

SCOPE OF WORK

FOR

THE MINERAL EXPLORATION

IN

PACHAPIRIANA AREA, REPUBLIC OF PERU

AGREED UPON BETWEEN

INSTITUTO GEOLOGICO MINERO Y METALURGICO

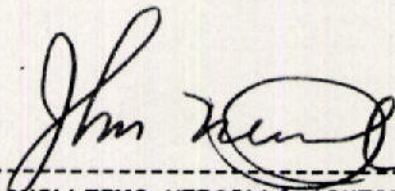
AND

THE JAPAN INTERNATIONAL COOPERATION AGENCY

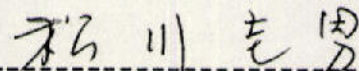
THE METAL MINING AGENCY OF JAPAN

Signed at Lima

August 15, 1988



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JUAN GUILLERMO HERCILLA GONZALES  
DIRECTOR EJECUTIVO  
INSTITUTO GEOLOGICO MINERO Y  
METALURGICO



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YOSHIO MATSUKAWA  
LEADER OF THE JAPANESE PRELIMINARY  
SURVEY TEAM  
THE JAPAN INTERNATIONAL COOPERATION  
AGENCY AND THE METAL MINING AGENCY  
OF JAPAN

## I. INTRODUCTION

In response to the request of the Government of the Republic of Peru (hereinafter referred to as "Peru"), the Government of Japan has decided to conduct mineral exploration in PACHAPIRIANA AREA (hereinafter referred to as "the Survey") in accordance with the Agreement on Technical Cooperation between the Government of Japan and of Peru signed at Lima on 20th August 1979 (hereinafter referred to as "the Agreement").

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the conduct of technical cooperation programmes of the Government of Japan, and the Metal Mining Agency of Japan (hereinafter referred to as "MMAJ") the official agency for the conduct of technical cooperation for mineral exploration in joint operation with JICA, will undertake the Survey, in close cooperation with Instituto Geológico Minero y Metalúrgico (hereinafter referred to as "INGEMMET"), the official institution belongs to the Ministerio de Energía y Minas of Perú, responsible for the National Geological Map, conduct mineral exploration programmes international cooperation in geoscientific research and technical projects.

The present document sets forth the scope of work with regard to the Survey.

## II. OBJECTIVE OF THE SURVEY

The main objective of the Survey is to explore and to assess the mineral potential of the survey area.

### III. OUTLINE OF THE SURVEY

1. The Survey will be carried out within a period of three years from 1988.
2. The region of PACHAPIRIANA to be surveyed covers an area of 2,820 square kilometers as shown on the location map attached hereto.
3. The Survey will be carried out by means of geological, geochemical and geophysical survey and drilling.
4. Processing and compilation of the data regarding the results of the Survey will be made in Japan.
5. At the end of each stage of the Survey, target areas will be selected from the initial area for further detailed survey.
6. The detailed plan for the Survey will be discussed and determined by JICA, MMAJ and INGEMMET.

### IV. REPORTS

JICA and MMAJ shall prepare and submit 30 copies annual and final reports (in English) to the Government of Peru.

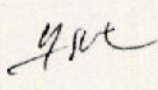

### V. UNDERTAKINGS OF THE GOVERNMENT OF PERU

The Government of Peru shall accord privileges, immunities and other benefits to the Japanese survey team in accordance with the Agreement.

1. To facilitate smooth conduct of the Survey, the Government of Peru shall take necessary measures :

- (1) to secure the safety of the survey team.
- (2) to permit the members of the Japanese survey team to enter, leave and sojourn in Peru for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees.
- (3) to exempt the members of the Japanese survey team from taxes, duties and other charges on equipment, machinery and other material brought into Peru for the conduct of the Survey.
- (4) to provide the necessary facilities to the Japanese survey team for unrestricted re-export of equipment, and machinery brought into Peru for the conduct of the Survey.
- (5) to exempt the members of the Japanese survey team from income tax and charges of any kind imposed on or in connection with any emolument or allowance paid to the members of the Japanese survey team for their services in connection with the conduct of the Survey.
- (6) to provide necessary facilities to the Japanese survey team for remittance as well as utilization of the funds introduced into Peru from Japan in connection with the conduct of the Survey.
- (7) to secure permission for entry into the Survey area for execution of the field survey.
- (8) to secure permission for the survey team to take all data, documents and specimen (including photographs) related to the Survey out of Peru to Japan.
- (9) to provide medical services as needed. Its expenses will be chargeable on members of the Japanese survey team.

- (10) to secure permission to use walkie-talkies and other wireless telecommunications for execution of the field survey.
- (11) to provide services of liaison staff, local guides, laborers, drivers etc., required for the Survey, the cost of which will be borne by the Japanese survey team.
2. The Government of Peru shall bear claim, if any arises against the members of the Japanese survey team resulting from, occurring in the course of, or otherwise connected with the discharge of their duties in the conduct of the Survey, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Japanese survey team.
3. INGEMMET shall act as counterpart agency to the Japanese survey team and also coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth conduct of the Survey.
4. INGEMMET shall, at its own expense, provide the Japanese survey team with the followings, in cooperation with other relevant organizations.
- (1) available data and information related to the Survey.
- (2) counterpart personnel including one geologist to work for the Survey as a head of the Peruvian counterpart personnel.
- (3) suitable office space with the necessary equipment in Lima.
- (4) credentials or identification cards.

## VI. UNDERTAKING OF JICA AND MMAJ

For the conduct of the Survey, JICA and MMAJ shall take the following measures :

1. to dispatch, at its own expense, the survey team to Peru.
2. to provide the equipment and the machinery for the Survey at the request of the Government of Peru.
3. to give consideration to accept one or more members of Peru vian counterpart personnel for analysis and discussion which will be conducted in Japan.
4. to pursue technology transfer to the Peruvian counterpart per sonnel in the course of the Survey.

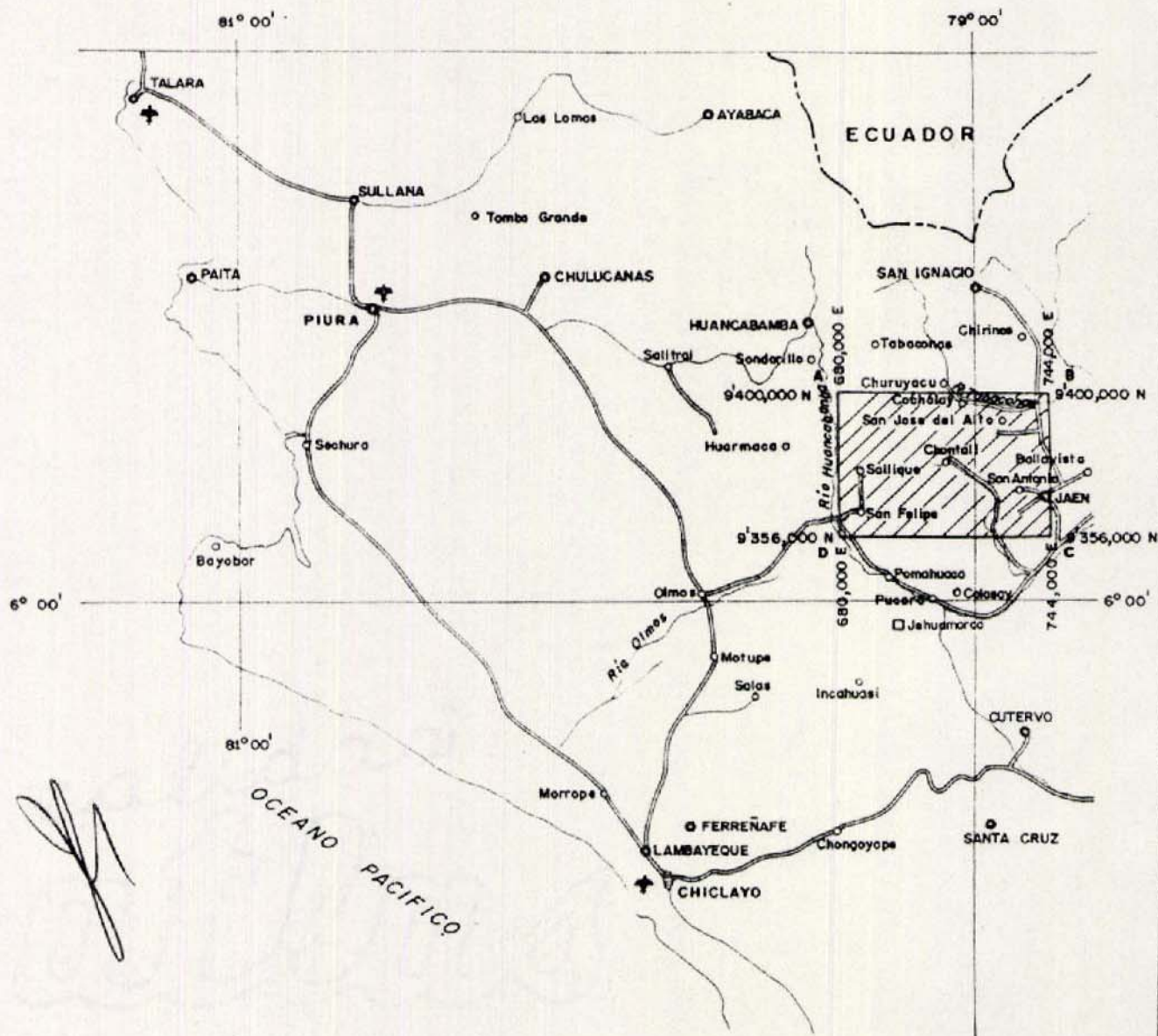
#### VII. CONSULTATION

JICA, MMAJ and INGEMMET shall consult with each other in respect of any matter that may arise from or in connection with the Sur vey.

The scope of work is prepared on both Spanish and English, in case doubts arise in interpretation, the latter text will be consulted.

*YHC*











INDEX MAP

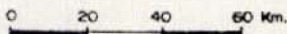


LEGEND

-  PACHAPIRIANA Survey Area
-  Capital City of the department
-  City town
-  Road
-  River
-  Airport

LOCATION MAP OF THE SURVEY AREA

ESCALA : 1 / 2'000,000



*Handwritten signature or initials.*

TENTATIVE PLAN FOR MINERAL EXPLORATION PROJECT

IN PACHAPIRIANA AREA

<b>PHASE</b>	<b>PHASE I (1988-1989)</b>	Investigation of the results of PHASE I and decision making for the next phase.	<b>PHASE II (1989-1990)</b>	Investigation of the results of PHASE III and decision making for the next phase.	<b>PHASE III (1990-1991)</b>
<b>AREA</b>	2,820 Km <sup>2</sup>		Km <sup>2</sup>		Km <sup>2</sup>
<b>PURPOSE</b>	<ul style="list-style-type: none"> <li>- Regional Prospecting and selection of target areas</li> <li>- Detailed prospecting in a target areas</li> </ul>		<ul style="list-style-type: none"> <li>- Detailed prospecting in mineralized areas</li> <li>- Selection of the most promising area</li> <li>- Confirmation of the existence of ore</li> </ul>		<ul style="list-style-type: none"> <li>- Confirmation of the existence of ore</li> <li>- Evaluation of the deposits</li> </ul>
<b>SURVEY METHOD</b>	<ul style="list-style-type: none"> <li>- Geological and geochemical prospecting</li> <li>- LANDSAT data analysis</li> <li>- Geophysical prospecting</li> </ul>	<ul style="list-style-type: none"> <li>- Detailed Geological and Geochemical prospecting</li> <li>- Geophysical prospecting</li> <li>- Drilling</li> </ul>	<ul style="list-style-type: none"> <li>- Detailed Geological Prospecting</li> <li>- Drilling</li> </ul>		

In case of promising

In case of promising

The plan described above can only be performed subject to official approval of the Japanese budget to be settled and is subject to change.



**MINUTES OF MEETING**  
**ON**  
**THE SCOPE OF WORK FOR THE MINERAL**  
**EXPLORATION IN PACHAPIRIANA AREA**

1. In response to the request of the Government of Peru, the preliminary survey team of JICA and MMAJ visited Peru from August 7 to 17 1988 to discuss with INGEMMET on the Scope of Work for the Mineral Exploration in Pachapiriana area.  
Both sides exchanged their views concerning the draft of Scope of Work and discussed about the survey plan.
2. The Scope of Work was signed on August 15 1988 between Ing. Juan Guillermo Hercilla Gonzáles, Executive Director of INGEMMET and Mr. Yoshio Matsukawa, leader of the Japanese preliminary survey team of JICA and MMAJ.
3. Both sides agreed upon the survey plan as defined in the "PLAN OF THE MINERAL EXPLORATION IN PACHAPIRIANA AREA (TENTATIVE)" attached hereto.
4. Regarding the concession in the project area, INGEMMET has compromised not to admit new mining concession and not to carry out new mineral exploration project with foreign country until the expiration of cooperative mineral exploration in Pachapiriana area.
5. INGEMMET will provide 4 vehicles including drivers for the survey in PHASE 1, and vehicles for PHASE 2 and 3 will be discussed by both

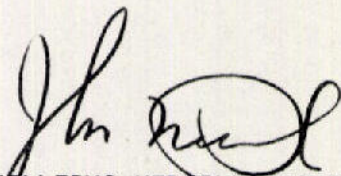


sides. The cost of fuel will be borne by the Japanese survey team. If more vehicles are required in PHASE 1, the Japanese survey team will lease them.

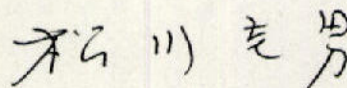
6. INGEMMET will inform the members of the survey team of any existing risk in the survey area (take any measures deemed necessary to secure the safety of members of the survey team). The communication network between survey team and INGEMMET attached hereto.
7. The Scope of Work and the Minutes of Meeting has been prepared in both Spanish and English. In case any doubt arises as to the interpretation, the English text will be consulted.

Signed at Lima

15 August, 1988



JUAN GUILLERMO HERCILLA GONZALES  
DIRECTOR EJECUTIVO  
INSTITUTO GEOLOGICO MINERO  
Y METALURGICO



YOSHIO MATSUKAWA  
LEADER OF THE JAPANESE PRELIMINARY  
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**PLAN OF THE MINERAL EXPLORATION IN  
PACHAPIRIANA AREA (TENTATIVE)**

**1. SURVEY METHOD (PHASE 1)**

- (1) LANDSAT image analysis ----- about 2,820 Km<sup>2</sup>  
(False color image 4,5,7, lineation analysis,  
if possible including hydrothermal alterat  
tion analysis by Japanese side)
- (2) Semi-detailed geological  
and geochemical survey ----- about 250 Km<sup>2</sup>  
(Some area selected by the existing  
geological, geochemical data)
- (3) Detailed geological and ----- about 20 Km<sup>2</sup>  
geochemical survey  
(Some area selected by the results of  
LANDSAT data analysis and existing  
geological, geochemical data)
- (4) Geophysical survey ----- about 20 Km<sup>2</sup>  
(CSAMT method etc. Same area of (3) )
- (5) Analysis and interpretation
  - 1) Chemical analysis for the geochemical samples.
  - 2) Compilation and evaluation of the past survey.
  - 3) Chemical analysis for representative rocks etc.
  - 4) X ray analysis for altered rocks.
  - 5) If possible age-determination for intrusive or/and altered rocks.
  - 6) Interpretation and annual report making.

*YAK*

*PM*

2. FIELD SURVEY TEAM (PHASE 1)

	Japanese side	Peruvian side
*Geologist-----	3 or 4 persons	3 or 4 persons
*Geophysicist-----	3 persons	2 persons
(Total)	6 or 7 persons	5 or 6 persons

3. PERIOD OF FIELD SURVEY (PHASE 1)

About 3 months (from September to December 1988)

(\*LANDSAT data analysis: September-October)

\*Geological and Geochemical Survey :September-December

\*Geophysical survey :November-December

4. PROVISION OF EQUIPMENT

The Japanese side will provide the necessary equipment and machinery for this project to INGEMMET.

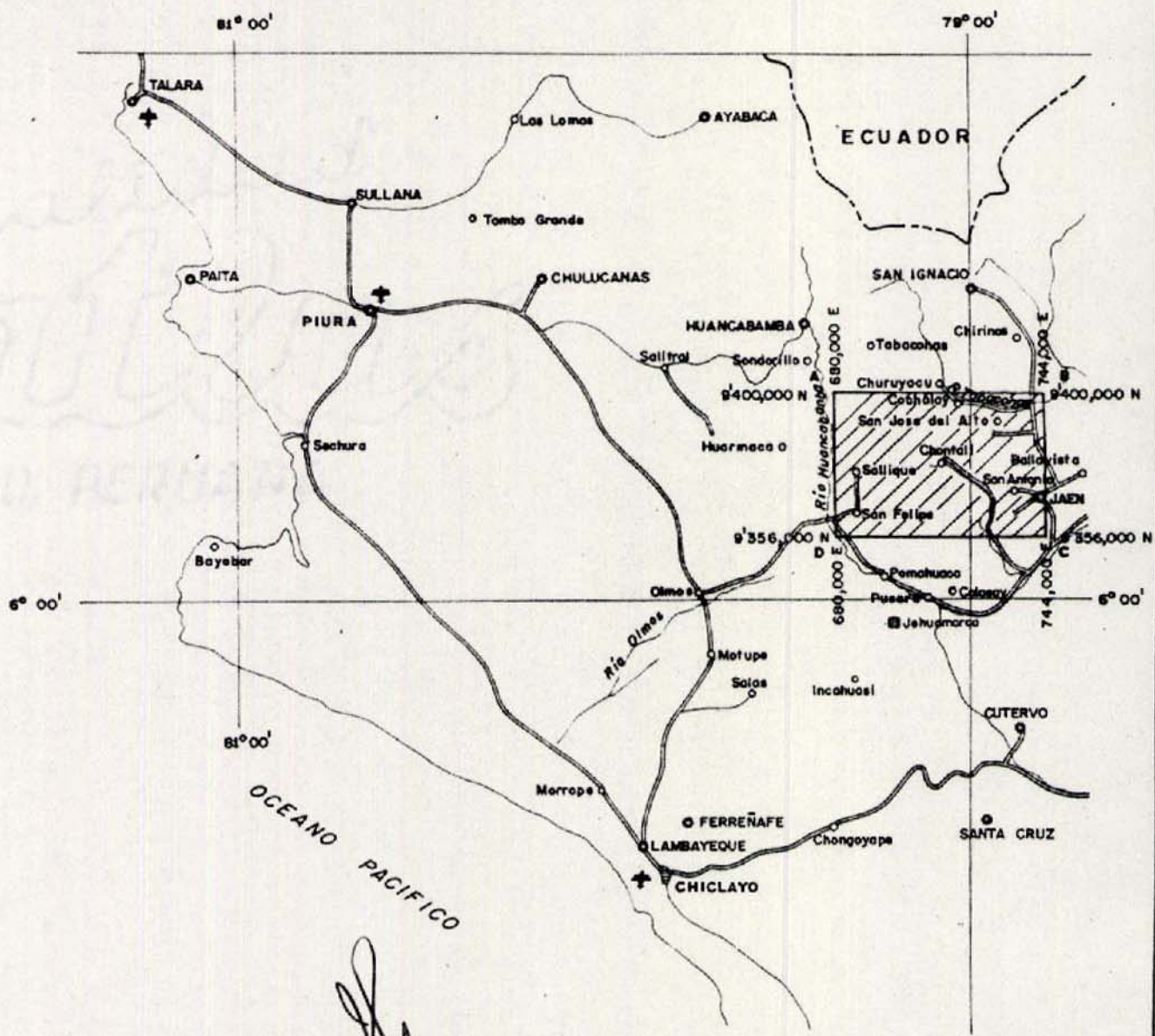
Total budget for 3 years is about 15 millions Japanese Yen (CIF). INGEMMET should submit the Application Form A.4 to the Embassy of Japan by the end of August 1988 at the latest.

5. ACCEPTANCE OF INGEMMET PARTICIPANTS TO JAPAN

In order to discuss the results obtained in the field survey, and prepare the draft report and decide the survey plan of the following year, the Japanese side will give consideration to accept annually one or more (in Phase 1, 1 person) geologist scientist and engineer of INGEMMET.

The period of the stay in JAPAN will be, in general, one month. INGEMMET should submit Application form A.2 and Nomination form A.3 to the Embassy of Japan by the end of August 1988 at the latest.







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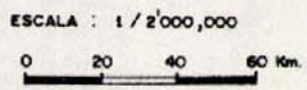
INDEX MAP



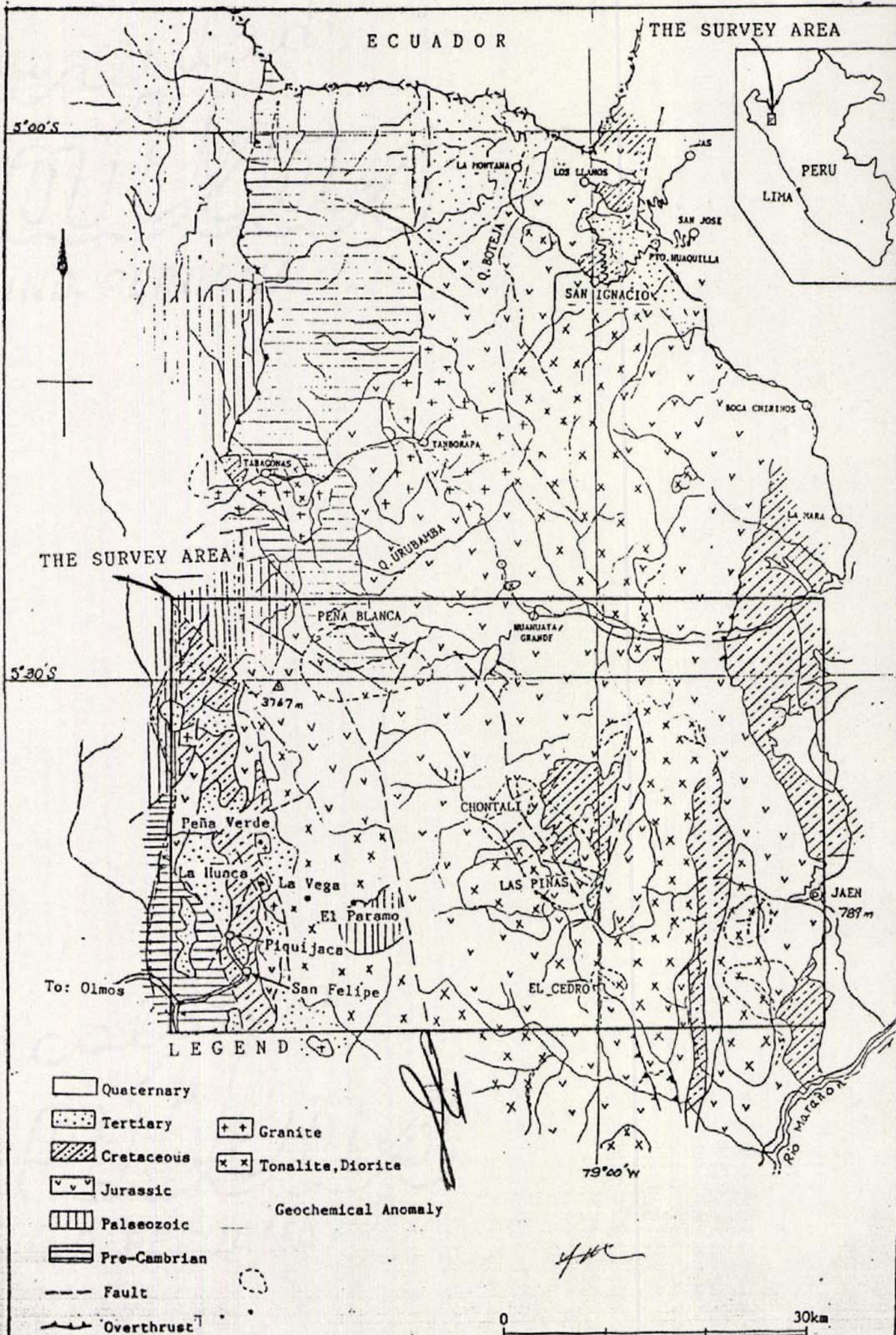
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-  PACHAPIRIANA Survey Area
-  Capital City of the department
-  City town
-  Road
-  River
-  Airport

LOCATION MAP OF THE SURVEY AREA



*YHC*



**THE SURVEY AREA OF THE MINERAL EXPLORATION**

TENTATIVE SCHEMATIC SCHEDULE FOR MINERAL EXPLORATION IN THE PACHAPIRIANA AREA

(PHASE I) (1988)

	4	5	6	7	8	9	10	11	12	1	2	3
Implementation of the survey												
Field survey							—	—				
Laboratory work								—	—			
Report making										—	—	
Acceptance of Peruvian participant to Japan (Application form A2 and Nomination form A3)											—	
Provision of equipment (Application form A4)												—

The plan described above can only be performed subject to official approval of the Japanese budget to be settled and is subject to change.

*YH*

TENTATIVE PLAN FOR MINERAL EXPLORATION PROJECT

IN PACHAPIRIANA AREA

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Investigation of the results of PHASE I and decision making for the next phase.

Investigation of the results of PHASE II and decision making for the next phase.

In case of promising

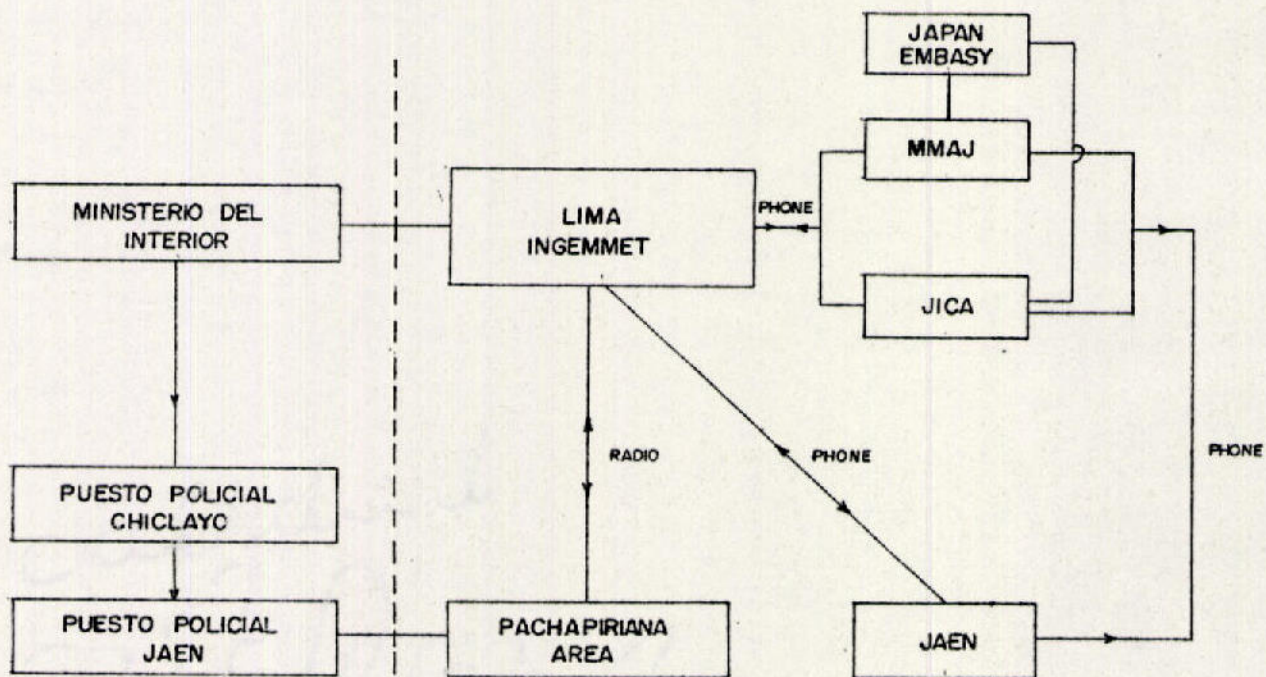
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*YAM*



COMMUNICATION NETWORK



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