# SPECIFIC SCIENTIFIC COOPERATION AGREEMENT

BETWEEN

CHINA GEOLOGICAL SURVEY

OF THE

PEOPLE'S REPUBLIC OF CHINA

Y

# THE ARGENTINE MINING GEOLOGICAL SURVEY

FROM

# THE REPUBLIC OF ARGENTINA

The CHINA GEOLOGICAL SURVEY DEPENDING ON THE MINISTRY OF NATURAL RESOURCES OF THE PEOPLE'S REPUBLIC OF CHINA, hereinafter referred to as "CGS", and the ARGENTINE MINING GEOLOGICAL SURVEY DEPENDING ON THE MINISTRY OF MINING OF THE MINISTRY OF PRODUCTIVE DEVELOPMENT OF THE ARGENTINE REPUBLIC, hereinafter referred to as "SEGEMAR", hereinafter jointly referred to as the "PARTICIPANTS", agree to enter into this SPECIFIC SCIENTIFIC COOPERATION AGREEMENT within the framework of the Memorandum of Understanding signed between both Geological Surveys dated January 27, 2022...

# **BACKGROUND:**

THE PARTICIPANTS agree to implement the initiative promoted by the PEOPLE'S REPUBLIC OF CHINA and the ARGENTINEAN REPUBLIC through the respective Geological Surveys for the joint planning and implementation of a Geosciences Research Center, within the framework of the construction of a scientific community of shared future between China, Latin America and the Caribbean.

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The PARTICIPANTS with the purpose of fully defending the role of geosciences at the service of regional sustainable development and deepening communication and cooperation in the field of natural resources between both countries agree to articulate, on the occasion of the aforementioned initiative, the necessary actions for the joint implementation of the China-Argentina Cooperation Center in Geosciences (CCGCA) based on the existing relationship of friendship and scientific cooperation.

#### I. VISION

The PARTICIPANTS understand that there is only one Earth for humanity. Protecting it and promoting sustainable development is the common responsibility of all countries. China and Argentina are in a period of economic development. In order to promote this development, humanity is using more natural resources than ever before and this mode of production has begun to irreversibly affect our ecosystem. Therefore, the sustainable use of natural resources has become an important proposition for Chinese and Argentine geoscientists. China and Argentina have similar geological characteristics and a solid foundation for geoscience cooperation. By building the CCGCA, both PARTICIPANTS will jointly explore the ways and criteria for the sustainable use of natural resources, aiming to contribute to high-quality economic development in the two countries and support the goals of the United Nations 2030 Agenda for Sustainable Development.

#### II. OBJECTIVE

Being a bridge for geoscientific cooperation, the CCGCA will focus on the main functions of the CGS and SEGEMAR and establish a platform for bilateral cooperation under this Agreement that integrates the multiple benefits of scientific research, production, environmental protection and societal development. The objectives are to improve the understanding of regional geological evolution, strengthen the capacity for analysis and utilization of macro data (big data) in geosciences, and optimize the capacity for sustainable use of regional natural resources.

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#### III. APPROACHES

The cooperation upholds the principle of mutual consultation and cooperation, openness and collaboration, and sustainable development and innovative progress. On the basis of common interests, both PARTICIPANTS will implement an open bilateral cooperation mechanism and advocate the concept of green and innovative development. Guided by the theory of Earth System Science, both PARTICIPANTS will fully employ an up-to-date scientific approach in exploring a new way to serve regional sustainable development.

#### IV. CONTENTS

# i. Exploratory geoscience research and geological studies.

a. Basic Geology to jointly conduct comparative studies of geology, orogenic processes and plate convergence processes in different regions of both countries with a common geological history.

### b. Metallogeny

Study the coupled mechanisms of massive metal enrichment and subduction/extension, and develop regional prospecting and exploration methodologies for the detection of covered mineral deposits in arid zones to assist in the development of regional prospecting.

#### c. Marine Geology

Develop methodologies for the geological mapping of the Argentine continental shelf, and implement joint projects for the characterization of its mineral resources and identification of promising geological features for the exploration of non-renewable natural resources (oil, gas, methane clathrate and polymetallic nodules, among others).

d. Dissemination of geosciences and construction of museums.

Jointly implement natural museums, according to comparative studies and exchanges of characteristic samples, focusing on topics that comprise the

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formation and evolution of the earth and life, as well as disaster prevention and mitigation, in order to improve the level of geoscientific research and the geoscientific knowledge of the public.

# ii. Sustainable use of non-renewable natural resources

a. Protection and restoration of high altitude plateau wetlands.

Employ remote sensing image data from multiple sources for ecological monitoring of high altitude plateau wetlands, focusing on water-soil-ecosystem co-evolution mechanisms and the impact of lithium brine resource exploitation on the ecological environment of wetlands, in order to propose scientific and reasonable measures for ecological restoration and protection of high altitude plateau wetlands.

# b. Hydrogeology

Develop methodologies for the mapping of regional extension aquifers and implement joint projects for the characterization and uses of deep aquifers.

# c. Study of geothermal resources

Cooperatively conduct research and characteristics of geothermal resource occurrence, define the regional geothermal system model to delineate promising areas and determine the location of wells and implement geothermal drilling to provide technical support for the development and utilization of geothermal energy such as the siting of geothermal power plants.

# d. Coastal zone research and protection

Jointly conduct comprehensive geological studies of coastal resources and the coastal environment, as well as environmental monitoring in major project areas and studies on the formation and evolution of deltas in coastal and delta areas, in order to assist in the protection and sustainable development of coastal cities.

#### e. Geopatrimony and geopark development

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Research and evaluate sites of geological interest, develop methodologies for the classification, characterization and protection of geoheritage, and encourage and support the design and construction of geoparks.

# f. Soil resource studies

Conduct research on the process of formation, development and evolution of soils and their geological environment, study the processes and spatiotemporal variations of soil degradation in order to identify the coupled processes and mechanisms of interaction between water, soil, climatic conditions and uses, determine the spatial distribution and main controlling factors of saline soils, and build a soil monitoring network and a resource quality database.

### iii. Capacity building

# a. Constitution of a working group on geological big data

Advance in the formation of an Argentine working group of the United Nations Big-Geodad, geological big data, based on the plan of the International Union of Geological Sciences, the global standard of geoscientific data of the Deeptime Digital Earth (DDE) program and the construction work of the China node, establish data exchange mechanisms for basic geological studies, improve the computerization of basic regional geoscientific data and compile the Geological-Tectonic Atlas of Argentina.

#### b. Technology transfer in geosciences

Cooperation will be developed to demonstrate the application of hyperspectral remote sensing, aeromagnetic survey with Unmanned Aerial Vehicles, spectral analysis of drill core, rocks and minerals.

Dissemination and transfer of new technologies will be carried out gradually.

c. Chemical and isotopic analysis of water, brines, geothermal fluids, minerals and rocks.

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Carry out training and cooperation to implement methodologies, regulations and procedures for: i) chemical analysis and dissolved and free gases in water and fluids in SEGEMAR laboratories, on samples of the projects to be jointly executed; ii) physical-chemical analysis and typification of rocks and minerals on samples of the projects to be jointly executed; and iii) isotopic geochemistry applied to geoscience studies, such as geochronology of rocks and minerals, environmental geology and metallogeny.

d. Research and development of vitreous and ceramic materials.

Jointly conduct research studies on vitreous, ceramic, nanomaterials and other materials that use mineral raw materials.

#### e. Training

Incorporate students from both countries to receive postgraduate education in disciplines related to geosciences, according to the plan and demand defined by mutual agreement between the PARTICIPANTS and contemplated in this Agreement. Train professional officials and senior technicians in competencies in various fields of geosciences through China's foreign aid training mechanism.

#### V. ORGANIZATIONAL STRUCTURE AND OPERATIONAL MECHANISM

#### i. Organizational Structure

The CCGCA will be composed of TWO (2) Directors, ONE (1) SEGEMAR Director, and ONE (1) CGS Director, ONE (1) Committee of Directors, ONE (1) Committee of Experts, ONE (1) Chinese Secretariat, ONE (1) Argentine Secretariat and ONE (1) Cooperation Team.

The members of the CCGCA shall serve on an ad honorem basis.

#### a. Directors and the Directors Committee

The Directors will be responsible for coordinating the resources of the CCGCA, organizing and implementing geoscience cooperation, and reviewing and

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conducting the work plan and summary of work of the CCGCA. The Directors and members of the Directors Committee will be appointed by SEGEMAR and CGS.

The Directors Committee will contribute to the proper management of the functioning of the CCGCA and will lead the various actions regarding the organization and implementation of those conducive measures promoted by the PARTICIPANTS.

### b. Committee of Experts

It will advise on the development strategy, the construction plan and the specific cooperation projects of the CCGCA, and will orient graduate students to be trained by both PARTICIPANTS.

#### c. Secretariats

They will take coordinated charge of the daily operation and management of the CCGCA and prepare the annual work plan; report the actions of the CCGCA, communicate with relevant departments. The Chinese Secretariat will be located at CGS and the Argentine Secretariat at SEGEMAR.

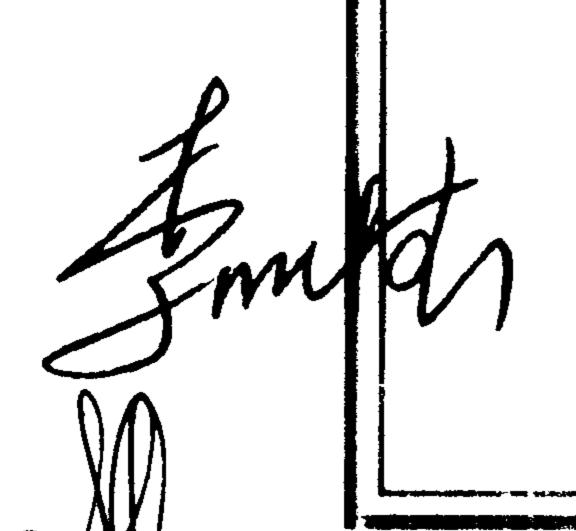
#### d. Cooperation Team Leaders

A leader will be designated for each Geological Survey, according to the content of the cooperation determined by mutual agreement by both Geological Surveys, whose responsibility will be to convene, plan and promote bilateral cooperation and regular communication.

#### e. Work Team

For each project to be developed by the CCGCA, a work team will be designated to be constituted by professionals of both PARTICIPANTS, who will participate jointly in the field and laboratory tasks and in the elaboration of the corresponding reports.

#### f. Publications



The research results of each project will be published jointly by the PARTICIPANTS in Spanish and Chinese and will be disseminated by each Geological Survey and on the official website of the CCGCA.

# ii. Operational Mechanisms

### a. Cooperation Framework

Close contacts and communication will be maintained through the liaisons of both Geological Surveys.

Geoscientific cooperation with universities and other entities dedicated to scientific research in both countries will be implemented through the CCGCA.

The CCGCA will communicate and coordinate all types of cooperative actions.

### b. Regular Liaison Mechanism

The Secretariats, jointly, will communicate the progress of the CCGCA on a quarterly basis and will organize a quarterly working briefing. The report, which will be an official CCGCA document, will be sent to the relevant areas of government, research institutes and universities of the two countries, in order to inform them of the progress of the CCGCA.

# c. Meetings and Mechanisms for Dialogue and Consultation

Meetings: the meetings of the Committee of Directors will be held every year, according to the manner and schedule to be determined, in order to review and approve the work plan, annual summary of the CCGCA, to inform and articulate those negotiations in relation to the plans and cooperation projects according to their importance and relevance, by mutual agreement between the two PARTICIPANTS.

Dialogue and Consultation Mechanisms: The PARTICIPANTS will have a mechanism for dialogue and consultation according to the guidelines established by consensus regarding priorities.

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In addition, the Secretariat will organize dialogues between the leaders in specific areas of cooperation and will invite relevant members of the Committee of Experts to participate and conduct negotiation discussions on the progress and results of specific cooperation projects, as well as areas of mutual interest for future work agreements.

### d. Mechanisms for openness and joint contribution

An official CCGCA website will be established, through which the achievements of CCGCA in the framework of cooperation will be publicized; cooperation with relevant United Nations organizations, the International Union of Geological Sciences, the Group on Earth Observation and other international organizations will be simultaneously strengthened; bilateral and international cooperation projects in the field of geosciences will be jointly promoted.

#### VI. SUPPORTING MEASURES

#### i. Guarantee of Funds

THE PARTICIPANTS shall secure funds for the day-to-day operation of the CCGCA. Regarding the areas of cooperation in which they are interested, both PARTICIPANTS will jointly apply to China-Argentina intergovernmental cooperation projects, foreign aid projects of the China International Development Cooperation Agency, international cooperation projects of the United Nations and international organizations, projects commissioned by companies, among others.

# ii. Guarantee for grassroots work

THE PARTICIPANTS will establish offices in their respective secretariats and provide the technical materials, equipment and materials necessary in the course of cooperation in China and Argentina.

# VII. CONSTANCY

THE PARTICIPANTS hereby expressly state that the execution of this Specific Agreement does not generate patrimonial and/or monetary obligations in favor of

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any of them. The instruments establishing financial commitments shall be assumed by the institutional budgets of each of THE PARTICIPANTS.

#### VIII. MODIFICATION

Any modification of the terms or obligations contained in this Specific Agreement shall be made by means of an addendum, which shall be in writing and shall be subscribed under the same form and with the same formalities with which this Specific Agreement is subscribed. The decision not to renew this Specific Agreement shall not give any right to formulate claims or requests for indemnification of any nature whatsoever.

### IX. SUSPENSION

This Specific Agreement may be suspended when, due to an act of God or force majeure, any of THE PARTICIPANTS is temporarily unable to continue with its obligations.

In such case, such obligations shall be suspended only for the duration of the circumstance or event that determines the suspension. THE PARTICIPANT unable to comply with its obligations shall communicate in writing to the other PARTICIPANT the suspension, stating the reasons thereof.

#### X. SETTLEMENT OF DISPUTES

THE PARTICIPANTS agree that any differences arising from the interpretation or execution of this Specific Agreement, as well as its supplementary acts, shall be resolved between them in good faith, in a spirit of cooperation in order to resolve the dispute through direct negotiations. If no agreement is reached, both PARTICIPANTS shall jointly arrange the mechanisms to resolve such dispute.

# XI. EFFECTIVENESS

This Specific Agreement shall enter into force as of the date of its signature and shall have a term of ten (10) years, automatically renewable for periods of equal duration, unless either of THE PARTICIPANTS expresses its decision to terminate

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it, by means of a written communication addressed to the other participant, with up to sixty (60) working days' notice.

# XII. FINAL PROVISIONS

The early termination of this specific agreement, except in the case of an act of God or force majeure, shall not affect the conclusion of the projects that have been initiated during its term, and shall continue until their completion, except when the PARTICIPANTS agree otherwise.

Both PARTICIPANTS express their conformity with the provisions of this Specific Agreement, and are bound to its faithful compliance, subscribing it in THREE (3) originals in Chinese, Spanish and English, all three texts being equally valid, on the 27th day of January of the year 2022.

Li Pengde Vice-president China Geological Survey

Silvia Beatriz Chávez

Executive Secretary

Argentine Geological Mining Survey



#### República Argentina - Poder Ejecutivo Nacional Las Malvinas son argentinas

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Referencia: ACUERDO ESPECÍFICO SEGEMAR - SGC INGLES

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