



INTERNATIONAL  
ACCREDITATION  
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# CERTIFICATE OF ACCREDITATION

*This is to attest*

## **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, 2026

Effective Date March 27, 2025



*International Accreditation Service*  
Issued under the authority of IAS management

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# SCOPE OF ACCREDITATION

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## SANGUESA Y ASOCIADOS LIMITADA

[www.syagroupchile.com](http://www.syagroupchile.com)

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*Accredited to ISO/IEC 17020:2012*

*Effective Date March 27, 2025*

FIELD AND RANGE OF INSPECTION	REGULATIONS, INSPECTION METHODS, STANDARDS AND/OR SPECIFICATIONS
<b>Seawater</b>	
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.
Qualitative phytoplankton sampling	IMFAM. v00 Seawater phytoplankton sampling. Based on Ferrario et al. 1995. Basic methodology for the study of phytoplankton with special reference to diatoms. In: Manual of Phycological Methods. University of Concepción-CHILE

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FIELD AND RANGE OF INSPECTION	REGULATIONS, INSPECTION METHODS, STANDARDS AND/OR SPECIFICATIONS
Quantitative Phytoplankton Sampling	IMFAM. v00 Seawater phytoplankton sampling. Based on Ferrario et al. 1995. Basic methodology for the study of phytoplankton with special reference to diatoms. In: Manual of Phycological Methods. University of Concepción-CHILE
Zooplankton sampling	IMZAM. V00 Use of Zooplankton nets. Based on Standard Methods for the examination of water and wastewater 10200 B, 24rd, 2023; and SEA. 2022. Methodological guide for the description of marine ecosystems.
<b>Groundwater</b>	
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 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)
<b>Surface Water</b>	
Sampling	NCh-ISO 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



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FIELD AND RANGE OF INSPECTION	REGULATIONS, INSPECTION METHODS, STANDARDS AND/OR SPECIFICATIONS
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
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
Phytoplankton Sampling	PMFAS. V00 Seawater phytoplankton sampling. Based on FIPA No. 2016-46. Methodological guide and sampling protocols for aquatic flora and fauna in continental waters of Chile.
Phytobenthos sampling	PMFBAS. V00 Phytobenthos surface water sampling. Based on SUBPESCA, 2016. 2nd Edition Manual for the monitoring and identification of the benthic microalga <i>Didymosphenia geminata</i>
Zooplankton sampling	PMZAS. V00 Surface water Zooplankton sampling Base don FIPA N° 2016-46. Methodological guide and protocols for sampling aquatic flora and fauna in continental waters of Chile.
<b>Wastewater</b>	
Manual and Automatic Sampling	NCh411/10.0f2005. Part 10-Wastewater sampling.
In situ - Temperature Measurement	NCh 2313/2:1995 Wastewater - Methods of Analysis - Part 2: Temperature Determination
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 Wastewater - Methods of Analysis - Part 21: Determination of Foaming Power
In situ - Measurement of Residual Free Chlorine	IMCLB v.01 based on ISO Guide ISO 7393-2:2017
<b>Drinking Water</b>	



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FIELD AND RANGE OF INSPECTION	REGULATIONS, INSPECTION METHODS, STANDARDS AND/OR SPECIFICATIONS
Sampling	NCh 409/2:2004. Part 2 Sampling
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
<b>Lake Sediments</b>	
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
<b>Aquatic Sediments</b>	
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
<b>Marine Sediments</b>	
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	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)
<b>Macrofauna</b>	
Subtidal benthic macrofauna sampling	PMMBS. v00 Submarial benthic macrofauna sampling Based on Exempt Resolution No. 3612 of 2009 and its modifications indicated in Res. Ex. No.

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FIELD AND RANGE OF INSPECTION	REGULATIONS, INSPECTION METHODS, STANDARDS AND/OR SPECIFICATIONS
	660 of 2018, Res. Ex. No. 3002 of 2018, Res. Ex. No. 1933 of 2021 and Res. Ex. No. 1917 of 2023.
Intertidal macrobenthic communities sampling	PMCMIA. v00 Intertidal Macrofauna Sampling Based on Standard Methods for the examination of water and wastewater. Ed.24th Ed. 2023 10500 B Benthic macroinvertebrates.
Intertidal macrobenthic communities sampling	PMCMIR. V00 Rocky Macrofauna Sampling Based on SEA. 2022. Methodological guide for the description of marine ecosystems.
Macroinvertebrates sampling	PMM. v00 Macroinvertebrate Sampling Based on Standard Methods for the examination of water and wastewater. Ed.24th Ed. 2023 10500 B Benthic macroinvertebrates.

