

CERTIFICATE OF ACCREDITATION

This is to attest that

GREENLAB PERU S.A.C.

CALLE SANTA ANGELICA 285 SAN MARTIN DE PORRES **LIMA 15314, PERU**

Testing Laboratory TL-1267

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 October 14, 2024



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Accredited to ISO/IEC 17025:2017

Effective Date October 14, 2024

FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Environmental – Air Emissions	Air Emissions	Total Metals in Gaseous Emissions Metals Antimony(Sb), Arsenic(As), Barium(Ba), Beryllium(Be), Cadmium(Cd), Chromium(Cr), Cobalt(Co), Copper(Cu), Lead(Pb), Manganese(Mn), Mercury(Hg), Nickel(Ni), Phosphorus(P), Selenium(Se), Silver(Ag), Thallium(Tl), Zinc(Zn). Vanadium (V), Iron (Fe), Tin (Sn) and Titanium (Ti)	NTP 712.110:2022 MONITOREO DE EMISIONES ATMOSFÉRICAS. Determination of Metals Emissions from Stationary Sources. 1ª Edition EPA Method 29 (7-1-23) Determination of Metals Emissions from Stationary Sources - by Inductively Coupled Plasma-Atomic Emission Spectrometry NTP 712.110:2022 (Validated Method out of scope) MONITOREO DE EMISIONES ATMOSFÉRICAS. Determination of Metals Emissions from Stationary Sources. 1ª Edition EPA Method 29 (7-1-23) (Validated Method out of scope) Determination of Metals Emissions from Stationary Sources - by Inductively
			Coupled Plasma-Atomic Emission Spectrometry
		TRS (Dimethyl disulfide, Dimethyl sulfide, Hydrogen Sulfide, Methyl mercaptan, Carbonyl Sulfide	EPA Method 16A (7-1-23) Determination of Total Reduced Sulfur Emissions From Stationary Sources (Impinger Technique)





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FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Environmental – Air Emissions (Cont'd.)	Air Emissions (Cont'd.)	Sulfur Dioxide in Gaseous Emissions	EPA Method 6 (7-1-23) Determination of Sulfur Dioxide emissions from stationary sources
			NTP 900.006:2021 ATMOSPHERIC EMISSIONS MONITORING. Determination of Sulfur Dioxide emissions from stationary sources.
		Sulfuric Acid and Sulfur Dioxide in Gaseous Emissions	EPA Method 8 (7-1-23) Determination of Sulfuric Acid and Sulfur Dioxide Emissions from stationary sources
		NOx in Gaseous Emissions (NO y NO2)	EPA-40 CFR, Part 60, Appendix A-7, Method 7:2023 Determination of nitrogen oxide emissions from stationary sources
			NTP 900.007: 2021 Determination of nitrogen oxide emissions from stationary sources
		NOx in Gaseous Emissions (NO; NO2)	NTP 712.120:2022 Monitoring of atmospheric emissions. Determination of nitrogen oxide emissions in stationary sources. Instrumental analyzer procedure.
			EPA 40 CFR Appendix A-5 to Part 60, Method 7E: 2023 Determination of nitrogen oxides emissions from stationary sources (instrumental analyzer procedure)
		VOCs in Gaseous Emission Benzene, Trichloroethene,	EPA Method 18 (7-1-23) Measurement of Gaseous Organic Compound Emissions by Gas Chromatography
		Toluene, Tetrachloroethene, Chlorobenzene, Ethylbenzene, m-Xylene,	NTP 900.018:2021 ATMOSPHERIC EMISSIONS MONITORING.



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FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Environmental – Air Emissions (Cont'd.)	Air Emissions (Cont'd.)	P-Xylene, o-Xylene, m,p-Xylene, Styrene, Isopropylbenzene, Bromobenzene, n-Propylbenzene, 2- Chlorotoluene, 4-Chlorotoluene, 1,3,5- Trimethylbenzene, Tert- Butylbenzene, 1,2,4-Trimethylbenzene, Sec-Butylbenzene, 1,3- Dichlorobenzene, 1,4- Dichlorobenzene, p- Isopropyltoluene, 1,2-Dichlorobenzene, nButhylbenzene, 1,2,4- Trichlorobenzene, Naphthalene, 1,2,3-Trichlorobenzene	Measurement of Gaseous Organic Compound Emissions by Gas Chromatography
		Transverse Sampling Points for Velocity Measurement in Stationary Sources	NTP 900.001:2021 Monitoring Of Atmospheric Emissions. Determination of transverse sampling points for velocity measurement in stationary sources. 2nd Edition, 2021
			Method 1 (7-1-23) Sample and Velocity Traverses for Stationary Sources
		Velocity and Volumetric Flow	EPA 40 CFR Appendix A-1 to Part 60 Method 2: 2023, Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)
			NTP 900.002; 2021, Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)
		Velocity and Volumetric Flow	NTP 712.112:2022 Monitoring of atmospheric emissions. Determination of gas velocity and volumetric flow rate in chimneys or small ducts (Standard Pitot Tube). 1a Edition



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FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Environmental – Air Emissions (Cont'd.)	Air Emissions (Cont'd.)	Velocity and Volumetric Flow (Cont'd.)	EPA 40 CFR Appendix A-1 to Part 60 Method 2C: 2023 Determination of gas velocity and volumetric flow rate in small stacks or ducts (standard pitot tube)
		Humidity	NTP 900.004:2021 Monitoring of Atmospheric Emissions. Determination of moisture content in chimney gases. 2nd Edition /2021
			METHOD 4 (7-1-23) Determination of Moisture content in stack gases
		Opacity	ASTM D2156-09(2018) Standard Test Method for Smoke Density in Flue Gases from Burning Distillate Fuels
		Carbon Dioxide (CO2) and Oxygen (O2)	EPA Method 3A (7-1-23) Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)
			NTP 712.111:2021 MONITORING OF ATMOSPHERIC EMISSIONS. Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)
		Carbon Dioxide (CO2), Carbon Monoxide (CO) and Oxygen (O2)	METHOD 3 (7-1-23) GAS ANALYSIS FOR THE DETERMINATION OF DRY MOLECULAR WEIGHT
		Carbon Monoxide (CO)	EPA 40 CFR Appendix A-4 to Part 60, Method 10. 2023 Determination of Carbon Monoxide Emissions from Stationary Sources (Instrumental Analyzer Procedure)





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FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Environmental – Air Emissions (Cont'd.)	Air Emissions (Cont'd.)	Carbon Monoxide (CO) (Cont'd.)	NTP 900.010:2021 ATMOSPHERIC EMISSIONS MONITORING. Determination of Carbon Monoxide Emissions from Stationary Sources (Instrumental Analyzer Procedure)
		Nitrogen Oxides (NOx), as NO2, Nitric Oxide (NO) Nitrogen Dioxide (NO2)	EPA CTM-022 Determination of Nitric Oxide, Nitrogen Dioxide and NOx Emissions from Stationary Combustion Sources by electrochemical analyzer. 1995
		Nitrogen Oxides (NOx), as NO2, Nitric Oxide (NO) Nitrogen Dioxide (NO2)	EPA CTM-030 Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas- Fired Engines, Boilers and Process Heaters Using Portable Analyzers. 1997
		Hydrogen Sulfide, Total Hydrocarbons, Carbon Dioxide	CTM 022 (Validated Method out of scope) Nitric Oxide, Nitrogen Dioxide, & NOx emissions by Electrochemical Analyzer
		Hydrogen Sulfide, Total Hydrocarbons, Carbon Dioxide	CTM 030 (Validated Method out of scope) Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers and Process Heaters Using Portable Analyzers
		Hydrogen Sulfide, Total Hydrocarbons, Carbon Dioxide	CTM-034 (Validated Method out of scope) Test Method -Determination of Oxygen, Carbon Monoxide and Oxides of Nitrogen For Periodic Monitoring. Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas Fired Engines, Boilers and Process Heaters Using Portable Analyzers





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FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Environmental – Air (Cont'd.)		Ozone (O3)	NTP-ISO 13964:2020 Air quality — Determination of ozone in ambient air — Ultraviolet photometric method
		Nitrogen Dioxide (NO2), Nitric Oxide (NO), Nitrogen Oxides (NOx) in Quality Air	NTP-ISO 7996:2019 Ambient air. Determination of the mass concentration of oxides of nitrogen.
		Meteorological parameters: Wind speed, wind direction environmental temperature, relative humidity, atmospheric pressure (wind rose), precipitation	(Validated Method out of
		Total Gaseous Mercury (Hg) in Quality Air	NTP 900.068 / 2016-12-31, COR 1:2017 Environmental Quality / Air Quality Monitoring / Standard Method for the Determination of Total Gaseous Mercury
	Stationary and ambient air monitoring (Field collection + Lab Testing) AIR / FILTER (Only Lab Testing)	(PM10, PM2.5): Al, As, B, Ba, Be, Ca, Cd, Ce, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Ni, P, Pb, Sb,	EPA Compendium Method IO-3.4, June 1999 (Validated – Applied out of scope). Determination Of Metals In Ambient Particulate Matter Using Inductively Coupled Plasma (ICP) Spectroscopy
		Metals High Volume - (PTS, PM10, PM2.5): Al, As, B, Ba, Be, Ca, Cd, Ce, Co, Cr, Cu, Fe, K, Hg, Li, Mg, Mn, Mo, Ni, P, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn, SiO2.	EPA Compendium Method IO-3.4, June 1999 (Validated Method out of scope). Determination Of Metals In Ambient Particulate Matter Using Inductively Coupled Plasma (ICP) Spectroscopy
	Stationary and ambient air monitoring (Field collection + Lab Testing) AIR / CAPTURE SOLUTION (Only Lab	Nitrogen oxides: NOx: NO + NO2 Nitric Oxide (NO)	Referenced in Peter O. Warner. Analysis of Air Pollutants, Spanish Ed 1981. Cap. 3, pp. 147-151. (Validated Method out of scope). Determination of Nitrogen
	Testing)		Oxides in Air Quality NOx (NO2 + NO)



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FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
OCCUPATIONAL HEALTH & SAFETY - CHEMISTRY INORGANIC	Field collection + Lab Testing AIR / FILTER (Only Lab Testing)	Metals in Filter (field sampling & analysis) Aluminum(AI), Antimony(Sb), Arsenic(As), Barium(Ba), Beryllium(Be), Cadmium(Cd), Chromium(Cr), Cobalt(Co), Copper(Cu), Lead(Pb), Manganese(Mn), Molybdenum(Mo), Nickel(Ni), Selenium(Se), Silver(Ag), Thallium(TI), Thorium(Th), Uranium(U), Vanadium(V), Zinc(Zn).	NIOSH 7301, Issue 1. ELEMENTS by ICP (Aqua Regia Ashing), 2003.
OCCUPATIONAL HEALTH & SAFETY - CHEMISTRY INORGANIC	Field collection + Lab Testing AIR / FILTER (Only Lab Testing)	Metals in Filter Mercury	MERCURY: METHOD 6009, Issue 2 / Inductively Coupled Plasma-Optical Emission Spectro (Validated Method out of scope).
Environmental – Air	Stationary and ambient air monitoring	Benzene (C6H6)	NTP 900.036:2017 ENVIRONMENTAL QUALITY MONITORING. Air quality. Passive diffusion samplers for the determination of gas and vapour concentration. Requirements and test methods. Part 1: General requirements. 2nd Edition
Environmental – Water	Natural Water (underground water) (Sampling & Analysis)	Water Level (in situ) (Water table level)	
	Wastewater, Natural Water, Water for use and Human Consumption, Process Water and Saline Water.	Free Residual Chlorine	SMEWW-APHA-AWWA-WEF Part 4500-CI G, 24th Ed. 2023 (Validated Method out of scope). Chlorine (Residual). DPD Colorimetric Method.
	Water for use and Human Consumption, Wastewater, Natural Water, Saline Water and Process Water	Total chlorine	SMEWW-APHA-AWWA-WEF Part 4500-CI G, 24th Ed. 2023 (Validated Method out of scope). Chlorine (Residual). DPD Colorimetric Method.



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FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Environmental – Water (Cont'd.)	Wastewater, Natural Water, Saline Water, Water for use and Human Consumption, Process water, and Waste Water (Sampling and analysis)	Fluid Flow in closed conduits	ISO 12242:2012 Measurement of fluid flow in closed conduits — Ultrasonic transit-time meters for liquid.
	Wastewater, Natural Water, Saline Water, Water for use and Human Consumption, Process water, and Waste Water (Sampling and analysis)	Flow	Standard UNE-EN-ISO 748: 2023 Flow measurement of liquids in open channels using flow meters or floats
	Wastewater, Natural Water, Water for use and Human Consumption, (Sampling and analysis)	Flow	NCh 3205-2011 (Validated Method out of scope). Wastewater Flow Meters - Requirement - First Edition
	Natural water, Water for human use and consumption, Water Wastewater, Saline Water, Process water (Field measurement)	Potential REDOX	SMEWW-APHA-AWWA-WEF Part 2580 B 24th Ed.2023 Oxidation-Reduction Potential Measurement in Clear Water.
	Water for use and Human Consumption, Natural water, Water Wastewater, Saline Water, Process water (Field measurement)	Floating Materials of Anthropogenic Origin	NMX-AA-006-SCFI2010 (Validated Method out of scope). Water Analysis -Determination of floatable Material in Wastewaters and Treated Wastewaters -Test Method
	Natural water, Water for human use and consumption, Water Wastewater, Saline Water, Process water (Field measurement)	Salinity	SMEWW-APHA-AWWA-WEF Part 2520 B. 24th. Ed. 2023 Salinity. Electrical Conductivity Method
	Saline Water (Sampling & Analysis).	Chemical Oxygen Demand – COD	SMEWW-APHAAWWA-WEF Part 5220 B 24th Ed. 2023 (Validated Method out of scope). Chemical Oxygen Demand.



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Environmental – Water (Cont'd.)	Wastewater, Natural Water, Water for human use and consumption, Saline Water, Process Water	Biochemical Oxygen Demand	SMEWW-APHA-AWWA-WEF Part 5210 B, 24th Ed. Biochemical Oxygen Demand (BOD). 5-Day BOD Test
Environmental	Environmental Field Testing	Vibration environmental	DIN 4150-3; DIN 4150-2; DIN 4150-1 Part 3: Effects on structures, Part 2: Effects on persons in buildings, Part 1: Prediction of vibration parameters.
Occupational Health	th Occupational Health	Vibration Measurement and evaluation of human exposure to hand transmitted vibration	UNE – EN ISO 5349- 2:2002/A1:2016 EN ISO 5349-2:2001/A1 Mechanical vibration - Measurement and evaluation of human exposure to hand transmitted vibration - Part 2: Practical guidance for measurement at the workplace.
		Vibration Mechanical vibration and shock - Evaluation of human exposure to whole-body vibration	NTP-ISO 2631-1:2011 (revised 2022) Mechanical vibration and shock. Evaluation of human exposure to whole-body vibration. Part 1: General requirements
		Vibration in buildings	NTP-ISO 2631-2:2012 (revised 2022) Vibrations And Mechanical Shocks. Evaluation of human exposure to whole body vibrations. Part 2: Vibration in buildings (1 Hz to 80 Hz)
		Electromagnetic Field (Magnetic Field Intensity)	IEEE 644-2019. IEEE Standard Procedures for Measurement of Power Frequency Electric and Magnetic Fields from AC Power Lines.
		Non-ionizing radiation	UNE-EN 62110:2013 Electric and magnetic field levels generated by alternate power systems. Measurement procedures with regard to public exposure



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FIELDS OF TESTING	MATERIAL/ MATRIX	DETERMINANT(S)/ ANALYTE(S)	METHOD REFERENCE
Occupational Health (Cont'd.)	Occupational Health (Cont'd.)	Lighting of workplaces Workplaces indoors. UNE-EN 12464-2:201	UNE-EN 12464-2:2016. Lighting of workplaces. Part 2:
		Occupational noise	NTP-ISO 9612:2010 (revised 2020) Acoustics. Determination of occupational noise exposure. Engineering method.

