



CERTIFICATE OF ACCREDITATION

This is to attest that

NAKAMURA CONSULTORES S.A.C.

JR ARTURO CASTILLO 2425
LIMA 09001, PERU

Testing Laboratory TL-1221

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 May 19, 2026



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Accredited to ISO/IEC 17025:2017

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FIELDS OF TESTING	MATERIAL/MATRIX	DETERMINANT(S)/ANALYTE(S)	METHOD REFERENCE
Environmental – Physical	Wastewater	VOLUMETRIC FLOW RATE	NCh3205-2011 /Wastewater flow meters - First edition requirements /2011
	Measurements in ducts with free fall and flow rates less than 5.0 L/s: Natural water, surface water, process water, saline water	Volumetric Flow Rate	NCh3205-2011 validated (applied out of scope) /Wastewater flow meters - First edition requirements /2022
	Natural water, waste water, superficial Water	Flow (Field: Current Meter, Float)	UNE-EN ISO 748:2023 /Hydrometry. Measurement of liquid flow in open channels using flow meters or floats /2009
	Air / Indoor Air	Non-Ionizing Electromagnetic Radiation	IEEE STD. 644.2019 /IEEE Standard for Measurement of Power Frequency Electric and Magnetic Fields from AC Power Lines. /2019
	Environmental vibration	Ambient Vibration	DIN 4150-3; DIN 4150-2; DIN 4150-1 /Effects on structures, Part 2: Effects on persons in buildings, Part 1: Prediction of vibration parameters /2008
Environmental Chemistry – Air	Air	Meteorological Parameters (Atmospheric Pressure, Temperature, Relative Humidity, Precipitation, Solar Radiation)	EPA-454/B-08-002 March 2008 (VALIDATED) /Quality Assurance Handbook for Air Pollution Measurement Systems. Volume IV: Meteorological Measurements Version 2.0 (Final) /2008

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Environmental Chemistry – Air (cont'd.)	Air (cont'd.)	H ₂ S	COVENIN 3571:2000 (VALIDATED - Applied out of scope) /H ₂ S-Determination of the concentration of hydrogen sulfide (H ₂ S) in air quality. /2023
		SO ₂	EPA CFR 40. Appendix A-2 to part 50 /SO ₂ -Reference method for the determination of sulfur dioxide in the atmosphere (pararosaniline method) /2023
		CO	Peter O. Warner. Analysis of Air Pollutants, Spanish Ed. 1981. Chap. 3, Pages 121-122. Validated (modified) /CO Determination of Carbon Monoxide in Air Quality (CO). /2023
		NO ₂	ASTM D1607-91(2018) e1 /NO ₂ Standard Test Method for Nitrogen Dioxide Content of the Atmosphere (Griess-Saltzman Reaction)
		O ₃	James P. Lodge JR Third Edition 1988, Part II 400 - Method 411, Pages 403, 404, 405 and 406. (VALIDATED) /O ₃ -Methods of Air Sampling and Analysis. Inorganic Nitrogen Compounds and Oxidants. Determination of Oxidizing Substances in the Atmosphere /2023
		METALS (PM ₁₀ / PM _{2.5}) – HIGH VOLUME: Silver (Ag), Aluminum (Al), Arsenic (As), Barium (Ba), Beryllium (Be), Cadmium (Cd), Cobalt (Co), Chromium (Cr), Copper (Cu), Lead (Pb), Manganese (Mn), Molybdenum (Mo), Nickel (Ni), Antimony (Sb), Selenium (Se), Thorium (Th), Thallium (Tl), Uranium (U), Vanadium (V), Zinc (Zn)	EPA Compendium Method IO-3.5 (Sample preparation: EPA Compendium Method IO-3.1). 1999

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Environmental Chemistry - Electrometric	Natural water, wastewater, water for human use and consumption, saline water	Ammoniacal Nitrogen	SMEWW-APHA-AWWA-WEF Part 4500-NH3 D 24th Ed. 2023 /Nitrogen (Ammonia). Ammonia-Selective Electrode Method /2023
	Natural water, wastewater, water for human use and consumption, saline water	Sulfate	SMEWW-APHA-AWWA-WEF Part 4500-SO42- E, 24th Ed. 2023 /Sulfate. Turbidimetric Method /2023
Environmental Chemistry	Natural Water, Water for Human Use and Consumption, Wastewater, Saline Water and Process Water	TOTAL AND DISSOLVED METALS: Silver (Ag), Aluminum (Al), Arsenic (As), Barium (Ba), Beryllium (Be), Calcium (Ca), Cadmium (Cd), Cobalt (Co), Chromium (Cr), Copper (Cu), Iron (Fe), Mercury (Hg), Potassium (K), Magnesium (Mg), Manganese (Mn), Sodium (Na), Nickel (Ni), Lead (Pb), Antimony (Sb), Selenium (Se), Thallium (Tl), Vanadium (V), Zinc (Zn)	EPA Method 200.8, Revision 5.4: Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma – Mass Spectrometry (ICP-MS).
	Sludge, Sediment and Soil	TOTAL AND DISSOLVED METALS: Silver (Ag), Aluminum (Al), Arsenic (As), Barium (Ba), Beryllium (Be), Calcium (Ca), Cadmium (Cd), Cobalt (Co), Chromium (Cr), Copper (Cu), Iron (Fe), Mercury (Hg), Potassium (K), Magnesium (Mg), Manganese (Mn), Sodium (Na), Nickel (Ni), Lead (Pb), Antimony (Sb), Selenium (Se), Thallium (Tl), Vanadium (V), Zinc (Zn)	EPA Method 6020B, Rev. 2, July 2014 (Sample preparation: EPA Method 3051A, 2007). 2014
Environmental Chemistry – Emission	Emissions	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

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Environmental Chemistry – Emission (cont'd.)	Emissions (cont'd.)	Velocity and Volumetric Flow	NTP 900.002:2021 /Monitoring Of Atmospheric Emissions. Determination of velocity and volumetric flow in chimney gases (Pitot tube type S). 2nd Edition /2021
		CO ₂ and O ₂ Concentrations and Molecular Weight On a Dry Basis	NTP 900.003:2021 /Monitoring of Atmospheric Emissions. Gas analysis for the determination of molecular weight on a dry basis. 2nd Edition /2021
		Humidity	NTP 900.004:2021 /Monitoring of Atmospheric Emissions. Determination of moisture content in chimney gases. 2nd Edition /2021
		Carbon Monoxide (CO)	NTP 900.010:2021 /Monitoring of Atmospheric Emissions. Determination of carbon monoxide emissions in stationary sources. Instrumental analyzer procedure. 2nd Edition /2021
		Oxygen (O ₂) and Carbon Dioxide (CO ₂) In Emissions From Stationary Sources Using a Continuous Instrumental Analyzer	NTP 712.111:2021 /Monitoring of Atmospheric Emissions. Determination of oxygen and carbon dioxide concentrations in emissions from stationary sources. Instrumental analyzer procedure. 1st Edition /2021
		Hydrogen Sulfide, Total Hydrocarbons, Carbon Dioxide	CTM 034: 1999/ CTM 030:1997 (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 /2023

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FIELDS OF TESTING	MATERIAL/MATRIX	DETERMINANT(S)/ANALYTE(S)	METHOD REFERENCE
Environmental Chemistry – Emission (cont'd.)	Emissions (cont'd.)	Metal Sampling From Stationary Sources (Antimony, Arsenic, Barium, Beryllium, Cadmium, Cobalt, Copper, Chromium, Iron, Manganese, Mercury, Nickel, Lead, Silver, Phosphorus, Selenium, Tin, Titanium, Thallium, Aluminum, Vanadium y Zinc.)	NTP 712.110:2022 /Monitoring of Atmospheric Emissions. Determination of metal emissions in stationary sources. 1st Edition /2022
		Metals In Emissions by ICP-MS (Tin, Titanium, Vanadium)	NTP 712.110:2022 (Validated out of scope) /Monitoring of Atmospheric Emissions. Determination of metal emissions in stationary sources. 1st E /2022
		Metals in Emissions by ICP-MS (Antimony, Arsenic, Barium, Beryllium, Cadmium, Cobalt, Copper, Chromium, Iron, Manganese, Mercury, Nickel, Lead, Silver, Phosphorus, Selenium, Tin, Titanium, Thallium, Aluminum, Zinc)	EPA CFR Title 40, Appendix A-8 to Part 60, Method 29 /Determination of Metal Emissions from Stationary Sources /2017
		Metals In Emissions by ICP-MS (Vanadium)	EPA CFR Title 40, Appendix A-8 to Part 60, Method 29 (Validated) /Determination of Metal Emissions from Stationary Sources /2023
		Hydrogen Sulfide H ₂ S	EPA16A /Method 16A— Determination of Total Reduced Sulfur Emissions From Stationary Sources (Impinger Technique) /2022
		Volatile Organic Compounds	NTP 900.018 /Monitoring of Atmospheric Emissions. Measurement of emissions of gaseous organic compounds by gas chromatography. 2nd Edition /2021
		Sulfuric Acid, Sulfur Trioxide, Sulfur Dioxide	EPA 8 /Method 8 Determination of Sulfuric Acid and Sulfur Dioxide Emissions From Stationary Sources /2019

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Environmental Chemistry – Emission (cont'd.)	Emissions (cont'd.)	Total Organic Compound	EPA 25A /Method 25A - Determination of Total Organic Gases Concentration Using a Flame Ionization Analyzer /2017
		Hydrogen Chloride (HCL)	EPA 26A /Method 26A - Determination of Hydrogen Halide and Halogen Emissions From Stationary Sources Isokinetic Method /2019
		Hydrogen Fluoride (FCL)	EPA 26A /Method 26A - Determination of Hydrogen Halide and Halogen Emissions From Stationary Sources Isokinetic Method /2019
		Chlorine	EPA 26A /Method 26A - Determination of Hydrogen Halide and Halogen Emissions From Stationary Sources Isokinetic Method /2019
		Formaldehyde	EPA 323 /Method of formaldehyde emissions from natural gas stationary sources: acetyl acetone derivatization method /2023
		Ammonia	CTM-027 /Procedure For Collection and Analysis of Ammonia in Stationary Sources /1997
		Hydrogen Sulfide, Carbonyl Sulfide (COS), Carbon Disulfide (CS ₂)	NTP 900.015:2021 /Monitoring of Atmospheric Emissions. Determination of hydrogen sulfide, carbonyl sulfide and carbon disulfide in stationary sources. 2nd Edition /2021
		Total Gaseous Organic Compounds Other Than Methane (TGNMO)	EPA 25 /Method 25— Determination of Total Gaseous Nonmethane Organic Emissions as Carbon /2023
		Cems CO	Method Ch 10 /Determination of Carbon Monoxide Emissions From Stationary Sources. /1998

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Environmental Chemistry – Emission (cont'd.)	Emissions (cont'd.)	Cems NOX	NTP 712.120:2022 /Monitoring of Atmospheric Emissions. Determination of nitrogen oxide emissions in stationary sources. Instrumental analyzer procedure. 1st Edition /2022
		Cems SO ₂	NTP 712.117:2022 /Monitoring of Atmospheric Emissions. Determination of sulfur dioxide emissions from stationary sources. Instrumental analyzer procedure. 1st Edition /2022
		Cems Particulate Matter	NTP 900.005:2021 (Validated out of scope) /Environmental Management. Atmospheric emissions. Determination of particulate matter emissions from stationary sources /2023
		Determination of Gas Velocity and Volumetric Flow Rate In Chimneys or Small Ducts (Standard Pitot Tube)	NTP 712.112:2022 /Monitoring of Atmospheric Emissions. Determination of gas velocity and volumetric flow rate in chimneys or small ducts (Standard Pitot Tube). 1st Edition /2022
		Particles	VDI 4206 Blatt 2:2015-02. (Validated out of scope) /Performance criteria and test procedures for measuring devices for monitoring emissions in small combustion plants - Measuring devices for determining particulate emissions /2023
Environmental Chemistry - Spectrophotometry	Natural water, waste water, water for human use and consumption, saline water	Total Cyanide	SMEWW-APHA-AWWA-WEF Part 4500-CN-CE 24th Ed. 2023 / Cyanide Total Cyanide after Distillation Colorimetric Method /2023
		Hexavalent Chromium	SMEWW-APHA-AWWA-WEF Part 3500-Cr-B 24th Ed. 2023 /Chromium. Colorimetric Method /2023

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Environmental Chemistry - Spectrophotometry (cont'd.)	Natural water, wastewater, water for human use and consumption, saline water (cont'd.)	Sulfide	SMEWW-APHA-AWWA-WEF Part 4500-S2-, D, 24th Ed. 2023 /Sulfide. Methylene Blue Method. /2023
Environmental Chemistry - Volumetry	Natural water, wastewater, water for human use and consumption, saline water	Total Alkalinity	SMEWW-APHA-AWWA-WEF Part 2320-B 24th Ed. 2023 /Alkalinity - Titration method /2023
		Acidity	SMEWW-APHA-AWWA-WEF Part 2310-B. 24th Ed. 2023 /Acidity - Titration method /2023
		Total Hardness	SMEWW-APHA-AWWA-WEF Part 2340-EDTA-C. 24th Ed. 2023 /Hardness-EDTA Titrimetric Method /2023
Occupational - Physical	Occupational noise during working day	Occupational Noise	NTP-ISO 9612: 2010. (2020 Revision). /Acoustics. Determination of exposure to occupational noise. Engineering method. /2010