

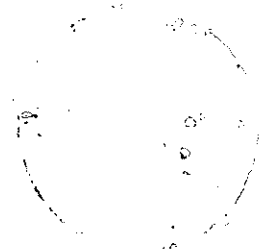
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Economic Commission for Latin America



CLASSIFICATION OF MINERAL PROJECT PROPOSALS
BY COUNTRIES */

*/ This document classifies by countries, the mineral project proposals of document E/CEPAL/G.1207, "Report of the Meeting on Horizontal Cooperation for the Development of the Mineral Resources of Latin America" (Bogota, Colombia, 14-18 June 1982), and has been prepared for the "Primeras Jornadas de la Minería Iberoamericana", Quito, Ecuador, 25-27 January 1983.

83-1-43

1. $\frac{1}{x^2} = x^{-2}$
 $\frac{d}{dx} x^{-2} = -2x^{-3} = -\frac{2}{x^3}$

2. $\frac{d}{dx} \ln(x) = \frac{1}{x}$
 $\frac{d}{dx} \ln(x^2) = \frac{1}{x^2} \cdot 2x = \frac{2}{x}$

3. $\frac{d}{dx} \sin(x) = \cos(x)$
 $\frac{d}{dx} \cos(x) = -\sin(x)$

4. $\frac{d}{dx} e^x = e^x$
 $\frac{d}{dx} e^{-x} = -e^{-x}$
 $\frac{d}{dx} e^{2x} = 2e^{2x}$

Contents

	<u>Page</u>
<u>OFFERS OF BILATERAL OR MULTILATERAL PROJECTS</u>	
Argentina	1
Bolivia	1
Brazil	2
Colombia	4
Costa Rica	4
Dominican Republic	4
Ecuador	4
Guatemala	4
Jamaica	5
Mexico	5
Peru	5
<u>NEEDS OF BILATERAL OR MULTILATERAL PROJECTS</u>	
Argentina	8
Bolivia	8
Brazil	9
Colombia	10
Costa Rica	10
Dominican Republic	11
Ecuador	11
Guatemala	11
Guyana	12
Honduras	13
Jamaica	14
Panama	14
Paraguay	15
Peru	15

The first part of the document discusses the importance of maintaining accurate records of all transactions. It is essential for the company to have a clear and concise record of all financial activities, including sales, purchases, and expenses. This information is used to generate financial statements and to provide a basis for tax reporting.

The second part of the document describes the various methods used to collect and analyze data. This includes the use of surveys, interviews, and focus groups to gather information from customers and employees. The data is then analyzed to identify trends and patterns, which can be used to inform business decisions.

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OFFERS OF BILATERAL OR MULTILATERAL PROJECTS

Offering country	Offers	Requesting country
ARGENTINA	- Joint geological mining research in border regions.	Bolivia, Chile
	- Geological mapping, stratigraphic and paleontological studies.	Guatemala, Guyana, Peru.
	- Experience in remote sensors, photointerpretation.	Guatemala.
	- Studies of clay deposits and prospecting of phosphatic deposits.	Guatemala.
	- Studies of ultrabasic rocks and their associated mineralization, petrology of igneous rocks (hydrothermal alteration).	No interested countries.
	- Mineralogy, calcography, X-rays, etc.	Guatemala.
BOLIVIA	- Internationalization of the Austrian-Bolivian Mining School, which trains mining professionals at the middle technical level.	Brazil, Ecuador, Guatemala, Guyana, Honduras, Panama,
	- Technical assistance in the interpretation of remote sensor studies as applied to the study of natural resources.	Colombia, Guatemala, Panama.

Offering country	Offers	Requesting country
BOLIVIA	- Technical assistance in the mining of veins of tin, antimony, lead, silver, and zinc in the geological mining and metallurgical field, according to a programme of work.	Brazil, Guatemala, Honduras, Peru.
	- Technical assistance in concentration and beneficiation of tin, lead, silver and zinc under the auspices of the "Instituto de Investigación Minero-Metalúrgica" (IIMM).	Mexico, Guatemala, Honduras.
	- Technical assistance in metallurgical processes and smelting of tin-antimony ore.	Honduras.
BRAZIL	- Project management: feasibility, basic and detailed engineering, programming, logistic, costs, construction, testing and putting into operation.	Colombia.
	- Personnel training with assistantships in Brazilian public agencies and public and private mining and metallurgical industries.	Guatemala, Guyana, Honduras.
	- Exchange of experiences on the setting up of systems of statistical information and information on the economics of mining and metallurgical, a cadastre of mining and administration of mineral concessions with technical apprenticeships in the National Department of Mineral Production (DNPM), the Council of Non-Ferrous Metals, Iron and Steel (CONSIDER), and representative bodies of producers.	Colombia, Guatemala, Honduras, Peru.

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Offering country	Offers	Requesting country
BRAZIL	- Participation of Latin American technicians in courses sponsored by DNPM, the Brazilian Mining Institute (IBRAM) and CONSIDER.	Colombia, Guatemala, Honduras, Peru.
	- Technical assistance for the undertaking of geological surveys and prospecting encompassing aspects such as geophysics, drilling, chemical analysis and the evaluation of reserves.	Guatemala.
	- Integrated natural resource surveys based on radar images and remote sensors with the elaboration of geological, geomorphological, petrological, vegetational, potential land use and pluviometric mapping.	Guatemala.
	- Technical assistance in the concentration and beneficiation of iron and non-ferrous (aluminium, zinc, copper, nickel, tin, magnesium, chromium, titanium, niobium, wolfran, tantalium and manganese) metallic minerals, and non-metallic minerals (fluorine, coal and phosphorous).	Guatemala.
	- Technical assistance for the creation and development of organizations for personnel training with regard to the concentration and beneficiation of minerals.	No interested countries.
	- Technical assistance for designing and constructing fertilizer-producing plants.	No interested countries.
	- Technical assistance in metallurgical and smelting processes and projects of iron, manganese, tin, lead, zinc and copper.	No interested countries.

Offering country	Offers	Requesting country
COLOMBIA	- Exchange of information and transfer of experience in the exploration, evaluation and characterization of coal.	Peru.
COSTA RICA	- The possibility of training geologists in the Escuela Centroamericana de Geología of the University of Costa Rica.	No interested countries.
DOMINICAN REPUBLIC	- Elaboration of a project on a Geological Mining and Petroleum Documentation Center <u>‡</u> /. This Center could serve as a model to other Latin American countries.	
ECUADOR	- Exchange of information and technical assistance for the drawing-up of geological maps.	Guatemala, Honduras, Panama.
	- Exchange of information and technical assistance for the study of volcanic phenomena.	Colombia, Panama.
GUATEMALA	- Training of middle-level technicians in geological exploration.	No interested countries.
	- Exchange of geological and technical information.	No interested countries.

‡/ Project presented after the Bogota meeting.

Offering country	Offers	Requesting country
JAMAICA	- Training in exploration, evaluation of reserves and planning of bauxite mines.	No interested countries.
	- Advisory assistance in mining legislation, the granting of concessions, and occupational safety.	No interested countries.
	- Advisory assistance in methods of rehabilitating worked areas.	No interested countries.
	- Chemical and mineralogical tests for bauxite.	No interested countries.
MEXICO	- Technical assistance in: general geological exploration; interpretation of satellite images and photogeology; air photographic surveys in black, white and colour; air and land geophysics by all methods; geochemical exploration studies; planning of mining enterprises; evaluation of metallic and non-metallic mineral deposits; development of small- and medium-scale mining; design and operation of all types of plants for beneficiation and industrialization of metallic and non-metallic minerals, fertilizer plants, and mine operation of all kinds.	No interested countries.
PERU	- Technical assistance to countries of the region to advise them on the establishment of bodies designed to promote national mining: geological, mining and metallurgical research centres, mining development banks, corporations to exploit and market minerals, etc.	Colombia, Guatemala, Honduras.

Offering country	Offers	Requesting country
PERU	<ul style="list-style-type: none"> - Technical assistance to countries for development in depressed areas and areas in which mining can play a major role as an activating factor in the economy of the region. 	Panama.
	<ul style="list-style-type: none"> - Advisory assistance to countries for the establishment of bodies fundamentally designed to develop small- and medium-scale mining with special emphasis on exploration for and beneficiation of polymetallic and auriferous minerals. 	Brazil, Colombia, Ecuador, Guatemala, Honduras.
	<ul style="list-style-type: none"> - Organization by Peru of a School for Advanced Mining Studies, aimed at training, by means of different disciplines, Latin American professionals who already have some experience in the mining field. This school could be largely made up of professors from the region. 	Colombia, Costa Rica, Guatemala, Honduras, Panama.
	<ul style="list-style-type: none"> - Technical assistance to schools of higher mining education in some countries of the region (especially Central America and the Caribbean) in order to improve the level of some courses, implement new professorships or offer post-graduate courses. 	Guyana.
	<ul style="list-style-type: none"> - Advisory assistance and consultation in the management of geological mining and metallurgical projects: feasibility studies, basic and detailed engineering, supervision of construction, planning and programming, cost control, logistics, testing and putting into operation. 	No interested countries.

Offering country	Offers	Requesting country
PERU	<ul style="list-style-type: none"> - Technical assistance in the evaluation of mines, geological surveys, prospecting, exploitation and beneficiation of metallic minerals (mono- and polymetallic) and economic and financial studies in the mining and metallurgical field. - Development of engineering in lead, zinc and copper refineries. - Advisory assistance in the planning of geological-mining-metallurgical development at the national level, mining legislation, statistics, trade information and management planning. 	<p>Guatemala.</p> <p>No interested countries.</p> <p>Guatemala.</p>

NEEDS OF BILATERAL OR MULTILATERAL PROJECTS

Requesting country	Needs	Offering country
ARGENTINA	- Assistance in stages of analysis of infrastructure, pre-feasibility and feasibility studies in large projects.	Bolivia, Spain (Coal Division, National Institute on Industry-INI).
BOLIVIA	- Technical assistance for a feasibility study and transfer of technology on the peninsula coal of the Copacabana region, from the highly specialized countries.	Colombia, Mexico, Spain (Coal Division, National Institute on Industry-INI).
	- Joint regional geological studies in regions bordering on neighbouring countries of the region.	Argentina, Brazil, Peru, Spain (Coal Division, National Institute on Industry-INI).
	- Technical assistance in geo-technology for the basin of the city of La Paz.	Brazil, Mexico, Spain (Coal Division, National Institute on Industry-INI).
	- Technical assistance in the prospecting, exploiting, processing and concentrating of radioactive minerals.	Spain (Coal Division, National Institute on Industry-INI).
	- Technical assistance in recommending activities which need to be carried out in order to develop programmes for mining expansion and development.	Mexico, Peru, Spain (Coal Division, National Institute on Industry-INI).
	- Technical assistance in the formulation of programmes for the elaboration of feasibility projects, and periodic supervision of their implementation.	Brazil, Peru, Spain (Coal Division, National Institute on Industry-INI).

Requesting country	Needs	Offering country
BOLIVIA	- Technical assistance in the selection of equipment and machinery for the different phases of exploitation.	Brazil, Mexico, Peru, Spain (Coal Division, National Institute on Industry-INI).
	- Technical assistance in research projects on deposits of phosphoric rock.	Brazil, Colombia, Mexico, Spain (Coal Division, National Institute on Industry-INI).
	- Technical assistance in industrializing non-ferrous metallic products.	Brazil, Mexico, Peru.
BRAZIL	- Small-scale mining technology.	Mexico, Peru, Spain (Coal Division, National Institute on Industry-INI).
	- Processing of complex minerals.	Mexico, Peru, Spain (Coal Division, National Institute on Industry-INI).
	- Extraction, concentration and metallurgy in large-scale copper projects.	Chile, Peru, Spain (Coal Division, National Institute on Industry-INI).
	- Integration of regional technologies with Brazilian engineering.	No interested countries.

Requesting country	Needs	Offering country
BRAZIL	- Development of underground mining equipment	Mexico, Peru, Spain (Coal Division, National Institute on Industry- INI).
COLOMBIA	<ul style="list-style-type: none"> - Implementation of a system of information on the mining and metallurgical sector. - Technical assistance for the use of direct reduction methods for iron ore. - Advisory assistance in the entire process of development of porphyric copper deposits, including marketing. - Advisory assistance in the entire process of development of bauxite deposits, including marketing. 	<p>Mexico, Peru.</p> <p>Brazil, Mexico.</p> <p>Chile, Peru.</p> <p>Brazil, Guyana.</p>
COSTA RICA	- Technical assistance in the field of mining economics, mineral and metallurgical engineering as applied principally to the development of precious minerals (gold and silver), ferrous and non-ferrous minerals (aluminium, copper, lead, zinc, manganese, titanium, chromium, nickel) and industrial non-metals.	Spain (Coal Division, National National Institute on Industry-INI).

Requesting country	Needs	Offering country
COSTA RICA	- Technical assistance for university instruction in the field of mining and mineral geology.	No interested countries.
DOMINICAN REPUBLIC	- Technical assistance for a study of a Dominican-Haitian geological or stratigraphic correlation, joint project between geologists from both countries. <u>A/</u>	Haiti.
	- Technical assistance through the offer of scholarships for young professionals to strengthen their knowledge by holding assistantships in the mining countries of Latin America, especially in regard to the exploitation of both underground and open pit mines.	Honduras, Mexico, Peru.
ECUADOR	- Technical assistance for the development of the small- and medium-scale mining of metals and non-metals.	Mexico, Peru, Spain (Coal Division, National Institute on Industry- INI).
GUATEMALA	- Advisory assistance and training for the development of exploration units.	Peru.
	- Technical and legal assistance in the promotion of small-scale mining in co-operatives or other operations.	Spain (Coal Division, National Institute on Industry- INI).
	- Obtaining of scholarships for university and post-graduate studies in professions related to mining.	Mexico.

A/ Project presented after the Bogota meeting.

Requesting country	Needs	Offering country
GUATEMALA	- Technical assistance in the prospection of metallic and non-metallic mineral deposits.	Spain (Coal Division, National Institute on Industry-INI).
	- Technical assistance for the development of gold placers.	Spain (Coal Division, National Institute on Industry-INI).
	- Legal assistance in the area of mining taxation systems.	No interested countries.
	- Technical assistance in the management, purchase and operation of equipment, laboratory analysis and geological evaluation.	Spain (Coal Division, National Institute on Industry-INI).
	- Assistance in evaluating metallic and non-metallic mineral deposits with the aid of photogrammetry, in the compilation of technical geological maps, in the use of X-rays and quantitative analysis for the study of minerals, and in the fields of stratigraphy and lithology.	No interested countries.
GUYANA	- Technical and economic assistance in the mineral exploration and development of the Barama-Cuyuni sector of the Barama Mazaruni Belt.	Brazil, Mexico, Peru, Spain (Coal Division, National Institute on Industry-INI).
	- Technical and economic assistance in relation to project proposals for gold prospecting.	Mexico, Spain (Coal Division, National Institute on Industry-INI).

Requesting country	Needs	Offering country
GUYANA	- Technical and economic assistance for kaolin development in Guyana	Brazil, Mexico
	- Technical assistance for the development of manganese deposits.	Brazil, Mexico.
	- Technical assistance for lapidary rationalization.	Mexico.
HONDURAS	- Technical assistance for the reactivation of abandoned silver, zinc and gold mines.	Mexico, Peru, Spain (Coal Division, National Institute on Industry-INI).
	- Technical assistance for the development, exploitation and marketing of gold placers.	Peru, Spain (Coal Division, National Institute on Industry-INI).
	- Evaluation of geological mining reports to select the most feasible ones, in technical and economic terms.	Mexico, Peru, Spain (Coal Division, National Institute on Industry-INI).
	- Need for training of professional and technical manpower resources.	Bolivia, Mexico, Spain (Coal Division, National Institute on Industry-INI).

Requesting country	Needs	Offering country
JAMAICA	- Technical assistance for the diversification of bauxite and alumina markets.	No interested countries.
	- Technical assistance in the development of the mineral industry, encompassing periodic training assistantships, especially in relation to the processing of limestone, marble, gypsum and clay.	No interested countries.
	- Evaluation of the feasibility of producing aluminium products.	No interested countries.
PANAMA	- Advisory assistance in the planning and development of mining towns, with special emphasis on the social impact and the integral development of the affected region.	Peru, Spain (Coal Division, National Institute on Industry-INI).
	- Technical assistance for a systematic and complete survey of the mineral resources of the country to find out its mining potential.	Brazil, Mexico, Peru, Spain (Coal Division, National Institute on Industry-INI).
	- Technical assistance for the organization and promotion of small-scale mining through the formation of co-operatives, or similar systems, especially to study and exploit alluvial gold, ornamental and semi-precious stones.	Mexico, Peru, Spain (Coal Division, National Institute on Industry-INI).
	- Training of technical personnel of mines in operation.	Mexico, Peru, Spain (Coal Division, National Institute on Industry-INI).

Requesting country	Needs	Offering country
PARAGUAY	- National geological mapping	Argentina, Brazil, Mexico.
PERU	- Assistance in the definition of coal mining policies, legislation, prospecting, exploration and exploitation, uses and applications of coal on small, medium and large scales.	Colombia, Spain (Coal Division, National Institute on Industry- INI).