

# **CERTIFICATE OF ACCREDITATION**

This is to attest that

### SANGUESA Y ASOCIADOS LIMITADA

LOS MOLINOS 747 QUILPUE, 2420000, CHILE

Inspection Agency AA-824 (Type A)

has met the requirements of AC98, *IAS Accreditation Criteria for Inspection Agencies*, and has demonstrated compliance with ISO/IEC Standard 17020:2012, *Conformity assessment - Requirements for the operation of various types of bodies performing inspection*. This organization is accredited to provide the services specified in the scope of accreditation.

> Expiry Date April 1, 2025 Effective Date May 17, 2024



President

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International Accreditation Service, Inc.

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### SANGUESA Y ASOCIADOS LIMITADA

www.syagroupchile.com

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Accredited to ISO/IEC 17020:2012

Effective Date May 17, 2024

Field and Range of Inspection	Regulations, Inspection Methods, Standards and/or Specifications
Seawater	
Sampling	NCh411/9:1997. Part 9. Marine Water Sampling Guide
In situ - Measurement of Redox Potential	Standard Methods for the Examination of Water and Wastewater, 2580 B. 24 <sup>th</sup> Edition
In situ - Salinity	Standard Methods for the Examination of Water and Wastewater, 2520 B. 24 <sup>th</sup> Edition
Field Transparency Measurement	IUDC v05 Disk Use Secchi
In situ - pH measurement	Standard Methods for the Examination of Water and Wastewater, 4500-H B. 24 <sup>th</sup> Edition
In situ - Measurement of dissolved oxygen	Standard Methods for the Examination of Water and Wastewater, 4500-0 G. Membrane Electrode Method. O Oxygen (Dissolved). 24 <sup>th</sup> Edition. SM - APHA/AWWA/WEF.
In situ - Measurement of dissolved oxygen	IUSM v05 Using Multiparameter Probe Based on Standard Methods for the Examination of Water and Wastewater, 4500-0 G. Membrane Electrode Method. O Oxygen (Dissolved). 24 <sup>th</sup> Edition. SM - APHA/AWWA/WEF
In situ - Temperature Measurement	Standard Methods for the Examination of Water and Wastewater, 2550 B. 24 <sup>th</sup> Edition
In situ - Measurement of Residual Free Chlorine	IMCLB v.05 Residual Free Chlorine Measurement Based on ISO Guide ISO 7393-2:2017
In situ - Measurement of Redox Potential	2580 B. Oxidation-Reduction Potential Measurement in Clean Water. Oxidation-Reduction Potential (ORP). 24 <sup>th</sup> Edition. SM - APHA/AWWA/WEF.
Groundwater	
Sampling	NCh411/11:2022. Part 11. Guide to groundwater sampling.
In situ - Measurement of dissolved oxygen	IUSM v05 Using Multiparameter Probe Based on Standard Methods for the Examination of Water and Wastewater, 4500-0 G. Membrane Electrode





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Field and Range of Inspection	Regulations, Inspection Methods, Standards and/or Specifications
	Method. O Oxygen (Dissolved). 24 <sup>th</sup> Edition. SM - APHA/AWWA/WEF
In situ - pH measurement	Standard Methods for the Examination of Water and Wastewater, 4500-H B. 24 <sup>th</sup> Edition
Measurement of dissolved oxygen	Standard Methods for the Examination of Water and Wastewater, 4500-0 G. 24 <sup>th</sup> Edition
In situ - Temperature Measurement	Standard Methods for the Examination of Water and Wastewater, 2550 B. 24 <sup>th</sup> Edition
In situ - Salinity	Standard Methods for the Examination of Water and Wastewater, 2520 B. 24 <sup>th</sup> Edition
In situ - Measurement of Redox Potential	IMORP V.05 Measurement of Redox Potential Based on Standard Methods for the Examination of Water and Wastewater, 2580 B. 24 <sup>th</sup> Edition
Phreatic Level	PMNF version 02 Measurement of the water table (in-house procedure)
Surface Water	
Sampling	NCh-IS0 5667/4:2016. Part 4. Guide to Sampling Natural and Artificial Lakes
Sampling	NCh-ISO 5667/6:2015. Part 6: Guide to sampling rivers and watercourses. Water quality - Sampling. 2015. INN.
In situ - pH measurement	Standard Methods for the Examination of Water and Wastewater, 4500-H B. 24 <sup>th</sup> Edition
In situ - Measurement of dissolved oxygen	Standard Methods for the Examination of Water and Wastewater, 4500-0 G. 24 <sup>th</sup> Edition
In situ - Flow Measurement	PMCAU V.03 Flow Measurement (Own method)
In situ - Measurement of dissolved oxygen	IUSM v05 Using Multiparameter Probe Based on Standard Methods for the Examination of Water and Wastewater, 4500-0 G. Membrane Electrode Method. O Oxygen (Dissolved). 24 <sup>th</sup> Edition. SM - APHA/AWWA/WEF
In situ - Temperature Measurement	Standard Methods for the Examination of Water and Wastewater, 2550 B. 24 <sup>th</sup> Edition
In situ - Salinity	Standard Methods for the Examination of Water and Wastewater, 2520 B. 24 <sup>th</sup> Edition
In situ - Measurement of Residual Free Chlorine	IMCLB v.05 Residual Free Chlorine Measurement based on ISO Guide ISO 7393-2:2017





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Field and Range of Inspection	Regulations, Inspection Methods, Standards and/or Specifications
In situ - Measurement of Redox Potential	IMORP V.05 Measurement of Redox Potential Based on Standard Methods for the Examination of Water and Wastewater, 2580 B. 24 <sup>th</sup> Edition
Wastewater	
Manual and Automatic Sampling	NCh411/10.0f2005. Part 10-Wastewater sampling.
In situ - Temperature Measurement	NCh 2313/2:1995
In situ - Flow measurement	NCh411/10.0f2005. Part 10: Wastewater Sampling- Sample Collection and Management, 7.9
In situ - pH measurement	NCh 2313/1:2021
In situ - Measurement of Residual Free Chlorine	IMCLB v.01 based on ISO Guide ISO 7393-2:2017
Drinking Water	
Sampling	NCh 409/2:2004. Part 2 Muestreo
In situ - pH measurement	IMPH V05 on site pH measurement Based on Standard Methods for the Examination of Water and Wastewater, 4500-H B. 24 <sup>th</sup> Edition
In situ - Temperature Measurement	IMTT v05 on site Temperature measurement Based on Standard Methods for the Examination of Water and Wastewater, 2550 B. 24 <sup>th</sup> Edition
In situ - Measurement of Residual Free Chlorine	IMCLB v.05 Residual Free Chlorine Measurement based on ISO Guide ISO 7393-2:2017
Lake Sediments	
Sampling	PMSED01v04 Based on Standard Methods for the Examination of Water and Wastewater, 1060 B, C. 24 <sup>th</sup> Edition
In situ - Measurement of Redox Potential	IMORP V.05 Measurement of Redox Potential Based on Standard Methods for the Examination of Water and Wastewater, 2580 B. 24 <sup>th</sup> Edition
Aquatic Sediments	·
Sampling	PMSED01v04 Sediment Sampling Procedure Based on Standard Methods for the Examination of Water and Wastewater, 1060 B, C. 24 <sup>th</sup> Edition
In situ - Measurement of Redox Potential	IMORP V.05 Measurement of Redox Potential Based on Standard Methods for the Examination of Water and Wastewater, 2580 B. 24 <sup>th</sup> Edition
Marine Sediments	
Sampling	PMSED01v04 Sediment Sampling Procedure Based on Standard Methods for the Examination of Water and Wastewater, 1060 B, C. 24 <sup>th</sup> Edition





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Field and Range of Inspection	Regulations, Inspection Methods, Standards and/or Specifications
In situ - Measurement of Redox Potential	2580. B. Oxidation-Reduction Potential Measurement in Clean Water. Oxidation-Reduction Potential (ORP). 24 <sup>th</sup> Edition. SM - APHA/AWWA/WEF.
Vessels, Marine Water and Sediment – Carbon Sampling (Shipping)	PMCN version 02 Coal Sampling in Ships (in-house procedure)
Vessels, Marine Water and Sediment – Carbon Sampling (Intermarial and Submarial)	PMCN version Coal Sampling in Ships (in-house procedure)

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