

SPECIFIC TECHNICAL COOPERATION AGREEMENT BETWEEN
THE GEOLOGICAL, MINING AND METALLURGICAL INSTITUTE OF THE ENERGY
AND MINES SECTOR OF THE REPUBLIC OF PERU
AND THE CHINA GEOLOGICAL SURVEY (CGS) OF THE MINISTRY OF LAND AND
RESOURCES, OF THE PEOPLE'S REPUBLIC OF CHINA
ON DIGITAL GEOLOGICAL MAPPING AND COMPARATIVE REGIONAL
GEOLOGICAL STUDY CONTEXT BETWEEN PERUVIAN ANDES AND
SOUTHEASTERN CHINA

This Specific Technical Cooperation Agreement, hereinafter "The Agreement" is entered into by and between the Instituto Geológico, Minero y Metalúrgico of the Energy and Mines Sector, of the Republic of Peru, with RUC N° 20112919377, domiciled in Av Canada 1470, San Borja, Lima, Peru, duly represented by Engineer **OSCAR HUBERT BERNUY VERAND**, identified by DNI N° 10491805, as President of the Board of Directors, appointed by Supreme Resolution N° 011-2016-EM, published on September 09, 2016, hereinafter referred to as "**INGEMMET**"; and the other party, the China Geological Survey of the Ministry of Land and Resources, of the People's Republic of China, domiciled in 45 Fuwai Street, Xicheng District, Beijing, People's Republic of China, duly represented by **Mr. WANG YAN**, Vice President of China Geological Survey, hereinafter referred to as "**CGS**", under the following terms and conditions.

Hereinafter **INGEMMET** and **CGS** together will be referred to as "the Parties".

Both Parties' cooperation in the field of geology shall be mutual beneficial.

ARTICLE 1: PARTIES OF THE AGREEMENT

- 1.1 **CGS**, directly under the Ministry of Land and Resources of the People's Republic of China, is a government owned non-profit entity responsible for the centralized deployment and organizing implementation of nation's basic, public and strategic geological investigation and mineral exploration, providing basic geological information and data for national economy and social development and offering public-good service for the society.
- 1.2 **INGEMMET** is a state scientific and technical entity of the Energy and Mines Sector, of the Republic of Peru. It is a legal person of the internal public law type, with technical, economic, and administrative autonomy, in charge of the basic geological research of the Peruvian territory and the awarding of mining rights to the private sector.

ARTICLE 2: LEGAL FRAMEWORK

CGS and **INGEMMET** agree to sign this document pursuant to the following legal provisions:

- Political Constitution of Peru
- Civil Code of Peru
- Supreme Decree N° 304-2012-EF, TUO of the General Law of the National Budget System.
- Law N° 30281, Public Sector Budget Law for 2015 Fiscal Year
- Supreme Decree N°035-2007-EM, Regulation on the Organization and Functions of INGEMMET.
- Memorandum of Understanding between CGS and INGEMMET signed on April 20, 2009
- Addenda to the Memorandum of Understanding, signed on July 10, 2012.
- Addenda to the Memorandum of Understanding, signed on March 31, 2015.

ARTICLE 3: BACKGROUND

On April 20, 2009, **CGS** and **INGEMMET** signed a Memorandum of Understanding for a three years period which can be extended by mutual agreement. This was extended for three more years by signing the Addenda to the Memorandum of Understanding between **CGS** and **INGEMMET** on July 10, 2012 and March 31, 2015. The main purposes of this Memorandum of Understanding were the exchange of scientific and technical information, the exchange of study visits and scientific visits, joint research activities, projects of mutual benefit, as well as other cooperative possibilities that the Parties could find.

Likewise, dated November 4, 2013 **CGS** and **INGEMMET** signed a Specific Technical Cooperation Agreement on Geological and Geochemical Mapping with a term of December 31, 2014. The main objective was to strengthen and share the geological knowledge of regional geology and the geochemistry in Chaparra-Atico area, region of Arequipa. It's important to mention that are achieved the specified goals in the agreement.

On March 31, 2015, **CGS** and **INGEMMET** signed a Specific Technical Cooperation Agreement on Geological Mapping, Geochronology, Litho geochemistry, and Comparative Study on Metallogenic and Regional Geological Setting between the Peruvian Andes and East China with a term of July 31, 2016. The main objective was to enhance and share the technical and scientific knowledge in the field of regional geology between technical staffs of both institutions by means of cooperative study between Peruvian Andes and Eastern China, on digital geological mapping at scale of 1:250000, geochronology, and Geochemical Characteristics in Piura, Lambayeque and Cajamarca. It's important to mention that are achieved the specified goals.

ARTICLE 4: OBJECTIVE

The main objective of the specific agreement is to enhance and share the technical and scientific knowledge in the field of regional geology between technical staffs of **CGS** and **INGEMMET** by means of comparative study on regional geological setting between Peruvian Andes and Southeastern China, and geological mapping.

ARTICLE 5: COOPERATION CONTENT

5.1 Project Area

Peruvian Andes and Southeastern China

5.2 Cooperation Contents

The following matters are set forth in this Agreement:

5.2.1 Comparative study between Peruvian Andes and Southeastern China.

To select representative Mesozoic-Cenozoic igneous rocks in Peruvian Andes to conduct field investigation, paleontology and radioactive isotopic dating, to carry out the study on tectonic and magmatic events of Peruvian Andes and compare with Southeastern China. The working areas correspond to the sheets of Punta Grande (29k), Ica (29l), Cordova (29m), Lomitas (30l), Palpa (30m), Nazca (30n), Chincha (27k), Tantara (27l), Pisco (28k), Guadalupe (28l), Santiago de Chocorvos (28m), Lurin (25j), Huarochiri (25k), Mala (26j), and Lunahuana (26k). Comprise part of the regions of Lima, Ica, and Huancavelica.

5.2.2 Geological Mapping.

To apply the digital geological mapping technology (Digital Mapping System) in the revision of the geological information of 20g (Culebras), 20h (Huaraz), 21g (Huarmey) and 21h (Huayllapampa) areas at scale of 1:100,000 comprise part of the region of Ancash. The revision should be focus on important geological problems and select crucial areas for geological mapping, and then to accomplish radioactive dating on volcanic rocks, and to interpret their geochemical characteristics.

5.3 Work Plan.

The general work plan is:

2017:

Geological Mapping: Ancash Province in Peru;

Comparative study: Ica and Huancavelica Province in Peru, and Zhejiang Province in China.

2018:

Geological Mapping: Ancash Province in Peru;

Comparative study: Lima area in Peru and Fujian Province in China.

2019:

Preparation of geological map and report in Ancash area;

Preparation of comparative study report;

Project summary, field acceptance check, and submit achievements jointly.

5.4 Progress Reports.

Progress reports shall be published quarterly on **INGEMMET** and **CGS** websites; printed versions will be determined at each party's sole discretion. The languages to be used are those that correspond to each institution, documents shall be translated into English, which is the common language used by the parties.

ARTICLE 6: PROJECT SCHEDULE

6.1 CGS and INGEMMET will appoint properly organized teams to carry out the project.

The first task of both working teams will be to discuss and agree the "Specific Work Plan" including sequence of work progress and detailed scheduling. This "Specific Work Plan" will be considered the monitoring and control tool for managing the project progress, which shall be reported to the top leaders of both Parties.

6.2 Necessary measures for the purpose of acquisition of research achievements on comparative regional geological study, geological mapping with the scale of 1:250,000, analysis of geochronological, lithogeochemistry and paleontological samples, scientific knowledge exchange and Peruvian professionals research working in China under the exchanged plan.

ARTICLE 7: OBLIGATIONS OF BOTH PARTIES

7.1 Obligations of CGS

7.1.1 To provide INGEMMET team with project information, such as non-confidential geological maps, topographic maps, as per the needs of this project.

- 7.1.2 To organize and coordinate the **CGS** team to participate in this project.
- 7.1.3 To develop analyses of samples transported to China for litho geochemistry, paleontology and geochronological dating.
- 7.1.4 To provide office facilities, vehicles of transportation, and to cover safety features for the **INGEMMET** team during their work in China, under the scope of the project.
- 7.1.5 To build a geological database for litho geochemistry, paleontology and geochronology, and complete the revision of geological maps, project reports and publication for the scientific achievements.

7.2 Obligations of **INGEMMET**

- 7.2.1 To provide geological information for **CGS**, including provision of the geological maps formulated in accordance with the scales of 1:100,000 and 1:50,000 for the designated zone, as well as to provide reference books and briefs deemed necessary for this project in accordance with the requirements of this project.
- 7.2.2 To organize and coordinate with the **CGS** team to participate in this project.
- 7.2.3 To collect jointly the samples of litho geochemistry and geochronological dating, and to develop analyses of samples left in Peru.
- 7.2.4 To provide office facilities, vehicles of transportation, and to cover safety features for the **CGS** team during their work in Peru under the scope of the project.
- 7.2.5 To jointly build the database of geochemistry and geochronology, mapping together with **CGS**, including data processing, formulation of reports and publication of scientific achievements.
- 7.2.6 To send one (01) geologist to China to carry out the field works in southeastern China for the comparative study between Peruvian Andes and Southeastern China.

7.3 Mutual obligations of the Parties

- 7.3.1 Both parties shall put forward and formulate specific work plan for the cooperative project after full discussion.

7.3.2 Both parties shall commit themselves to carry out jointly field work, sample collection, general research and publication of achievements. Also to send the adequate experts and provide the necessary information to make sure that project development is in accordance with the work plan.

7.3.3 Both parties shall convene non-periodic project meetings as needed by the project development, discuss collaboratively problems existing in the project development and distribution of the work to be carried out.

7.3.4 Both Parties hereby represent that the information and documents acquired in the duration of this Agreement shall be used by **INGEMMET** and **CGS** for publication. The achievements within the scope of this Agreement shall be deemed as public information.

ARTICLE 8: FINANCIAL ARRANGEMENTS

8.1 The cooperation in the field of science & technology between the two organizations achieves the conclusion of this Agreement, which will promote an improvement in the global technical domain, especially for the technical improvement in the Jurisdiction of Peru. The key point of this Agreement is that the finance expenses of either Party will be arranged by each Party respectively, namely each Party will bear its own expenses.

8.2 Each Party shall bear the expenses including accommodation, materials, and international travel expenses, intercity traffic cost, salary, allowance, insurance, subsidy for field work, etc. for its own team members during the implementation of the cooperative project.

8.3 Each Party bears the cost for samples analysis taken place in its own country, respectively.

8.4 The estimated budget allocated by **INGEMMET** for the activities listed in paragraph 5.2 they are scheduled in POI 2017 and provided in the Multi-Year Plan 2017-2019 (Appendix 1).

8.5 The Parties coordinate and decide the payment of other expenses. In the case of **INGEMMET** these are and will be budgeted in annual POI.

ARTICLE 9: ACHIEVEMENTS

The following achievements will be jointly accomplished by both Parties:

9.1 One (01) regional geological map and one (01) technical report formulated for the 20g (Culebras), 20h (Huaraz), 21g (Huarmey) and 21h (Huayllapampa) areas in accordance with the scale of 1:100,000.

- 9.2 One (01) geodatabase data relating to digital geological mapping, geochronology, paleontology and lithogeochemistry.
- 9.3 One (01) report relating comparative study between Peruvian Andes and Southeastern China.

ARTICLE 10: INTELLECTUAL PROPERTY

- 10.1 In furtherance of activities in connection with the implementation of this Agreement, the information provided by either Party shall belong to the information provider, and either Party shall respect the intellectual property of the other Party.
- 10.2 All data, information and achievements of this project, obtained under this agreement shall be jointly owned by both parties, pursuant to clause 7.3.4 of this agreement.

ARTICLE 11: PROJECT COORDINATION

- 11.1 Both parties shall establish a work group, prepare a detailed work plan and an implementation plan, and shall discuss specific cooperation details.
- 11.2 Both parties shall respectively designate one person as project coordinator who shall be in charge of normal communication, communicate suggestions on behalf of his country, negotiate with the other party, exchange information and documents, and organize domestic experts to finish the tasks which are undertaken by each country according to the confirmed plan.
- 11.3 **CGS** Coordinator

Name: Liu Dawen
Senior Geochemist
Director, Division of International Programme
Sci. &Tech. and International Cooperation Department
China Geological Survey
Address: 45 Fuwai Street, Xicheng District, Beijing P.R. China
Post code: 100037
Tel: 86-10-58584660
Fax: 86-10-58584661
E-mail: ldawen@mail.cgs.gov.cn

- 11.4 **INGEMMET** Coordinator

Name: Pedro A. Navarro Colque
Director of the Regional Geological Bureau of INGEMMET
Address: Av. Canadá N° 1470, San Borja,
Post code: Lima 41, Perú
Tel: (511) 618-9800

E-mail: pnavarro@ingemmet.gob.pe

11.5. Functions of coordinators:

- 11.5.1 To establish the work plan of this Agreement, the same that shall be established at the beginning of the Agreement effective period.
- 11.5.2 To verify that all the mutual obligations of the parties are met.
- 11.5.3 To facilitate the implementation of this Agreement.
- 11.5.4 To offer favorable conditions and make the necessary arrangements to ensure an appropriate implementation of the Agreement.
- 11.5.5 To coordinate proper actions for the promotion, monitoring and evaluation of the Project and the activities which need to be carried out under this Specific Agreement.
- 11.5.6 To assess compliance, scope and impact of this Agreement in order to take proper actions when appropriate.
- 11.5.7 To identify and carry out actions to comply with the objective of this Agreement.
- 11.5.8 To follow up progress of this Agreement and inform their respective entities.
- 11.5.9 To coordinate quarterly publication and dissemination of the progress reports and achievements of the study.
- 11.5.10 To coordinate the publication and dissemination of the final report according to the work schedule.
- 11.5.11 Other functions as the parties may establish by mutual agreement through an addenda.

ARTICLE 12: EXCHANGE OF INFORMATION AND PRIORITIES

Methodology for information exchange and priorities shall be established in the respective Work Plan.

ARTICLE 13: CONFIDENTIALITY

By no means, the information exchanged at the beginning and to give viability to this agreement may be transferred by the receiving party to the third parties without the prior written consent of the other party.

ARTICLE 14: NON EXCLUSIVITY

This Agreement shall not prevent the parties from entering into or implementing agreements with similar purposes in different geographical areas, with other legal persons under public or private domestic or foreign organizations, as well as with international organizations aiming at the achieving the research objective of **INGEMMET** or **CGS**.

ARTICLE 15: DURATION OF THE AGREEMENT

This agreement shall enter into force upon its signing by both parties authorities and it will continue until December 31, 2019. It may be extended upon both parties agreement upon receiving a written communication no less than six (06) months in advance.

ARTICLE 16: MODIFICATION, SUSPENSION AND TERMINATION OF THIS AGREEMENT

16.1 Modification

Any modification on provisions of this Agreement shall be made in an appendix, which shall include the periodical appraisal result concluded in the duration of this Agreement and shall be executed through the same procedure and manner as those of this Agreement by both Parties in written form.

16.2 Suspension

- 1) In the event that either Party can't perform its commitments in this Agreement temporarily as a result of an incidental or a force majeure event, the period of performance suspension for the obligations set forth in this Agreement shall solely depend on the duration of such incidental or force majeure event.
- 2) The Party which is unable to perform its obligations shall notify the other Party for suspension of this Agreement and state the reasons.

- 3) The longest duration of such suspension is three (3) months. In the event the causes of such suspension are not settled upon the expiration of such duration, this Agreement will be terminated.

16.3 Termination

This Agreement will be terminated by any of the following reasons of:

- 1) Any breach of this Agreement without any reasonable cause; or
- 2) The failure to perform this Agreement or the failure to perform commitments, as a result of an incidental or a force majeure event and upon the mutual consents of both Parties.

In case of the breach of this Agreement without any reasonable cause, the suffering Party shall notify the other Party with a simple document, and if no response within fifteen (15) working days upon the delivery of such notice, or if such breach isn't remedied in such period, the suffering Party is entitled to deem this Agreement has been terminated.

Notwithstanding the foregoing, this Agreement may be terminated by an agreement between both Parties, and such termination shall be in writing and the conclusion procedure of this Agreement shall be abided by, or in the event that either Party proposes to terminate this Agreement without any explanation, such Party shall notify the other Party with a thirty (30) working days prior written notice.

Upon the termination of this Agreement, the unaccomplished commitments are deemed as unnecessarily to perform, excluding the case of an incidental or a force majeure event, and the on-going activities shall be accomplished. Both Parties shall take any necessary measure to prevent or reduce its losses or the losses incurred by any third party at its best efforts.

ARTICLE 17: SUPERVENING EVENTS

If for reasons of force majeure, either party is unable to comply with the obligations under this Agreement, this shall be communicated by written notice to the other party within a period of ten (10) calendar days thereof, providing the details related to the event. The acts of God or force majeure shall release the parties from performance of obligations under this Agreement during the period of time that this situation persists. In case the event does not have a prompt solution, the parties are entitled to terminate this Agreement by mutual consent, as stipulated in Article 16.

ARTICLE 18: ADDRESSES AND NOTICES

All communications in connection with this Specific Agreement to be exchanged between the parties shall be considered validly made if they are sent to the addresses set forth in the introductory paragraph of this Agreement.

Any modification to the above mentioned addresses shall be notified to the other party no less than seven (07) working days in advance of such modification, otherwise all the communications made to the above mentioned addresses in the introduction of this Agreement shall be considered validly made.

ARTICLE 19: SETTLEMENT OF DISPUTES

Any dispute, controversy or issues not provided in this Specific Agreement or which might be generated in its interpretation or application shall be solved by looking for a direct understanding between the parties based on good faith and common intention. In such case, each party shall appoint its representative.

Such appointment shall be informed to the other party. In the event of controversy persists, it may be solved by arbitration, therefore, each party will appoint one arbitrator and a third arbitrator will be appointed by them.

In case of any controversy to be solved, both the Chinese, Spanish and English version of this Agreement shall be valid.

ARTICLE 20: NO TRANSFER

Neither party may assign any of its rights under this agreement, nor shall it assign its position in this agreement to any other third party.

ARTICLE 21: OFFICIAL LANGUAGES

This agreement and the documents to be signed during its implementation shall be written in official language Chinese, Spanish and English. The documents to be written in English shall be used for communication and additional interpretation purposes for a better performance of the parties.

ARTICLE 22: NON-BINDING CLAUSE

22.1 The parties concur into this Agreement by their own decision. Likewise, they can decide to end it, being necessary only to send a written notice to the other party pursuant to this non-binding clause. The Parties shall adopt the necessary measures to prevent or reduce any harm to themselves or to any third party.

22.2 Both parties agree that this Technical Cooperation Agreement can be modified by mutual consent as an addendum. In that case due procedure steps should be followed.

ARTICLE 23: FINAL PROVISIONS

23.1 The decisions adopted and the summaries jointly made during the working meetings or coordination meetings and collaboratively convened by both parties, should conform to this agreement.

23.2 This agreement becomes effective since the date on which the representatives of the cooperation parties sign and approve this agreement.

This agreement is signed on April 21st in city of Lima, Peru, in six (06) equally valid copies, two in English, two in Spanish and two in Chinese. Each party will keep one copy in each language respectively. If doubts or controversies arise, the English version will prevail.


For:
Geological, Mining & Metallurgical
Institute (INGEMMET)



Mr Oscar Hubert Bernuy Verand
President

City: LIMA - PERU
Date: 21-04-2017

For:
China Geological Survey (CGS)



Mr WANG YAN
Vice president

City: LIMA - PERU
Date: 21-04-2017

APPENDIX 1

REGIONAL GEOLOGY BUREAU - POI2017						
Project POI	Quantity	Budget item	Fieldworks	Days	Amount	Subtotal
GR17F	2	Diem geologist	1	60	S/ 320.00	S/ 38,400.00
	2	Fuels	1	60	S/ 3,000.00	S/ 6,000.00
	2	Air tickets	1	60	S/ 700.00	S/ 1,400.00
	1	Rental trucks	1	60	S/ 500.00	S/ 30,000.00
	50	Analysis services lithochemical	1	-	S/ 100.00	S/ 5,000.00
	1	Tolls and parcels	1	-	S/ 200.00	S/ 200.00
	1	Telephony	1	-	S/ 30.00	S/ 30.00
	1	Travel Geologist for comparative study: International Air ticket Accomodation and feeding	1	15	S/ 17,500 S/ 26,250	S/ 43,750.00
	TOTAL					

REGIONAL GEOLOGY BUREAU - POI2018						
Project POI	Quantity	Budget item	Fieldworks	Days	Amount	Subtotal
GR17F	2	Diem geologist	1	60	S/ 320.00	S/ 38,400.00
	2	Fuels	1	60	S/ 3,000.00	S/ 6,000.00
	2	Air tickets	1	60	S/ 700.00	S/ 1,400.00
	1	Rental trucks	1	60	S/ 500.00	S/ 30,000.00
	50	Analysis services lithochemical	1	-	S/ 100.00	S/ 5,000.00
	1	Tolls and parcels	1	-	S/ 200.00	S/ 200.00
	1	Telephony	1	-	S/ 30.00	S/ 30.00
	1	Travel Geologist for comparative study: International Air ticket Accomodation and feeding	1	15	S/ 17,500 S/ 26,250	S/ 43,750.00
TOTAL						S/ 124,780.00

REGIONAL GEOLOGY BUREAU - POI2019						
Project POI	Quantity	Budget item	Fieldwork s	Days	Amount	Subtotal
GR17F	2	Diem geologist	1	60	S/ 320.00	S/ 38,400.00
	2	Fuels	1	60	S/ 3,000.00	S/ 6,000.00
	2	Air tickets	1	60	S/ 700.00	S/ 1,400.00
	1	Rental trucks	1	60	S/ 500.00	S/ 30,000.00
	50	Analysis services lithochemical	1	-	S/ 100.00	S/ 5,000.00
	1	Tolls and parcels	1	-	S/ 200.00	S/ 200.00
	1	Telephony	1	-	S/ 30.00	S/ 30.00
	TOTAL					

REGIONAL GEOLOGY BUREAU			
Year	Project POI	Aims	Budget (S/.)
2017	GR17F	A (01) regional geological map of the area Culebras (20g) and Huaraz (20h) scale of 1: 100,000.	S/ 124,780.00
		A (01) preliminary report 1 about to the comparative study between the Peruvian Andes and Southeastern China	
		A (01) geodatabase on digital geological mapping, geochronology, paleontology and geochemistry	
2018	GR17F	A (01) regional geological map of the area Huarmey (21g) and Huayllapampa (21h) scale 1:100,000	S/ 124,780.00
		A (01) preliminary report 2 about to the comparative study between the Peruvian Andes and Southeastern China	
		A (01) geodatabase on digital geological mapping, geochronology, paleontology and geochemistry	
2019	GR17F	One (01) final regional geological map and one (01) technical report corresponding to the areas of Culebras (20g), Huaraz (20h), Huarmey (21g) and Huayllapampa (21h) according to the scale of 1: 100,000	S/ 81,030.00
		A (01) final report related to the comparative study of the Peruvian Andes and Southeastern China	
		A (01) final geodatabase on digital geological mapping, geochronology, paleontology and geochemistry	