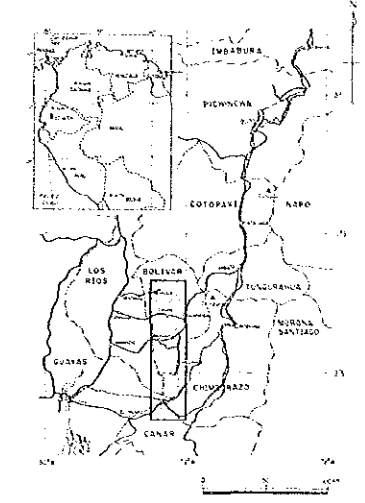
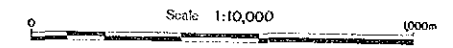


PL. II-3-1

THE COOPERATIVE MINERAL EXPLORATION
IN
THE BOLIVAR AREA, ECUADOR
PHASE II
Geological Map and Profile
of the Chazo Juan Area

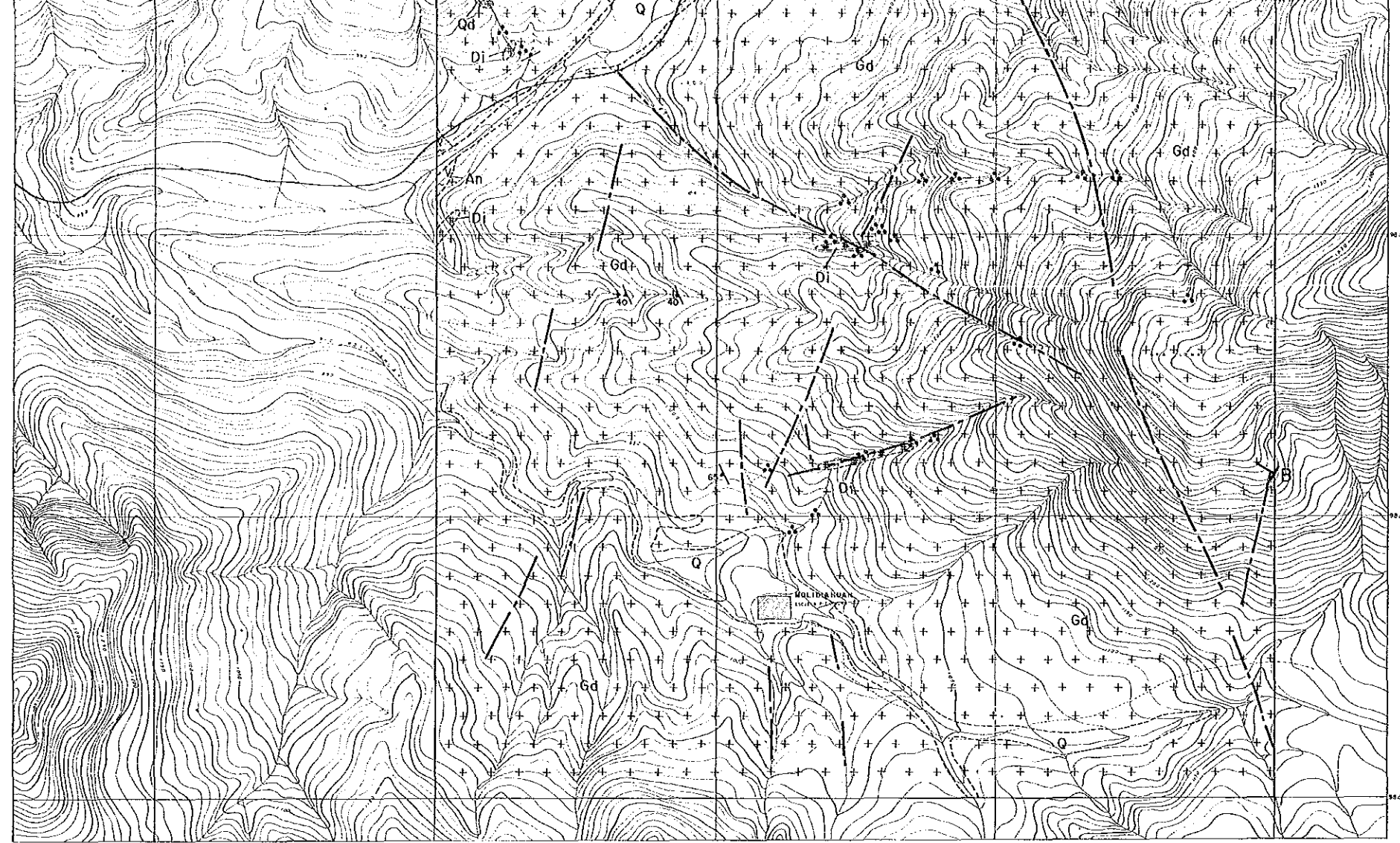


JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN. 1990



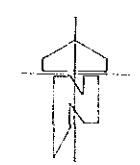
LEGEND

- | | | | |
|--------------------|---|-------|---------------------------------|
| Quaternary | { | Q | Gravel, sand, clay |
| | | An | Hornfels (andesitic) |
| Intrusive
Rocks | { | Gd | Granodiorite |
| | | Di | Metacratitic diorite |
| | | Qd | Quartz diorite |
| | | 20 | Dip and strike of bedding plane |
| | | ~ | Geological boundary |
| | | — | Fault |
| | | ••• | Mineralized zone |
| | | ↖ ↗ | Vein |
| | | A — B | Section line |



LEGEND

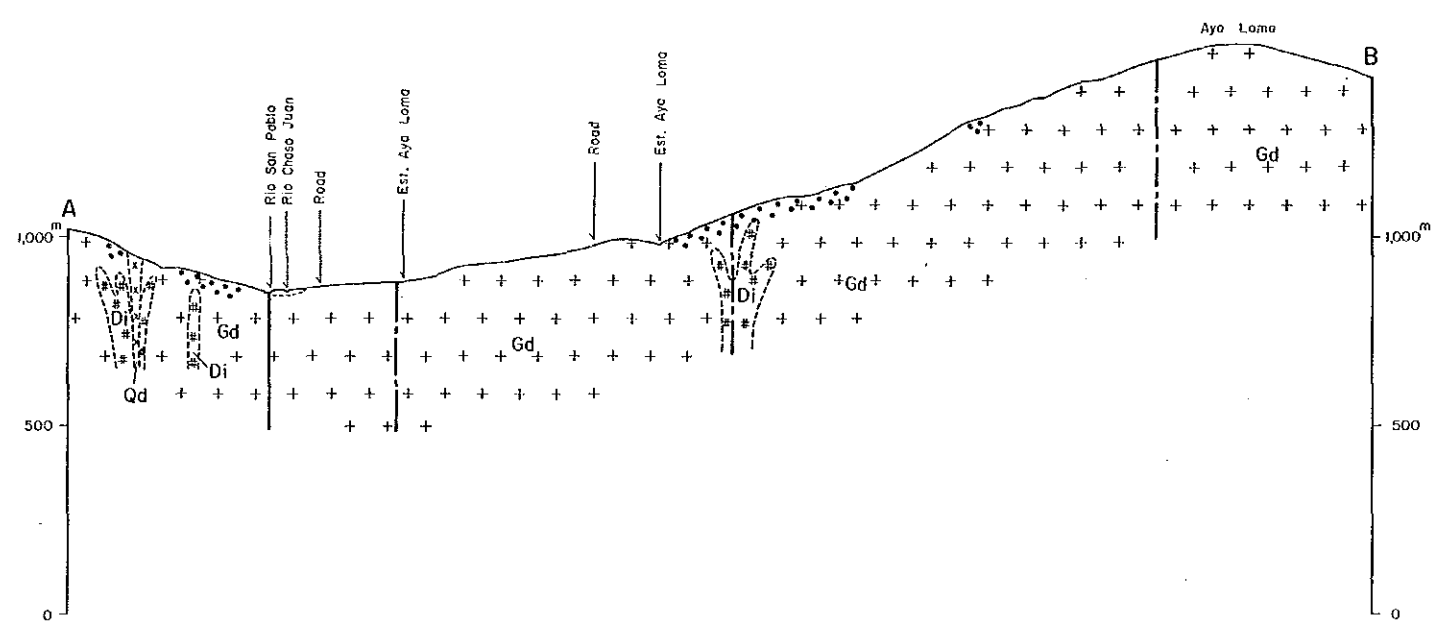
Quaternary	Q	Gravel, sand, clay
	An	Hornfels (andesitic)
Intrusive Rocks	Gd	Granodiorite
	Di	Melanocratic diorite
	Qd	Quartz diorite
		Dip and strike of bedding plane
		Geological boundary
		Fault
		Mineralized zone
		Vein
		Section line

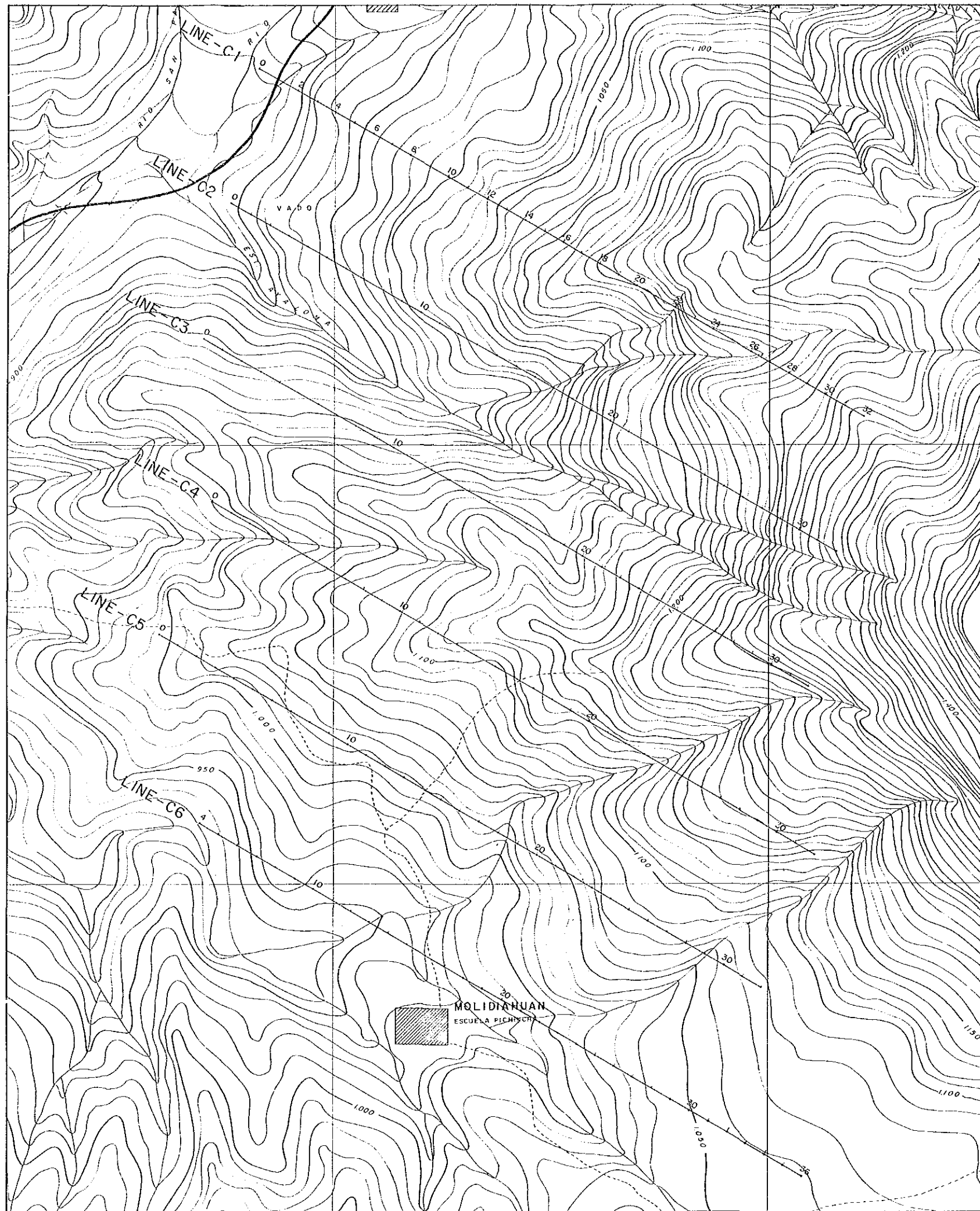


LEYENDA

	CARRERA PRINCIPAL
	CARRERA SECUNDARIA
	RIO
	CARRERA FERROVIARIA
	ESTACION
	CARRERA
	CARRERA
	CARRERA

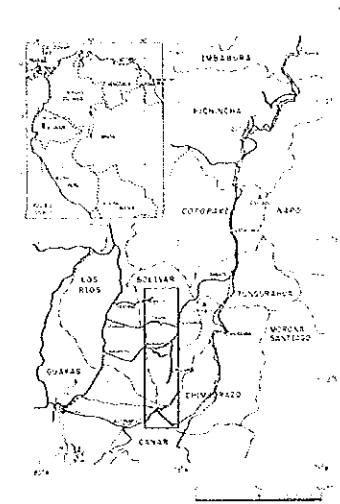
INSTITUTO ECUATORIANO DE MINERIA
INEMIN
 PROYECTO BOLIVAR
 RESTITUCION AEROFOTOGRAFICA DEL SECTOR CHAZO JUAN
 ESTADIA 1:50,000 FECHA: MAYO DE 1984



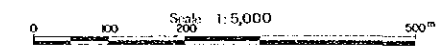


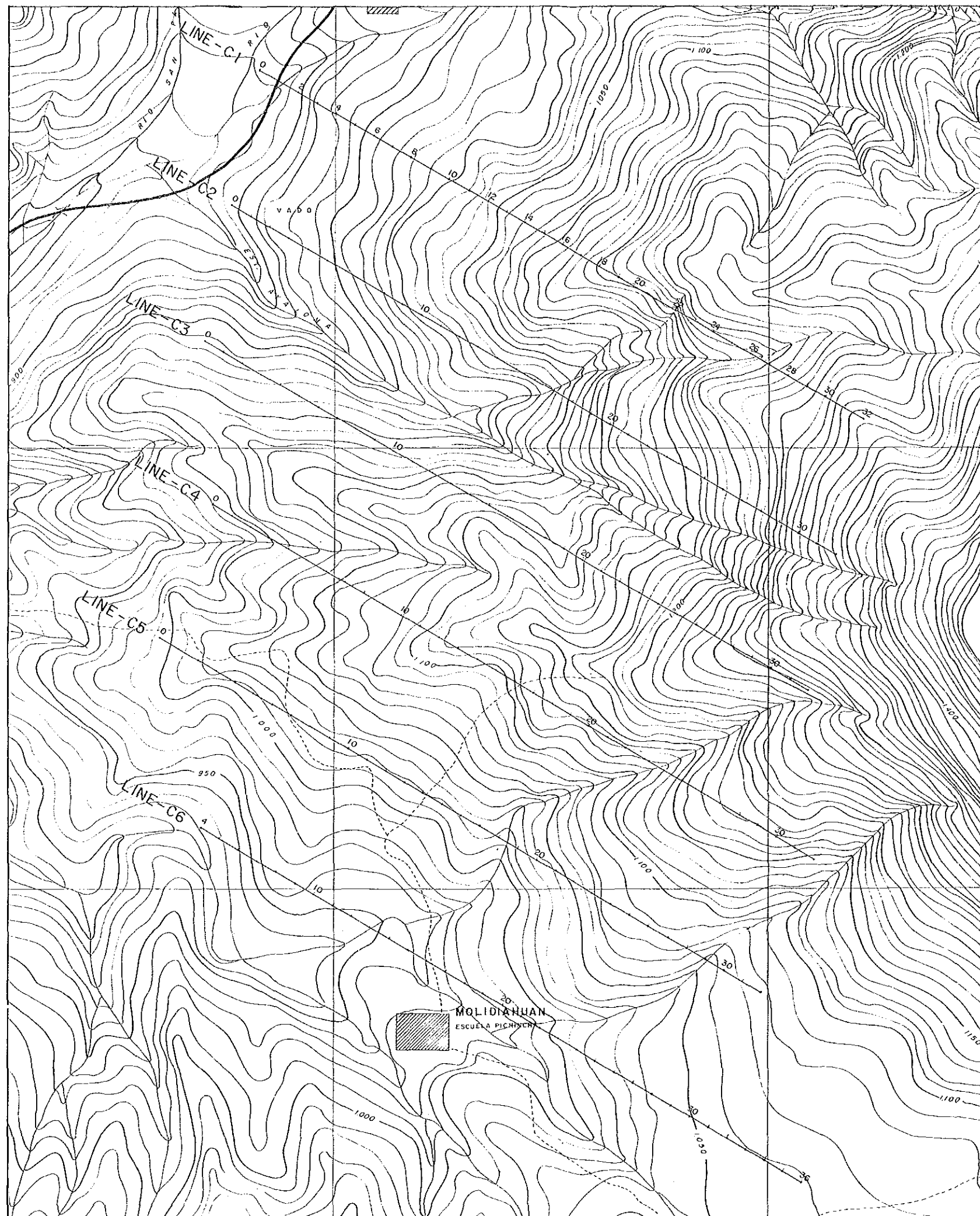
THE COOPERATIVE MINERAL EXPLORATION
IN
THE BOLIVAR AREA, ECUADOR
PHASE II

Location Map of IP Survey Lines
in the Choso Juan Area

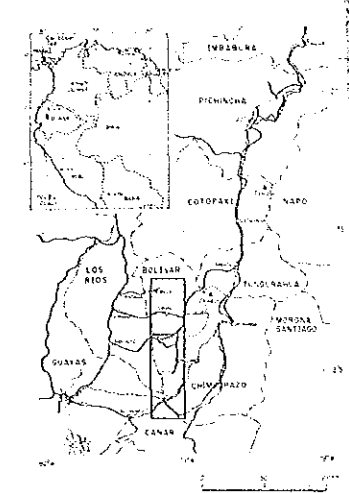


JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1990

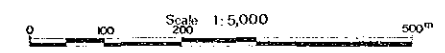




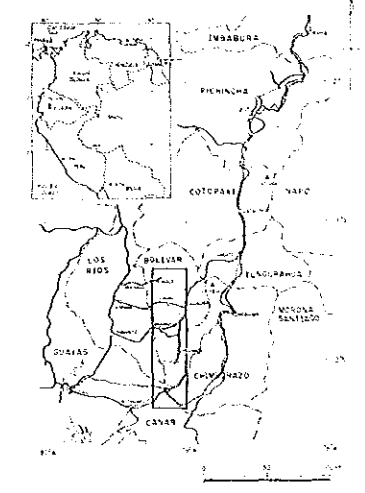
THE COOPERATIVE MINERAL EXPLORATION
 IN
 THE BOLIVAR AREA, ECUADOR
 PHASE II
 Location Map of IP Survey Lines
 in the Chaso Juan Area



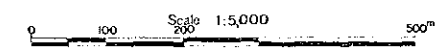
JAPAN INTERNATIONAL COOPERATION AGENCY
 METAL MINING AGENCY OF JAPAN
 JAN. 1990






THE COOPERATIVE MINERAL EXPLORATION
IN
THE BOLIVAR AREA, ECUADOR
PHASE II
Apparent Resistivity Plan Map (n=1)
of the Chaso Juan Area

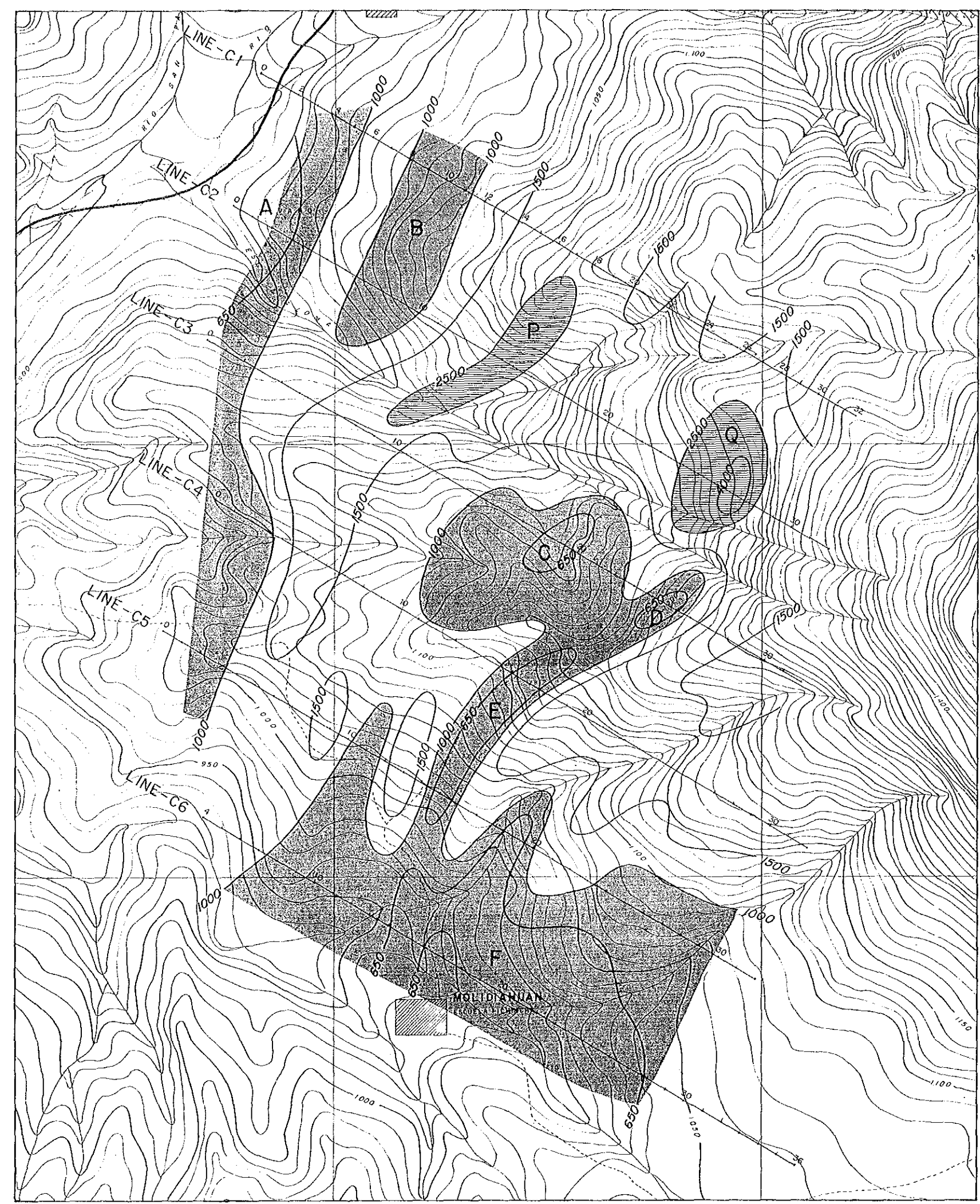


JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN. 1990

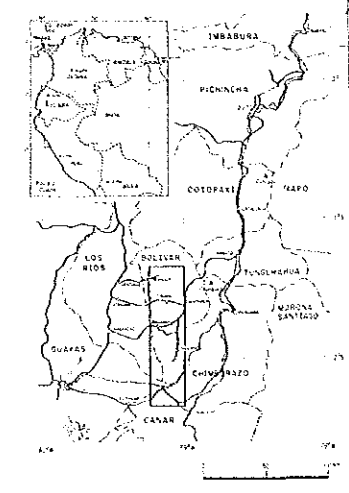


LEGEND

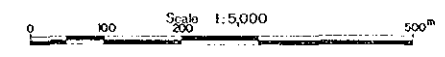
-  $p < 1,000 \Omega \cdot m$
 -  $1,000 \Omega \cdot m \leq p < 2,500 \Omega \cdot m$
 -  $2,500 \Omega \cdot m \leq p$
- UNIT: $\Omega \cdot m$






THE COOPERATIVE MINERAL EXPLORATION
IN
THE BOLIVAR AREA, ECUADOR
PHASE II
Apparent Resistivity Plan Map (n=2)
of the Chaso Juan Area



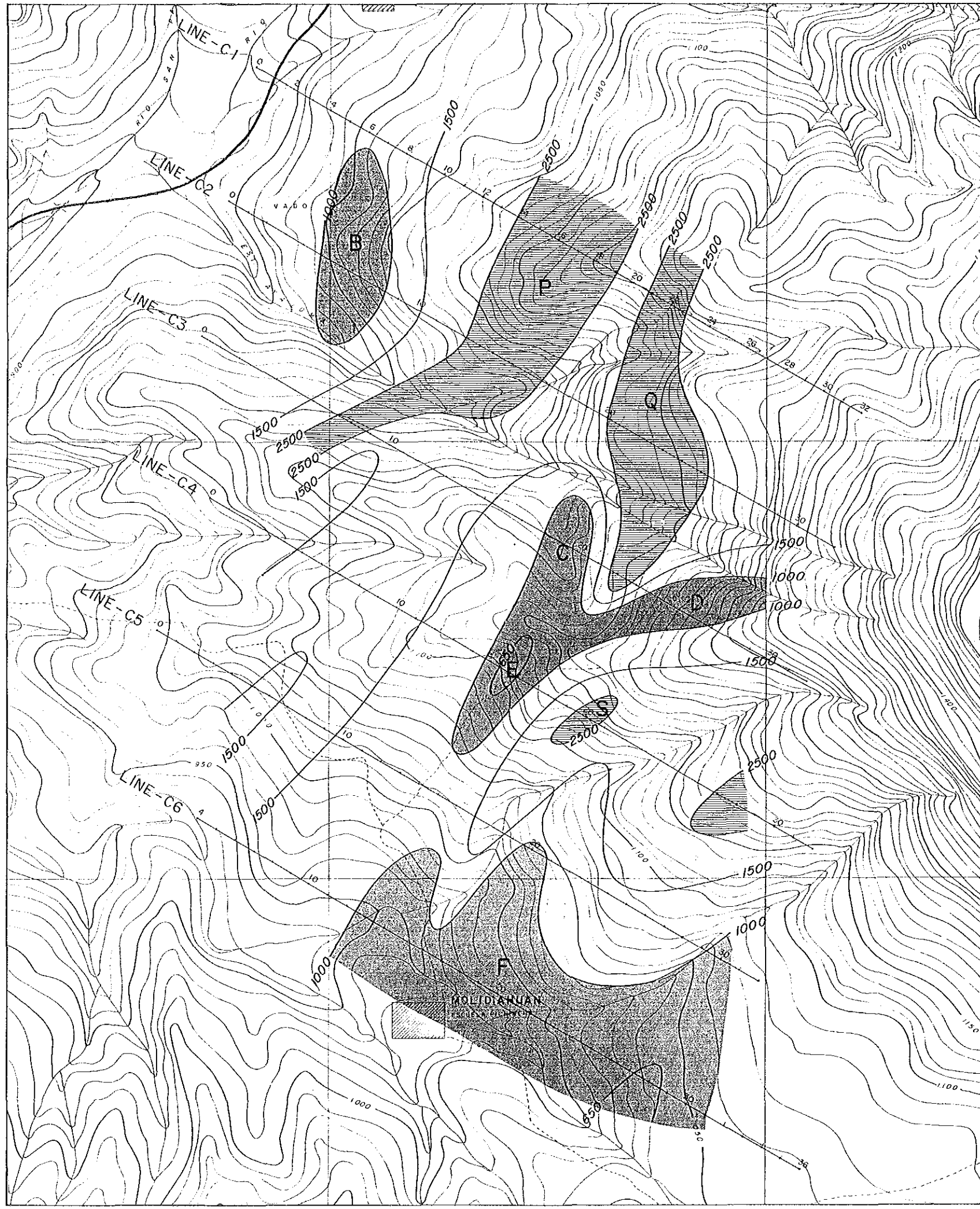
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN. 1990



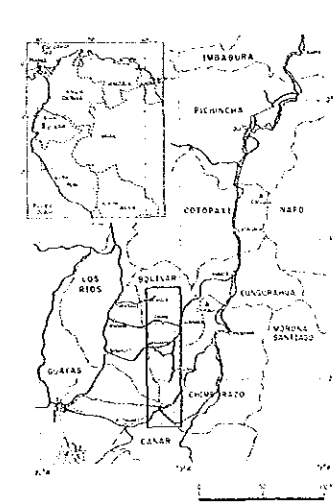
LEGEND

-  $p < 1,000 \Omega \cdot m$
-  $1,000 \Omega \cdot m \leq p < 2,500 \Omega \cdot m$
-  $2,500 \Omega \cdot m \leq p$

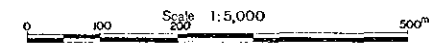
UNIT : $\Omega \cdot m$






THE COOPERATIVE MINERAL EXPLORATION
IN
THE BOLIVAR AREA, ECUADOR
PHASE II
Apparent Resistivity Plan Map (n=3)
of the Chaso Juan Area



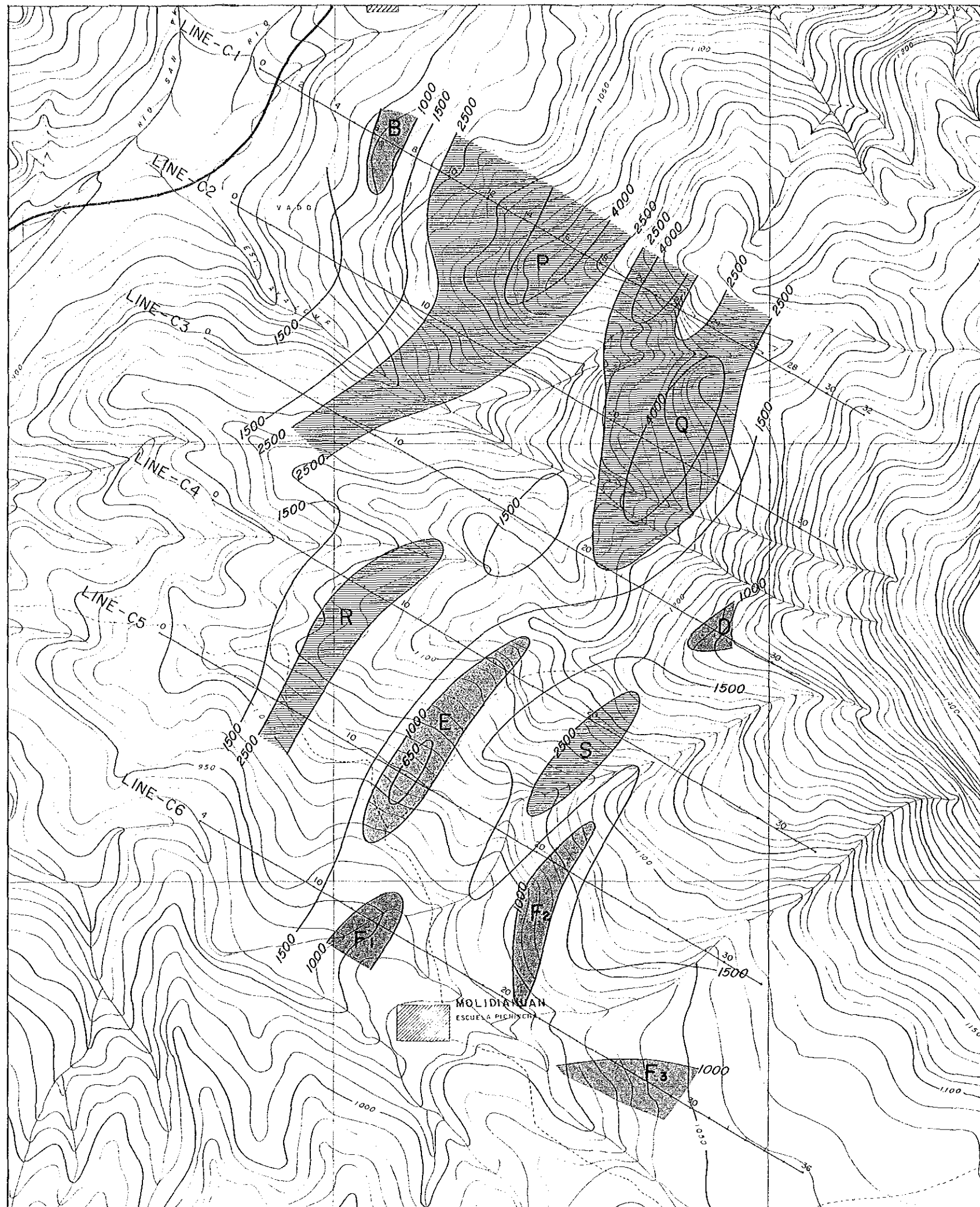
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1960



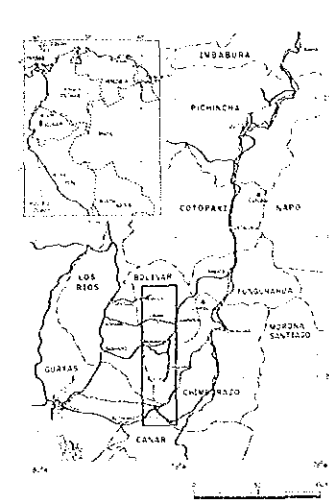
LEGEND

-  $\rho < 1,000 \Omega \cdot m$
-  $1,000 \Omega \cdot m \leq \rho < 2,500 \Omega \cdot m$
-  $2,500 \Omega \cdot m \leq \rho$

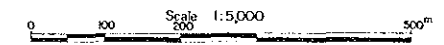
UNIT: $\Omega \cdot m$






THE COOPERATIVE MINERAL EXPLORATION
IN
THE BOLIVAR AREA, ECUADOR
PHASE II
Apparent Resistivity Plan Map (n=4)
of the Chaso Juan Area



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN. 1980



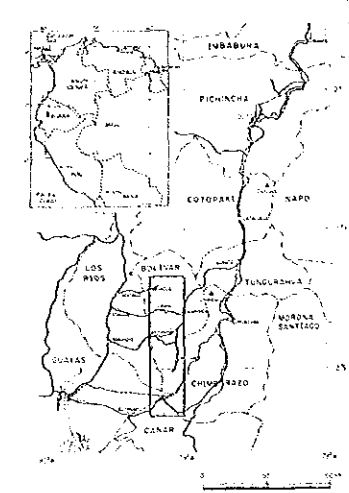
LEGEND

-  $\rho < 1,000 \Omega \cdot m$
-  $1,000 \Omega \cdot m \leq \rho < 2,500 \Omega \cdot m$
-  $2,500 \Omega \cdot m \leq \rho$

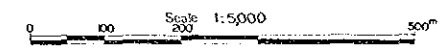
UNIT: $\Omega \cdot m$






THE COOPERATIVE MINERAL EXPLORATION
 IN
 THE BOLIVAR AREA, ECUADOR
 PHASE II
 Apparent Resistivity Plan Map (n=5)
 of the Chaso Juan Area

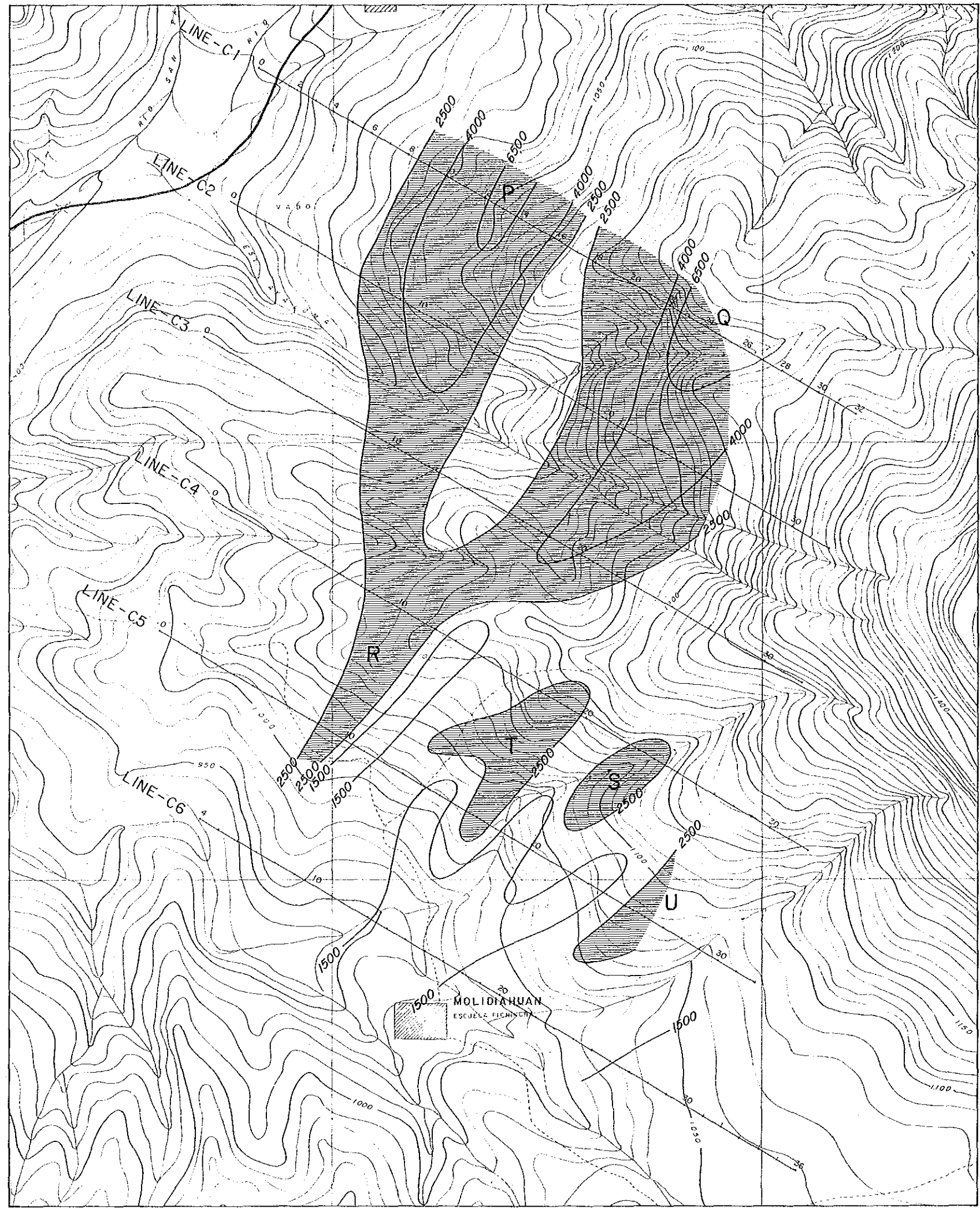


JAPAN INTERNATIONAL COOPERATION AGENCY
 METAL MINING AGENCY OF JAPAN
 JAN 1990

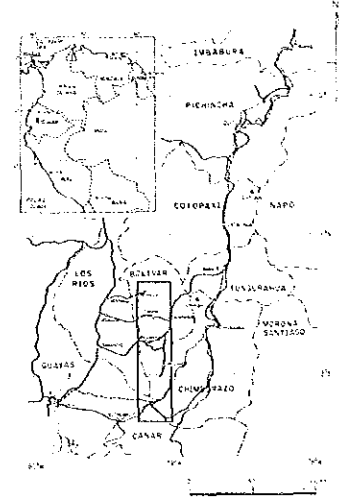


LEGEND

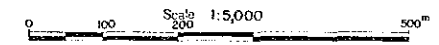
-  $p < 1,000 \Omega \cdot m$
 -  $1,000 \Omega \cdot m \leq p < 2,500 \Omega \cdot m$
 -  $2,500 \Omega \cdot m \leq p$
- UNIT: $\Omega \cdot m$






THE COOPERATIVE MINERAL EXPLORATION
IN
THE BOLIVAR AREA, ECUADOR
PHASE II
P F E Plan Map (n=1)
of the Chaso Juan Area



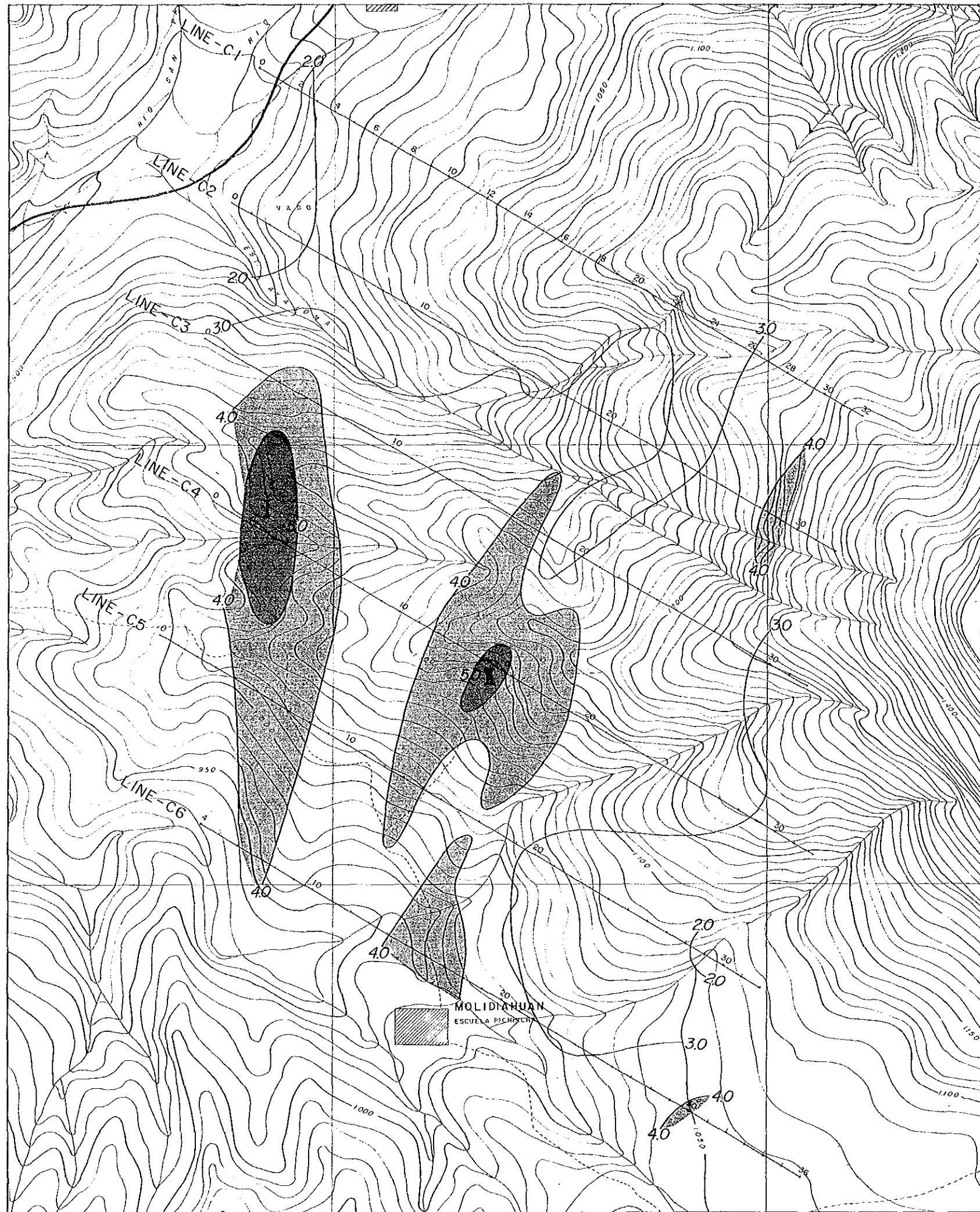
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN. 1990



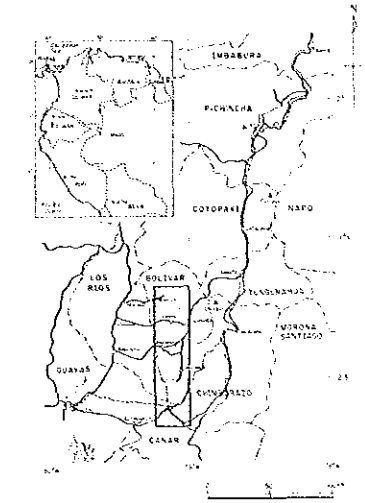
LEGEND

-  5.0% ≤ p
-  4.0% ≤ p < 5.0%
-  p < 4.0%

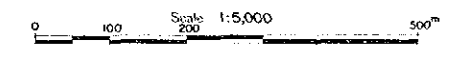
UNIT : %






THE COOPERATIVE MINERAL EXPLORATION
IN
THE BOLIVAR AREA, ECUADOR
PHASE II
P F E Plan Map (n=2)
of the Chaso Juan Area

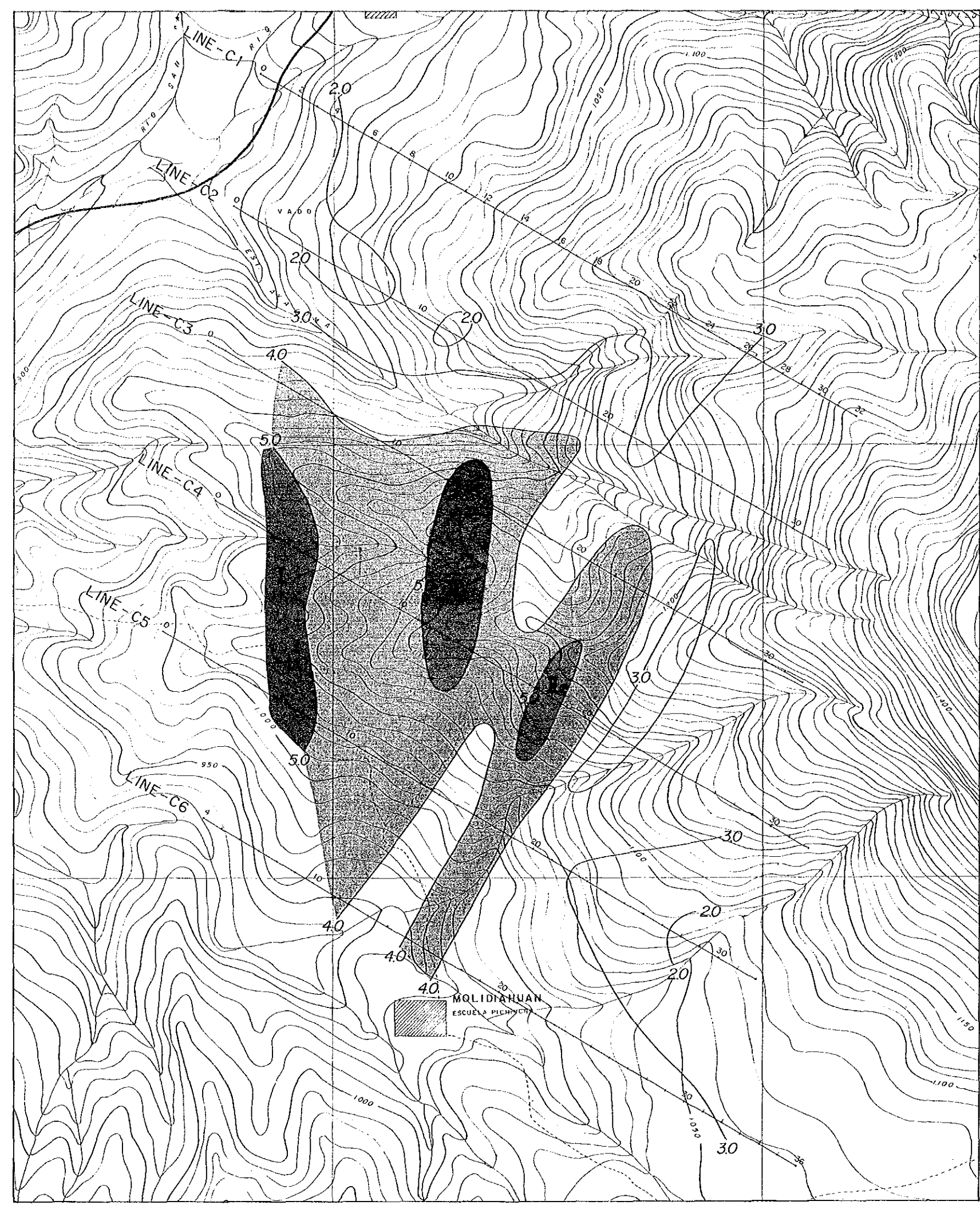


JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN. 1990

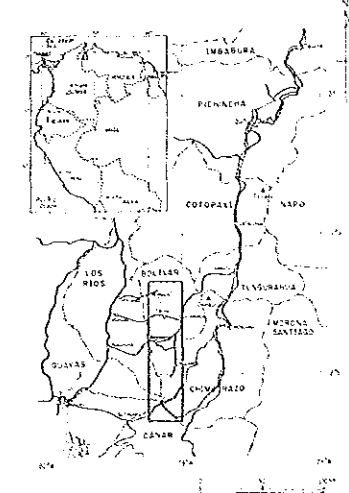


LEGEND

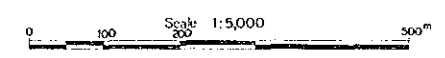
-  5.0% ≤ p
 -  4.0% ≤ p < 5.0%
 -  p < 4.0%
- UNIT : %






THE COOPERATIVE MINERAL EXPLORATION
IN
THE BOLIVAR AREA, ECUADOR
PHASE II
P F E Plan Map (n=3)
of the Chaso Juan Area

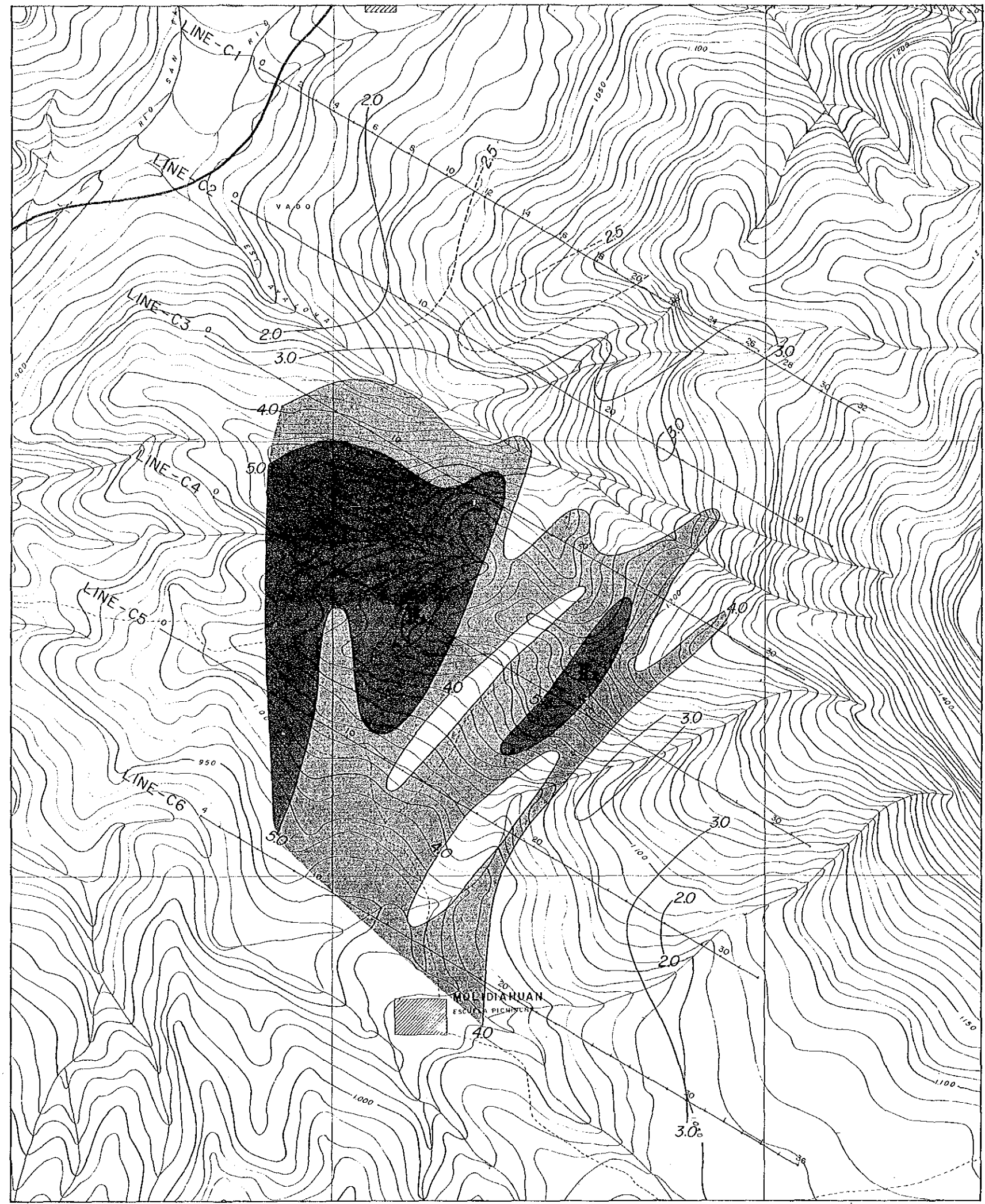


JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1990

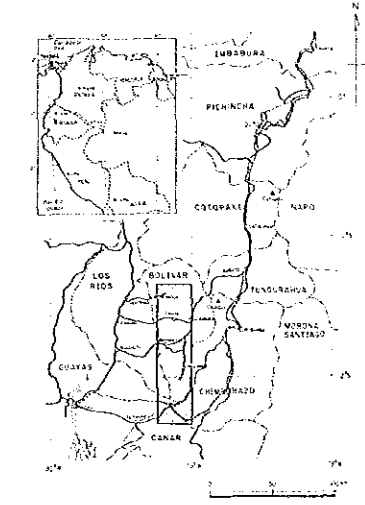


LEGEND

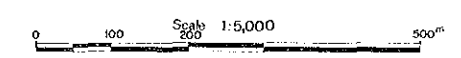
-  5.0 % ≤ p
 -  4.0 % ≤ p < 5.0 %
 -  p < 4.0 %
- UNIT : %






THE COOPERATIVE MINERAL EXPLORATION
IN
THE BOLIVAR AREA, ECUADOR
PHASE II
P F E Plan Map (n=4)
of the Chaso Juan Area

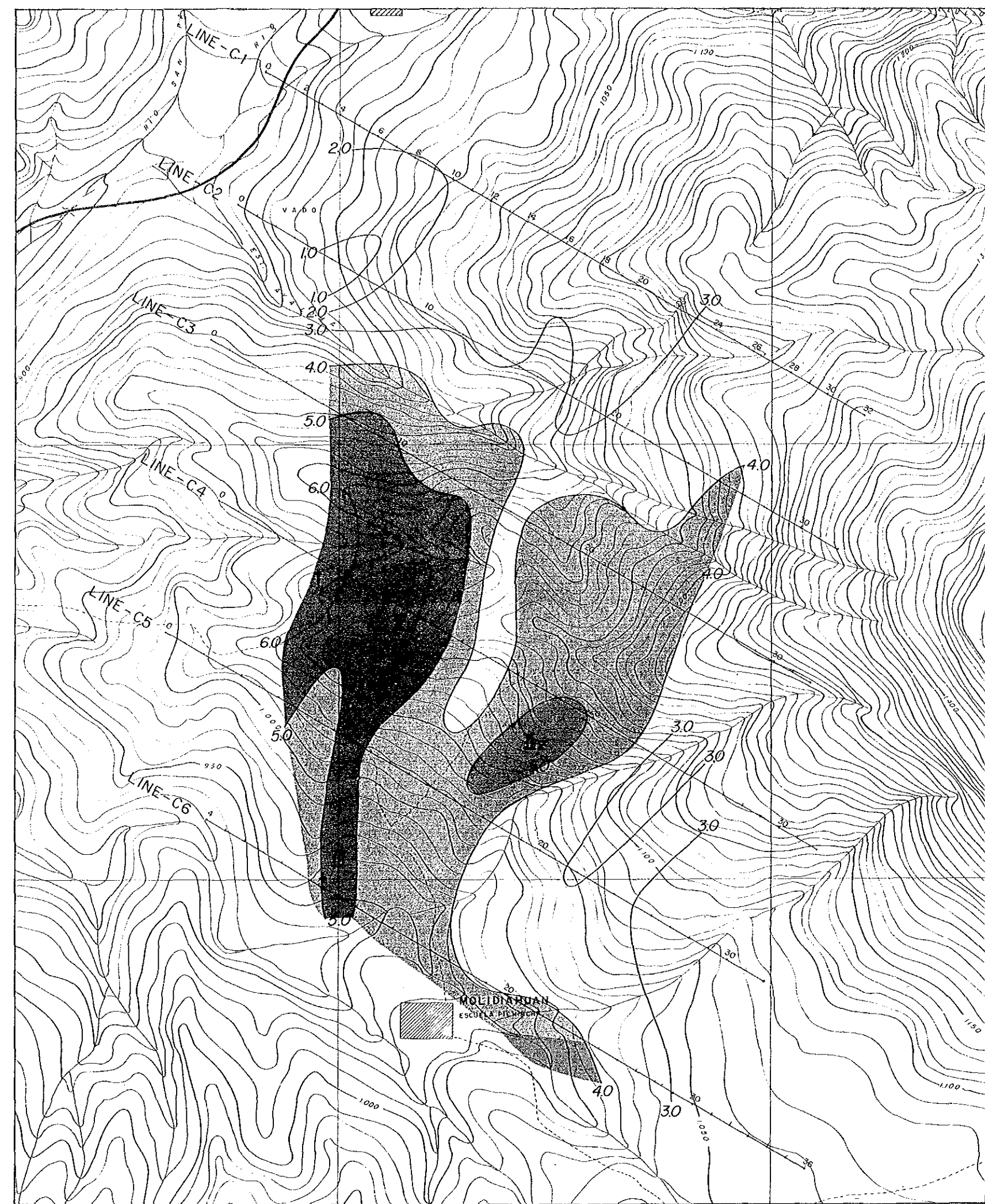


JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN. 1990

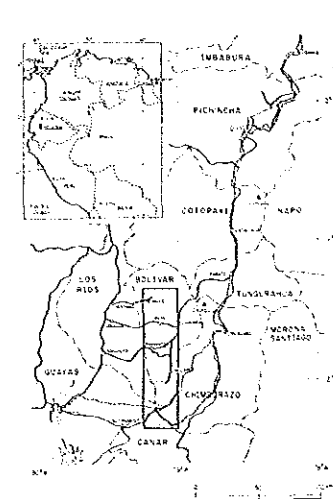


LEGEND

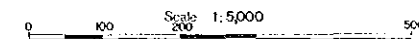
-  $5.0\% \leq p$
 -  $4.0\% \leq p < 5.0\%$
 -  $p < 4.0\%$
- UNIT: %






THE COOPERATIVE MINERAL EXPLORATION
IN
THE BOLIVAR AREA, ECUADOR
PHASE II
P F E Plan Map (n=5)
of the Chaso Juan Area



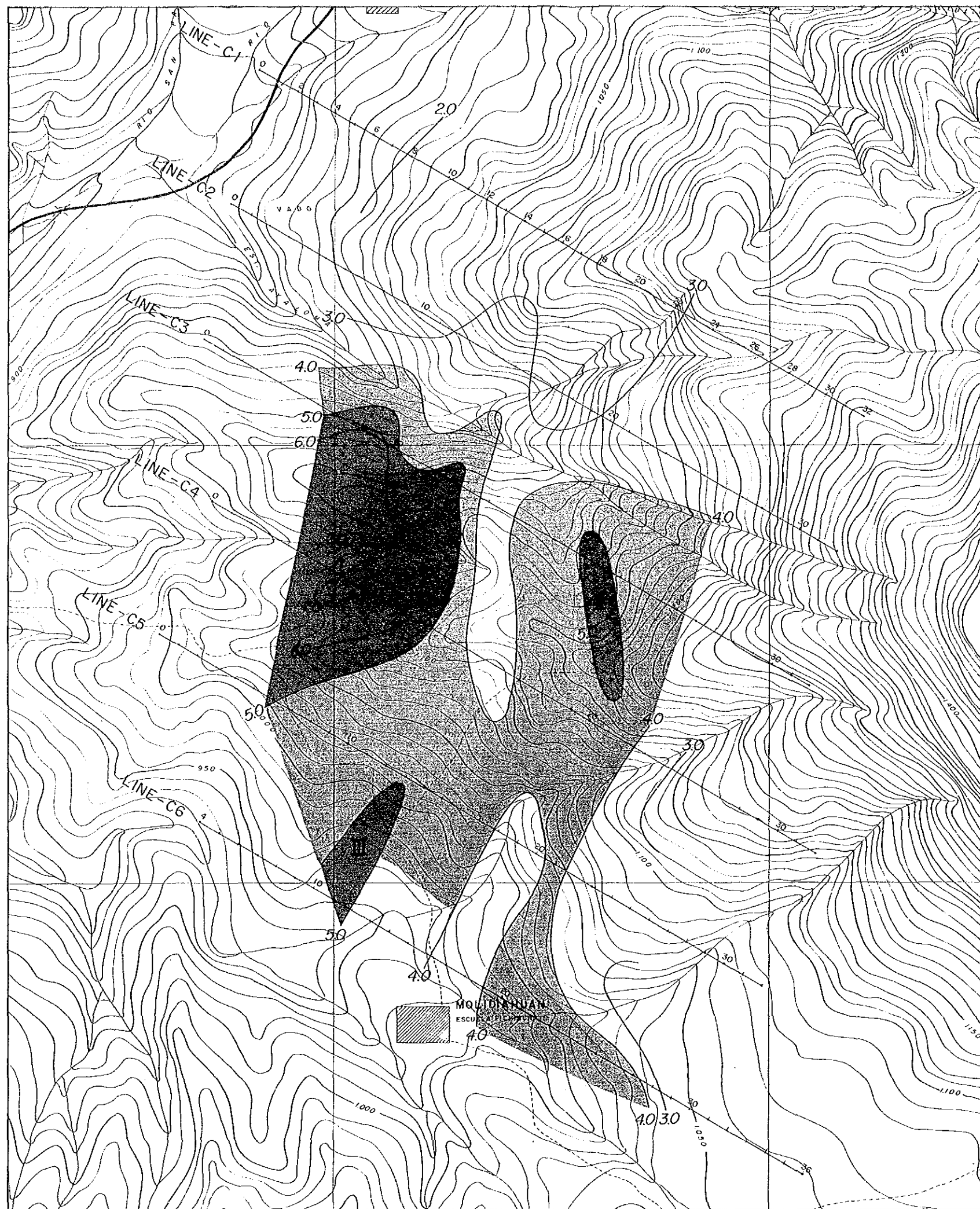
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1990



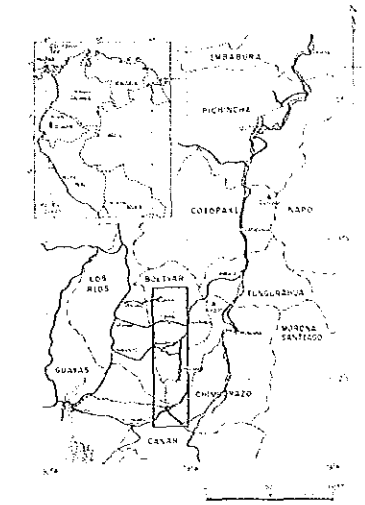
LEGEND

-  5.0% ≤ p
-  4.0% ≤ p < 5.0%
-  p < 4.0%

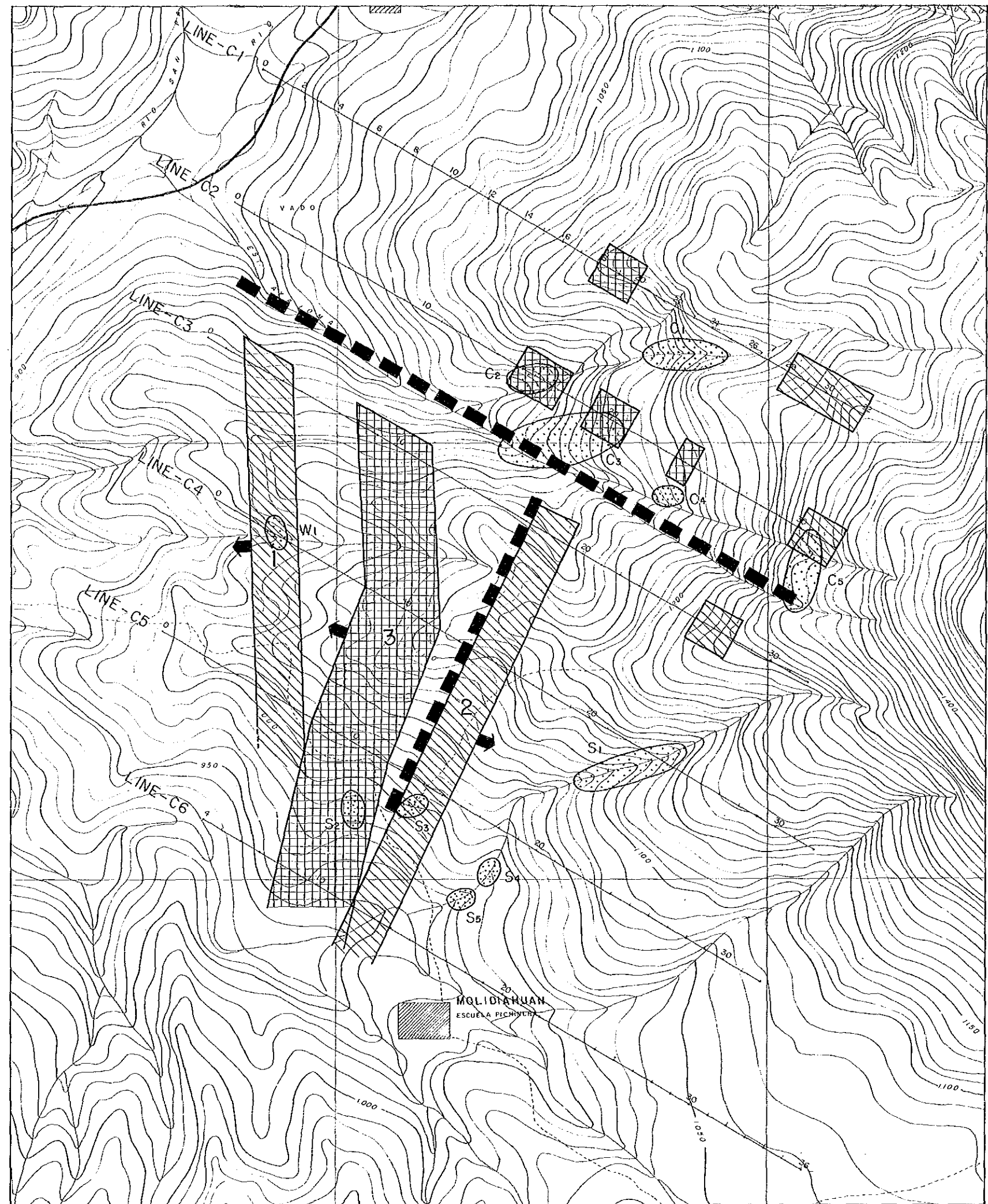
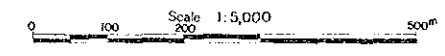
UNIT : %






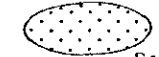
THE COOPERATIVE MINERAL EXPLORATION
IN
THE BOLIVAR AREA, ECUADOR
PHASE II
Interpretation Map of the Chaso Juan Area



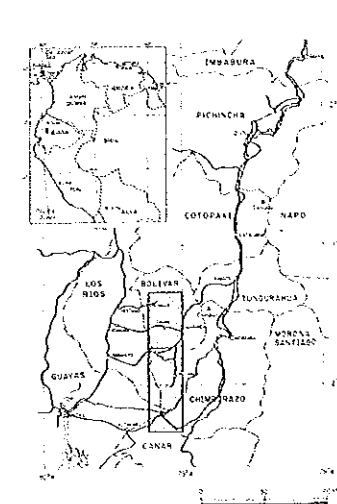
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN. 1990



LEGEND

-  Lineament
-  IP Anomaly Source
(High Resistivity, High FE)
-  IP Anomaly Source
(Medium Resistivity, High FE)
-  Mineralized Zone
S4

THE COOPERATIVE MINERAL EXPLORATION
 IN
 THE BOLIVAR AREA, ECUADOR
 PHASE II
 Geological Map and Profile
 of the Telimbela Area

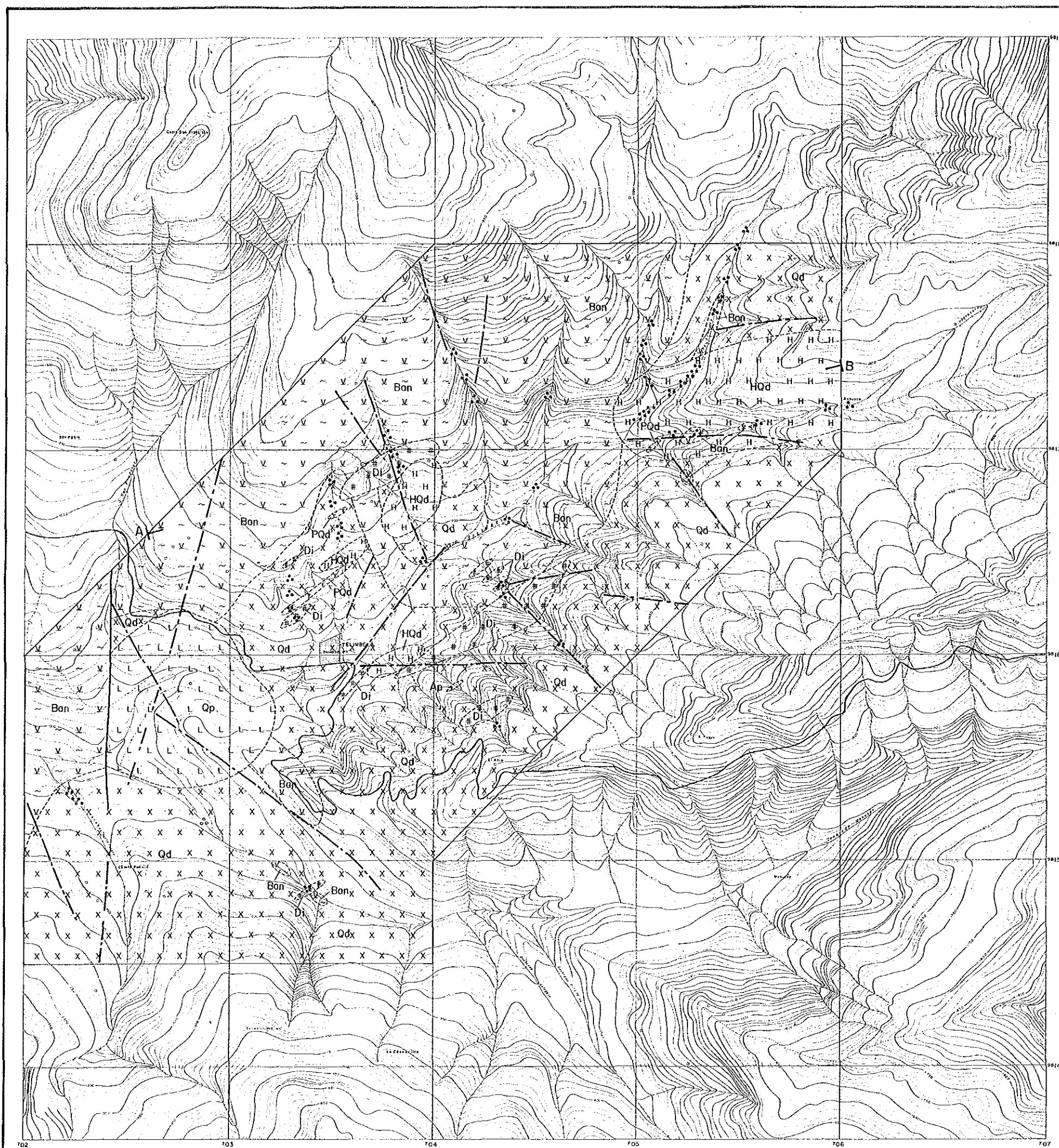


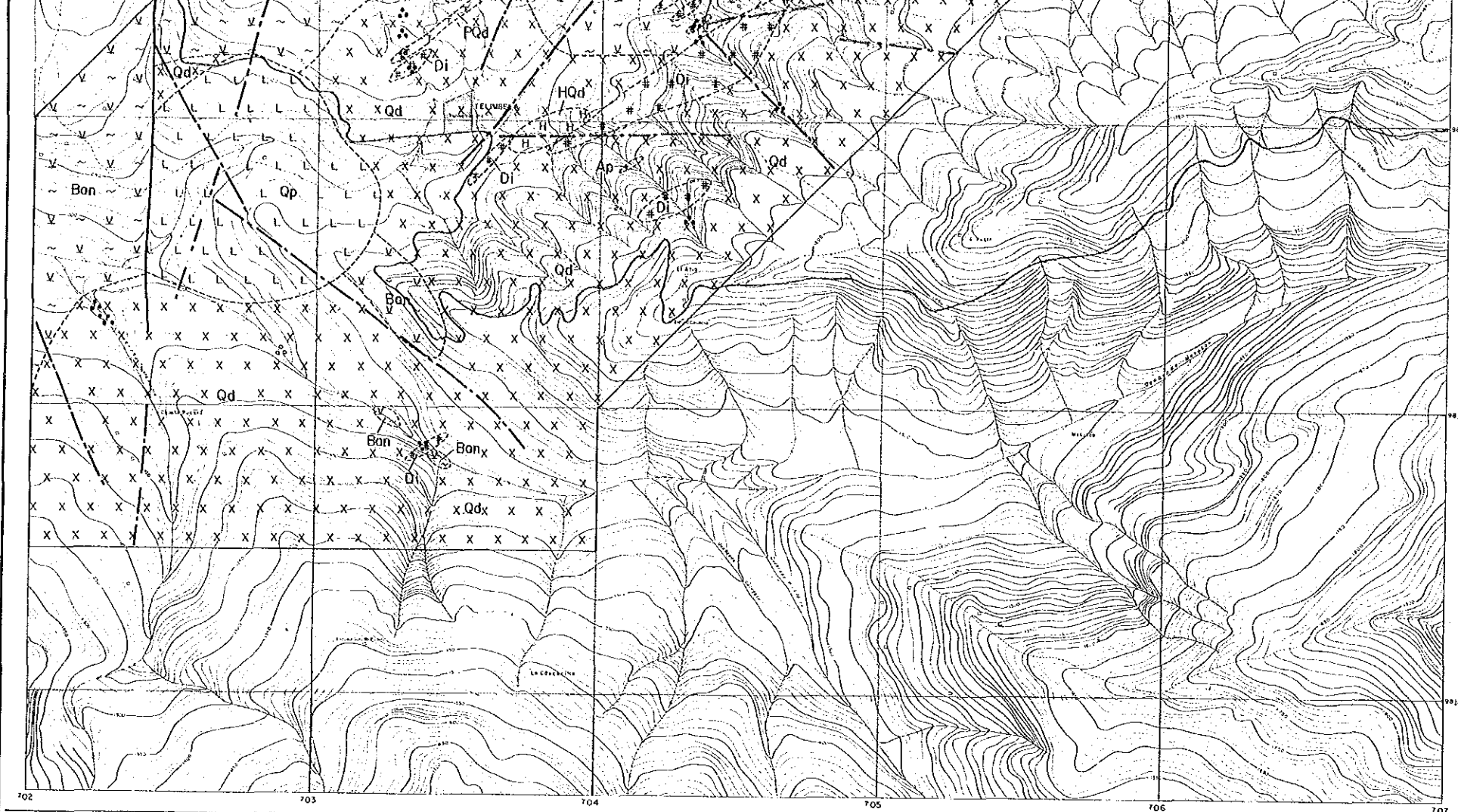
JAPAN INTERNATIONAL COOPERATION AGENCY
 METAL MINING AGENCY OF JAPAN
 JAN. 1990

Scale 1:10,000

LEGEND

- | | | |
|------------------------------------|----------------------------|---|
| Cretaceous
Macuchi
Formation | [Box with 'v' symbols] | Hornfels (basaltic andesite ~ andesite) |
| | | |
| [Box with 'l' symbols] | Quartz porphyry | |
| [Box with 'd' symbols] | Melanocratic diorite | |
| [Box with 't' symbols] | Porphyritic quartz diorite | |
| [Box with 'h' symbols] | Hornblende quartz diorite | |
| | [Dip and strike symbol] | Dip and strike of bedding plane |
| | [Wavy line symbol] | Geological boundary |
| | [Dashed line symbol] | Fault |
| | [Dotted area symbol] | Mineralized zone |
| | [Line with 'A' and 'B'] | Section line |





LEGEND

- Cretaceous Mochi Formation { Ban x x Hornfels (basaltic andesite- andesite)
- Intrusive Rocks {
 - Qd x x Quartz diorite
 - Qp L L Quartz porphyry
 - Di # # Melanocratic diorite
 - PQd T T Porphyritic quartz diorite
 - HQd H H Hornblende quartz diorite
- 20 Dip and strike of bedding plane
- ~ ~ Geological boundary
- — Fault
- • • Mineralized zone
- A — B Section line

LEYENDA

- CAMINO DE HERRAJUNTA
- RIOS PERMANENTES
- ALBERGUES
- CLAYTON DE HERRAJUNTA
- PUEBLO

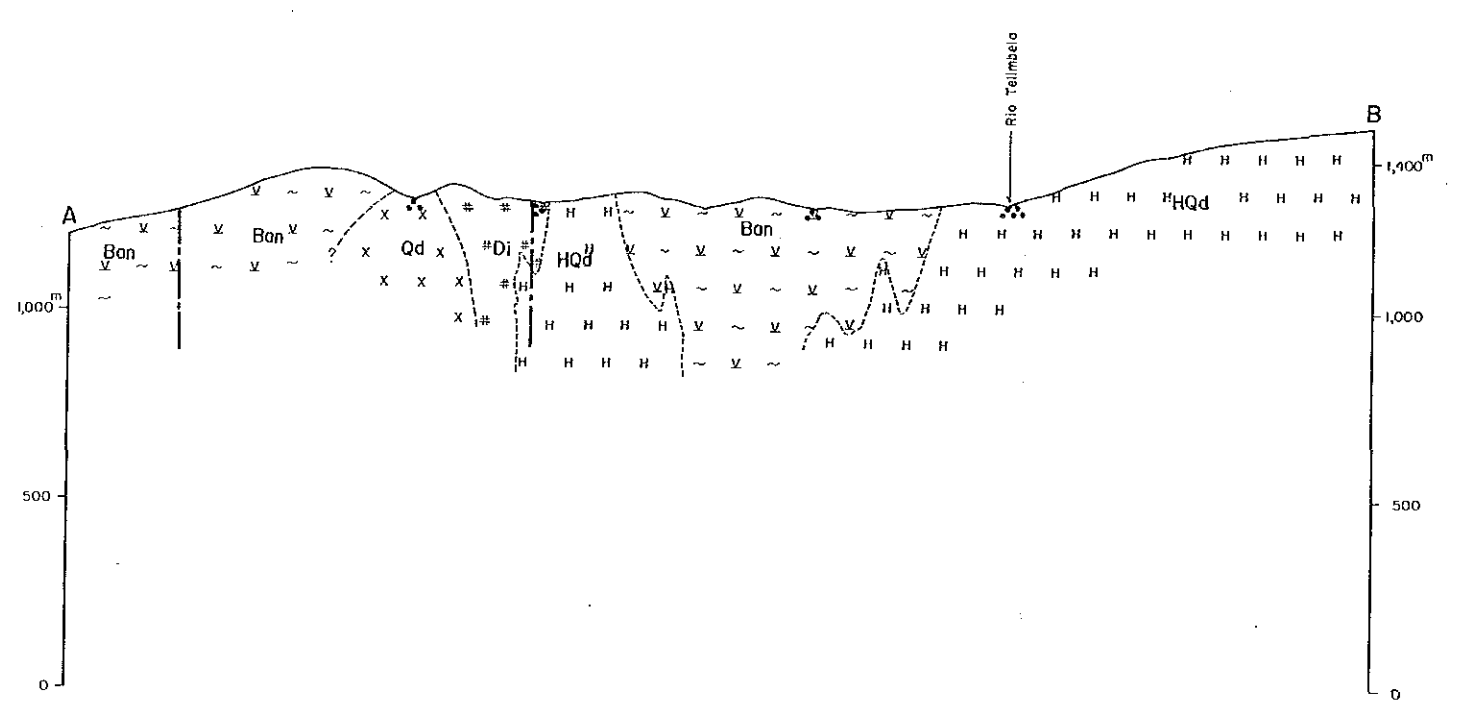
INSTITUTO ECUATORIANO DE MINERIA
INEMIN

PROYECTO BOLIVAR

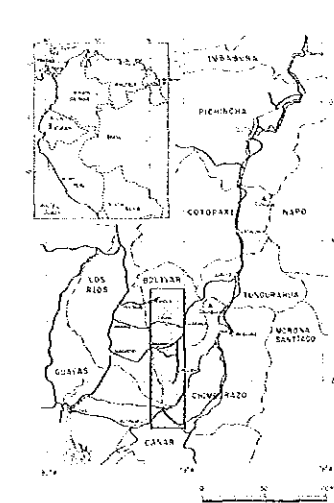
RESTITUCION
AEROFOTOGRAFICO
DEL SECTOR DE TELIMBELA

RESTITUCION POR DATOS DEL ANEXO N° 100000
ELABORACION Y DISEÑO POR ALBERTO MORALES VILLALBA

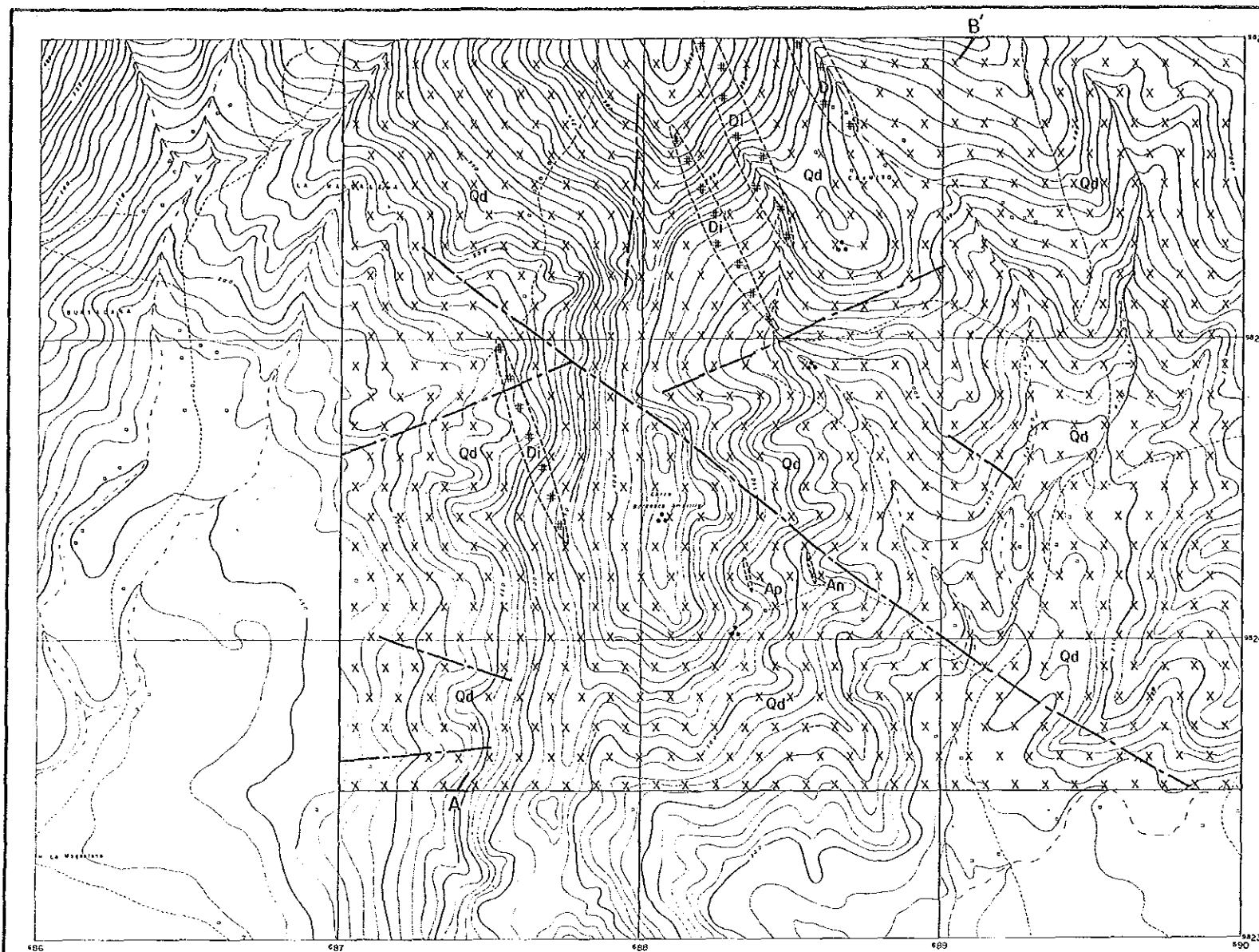
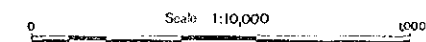
ESCALA: 1:10000 FECHA: JUNIO DE 1983



THE COOPERATIVE MINERAL EXPLORATION
 IN
 THE BOLIVAR AREA, ECUADOR
 PHASE II
 Geological Map and Profile
 of the La Industria-Yatubi Area



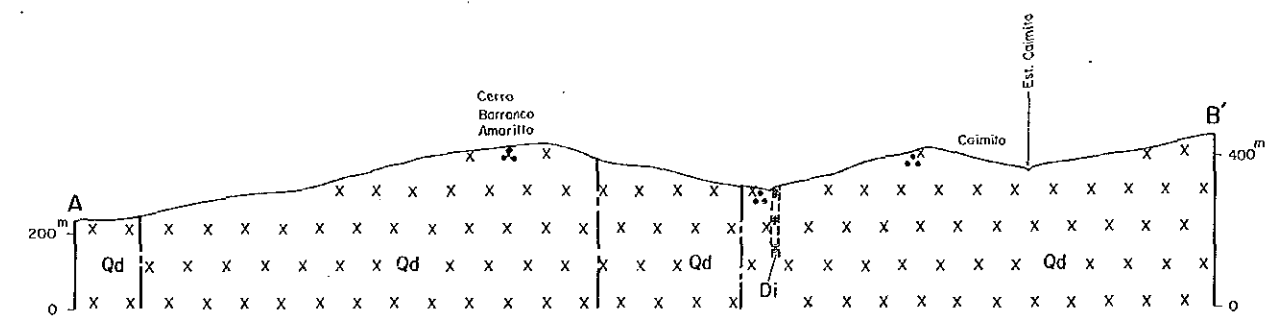
JAPAN INTERNATIONAL COOPERATION AGENCY
 METAL MINING AGENCY OF JAPAN
 JAN. 1990



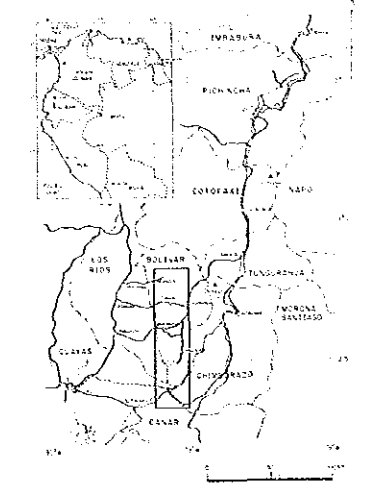
 	<p>LEYENDA</p> <ul style="list-style-type: none"> LÍNEAS DE NIVEL LÍNEA DE VALLADO LÍNEA DE CERRAMIENTO CERCA CERRAMIENTO 	<p>INSTITUTO ECUATORIANO DE MINERÍA IHEMIN</p> <p>PROYECTO BOLIVAR</p> <p>RESTITUCION AEROFOTOGRAFICA DEL SECTOR LA INDUSTRIA</p> <p>ESTADIA 2:10,000 FECHA JUNIO DE 1988</p>
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LEGEND

- | | | |
|-----------------|--|----------------------|
| Intrusive Rocks | | Quartz diorite |
| | | Melanocratic diorite |
| | | Andesite dyke |
| | | Aplite dyke |
| | | Geological boundary |
| | | Fault |
| | | Mineralized zone |
| | | Vein |
| | | Section line |

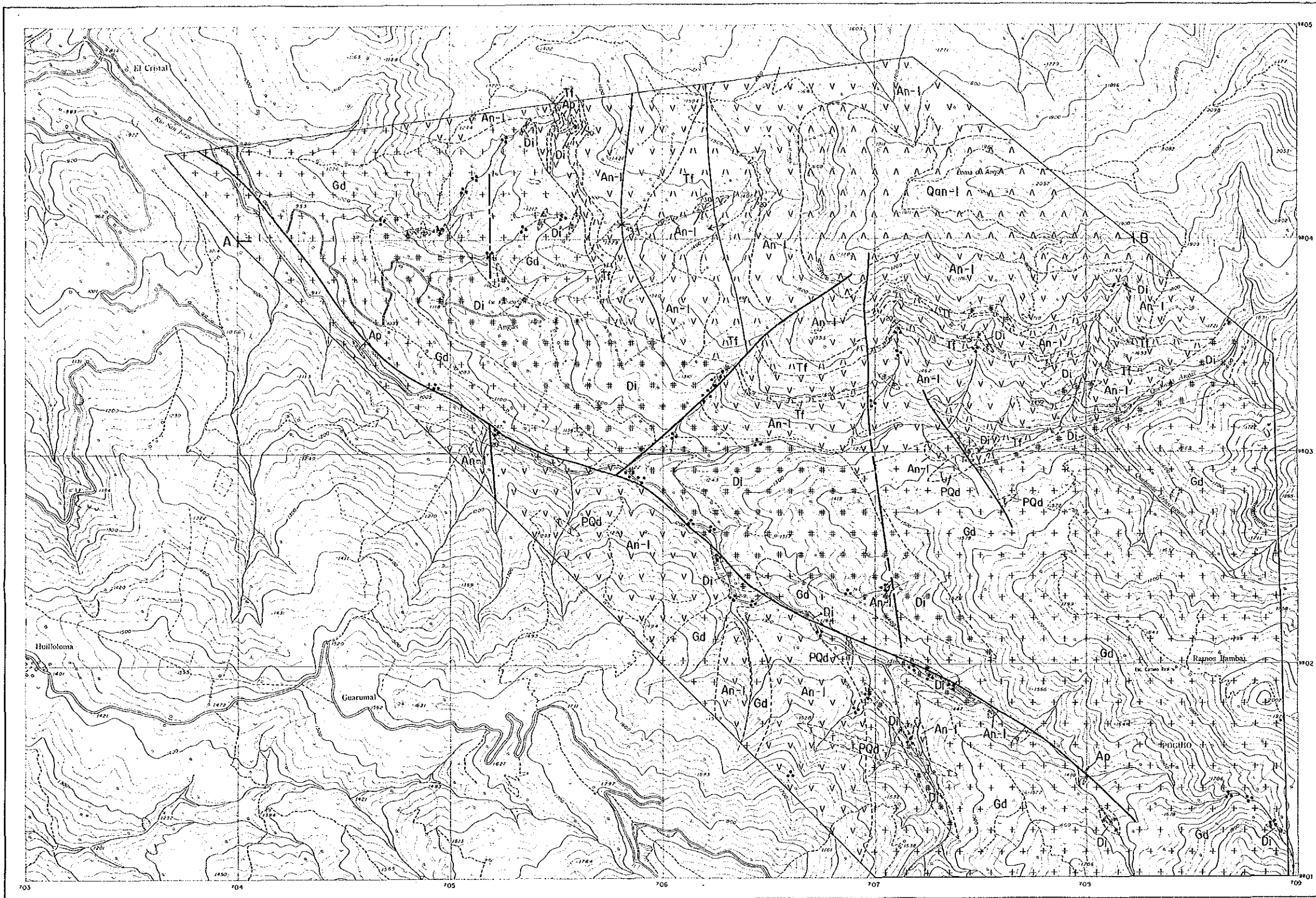


THE COOPERATIVE MINERAL EXPLORATION
 IN
 THE BOLIVAR AREA, ECUADOR
 PHASE II
 Geological Map and Profile
 of the Las Guardias Area



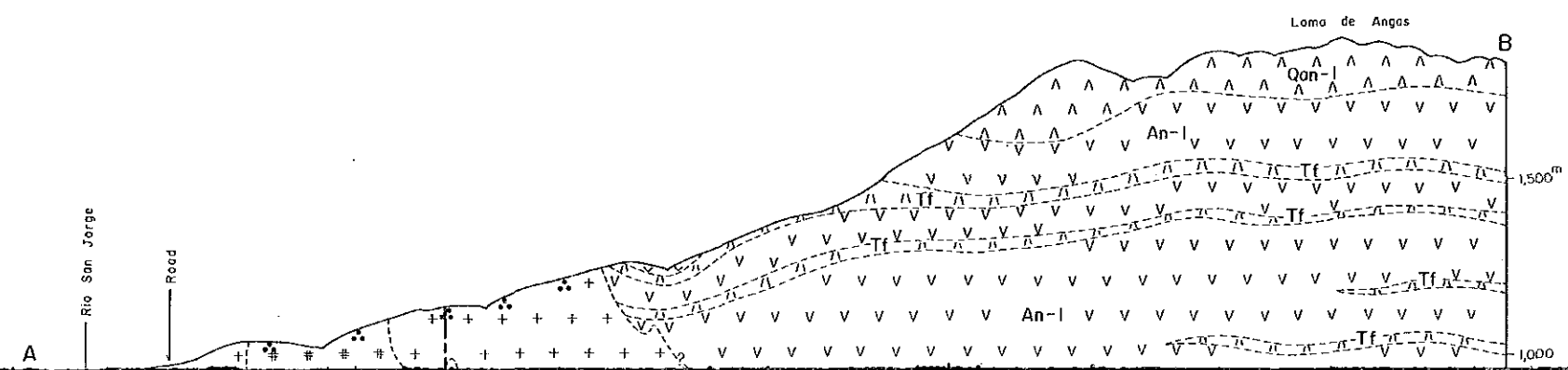
JAPAN INTERNATIONAL COOPERATION AGENCY
 METAL MINING AGENCY OF JAPAN
 JAN. 1990

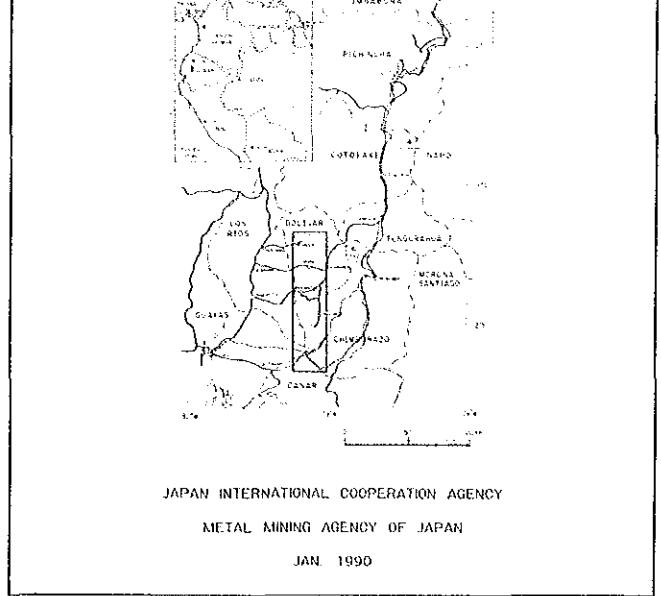
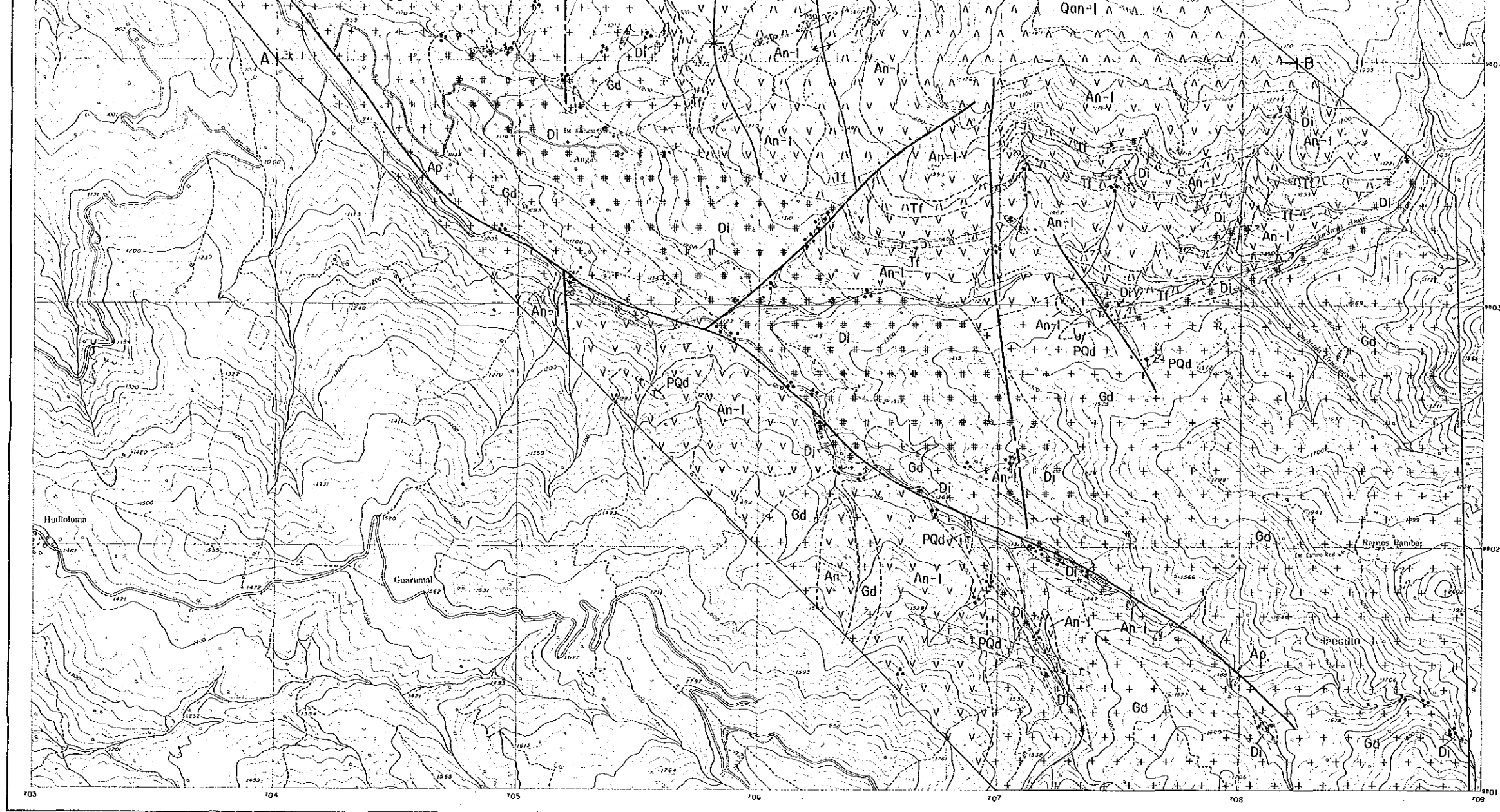
Scale 1:10,000



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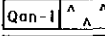
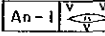
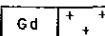
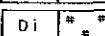
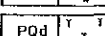
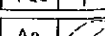
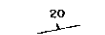

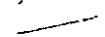


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|------------------------------|--|---|
| Cretaceous Macuchi Formation | | Quartz-bg. andesite lava (B Member) |
| | | Andesitic horafels with pyroclastics and sediment (Tf) (A Member) |
| Intrusive Rocks | | Granodiorite |
| | | Metacratitic diorite |
| | | Porphyritic quartz diorite |
| | | Aplite dyke |
| | | Dip and strike of bedding plane |
| | | Geological boundary |
| | | Fault |
| | | Mineralized zone |
| | | Section line |





Scale 1:10,000

LEGEND

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|------------------------------|---|---|
| Cretaceous Mocucho Formation |  | Quartz-bg. andesite lava (B Member) |
| |  | Andesitic hornfels with pyroclastics and sediment (Tf) (A Member) |
| Intrusive Rocks |  | Granodiorite |
| |  | Melanocratic diorite |
| |  | Porphyritic quartz diorite |
| |  | Aplite dyke |
| |  | Dip and strike of bedding plane |
| |  | Geological boundary |
| |  | Fault |
| |  | Mineralized zone |
| |  | Section line |

