



CERTIFICATE OF ACCREDITATION

This is to attest that

R-LAB S.A.C.

ASOC. DE VIVIENDA CRUZ DE MOTUPE, MZ. B – LT. 4 VILLA EL SALVADOR
LIMA 15829, PERU

Testing Laboratory TL-971

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 June 10, 2024



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R-LAB S.A.C.

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Accredited to ISO/IEC 17025:2017

Effective Date June 10, 2024

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
ENVIRONMENTAL – AIR	Ambient air (Does not include sampling).	Determination of PM-2.5 weights (Low volume)	R-LAB-01. EPA CFR 40, Appendix L. Part 50. 2017 (VALIDADO-2021) Filter Weight, Determination PM-2,5 - Low Volume (Validated for Sample Weighing)
		Determination PM-10 - Low Volume	R-LAB-02. EPA CFR 40, Appendix L. Part 50. 2017 (VALIDADO-2021) Filter Weight, Determination PM-10 - Low Volume (Validated for Sample Weighing)
		Metals Filter PM-10 (Low Volume)	R-LAB-03. NTP 712.105:2019 (VALIDADO-2021) Environmental quality monitoring, Air quality. Determination of the content of Pb, Cd, Ni, Sb, Bi, Tl in articulated p-material suspended in the air captured in filters. Atomic absorption spectrometry method
		Metals filter PM-10 (High Volume) - Ni, Bi, Tl	R-LAB-23 Compendium Method IO3.2. 1999 (VALIDADO-2021) Determination of Metals In Ambient Particulate Matter Using Atomic Absorption (Aa) Spectroscopy
		Metals filter PM-10 (High Volume): Sb, SiO ₂ , V	R-LAB-05. Compendium Method IO3.2. 1999 (VALIDADO-2021) Determination Of Metals In Ambient Particulate Matter Using Atomic Absorption (Aa) Spectroscopy
	Ambient air	Particulate matter PM-10 (low volume)	NTP 900.030:2018 ENVIRONMENTAL QUALITY MONITORING. Air quality. Reference method for the determination of respirable particulate matter as PM10 in the atmosphere
	Ambient air (Sampling & analysis)	Particulate matter PM-2.5 (low volume)	EPA CFR 40, Appendix L. Part 50. 2017 Reference Method for the Determination of Fine Particulate Matter as PM2.5 in the Atmosphere

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ENVIRONMENTAL – AIR (cont'd.)	Ambient air (Sampling & analysis) (cont'd.)	Metals PM-10 (Low Volume)	R-LAB-04. NTP 712.105:2019 (VALIDADO-2021) Monitoring of environmental quality, air quality. Determination of the content of Cd, Ni, Sb, Bi, Tl in particulate matter suspended in the air captured in filters. Atomic absorption spectrometry method
		Lead in PM-10 (low volume)	NTP 712.105:2019 Monitoring of environmental quality, air quality. Determination of the lead content in particulate matter suspended in the air captured in filters. Atomic absorption spectrometry method
		Metals PM-10 (High Volume) - Ni, Bi, Tl	Compendium Method IO3.2. 1999 Determination of Metals in Ambient Particulate Matter Using Atomic Absorption (Aa) Spectroscopy
		Metals PM-10 (High Volume): Sb, SiO ₂ , V	R-LAB-06. Compendium Method IO3.2. 1999 (VALIDADO-2021) Determination Of Metals In Ambient Particulate Matter Using Atomic Absorption (Aa) Spectroscopy
		Nitrogen Dioxide	ASTM D1607-91 (Reapproved 2018) Standard Test Method for Nitrogen Dioxide Content of the Atmosphere (Griess Saltzman Reaction)
		Total Hydrocarbon expressed as Hexane	ASTM D3687-2019 // ASTM D3686-2013 Standard Test Method for Analysis of Organic Compound Vapors Collected by the Activated Charcoal Tube Adsorption Method.//Standard Practice for Sampling Atmospheres to Collect Organic Compound Vapors (Activated Charcoal Tube Adsorption Method)
		Benzene	UNE-EN 14662-2:2006 Ambient air quality. Standardized method of measuring benzene concentrations. Part 2: Suction sampling followed by solvent desorption and gas chromatography
		Total Gaseous Mercury	R-LAB-07 NIOSH 6009, Mercury 1994 (VALIDADO-2021) Analysis of total gaseous mercury in the air

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ENVIRONMENTAL – AIR (cont'd.)	Ambient air (Field measurement)	Sulfur Dioxide	NTP-ISO 10498. 2nd Edition. 2017 Ambient air, determination of sulfur dioxide. Ultraviolet fluorescence method
		Carbon Monoxide	NTP-ISO 4224-2019 1st Edition Ambient air, carbon monoxide determination. Method of non-dispersive infrared spectrophotometry
		Nitrogen Dioxide	NTP-ISO 7996-2019 1st Edition Ambient air, determination of the concentration of nitrogen oxides. carbon monoxide. Method of chemiluminescence
		Hydrogen sulfide	NTP-ISO 10498-2017 2nd Edition. Ambient air, determination of sulfur dioxide. Ultraviolet fluorescence method
		Ozone	NTP-ISO 13964:2020 1st Edition / UNE 77221:2000 Air quality . Determination of ozone in ambient air. Method by ultraviolet photometry (equivalent to ISO 13964:1998)
		Total Gaseous Mercury (Hg)	NTP 900.068 2016 Normalized Mercury Standard for Total Gaseous Mercury
	Ambient air (Only Analysis)	Benzene in sorbent tube	R-LAB-26. UNE-EN 14662-2:2006 (VALIDATED-2021) Ambient air quality. Standardized method of measuring benzene concentrations. Part 2: Suction sampling followed by solvent desorption and gas chromatography
		Total hydrocarbon expressed as Hexane	ASTM D3687-2019 Standard Test Method for Analysis of Organic Compound Vapors Collected by the Activated Charcoal Tube Adsorption Method. Total Hydrocarbons expressed as Hexane
		Total Gaseous Mercury	R-LAB-08 NIOSH 6009, Mercury 1994 (VALIDADO-2021)
	OCCUPATIONAL HEALTH & SAFETY – AIR	Air (Sampling and Analysis)	Respirable Particulates
Total or inhalable particles			NIOSH Method 0500, Issue 2. 1994 Particulates not otherwise regulated. Total

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OCCUPATIONAL HEALTH & SAFETY – AIR (cont'd.)	Air (Sampling and Analysis) (cont'd.)	Determination of weight: Total or inhalable particles	R-LAB-10. NIOSH Method 0500, Issue 2. 1994 (VALIDADO - 2021) Particulates not otherwise regulated. Total
	Air (Only analysis)	Weight Determination: Respirable Particulates	R-LAB-09. NIOSH Method 0600 Issue 3. 1998 (VALIDADO-2021) Particulates Not Otherwise Regulated, Respirable
GASEOUS EMISSIONS	Emissions (Sampling & Analysis)	Hydrogen Sulfide (H ₂ S) / Total Reduced Sulfur (TRS)	EPA CFR Title 40, Appendix A- 6 to part 60 Method 16A. 2017 Determination of Total Reduced Sulfur Emission From Stationary Sources (Impinger Technique)
		Metals: Total Metals in Gaseous Emissions Antimony(Sb), Barium(Ba), Beryllium(Be), Cadmium(Cd), Chromium(Cr), Cobalt(Co), Copper(Cu), Manganese(Mn), Mercury(Hg), Nickel(Ni), Phosphorus(P), Selenium(Se), Silver(Ag), Thallium(Tl), Zinc(Zn)	EPA CFR 40, Appendix A-8 Part 60. Method 29. 2017 Determination of Metals Emissions from Stationary Sources
		Metals: Total Metals in Gaseous Emissions Vanadium (V), Iron (Fe) Metals: Total metals in gaseous emissions Vanadium (V), Iron (Fe)	R-LAB-12. EPA CFR 40, Appendix A-8 Part 60. Method 29 (VALIDADO-2021) Determination of Metals Emissions From Stationary Sources
	Emissions (Field measurement)	H ₂ S in Gaseous Emission	R-LAB-11. CTM 034 (VALIDATED-2021) Determination of Oxygen, Carbon Monoxide and Oxides of Nitrogen from Stationary Sources For Periodic Monitoring (Portable Electrochemical Analyzer Procedure)

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GASEOUS EMISSIONS (cont'd.)	Emissions (Field measurement) (cont'd.)	NOx (NO,NO2), O2, CO	CTM 034: Test Method. 1999 Determination of Oxygen, Carbon Monoxide and Oxides of Nitrogen from Stationary Sources For Periodic Monitoring (Portable Electrochemical Analyzer Procedure)
ENVIRONMENTAL – ACOUSTIC	Acoustic	Environment Noise	NTP-ISO 1996-1, 2007 (Rev.2020) / NTP-ISO 1996-2, 2008 ACOUSTICS.
		Environment Noise (cont'd.)	Description measurement and assessment of environmental noise. Part 1: Basic quantities and assessment procedures / ACOUSTICS. Description, measurement and assessment of environmental noise. Part 2: Determination of environmental noise levels.
ENVIRONMENTAL ORGANICS	Natural Water, Water for use and Human Consumption, Saline Water, Process Water and Wastewater (Sampling & Analysis)	Total Petroleum Hydrocarbons:C10-C28, Total Petroleum Hydrocarbons:C28-C40, Total Petroleum Hydrocarbons:C08-C40	EPA Method 8015C. 2007 Non-Halogenated Organics using GC-FID
		Hydrocarbons	SMEWW-APHA-AWWA-WEF Part 5520 F, 23rd Ed. 2017
		Total Petroleum Hydrocarbons	EPA Method 1664, Revision B. 2010 n-Hexane Extractable Material (HEM; Oil and Grease) and Silica Gel Treated n-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry
	Soils, Sediments, and Sludges (Sampling & Analysis)	Total Petroleum Hydrocarbons:C10-C28, Total Petroleum Hydrocarbons:C28-C40, Total Petroleum Hydrocarbons:C08-C40	EPA Method 8015C. 2007 Non-Halogenated Organics using GC-FID
ENVIRONMENTAL CHEMISTRY INORGANIC	Soils, Sediments, Sludges and Biosolids (Sampling & Analysis)	Copper	SW-846 Method 7210. 1986, SW-846 method 7000B. 2007, (Atomic Absorption direct Aspiration)
		Nickel	SW-846 Method 7520. 1986, SW-846 method 7000B. 2007, (Atomic Absorption direct Aspiration)
		Zinc	SW-846 Method 7950. 1986, SW-846 method 7000B. 2007, (Atomic Absorption direct Aspiration)

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ENVIRONMENTAL CHEMISTRY INORGANIC (cont'd.)		Cadmium	SW-846 Method 7130. 1986, SW-846 method 7000B. 2007, (Atomic Absorption direct Aspiration)
	Soils, Sediments, Sludges and Biosolids (Sampling & Analysis)	Chromium	SW-846 Method 7190. 1986, SW-846 method 7000B. 2007, (Atomic Absorption direct Aspiration)
		Lead	SW-846 Method 7420. 1986, SW-846 method 7000B. 2007, (Atomic Absorption direct Aspiration)
		Arsenic	R-LAB-13. SW-846 Method 7061. 1992. (VALIDADO-2021) (Atomic absorption, gaseous hydride)
		Organic Matter / Total Organic Carbon	R-LAB-22. Official Mexican STANDARD NON-021-RECNAT-2000 2d Section. 2002 (VALIDATED-2021). AS-07 Walkley Black Method
	Sediments and Sludges (Sampling & Analysis)	Free cyanide	R-LAB-14. EPA Method 9013-A Rev. 2.2014//SMEWW-APHA- AWWA-WEF Part. 4500-CN- F. 23rd Ed (VALIDADO-2021) Cyanide Extraction Procedure for Solids and Oils// Cyanide- Ion Selective Electrode Method
		Total cyanide	R-LAB-15. EPA Method 9013-A Rev. 2.2014//SMEWW-APHA- AWWA-WEF Part. 4500-CN- F. 23rd Ed (VALIDADO-2021) Cyanide Extraction Procedure for Solids and Oils// Cyanide- Ion Selective Electrode Method
		Total Kjeldahl Nitrogen	SMEWW-APHA-AWWA-WEF Part 4500-Norg-C, 23rd Ed. 2017. Semi-Micro-Kjeldahl Method
	Soils, Sediments, and Sludges (Sampling & Analysis)	True Total Barium	Alberta Environment 2009 (ISBN No. 978-0-7785-7691-4) / ASTM D4503-08/ SMEWW – APHA – AWWA – WEF 3111 B. 23RD Ed 2017. Soil Remediation Guidelines for Barite: Environmental Health and Human Health. Section 2.2.1 Soil (Fusion Methods), 9.1.3 True Total Barium /Standard Practice for Dissolution of Solid Waste by Lithium Metaborate Fusion (Withdrawn 2012) / Direct Air Acetylene Flame Method

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ENVIRONMENTAL CHEMISTRY INORGANIC (cont'd.)	Soils, Sediments, and Sludges (Sampling & Analysis) (cont'd.)	Extractable Barium	Alberta Environment 2009 (ISBN No. 978-0-7785-7691-4) / SMEWW – APHA – AWWA – WEF 3111 B. 23RD Ed 2017 Soil Remediation Guidelines for Barite: Environmental Health and Human Health. Section 6.2.2 Analytical Method for Extractable Barium / Direct Air Acetylene Flame Method
		Total, fixed and volatile solids. Dry Matter	SMEWW-APHA-AWWA-WEF. Part 2540 G. 23rd Ed. 2017. Total, Fixed, and Volatile Solids and Semisolid Samples. according to D.S. 015-2017- HOUSING for PTAR sludge
		Calcination loss: total solids. Dry Material	SMEWW-APHA-AWWA-WEF. Part 2540 G. 23rd Ed. 2017. Total, Fixed, and Volatile Solids and Semisolid Samples
		Calcination loss: total volatile solids Calcination loss: volatile total solids Organic Material Organic matter	SMEWW-APHA-AWWA-WEF. Part 2540 G. 23rd Ed. 2017. Total, Fixed, and Volatile Solids and Semisolid Samples according to D.S. 015-2017- HOUSING for PTAR sludge
		Conductivity	R-LAB-17. Official Mexican STANDARD NON-021- RECNAT-2000 2d Section. 2002 (VALIDATED-2021). Metodo AS-18
		Humidity	R-LAB-18. Official Mexican STANDARD NON-021- RECNAT-2000 2d Section. 2002 (VALIDATED-2021). As-05.
		Soluble Salts (dissolved solids)	NTP 339.152: 2002 (revised 2015) SOILS. Standard test method for determining the content of soluble salts in soils and groundwater
		Granulometry Particle size	R-LAB-25. NTP 339.128. 1999 (VALIDADO-2021) Soils. Test methods for granulometric analysis
		Sulfides	EPA Method 9031, Rev. 0. 1992 Extractable Sulfides
		Sulfates	R-LAB-19. Official Mexican STANDARD NON-021- RECNAT-2000 2d Section. 2002 (VALIDATED-2021). MetodoAS-20

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ENVIRONMENTAL CHEMISTRY INORGANIC (cont'd.)	Sludges (Sampling & Analysis)	Total nitrogen	R-LAB-16. SMEWW-APHA- AWWA- WEF Part. 4500-N C, 23 RD Edition 2017. (VALIDADO-2021) Persulfate Method. / Total Nitrogen in Sludges
	Water for use and Human Consumption, Wastewater, Natural Water, Salt Water (Sampling & Analysis)	Salinity	SMEWW-APHA-AWWA-WEF Part 2520 B, 23rd Ed. 2017 Salinity. Electrical Conductivity Method
		Un-ionized Hydrogen Sulfide	SMEWW-APHA-AWWA-WEF Part 4500-S2- D, H, 23rd Ed., 2017 Sulfide. Methylene Blue Method. Calculation of Un-ionized Hydrogen Sulfide
		Ammonium, Ammonia and Ammoniacal nitrogen	SMEWW-APHA-AWWA-WEF Part 4500-NH3 D, 23 rd. Ed. 2017 Nitrogen (Ammonia). Ammonia- Selective Electrode Method
		Bromide	SMEWW-APHA-AWWA-WEF Part 4500-Br- B, 23rd Ed. 2017 Bromide Phenol Red Colorimetric Method
		Sodium	SMEWW – APHA – AWWA – WEF. Part 3500-Na B. 23rd Ed. 2017. Flame emission photometric method
	Water for use and Human Consumption, Wastewater, Natural Water, Salt Water (Analysis)	Conductivity	SMEWW-APHA-AWWA-WEF Part 2510 B, 23rd Ed. 2017 Conductivity. Laboratory Method.
		Solids. Settleable Solids	SMEWW-APHA-AWWA-WEF Part 2540 F, 23 rd. Ed. 2017
	Water for use and Human Consumption, Wastewater, Natural Water (Sampling & Analysis)	Silver, Aluminum	SMEWW – APHA – AWWA – WEF part, 3030 E, 3030B, 3111 B. 23RD Ed. 2017 Nitric Acid Digestion / Filtration for Dissolved and Suspended Metals / Direct Air Acetylene Flame Method
	Water for use and Human Consumption, Wastewater, Natural Water, Salt Water (Field measurement)	Transparency	ISO 7027-2-2019. Water quality — Determination of turbidity — Part 2: Semi- quantitative methods for the assessment of transparency of waters
		Floating Materials of Anthropogenic Origin	NMX-AA-006-SCFI Water Analysis - Determination of floatable Material in Wastewaters and Treated Wastewaters - Test Method

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ENVIRONMENTAL CHEMISTRY INORGANIC (cont'd.)	Water for use and Human Consumption (Field measurement)	Temperature	SMEWW-APHA- AWWA-WEF Part 2550 B, 23rd Ed. 2017 (Except part 2) Temperature. Laboratory and Field Methods
	Wastewater, Natural Water (Field measurement)	Flow	A - EN ISO 748:2009 Measurement of liquid flow in open channels using flow meters or floats
	Wastewater, Salt Water, Water for use and human consumption, Natural Water (Sampling & Analysis)	Turbidity	SMEWW-APHA-AWWA-WEF Part 2130 B, 23rd Ed, 2017. Nephelometric Method
	Wastewater, Salt Water (Field measurement)	Conductivity	SMEWW-APHA-AWWA-WEF Part 2510 B, 23rd Ed. 2017. Conductivity. Laboratory Method
	Wastewater (Sampling & Analysis)	Color	SMEWW-APHA-AWWA-WEF Part 2120 C, 23 rd. Ed. 2017 Color. Spectrophotometric - Single - Wavelength Method
	Salt Water, Natural water, Water for use and Human consumption, Wastewater (Sampling & Analysis)	Total hardness	SMEWW-APHA-AWWA-WEF Part 2340 C, 23rd Ed. 2017. Hardness. EDTA Titrimetric Method
	Salt Water (Sampling & Analysis)	Calcium hardness	SMEWW-APHA-AWWA-WEF Part 3500-Ca B, 23rd Ed. 2017. Calcium. EDTA Titrimetric Method
		Chemical Oxygen Demand (COD)	R-LAB-20 SMEWW-APHA- AWWA-WEF Part 5220 B, 23rd Ed. (VALIDADO-2021) Open Reflux, Method
Salt Water, Wastewater (Sampling & Analysis)	Chloride	SMEWW-APHA-AWWA-WEF Part 4500-CI-B, 23 rd. Ed. 2017 Chloride. Argentometric Method	
ENVIRONMENTAL CLIMATOLOGY	Meteorological parameters (Field Measurement)	Meteorological Parameters: Environmental Temperature, Relative Humidity, Environmental Pressure, Wind Speed, Wind Direction (Wind Rose)	ASTM D5741-96 (2017) Standard Practice for Characterizing Surface Wind Using a Wind Vane and Rotating Anemometer

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ENVIRTONMENTAL SENSORY	Natural Water and Water for human use and consumption (Sampling & Analysis)	Odor	ISO 4121:2003. Sensory analysis -- Guidelines for the use of quantitative response scales.
	Water for human use and consumption (Sampling & Analysis)	Flavor	SMEWW-APHA-AWWA-WEF 2160 B. 23rd Ed. 2017. Flavor Threshold Test (FTT)
ENVIRONMENTAL – MICROBIOLOGY	Water for use and Human Consumption, Wastewater, Natural Water, Salt Water (Sampling & Analysis)	Detection of Salmonella spp	ISO 19250:2010 Water quality-Detection of Salmonella spp
		Heterotrophic Bacteria	SMEWW-APHA-AWWA-WEF Part 9215 B, 23rd Ed. 2017. Heterotrophic Method Plate Count. Pour Plate Method
		Eggs and larvae of helminths	R-LAB-21. Determination of intestinal parasitic forms pathogenic to humans, in water samples (VALIDATED-2021) A.- Analysis of wastewater for use in agriculture. Rachel M.Ayres and D. Duncan Mara. WHO.1997 - Método Bailenger modified // B.- A new method for the concentration of Cryptosporidium oocysts from water. Vesey et al. J Appl Bacteriol. 1993. - Modified flocculation method. ITEM A ONLY.
		Eggs and larvae of Helminths, Cysts and oocysts of pathogenic protozoans	R-LAB-21. Determination of intestinal parasitic forms pathogenic to humans, in water samples (VALIDATED-2021) To. - Analysis of wastewater for use in agriculture. Rachel M.Ayres and D. Duncan Mara. WHO.1997 - Método Bailenger modified // B.- A new method for the concentration of Cryptosporidium oocysts from water. Vesey et al. J Appl Bacteriol. 1993. -Modified flocculation method. ITEM A and B.
		Parasite forms	R-LAB-21. Determination of intestinal parasitic forms pathogenic to humans, in water samples (VALIDATED-2021) To. - Analysis of wastewater for use in agriculture. Rachel M.Ayres and D. Duncan Mara. WHO.1997 - Método Bailenger modified // B.- A new method for the concentration of Cryptosporidium oocysts from water. Vesey et al. J Appl

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ENVIRONMENTAL – MICROBIOLOGY (cont'd.)	Water for use and Human Consumption, Wastewater, Natural Water, Salt Water (Sampling & Analysis) (cont'd.)		Bacteriol. 1993. -Modified flocculation method. Item A and B
		Giardia sp.	R-LAB-21. Determination of intestinal parasitic forms pathogenic to humans, in water samples (VALIDATED- 2021) A. - Analysis of wastewater for use in agriculture. Rachel M.Ayres and D. Duncan Mara. OMS.1997. - Bailenger method modified // B.- (X) A new method for the concentration of Cryptosporidium oocysts from water. Vesey et al. J Appl Bacteriol. 1993. - Modified flocculation method. ITEM B ONLY.
		Fecal Streptococcus	SMEWW-APHA-AWWA-WEF Part 9230 B, 23rd Ed. 2017. Fecal Enterococcus / Streptococcus Groups. Multiple-Tube Technique. Fecal Streptococcus (Multiple- Tube Technique)
		Fecal Enterococcus	SMEWW-APHA-AWWA-WEF Part 9230 B, 23rd Ed. 2017. Fecal Enterococcus / Streptococcus Groups. Multiple-Tube Technique. Fecal Enterococcus (Multiple- Tube Technique).
	Water for use and Human Consumption, Natural Water (Sampling & Analysis)	Detection of Vibrio cholerae	EPA Standard Analytical Protocol for Vibrio cholerae O1 and O139 in Drinking Water and Surface Water (Except the use of the O139 antiserum and the items 11 and 16.1)
		Total Coliform - Membrane Filter Techniques	SMEWW-APHA-AWWA-WEF Part 9222 B, 23rd Ed. 2017. Membrane Filter Technique for Members of the Coliform Group. Standard using Endo Media.
		Fecal (Thermotolerant) Coliform membrane filter Techniques	SMEWW-APHA-AWWA-WEF Part 9222 D, 23rd Ed. 2017. Membrane Filter Technique for Members of the Coliform Group. Thermotolerant (Fecal) Coliform Membrane Filter Procedure.
		Escherichia Coli	SMEWW-APHA-AWWA-WEF Part 9222 H, 23rd Ed. 2017 Membrane Filter Technique for Members of the Coliform Group. Partitioning E. coli from MF Total Coliform using EC- MUG Broth

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ENVIRONMENTAL – MICROBIOLOGY (cont'd.)	Water for use and Human Consumption, Natural Water (Sampling & Analysis (cont'd.))	Heterotrophic Bacteria	SMEWW-APHA-AWWA-WEF Part 9215 D, 23rd Ed. 2017. Heterotrophic Plate Count. Membrane Filter Method
	Water for use and Human Consumption (Sampling & Analysis)	Detection of Pseudomonas aeruginosa	ISO 16266:2006. Water quality Detection and enumeration of Pseudomonas aeruginosa (only the detection) - Method by membrane filtration. 2006
		Staphylococcus aureus	SMEWW-APHA-AWWA-WEF Part 9213 B (Item 6 a.), 23rd Ed. 2017. Recreational Waters. Swimming Pools. Test for Staphylococci or Staphylococcus.
	Air (Sampling & Analysis)	Aerobic mesophilic counts	APHA. Compendium of Methods for the Microbiological Examination of Foods. APHA. 5th Ed. 2015, chapter 3, item 3.10 y 3.101 pages 36-37. //Chapter 8: item 8.72. page 98 Microbiological monitoring of the food processing environment. Air-sampling methods. Sedimentation methods.// Mesophilic aerobic plate count. Pour Plate Techniques
		Mold and Yeast counts	APHA. Compendium of Methods for the Microbiological Examination of Foods. APHA. 5th Ed. 2015, chapter 3, item 3.10 y 3.101 pages 36-37.//
		Mold and Yeast counts (cont'd.)	ICMSF Food Microorganisms 1. Their meaning and enumeration methods. Pages 166-167 (II, 5-7). 2nd. Ed. Reprint 2000 (1983). Microbiological monitoring of the food processing environment. Air-sampling methods. Sedimentation methods.// Method of counting yeasts and molds by sowing in plaque throughout the medium
	Inert Regular, Inert Irregular and Living Surfaces (Sampling & Analysis)	Total Coliform Count	ICMSF. Food Microorganisms 1. Its meaning and enumeration methods. Method 4. P. 137. 2nd Ed., Reprint 2000 (1983) // RM No. 461-2007 MINSA (X) Coliform count. Method 4. (Direct count on board). // Technical Guide for microbiological analysis of surfaces in contact with food and beverages

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ENVIRONMENTAL – MICROBIOLOGY (cont'd.)	Inert Regular, Inert Irregular and Living Surfaces (Sampling & Analysis) (cont'd.)	Detection of Salmonella sp	ISO 6579-1: 2017 / Amd 1: 2020(E) // RM No. 461-2007 MINSAs. Microbiology of the food chain- Horizontal method for the detection, enumeration and serotyping of Salmonella - Part 1: Detection of Salmonella spp. AMENDMENT 1: Broader range of incubation temperatures, amendment to the status of Annex D, and correction of the composition of MSRV and SC. (Except item 9.3.3; 9.4.3; 9.5.6 and Annex D) // // Guía Técnica para el Análisis Microbiológico de Superficies en contacto con Alimentos y Bebidas
	Living Surfaces (Sampling & Analysis)	Staphylococcus aureus counts	AOAC 975.55. 21st Ed. 2019 // RM No. 461-2007 MINSAs (X) Staphylococcus aureus in Foods. Surface Plating Method for Isolation and Enumeration // Technical Guide for Microbiological Analysis of Surfaces in Contact with Food and Beverage
	Soils, Sediments, Sludges and Biosolids (Sampling & Analysis)	Viable helminth eggs	Standard Methods for the Recovery and Enumeration of Moodley et al. Helminth Ova in Wastewater, Sludge, compost and Urine- Diversion Waste in South Africa (Moodley, Archer, Hawksworth, & Leibach,2008)
		Escherichia coli	SMEWW-APHA-AWWA-WEF. Part 9221G(Item2), 23 rd. Ed. 2017 Multiple-Tube Fermentation. Technique for Members of the Coliform Group. Other Escherichia coli Procedures (PROPOSED), 2017. / EPA-821-R--14-009. Method 1680: Fecal Coliforms in Sewage Sludge(Biosolids) by Multiple-Tube Fermentation using Lauril Tryptose Broth (LTB) and EC Medium, September 2014, Items: 11, 12.4 y 14
		Total Coliforms	SMEWW-APHA-AWWA-WEF. Part 9221B, 23rd Ed. 2017 Multiple-Tube Fermentation. Technique for Members of the Coliform Group.Standard Total Coliform Fermentation Technique. / EPA-821-R--14-009. Method 1680: Fecal Coliforms in Sewage

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FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
ENVIRONMENTAL – MICROBIOLOGY (cont'd.)	Soils, Sediments, Sludges and Biosolids (Sampling & Analysis) (cont'd.)	Total Coliforms (cont'd.)	Sludge(Biosolids) by Multiple-Tube Fermentation using Lauril Tryptose Broth (LTB) and EC Medium, September 2014, Items: 11, 12.4 y 14
		Fecal Coliforms	SMEWW-APHA-AWWA-WEF. Part 9221E (Item 1), 23rd Ed. 2017 Multiple-Tube Fermentation. Technique for Members of the Coliform Group. Thermotolerant (Fecal) Coliform Procedure. / EPA-821-R--14-009. Method
		Fecal Coliforms (cont'd.)	1680: Fecal Coliforms in Sewage Sludge(Biosolids) by Multiple-Tube Fermentation using Lauril Tryptose Broth (LTB) and EC Medium, September 2014, Items: 11, 12.4 y 14
	Sludges and Biosolids (Sampling & Analysis)	Salmonella sp	EPA-821-R-06-14. Method 1682: Salmonella in Sewage Sludge (Biosolids) by Modified Semisolid Rappaport- Vassiliadis (MSRV) Medum. July 2006
ENVIRONMENTAL HYDROBIOLOGY	Superficial water (Sampling & Analysis)	Periphyton quantitative	SMEWW-APHA-AWWA-WEF Part 10300 C.1, 2, 23rd. 201
		Periphyton qualitative	SMEWW-APHA-AWWA-WEF Part 10300 C.1, 2. // Part 10900, 23rd. 2017 Periphyton Sample Analysis. // Identification of Aquatic Organisms
	Natural Water, Water for use and Human Consumption, Saline Water (Sampling & Analysis)	Phytoplankton Qualitative	SMEWW-APHA-AWWA-WEF Part 10200 C.1, F.2.a, F.2.c.1 // Part 10900, 23rd Ed. 2017 Plankton Concentration Techniques. Phytoplankton Counting Techniques. // Identification of Aquatic Organisms
		Phytoplankton Quantitative	SMEWW-APHA-AWWA-WEF Part 10200 C.1, F.1, F.2.a, F.2.c.1, 23rd Ed. 2017 Plankton. Concentration Techniques. Phytoplankton Counting Techniques
		Zooplankton Qualitative	SMEWW-APHA-AWWA-WEF Part 10200 G.1, // Part 10900, 23rd Ed. 2017 Plankton. Zooplankton Counting Techniques. Subsampling. // Identification of Aquatic Organisms

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FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
ENVIRONMENTAL HYDROBIOLOGY (cont'd.)		Zooplankton Quantitative	SMEWW-APHA/WWA-WEF Part 10200 G. 23rd Ed. 2017 Plankton. Zooplankton Counting Techniques
	Natural Water, Water for use and Human Consumption (Sampling & Analysis)	Free-Living Organisms - Phytoplankton (Algae) +, Zooplankton (Protozoa, rotifer copepods and nematodes in all their evolutionary stages)	SMEWW-APHA-AWWA-WEF Part 10200 C.1, F.2. a, F.2.c.1, 23rd Edition / SMEWW-APHA- AWWA-WEF Part 10200 G, 23rd Edition. 2017 Plankton. Concentration Techniques. Phytoplankton Counting Techniques / Plankton. Zooplankton. Counting Techniques
	Epicontinental sediments, Estuarine sediments, marine sediments (Sampling & Analysis)	Quantitative benthic macroinvertebrates	SMEWW-APHA-AWWA-WEF Part 10500 C.1,2, 23rd Ed. 2017 Benthic Macroinvertebrates. Sample Processing and Analysis. Sorting and Identification.
		Qualitative benthic macroinvertebrates	SMEWW-APHA-AWWA-WEF Part 10500 C // Part 10900, 23rd Ed., 2017 Benthic Macroinvertebrates. Sample Processing and Analysis. // Identification of aquatic organisms.