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REPORT
ON
THE MINERAL EXPLORATION
IN
GUANACA-CHOLQUI AREA
THE REPUBLIC OF CHILE

PHASE I

MARCH 1997

JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN



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PREFACE

In response to the request by the Government of Republic of Chile, the Japanese Government decided to conduct a Mineral Exploration Project in Guanaca-Cholqui Area Project and entrusted the survey to the Japan International Cooperation Agency (JICA) and Metal Mining Agency of Japan (MMAJ).

The JICA and MMAJ sent to Chile a survey team headed by Mr. Toshiya Itoh from 5 October to 21 December, 1996.

The team exchanged views with the officials concerned of the Government of Chile and conducted a field survey in the Guanaca-Cholqui area. After they returned to Japan, further studies were made and the present report has been prepared.

We hope that this report will serve for the development of the Project and contribute to the promotion of friendly relations between our two countries.

We wish to express our deep appreciation to the officials concerned of the Government of the Chile for their close cooperation extend to the team.

March, 1997.



Kinio Fujita

President

Japan International Cooperation Agency

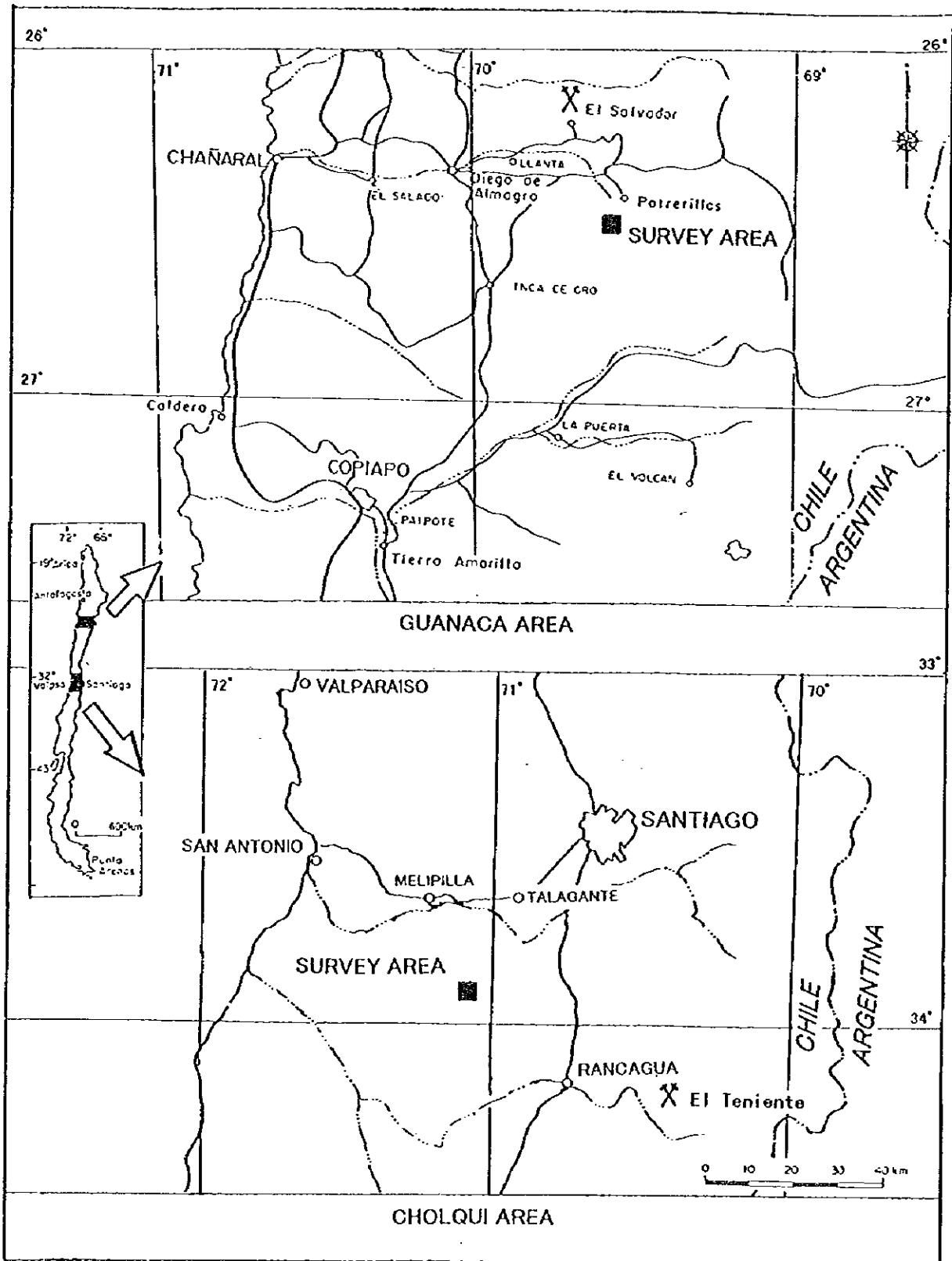


Shozaburo KIYOTAKI

President

Metal Mining Agency of Japan

GUANACA AREA



Locality map of survey area



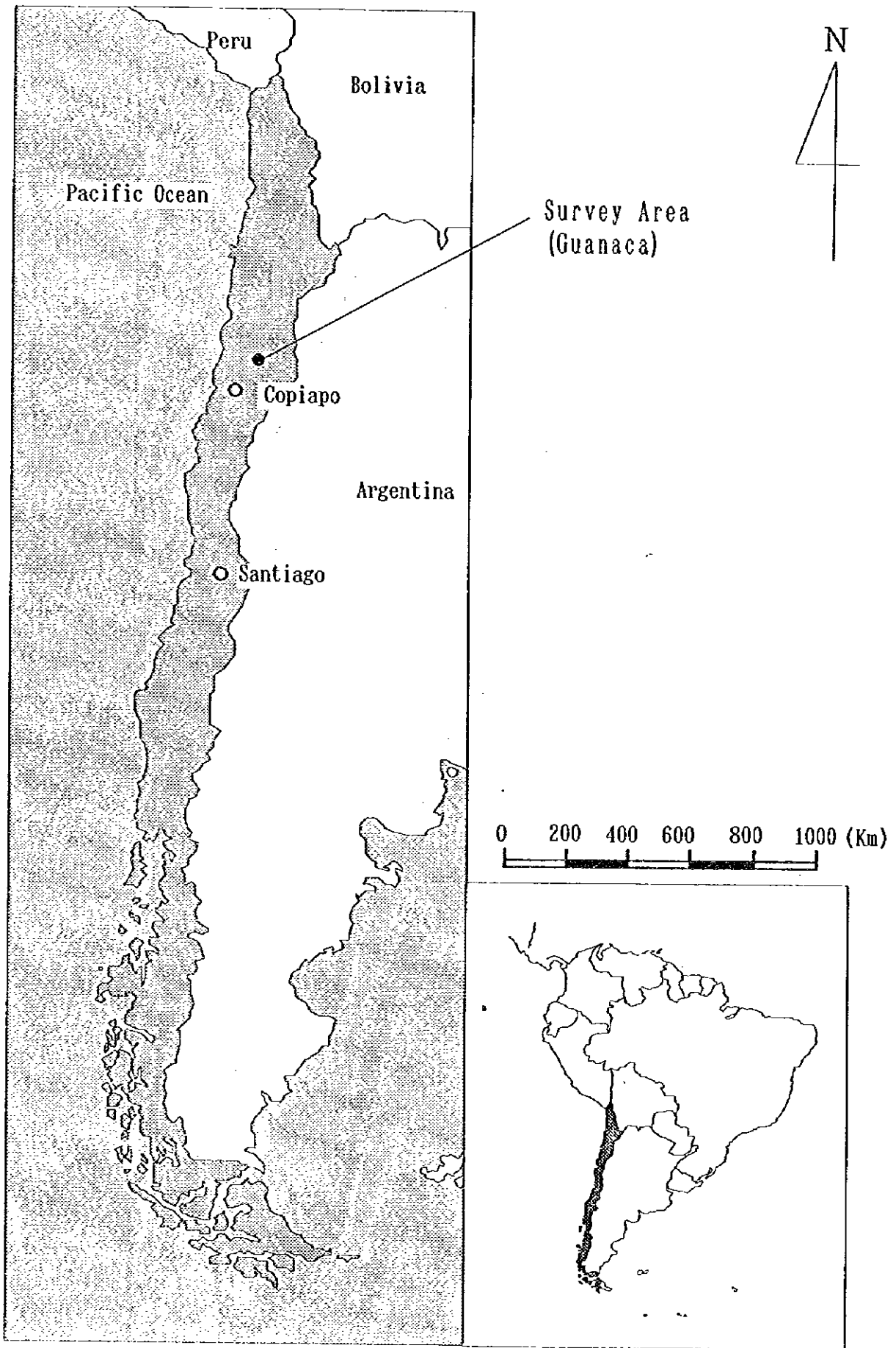


Fig. 1 Location map of the Guanaca area.

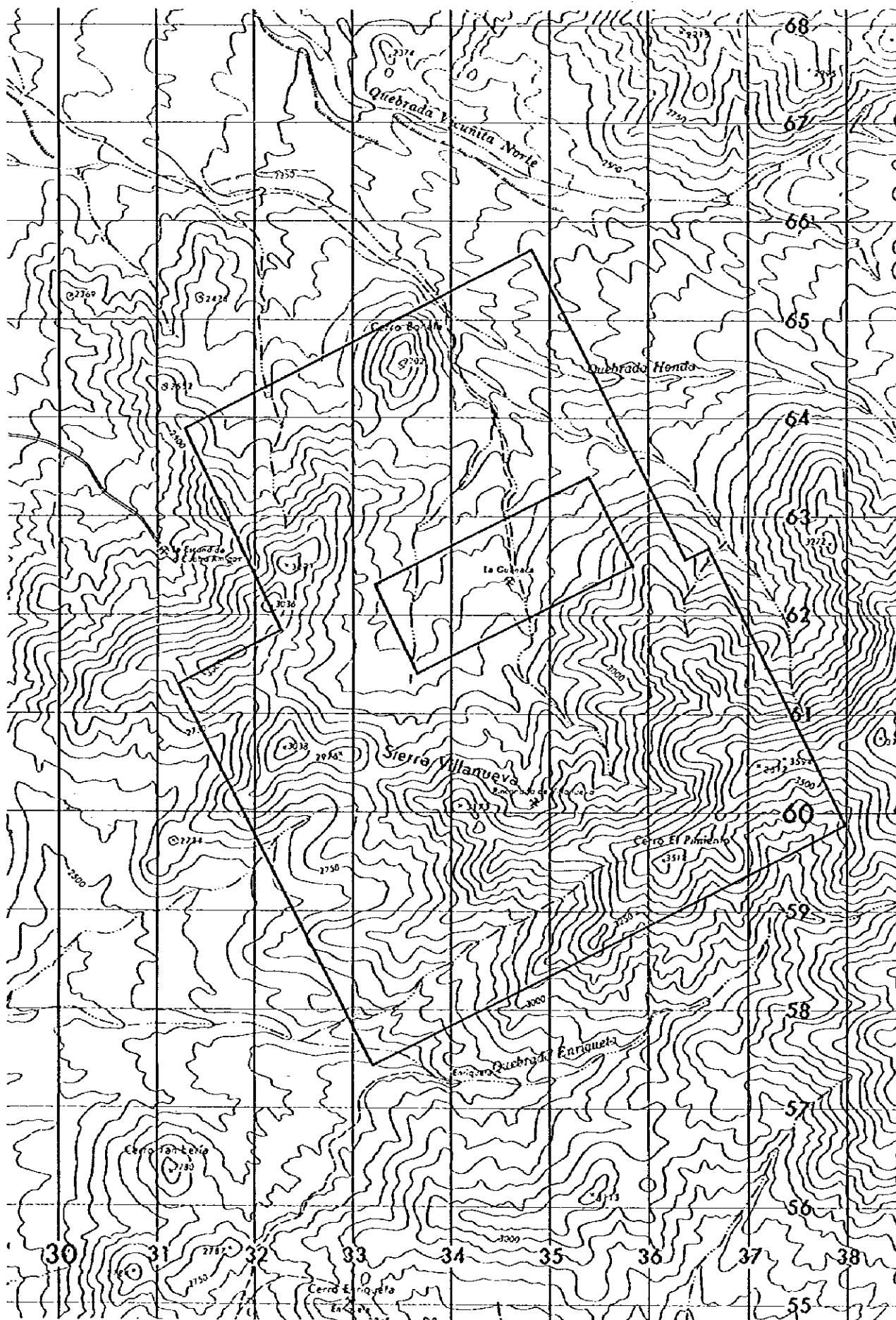


Fig. 2 Location map of the survey area.

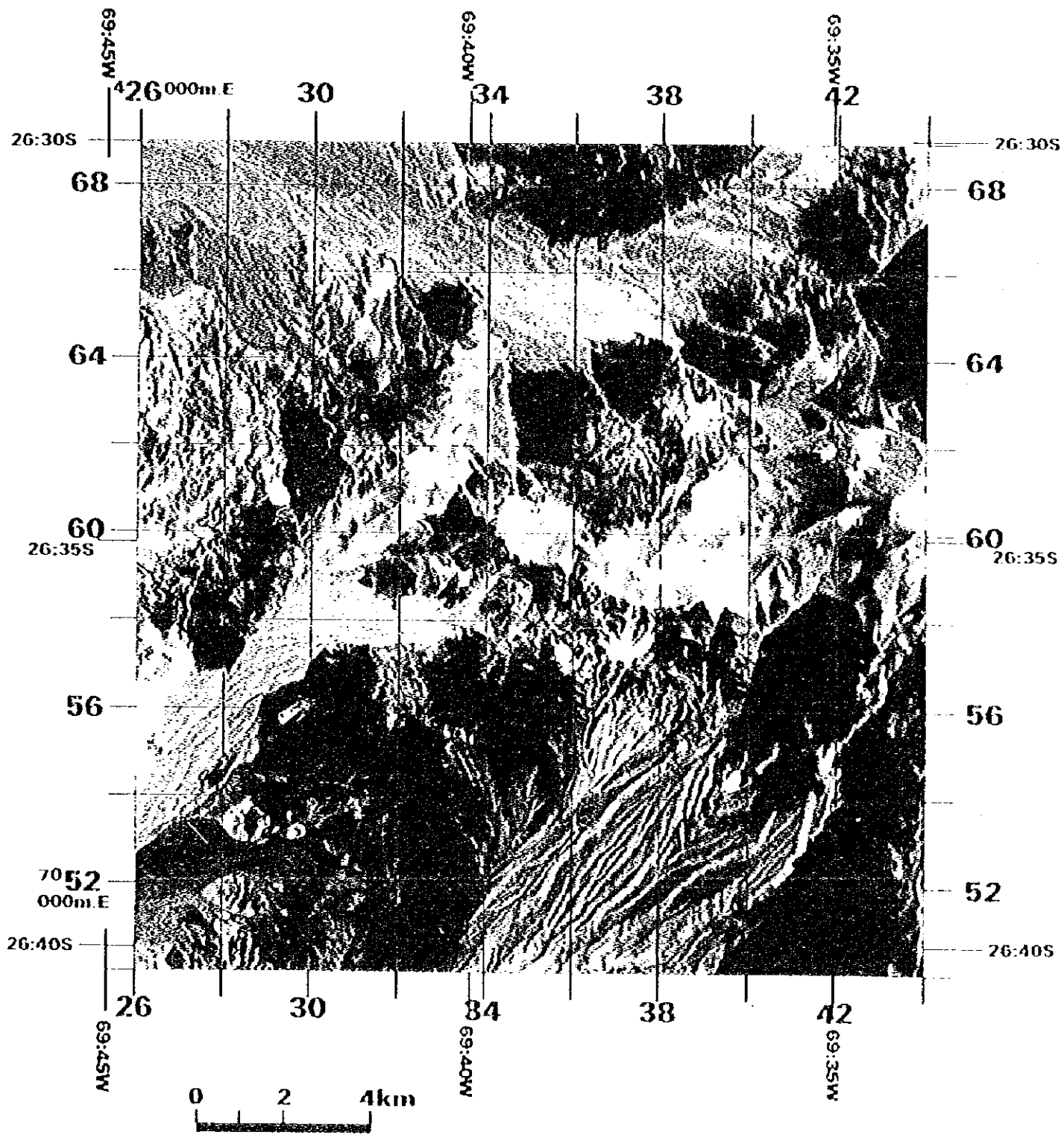


Fig. 3 JERS-1 image of the Guanaca area.

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ABSTRACT

This survey is a Cooperative Mineral Exploration project carried out in the Guanaca-Cholqui Area of the Republic of Chile (hereinafter referred to as "the Survey"), based on the Scope of Work that was signed on August 14th, 1996, between the Japanese Government and Chilean Government. The Survey area, covering an area of approximately 30 km², is named Guanaca and is located 800 km north of the capital city of Chile, Santiago. The La Guanaca mine and the Rinconada de Villanueva copper prospect are located within the Survey area. Although ENAMI had investigated the La Guanaca mine, a comprehensive survey of the Survey area had not been made.

This is the first year of the Survey and consisted of geological, geochemical, and geophysical surveys in order to delineate the characteristics of the mineralization in the Survey area. The geological survey was carried out over the whole area in order to delineate the distribution, occurrence, and relationship of the rocks in the Survey area. During the geochemical survey, 409 rock samples were collected over the whole in addition to ore samples from the known sites of mineralization in order to clarify the distribution of the geochemical anomalies and chemical zonation in the Survey area. A geophysical survey using the IP method was carried out over 60 line km's covering most of the Survey area, in order to identify the existence of anomalies which may be related to mineralization.

The geology of the Survey area consists of volcanic rocks which are Cretaceous to Paleogene Tertiary age and the Eocene granitic rocks which intrude into the volcanic rocks. Besides the La Guanaca mine and the Rinconada Prospect, some local areas of mineralization in which green copper occur in quartz veins were identified in the Survey area, especially in the central and southern areas. Three main prospect areas were recognized:

- The La Guanaca Prospect,
- The Rinconada Prospect, and
- The Central prospect.

The characteristics of each of these prospects are interpreted in terms of the zonation of a porphyry copper style mineralized system. The La Guanaca Prospect may be closest to the center of a porphyry copper style system, while the Rinconada and Central Prospects may represent the peripheral parts of the same or similar system. If a vertical zonation of a porphyry copper style system can be supposed, it may be possible that the center of the

system exists in the deeper parts of the Rinconada Prospect. The IP anomaly at deeper levels near the Rinconada Prospect may reflect the center of the system and possible mineralization.

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