# CERTIFICATE OF ACCREDITATION

*This is to attest that*

## SANGUESA Y ASOCIADOS LIMITADA

LOS MOLINOS 747
QUILPUE, NA 2420000, REBUPLIC OF 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, 2023
Effective Date March 22, 2022

***President***

Visit www.iasonline.org for current accreditation information.

# SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

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## SANGUESA Y ASOCIADOS LIMITADA

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*Accredited to ISO/IEC 17020:2012* *Effective Date March 22, 2022*

| 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. 23rd Edition, 2017 |
| In situ - Conductivity/Salinity Measurement | Standard Methods for the Examination of Water and Wastewater, 2520 B. 23rd Edition, 2017 |
| Field Transparency Measurement | IUDC v01 Disk Use Secchi |
| In situ - pH measurement | Standard Methods for the Examination of Water and Wastewater, 4500-H B. 23rd Edition, 2017 |
| In situ - Measurement of dissolved oxygen | Standard Methods for the Examination of Water and Wastewater, 4500-0 G. Membrane Electrode Method. O Oxygen (Dissolved). 23rd Edition, 2017. SM - APHA/AWWA/WEF. |
| In situ - Measurement of dissolved oxygen | IUSMOI rev02 Based on ASTM D888-09, C |
| In situ - Temperature Measurement | Standard Methods for the Examination of Water and Wastewater, 2550 B. 23rd Edition, 2017 |
| In situ - Measurement of Residual Free Chlorine | IMCLB v.01 based on ISO Guide ISO 7393-2:20217 |
| In situ - Measurement of Redox Potential | 2580 B. Oxidation-Reduction Potential Measurement in Clean Water. Oxidation-Reduction Potential (ORP). 23rd Edition, 2017. SM - APHA/AWWA/WEF. |
| **Groundwater** | |
| Sampling | NCh411/11:1998. Part 11. Guide to groundwater sampling. 1998. INN. |
| In situ - Measurement of dissolved oxygen | IUSMO1 rev02 based on ASTM D888-09, C |
| In situ - pH measurement | Standard Methods for the Examination of Water and Wastewater, 4500-H B. 23rd Edition, 2017 |
| Measurement of dissolved oxygen | Standard Methods for the Examination of Water and Wastewater, 4500-0 G. 23rd Edition, 2017 |

| Field and Range of Inspection | Regulations, Inspection Methods, Standards and/or Specifications |
|---|---|
| In situ - Temperature Measurement | Standard Methods for the Examination of Water and Wastewater, 2550 B. 23rd Edition, 2017 |
| In situ - Conductivity/Salinity Measurement | Standard Methods for the Examination of Water and Wastewater, 2520 B. 23rd Edition, 2017 |
| In situ - Measurement of Redox Potential | IMORP V.01 Based on Standard Methods for the Examination of Water and Wastewater, 2580 B. 23rd Edition, 2017 |
| Phreatic Level | PMNF version 0 (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. 23rd Edition, 2017 |
| In situ - Measurement of dissolved oxygen | Standard Methods for the Examination of Water and Wastewater, 4500-0 G. 23rd Edition, 2017 |
| In situ - Flow Measurement | PMCAU V.0 Own method |
| In situ - Measurement of dissolved oxygen | IUSMO1 rev02 based on ASTM D888-09, C |
| In situ - Temperature Measurement | Standard Methods for the Examination of Water and Wastewater, 2550 B. 23rd Edition, 2017 |
| In situ - Conductivity/Salinity Measurement | Standard Methods for the Examination of Water and Wastewater, 2520 B. 23rd Edition, 2017 |
| In situ - Measurement of Residual Free Chlorine | IMCLB v.01 based on ISO Guide ISO 7393-2:20217 |
| In situ - Measurement of Redox Potential | IMORP V.01 Based on Standard Methods for the Examination of Water and Wastewater, 2580 B. 23rd Edition, 2017 |
| **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 |
| **Drinking Water** | |
| Sampling | NCh 409/2:2004. Part 2 Muestreo |

| Field and Range of Inspection | Regulations, Inspection Methods, Standards and/or Specifications |
|---|---|
| In situ - pH measurement | IMPH V02 Based on Standard Methods for the Examination of Water and Wastewater, 4500-H B. 23rd Edition, 2017 |
| In situ - Temperature Measurement | IMTT v02 Based on Standard Methods for the Examination of Water and Wastewater, 2550 B. 23rd Edition, 2017 |
| In situ - Measurement of Residual Free Chlorine | IMCLB v.01 based on ISO Guide ISO 7393-2:20217 |
| **Lake Sediments** | |
| Sampling | PMSEO1v01 Based on Standard Methods for the Examination of Water and Wastewater, 1060 B, C. 23rd Edition, 2017 |
| In situ - Measurement of Redox Potential | IMORP V.01 Based on Standard Methods for the Examination of Water and Wastewater, 2580 B. 23rd Edition, 2017 |
| **Aquatic Sediments** | |
| Sampling | PMSEO01v01 Based on Standard Methods for the Examination of Water and Wastewater, 1060 B, C. 23rd Edition, 2017 |
| In situ - Measurement of Redox Potential | IMORP V.01 Based on Standard Methods for the Examination of Water and Wastewater, 2580 B. 23rd Edition, 2017 |
| **Marine Sediments** | |
| Sampling | PMSED01 v01 Based on Standard Methods for the Examination of Water and Wastewater, 1060 B, C. 23rd Edition, 2017 |
| In situ - Measurement of Redox Potential | 2580. B. Oxidation-Reduction Potential Measurement in Clean Water. Oxidation-Reduction Potential (ORP). 23° Edición.2017. SM - APHA/AWWA/WEF. |
| Vessels, Marine Water and Sediment – Carbon Sampling | PMCN version 0 (in-house procedure) |