nephelometric Method
	Natural Water, Wastewater, Sea Water	Salinity	SMEWW-APHA-AWWA-WEF Part 2520 B, 24th Ed. 2022 Salinity. Electrical Conductivity Method.
	Water for Human Use and Consumption, Natural Water, Wastewater	Free Residual Chlorine	SMEWW-APHA-AWWA-WEF Part 4500-Cl G, 24th Ed. 2022 Chlorine (Residual). DPD Colorimetric Method - Validated
		Total Chlorine	SMEWW-APHA-AWWA-WEF Part 4500-Cl G, 24th Ed. 2022 Chlorine (Residual). DPD Colorimetric Method - Validated
	Wastewater	Volumetric Flow (Field Measurement)	MVAL-OPE-04 48 / 5000 Translation results- Flow Determination - Volumetric Method
	Ambient air	Determination of Carbon monoxide. Non-dispersive infrared spectrometry method	NTP ISO 4224 2019 Ambient air. Determination of carbon monoxide. Non-dispersive infrared spectrometry method. 1st Edition
ENVIRONMENTAL CHEMISTRY (Field collection only)	Ambient air	Sulfur Dioxide	EPA Method CFR title 40 Chapter C Part 50, Appendix A-2 to Part 50 version 2021

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ENVIRONMENTAL CHEMISTRY (Field collection and Lab testing)	Water for human use and consumption, Natural Water, Residual Water, Saline Water	Biochemical Oxygen Demand (BOD5).	SMEWW-APHA-AWWA-WEF Part 5210 B, 24th Ed. 2022, Biochemical Oxygen Demand (BOD). 5-Day BOD Test
		Settleable Solids	SMEWW-APHA-AWWA-WEF Part 2540 F, 24th Ed. 2022, Solids. Settleable Solids
		Total Suspended Solids	SMEWW-APHA-AWWA-WEF Part 2540 D, 24th Ed. 2022, Solids. Total Suspended Solids Dried at 103-105°C
		Total Solids	SMEWW-APHA-AWWA-WEF Part 2540 B, 24th Ed. 2022, Solids. Total Solids Dried at 103-105°C
		Total Dissolved Solids	SMEWW-APHA-AWWA-WEF Part 2540 C, 24th Ed. 2022, Solids. Total Dissolved Solids Dried at 180°C
		Oil and Grease	SMEWW-APHA-AWWA-WEF Part 5520B, 24th Ed. 2022, Oil and Grease by Liquid-Liquid, Partition-Gravimetric Method
	Water for human use and consumption, Natural Water, Residual Water,	Chemical Oxygen Demand (COD)	SMEWW-APHA-AWWA-WEF Part 5220 D, 24th Ed. 2022, Chemical Oxygen Demand by Closed Reflux, Colorimetric Method
	Saline water	Chemical Oxygen Demand (COD)	SMEWW-APHA-AWWA-WEF Pa+E14:E28rt 5220A,2; D, 24th Ed. 2022, Chemical Oxygen Demand by Closed Reflux, Colorimetric Method (Validated - Applied out of scope)
	Soils, sediments and sludge	Hexavalent Chromium (Cr VI)	EPA METHOD 3060 A / EPA METHOD 7199 Alkaline Digestion for Hexavalent Chromium / Determination of Hexavalent Chromium in Drinking Water, Groundwater and Industrial Wastewater Effluents by Ion Chromatography. 1996
	Air	Nitrogen Dioxide (NO_2)	ASTM D1607-91(2018) e1

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
ENVIRONMENTAL CHEMISTRY (Field collection and Lab testing) (cont'd.)			Standard Test Method for Nitrogen Dioxide Content of the Atmosphere (Griess-Saltzman Reaction)
		Sulfur dioxide (SO_2)	EPA CFR 40. Appendix A-2 or part 50 Reference method for the determination of sulfur dioxide in the atmosphere. 2021 (Pararosaniline method)
		Carbon Monoxide (CO)	Peter O. Warner,"Analysis of Air Pollutants" Spanish Ed. 1981, Chap. 3, P. 121-122. (Validated, 2022) Determination of Carbon Monoxide in the atmosphere. Method 4: Carboxybenzene sulfonamide.
		Ozone (O_3)	Methods of Air Sampling and Analysis, 3rd Edition, 1988 (Validated, 2022) Ozone determination Method in the Atmosphere
		Hydrogen Sulfide (H_2S)	Determination of Hydrogen Sulfide Content of the Atmosphere ("Methods of Air Sampling and Analysis", Third Edition, Intersociety Committee, James P. Lodge (Editor), 1998.), Chapter 701 (Validated, 2022) Determination of Hydrogen Sulfide Content of the Atmosphere
		PM10	NTP 900.030:2018 Environmental Quality Monitoring - Reference method for the determination of breathable particulate matter such as PM10 in the atmosphere. 2nd Edition.
		PM2.5	NTP 900.069:2017 Environmental Quality Monitoring - Reference method for the determination of fine particulate matter such as PM2.5 in the atmosphere. 1st Edition.

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
ENVIRONMENTAL CHEMISTRY (Field collection and Lab testing) (cont'd.)	Air – Environmental Filters	Determination of weight in PM10 filters in Air	NTP 900.030:2018 Does Not Include Sampling (Validated, 2022) Environmental quality monitoring. Reference method for the determination of breathable particulate matter such as PM10 in the atmosphere. 2nd Edition.
		Determination of weight in PM 2.5 filters in Air.	NTP 900.069:2017 Does Not Include Sampling (Validated, 2022) Environmental quality monitoring. Reference method for the determination of fine particulate matter such as PM2.5 in the atmosphere. 1st Edition.
	Air - Capture Solution	Sulfur dioxide in the atmosphere.	EPA CFR 40. Appendix A-2 to part 50, 2021 Does not include Sampling (Validated, 2022) Reference method for the determination of sulfur dioxide in the atmosphere. (Pararosaniline method)
		Nitrogen dioxide content of the atmosphere.	ASTM D1607-91 (2018)e1 Does not include Sampling (Validated, 2022) Standard test method for nitrogen dioxide content of the atmosphere. (Griess-Saltzman reaction)
		Carbon Monoxide in the atmosphere.	Peter O. Warner,"Analysis of Air Pollutants" Ed. Spanish 1981, Chap. 3, p. 121-122. Does Not Include Sampling (Validated, 2022) Determination of Carbon Monoxide in the atmosphere. Method 4: Carboxybenzene sulfonamide.
		Hydrogen Sulfide in the Atmosphere	Determination of Hydrogen Sulfide Content of the Atmosphere ("Methods of Air Sampling and Analysis", Third Edition, Intersociety

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ENVIRONMENTAL CHEMISTRY (Field collection and Lab testing) (cont'd.)			Committee, James P. Lodge (Editor), 1998.), Chapter 701. Does Not Include Sampling (Validated, 2022) Determination of Hydrogen Sulfide Content of the Atmosphere
		Ozone in the Atmosphere	Methods of Air Sampling and Analysis, 3rd Edition, 1988, Does Not Include Sampling (Validated, 2022) Ozone Determination Method in the Atmosphere
OCCUPATIONAL HEALTH & SAFETY – CHEMISTRY (Field Collection and Lab Testing)	Air – indoor	Breathable Particulates	NIOSH 0600. Issue 3, 1998 Particulates not otherwise regulated, Breathable
		Total Particulates	NIOSH 0500. Issue 2, 1994 Particulates not otherwise regulated, Total
	Air – Indoor PVC Membrane Filter	Determination of weight in Breathable Particulates	NIOSH Method 0600, Issue 3. 1998. Does Not Include Sampling (Validated, 2022).
		Determination of weight in Total Particulates	NIOSH Method 0500, Issue 2. 1994. Does Not Include Sampling (Validated, 2022)
OCCUPATIONAL HEALTH & SAFETY (Field Measurement)	Physical environment	Lighting	NTP 211: Lighting of work centers-INSST, 1989
		Ergonomics of the thermal environment, Evaluation of Heat Stress	ISO 7243:2017 Ergonomics of the thermal environment: evaluation of heat stress using the WBGT (wet bulb globe temperature) index
		Ergonomics of the thermal environment, Evaluation of Cold Stress	ISO 11079:2007 Ergonomics of the thermal environment. Determination and interpretation of cold stress when using the required clothing insulation (IREQ) and the effects of local cooling.
		Occupational Vibration.	NTP – ISO 2631-1 (2016) / NTP-ISO 2631-2 (2012) Mechanical Shock and Vibration. Evaluation of human exposure to whole body vibration. Part 1: General requirements.

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
			1st Edition. Part 2: Vibration in buildings