

REPORT  
ON  
THE MINERAL EXPLORATION  
IN  
THE PACHAPIRIANA AREA  
REPUBLIC OF PERU

(PHASE 1)

MARCH 1989

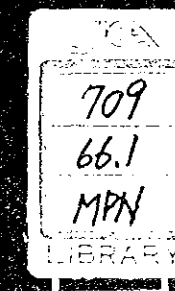
JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN

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 REPORT ON THE MINERAL EXPLORATION IN  
THE PACHAPIRIANA AREA REPUBLIC OF PERU  
(PHASE 1)

MARCH 1989

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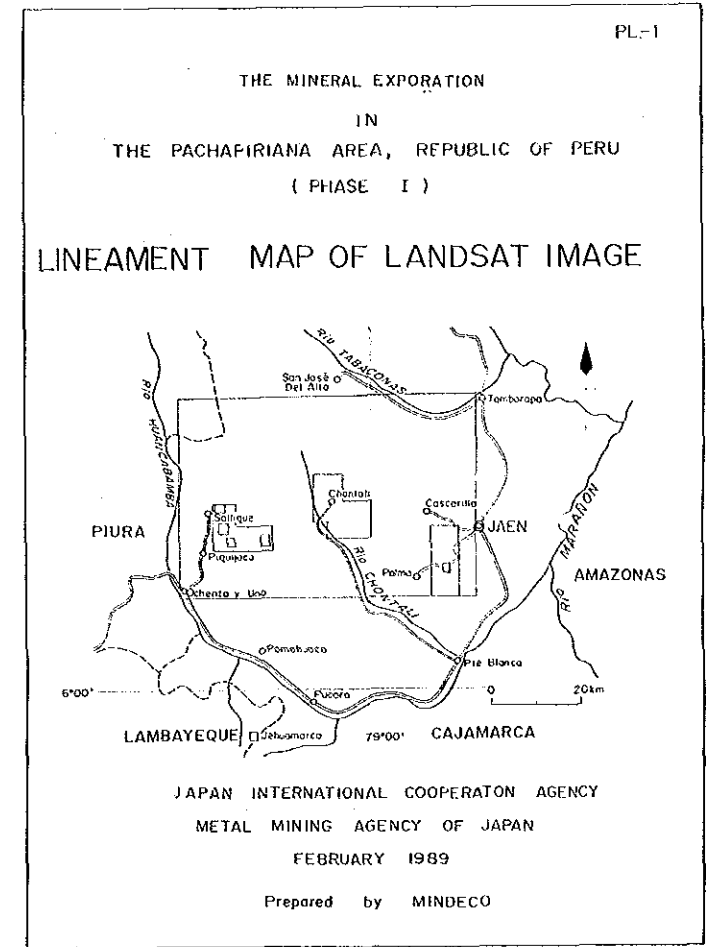
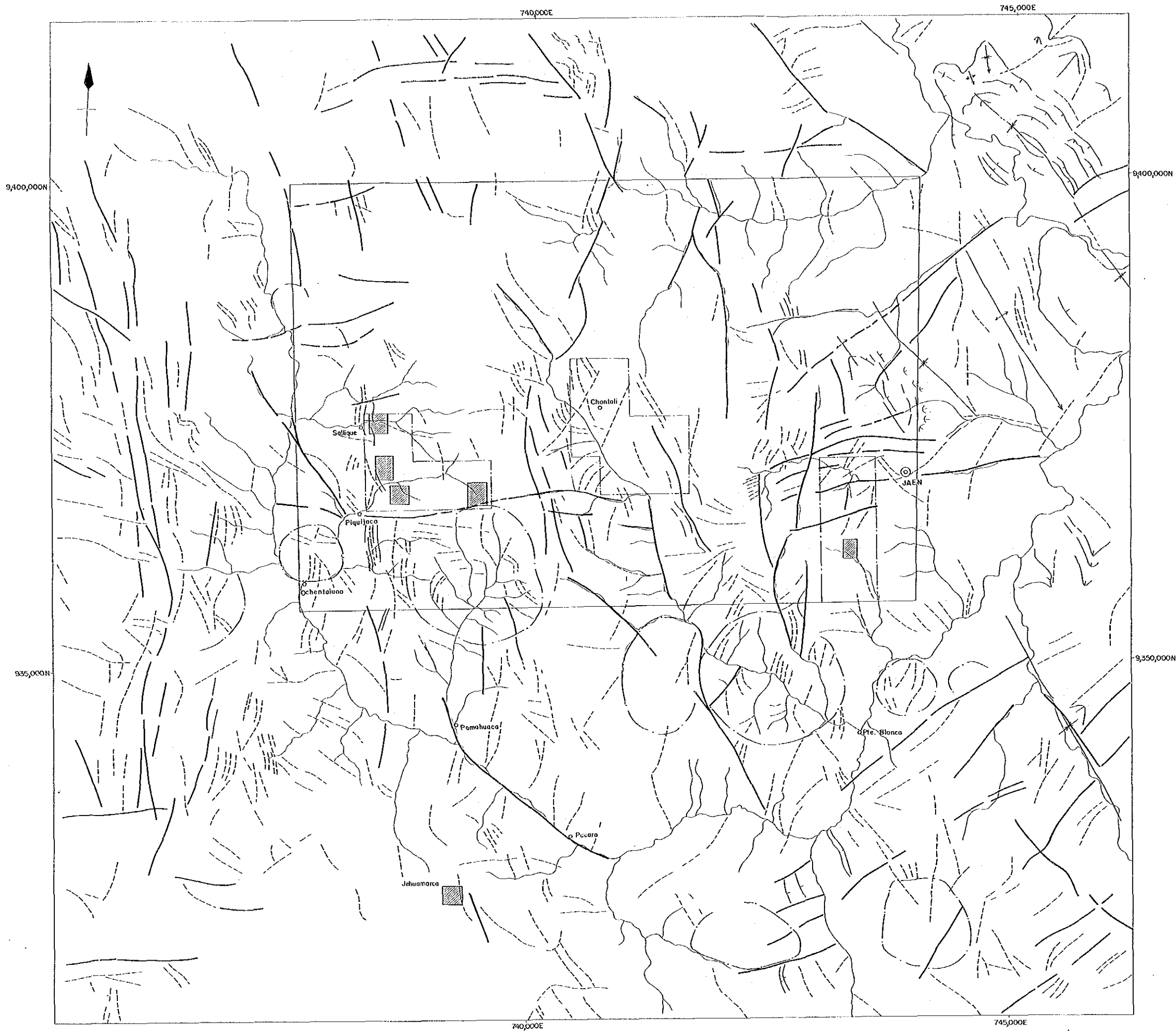


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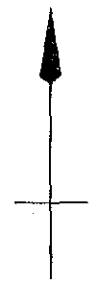
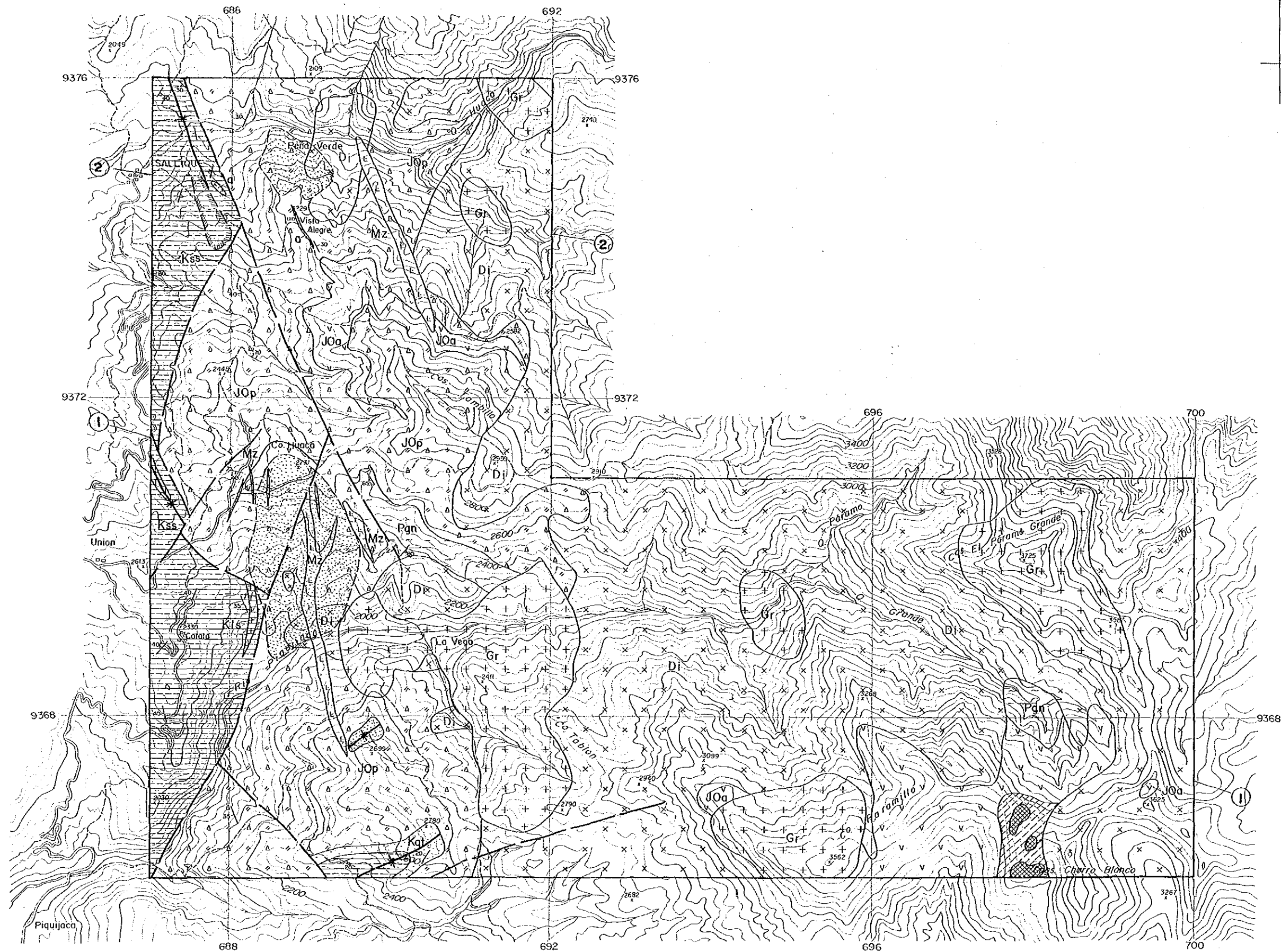
国際協力事業団

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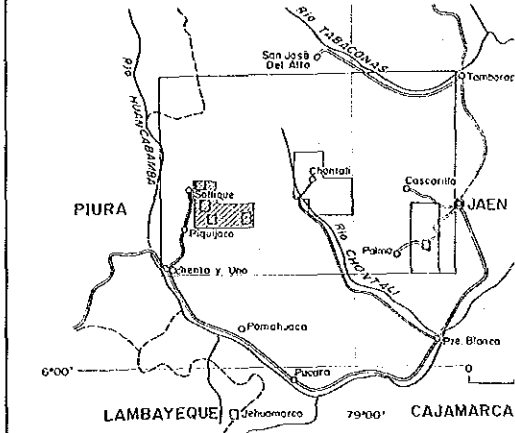
LEGEND  
凡例

- MAJOR LINEAMENTS  
線構造(強)
- MINOR LINEAMENTS  
線構造(弱)
- CIRCULAR FEATURE  
環状構造
- BEDDING  
層理
- ANFICLINAL AXIS  
背斜軸
- SYNCLINAL AXIS  
向斜軸
- SURVEY AREA  
調査地域
- SEMIDETAILED SURVEY AREA  
準調査地区
- DETAILED SURVEY AREA  
精査地区

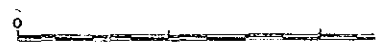


THE MINERAL EXPLORATION  
IN  
THE PACHAPIRIANA AREA, REPUBLIC OF PERU  
( PHASE I )

GEOLOGICAL MAP  
OF THE SAN FELIPE



JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
FEBRUARY 1989

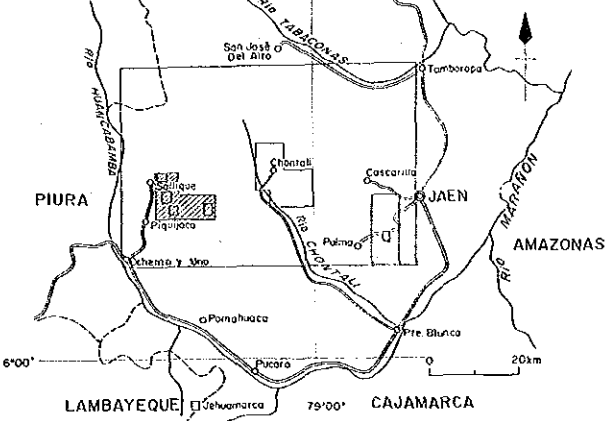


LEGEND

Cretaceous	Paratambo F.	Kss Shale, Sandstone
	Chulec F.	Kls Limestone
	Inca F.	Kqt Quartzite
	Goylla-risquizga GP.	
Jurassic	Oyatun Vol.	JOa Andesite
		JOp Tuff, Tuffbreccia
Silurian	Salas GP.	Pgn Phyllite, Schist, C.
	Ordoician	Omos Cpx
Intrusives		o Andesite
		Mz Monzonite Tonalite
		Gr Granite
		Di Diorite, Granodiorite
		Skorn
Alteration		Silicific Zone

THE MINERAL EXPLORATION  
IN  
THE PACHAPIRIANA AREA, REPUBLIC OF PERU  
( PHASE I )

GEOLOGICAL MAP  
OF THE SAN FELIPE AREA

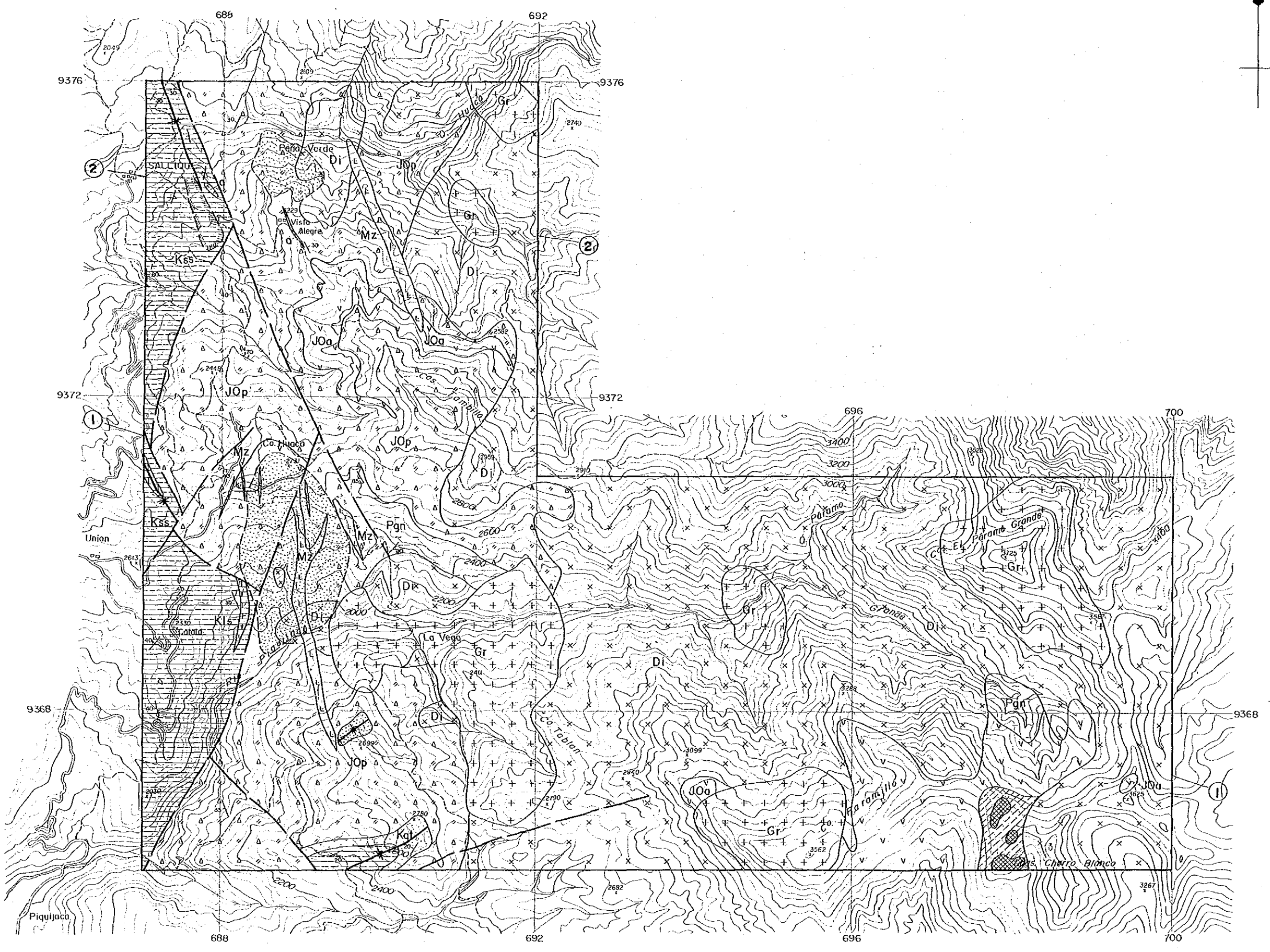


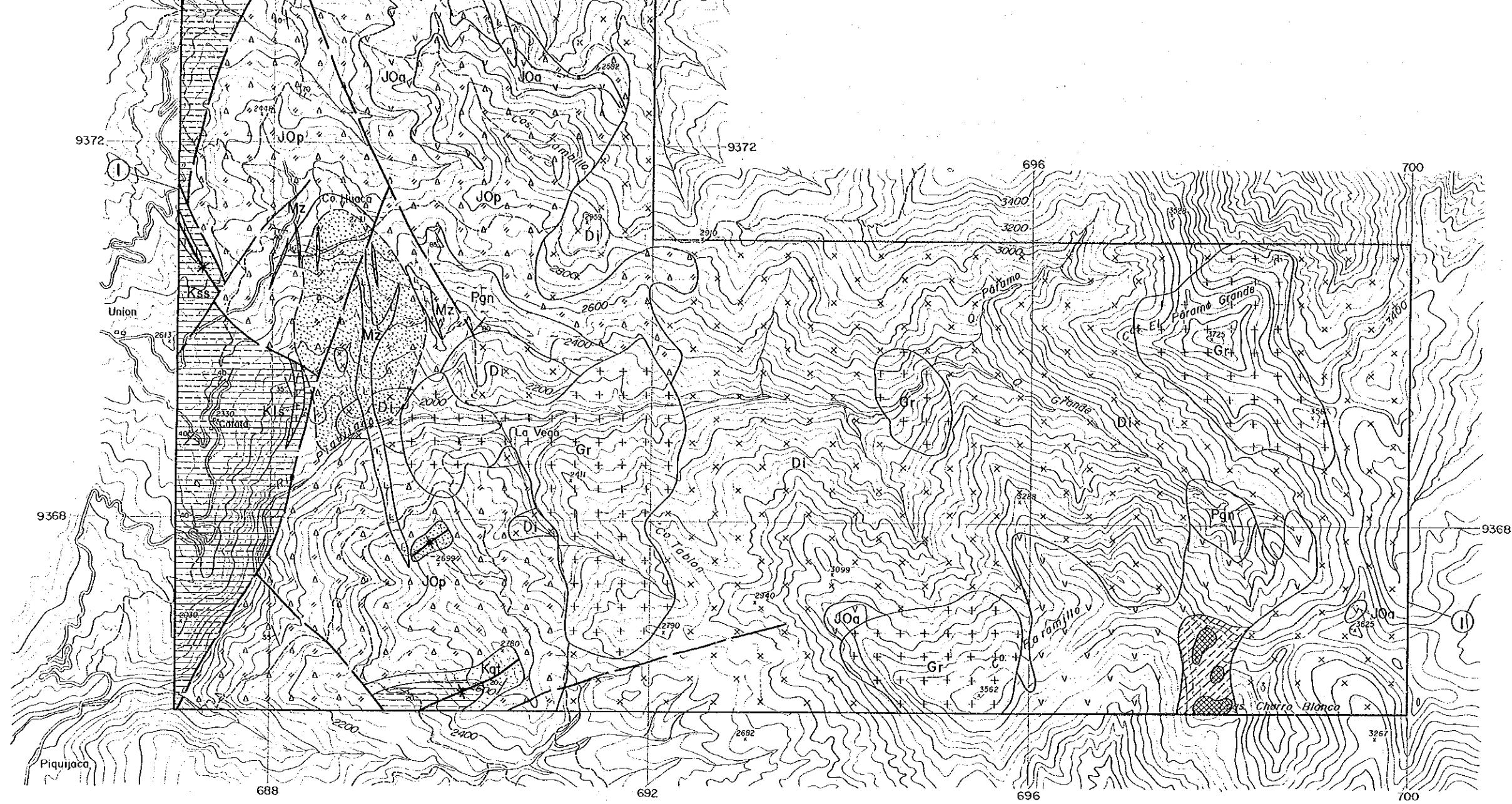
JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
FEBRUARY 1989



LEGEND

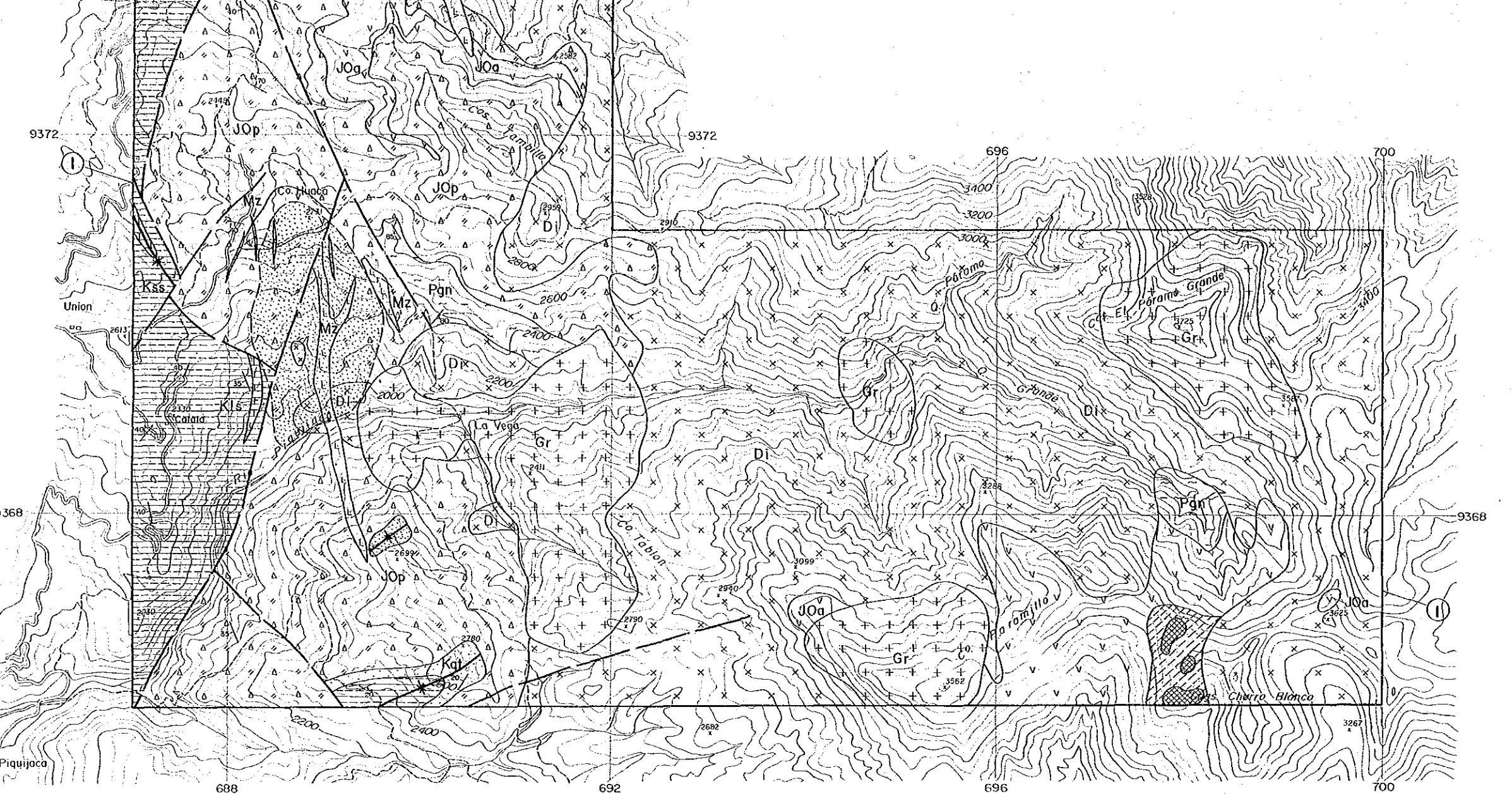
Cretaceous	Pariatambo F.		Kss Shale, Sandstone
	Chulec F.		Kis Limestone
	Inca F.		Kls Limestone
	Goyllarisquizga GP.		Kqt Quartzite
Jurassic			JOa Andesite
	Oyotun Vol.		JOp Tuff, Tuffbreccia, Lapilli Tuff,
Triassic			JOp Tuff, Tuffbreccia, Lapilli Tuff,
			Pgn Phyllite, Schist, Gneiss
Silurian Ordovician	Salas GP.		Pgn Phyllite, Schist, Gneiss
	Oimos Cpx		Pgn Phyllite, Schist, Gneiss
<b>Intrusives</b>			
			a Andesite
			Mz Monzonite, Tonalite
			Gr Granite
			Di Diorite, Granodiorite
<b>Alteration</b>			
			Skarn
			Silicific Zone






LEGEND

- |                        |                     |  |                          |
|------------------------|---------------------|--|--------------------------|
| Cretaceous             | Parlatambo F.       |  | Kss Shale, Sandstone     |
|                        | Chatec F.           |  | Kls Limestone            |
|                        | Inca F.             |  | Kls Limestone            |
|                        | Goylla-risquiza GP. |  | Kqz Quartzite            |
| Jurassic               | Oyfun Vol.          |  | JOa Andesite             |
|                        | Triassic            |  | JOp Tuff, Tuffbreccia    |
| Silurian<br>Ordovician | Salas GP.           |  | Pgn Phyllite, Schist     |
|                        | Olmos Cpx           |  | Pgn Phyllite, Schist     |
| Intrusives             |                     |  | a Andesite               |
|                        |                     |  | Mz Monzonite Tonalite    |
|                        |                     |  | Gr Granite               |
|                        |                     |  | Di Diorite, Granodiorite |
| Alteration             |                     |  | Skarn                    |
|                        |                     |  | Silicified Zone          |
|                        |                     |  | Chloritized Zone         |
| Others                 |                     |  | Fault                    |
|                        |                     |  | Anticlinal Axis          |
|                        |                     |  | Synclinal Axis           |
|                        |                     |  | Bedding                  |
|                        |                     |  | Schistosity              |
|                        |                     |  | Landslide                |



LAMBAYEQUE  CAJAMARCA

JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
FEBRUARY 1989

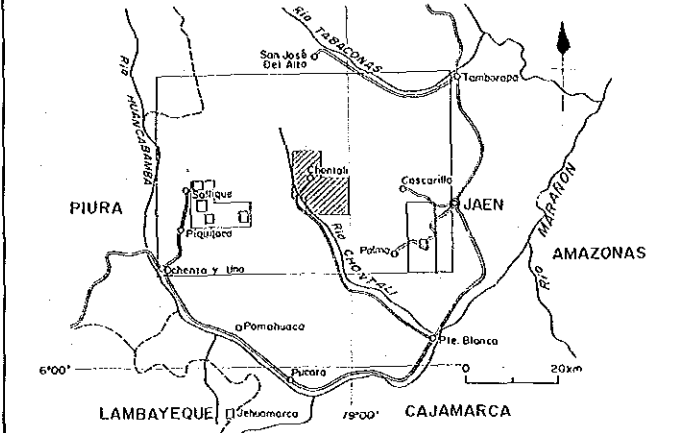


LEGEND

- |                        |  |                                     |
|------------------------|--|-------------------------------------|
| Paritalambo F.         |  | Kss Shale, Sandstone                |
| Cretaceous             |  | Chulec F. Kls Limestone             |
|                        |  | Inca F. Kls Limestone               |
|                        |  | Goylla-risquizga GP. Kqt Quartzite  |
| Jurassic               |  | JOa Andesite                        |
|                        |  | JOp Tuff, Tuffbreccia, Lapilli Tuff |
| Triassic               |  | JOp Tuff, Tuffbreccia, Lapilli Tuff |
| Silurian<br>Ordovician |  | Pgn Phyllite, Schist, Gneiss        |
|                        |  | Olmos Cpx                           |
| <b>Intrusives</b>      |  |                                     |
|                        |  | a Andesite                          |
|                        |  | Mz Monzonite, Tonalite              |
|                        |  | Gr Granite                          |
|                        |  | DI Diorite, Granodiorite            |
| <b>Alteration</b>      |  |                                     |
|                        |  | Skarn                               |
|                        |  | Silicified Zone                     |
|                        |  | Chloritized Zone                    |
| <b>Others</b>          |  |                                     |
|                        |  | Fault                               |
|                        |  | Anticlinal Axis                     |
|                        |  | Synclinal Axis                      |
|                        |  | Bedding                             |
|                        |  | Schistosity                         |
|                        |  | Landslide                           |

THE MINERAL EXPLORATION  
IN  
THE PACHAPIRIANA AREA, REPUBLIC OF PERU  
( PHASE I )

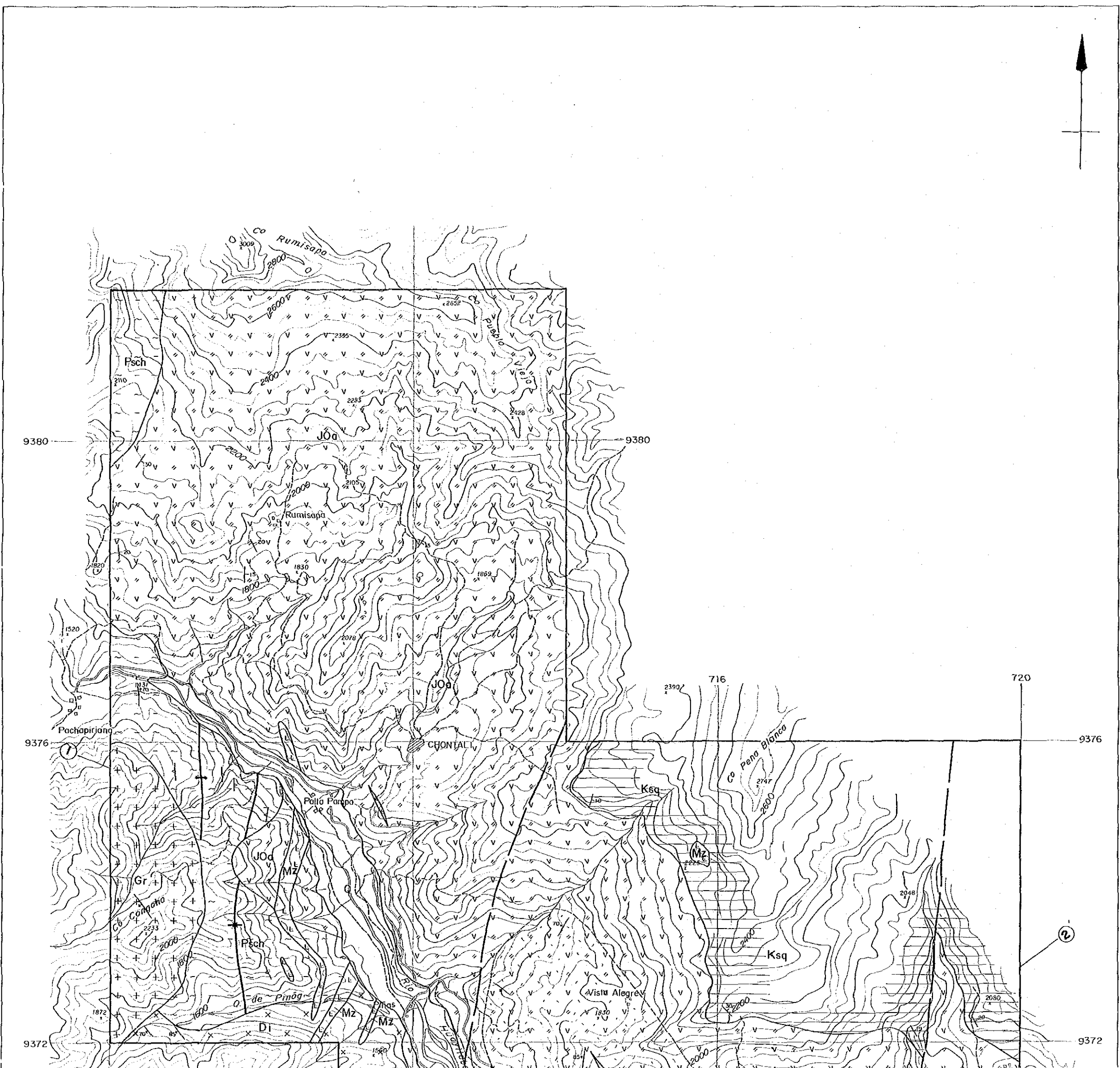
GEOLOGICAL MAP  
OF THE CHONTALI AREA



JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
FEBRUARY 1989

LEGEND

Quaternary	Alluvium		Gravel, Sand
Cretaceous	Pariatambo F.		Sandstone, limestone
	Chulec F.		Quartzite
	Inca F.		
	Coylla-risquizgo GP.		
Jurassic	Oyolon F.		Andesite, Andesitic Pyroclastics
Triassic			Shale, Sandstone
Silurian	Satos Gpe.		Phyllite, Schist
	Olmos Cpx.		
<b>Intrusives</b>			
			Monzonite, Tonalite
			Granite
			Diorite, Granodiorite
<b>Others</b>			
			Quartz Vein
			Fault
			Anticlinal Axis
			Synclinal Axis
			Bedding
			Schistosity

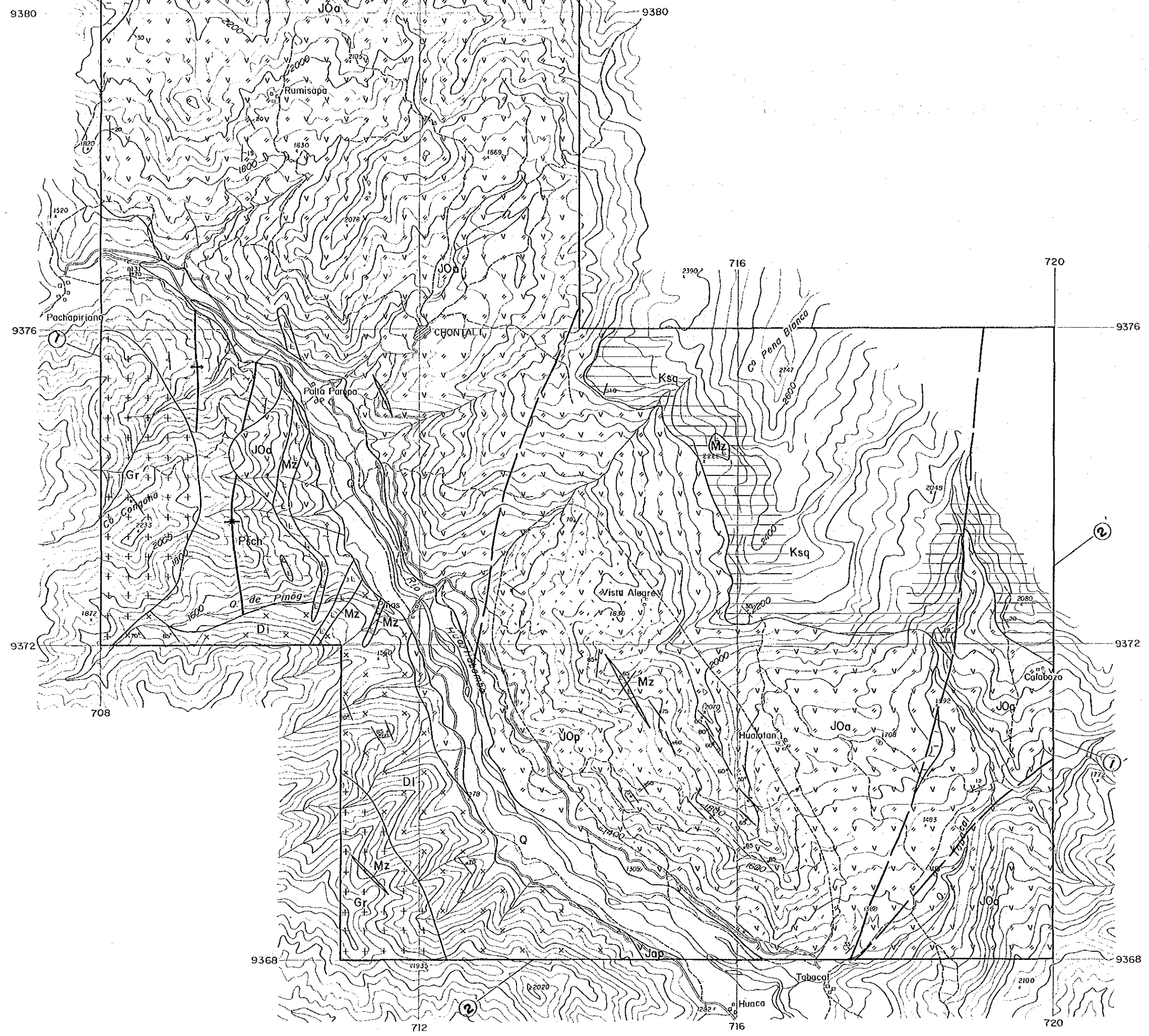






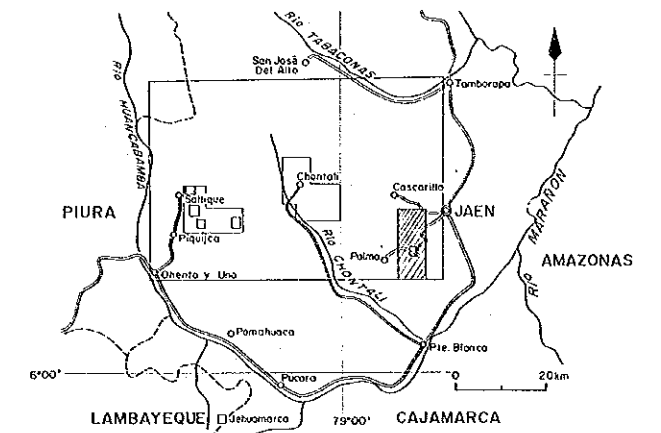
### LEGEND

- |                   |                          |      |   |
|-------------------|--------------------------|------|---|
| Quaternary        | Alluvium                 | Q    | Gravel, Sand<br>Sandstone, limestone    |
| Cretaceous        | Parílambo F.             | Ksq  | Quartzite                               |
|                   | Chilec F.                |      |   |
|                   | Inca F.                  |      |   |
|                   | Goylla-<br>risquizgo GP. |      |   |
| Jurassic          | Oyotun F.                | JOp  | Andesite, Andesitic<br>Shale, Sandstone |
| Triassic          |                          |      |   |
| Silurian          | Sales Gpe.               | Psch | Phyllite, Schist                        |
| Ordovician        | Olnos Cpx.               |      |   |
| <b>Intrusives</b> |                          |      |   |
|                   |                          | Mz   | Monzonite, Tonalite                     |
|                   |                          | Gr   | Granite                                 |
|                   |                          | Di   | Diorite, Granodiorite                   |
| <b>Others</b>     |                          |      |   |
|                   |                          |      | Quartz Vein                             |
|                   |                          |      | Fault                                   |
|                   |                          |      | Anticlinal Axis                         |
|                   |                          |      | Synclinal Axis                          |
|                   |                          |      | Bedding                                 |
|                   |                          |      | Schistosity                             |
|                   |                          |      | Altered zone                            |

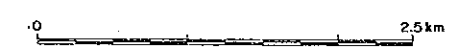


THE MINERAL EXPLORATION  
IN  
THE PACHAPIRIANA AREA, REPUBLIC OF PERU  
( PHASE I )

GEOLOGICAL MAP  
OF THE PALMA AREA

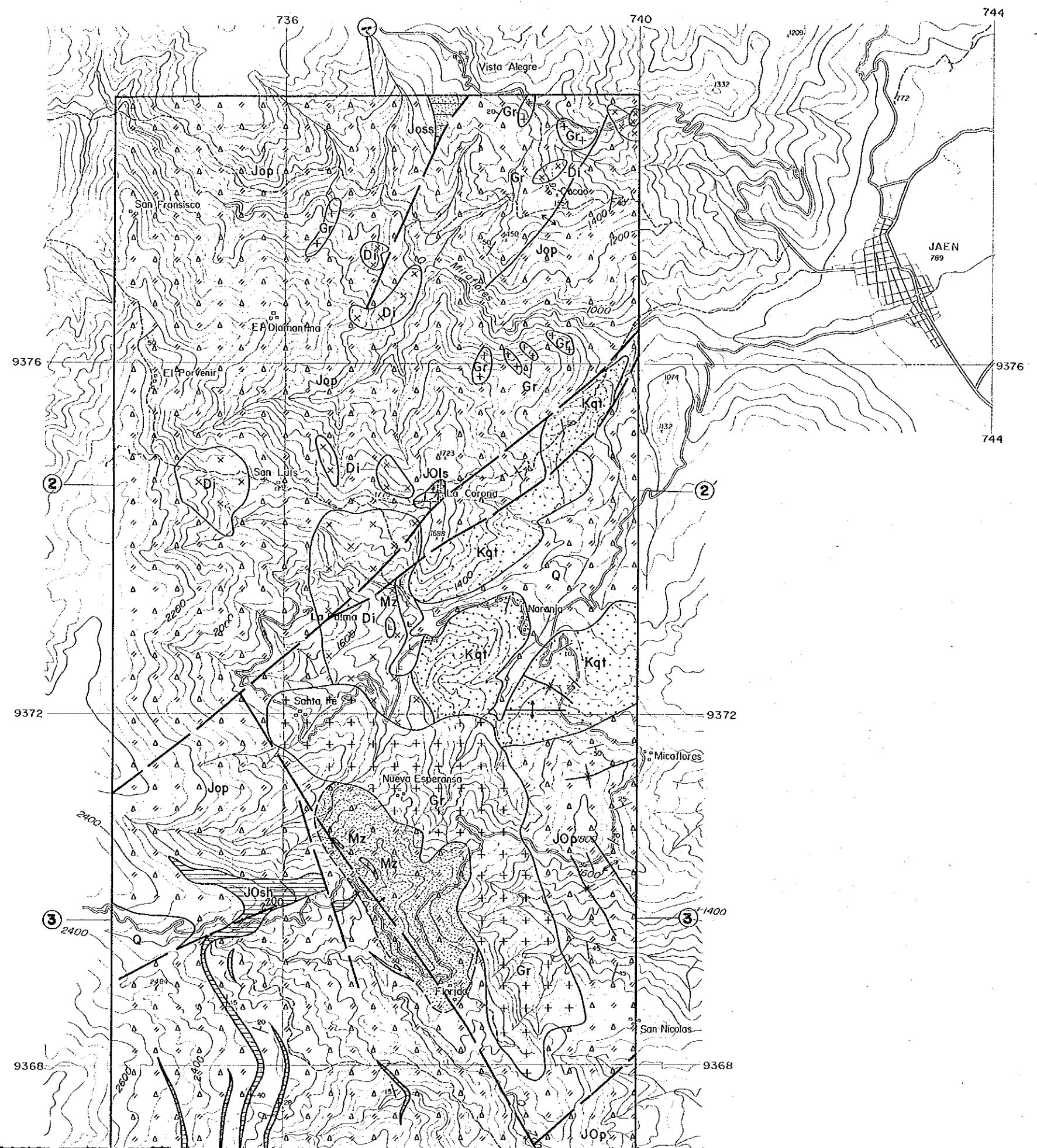


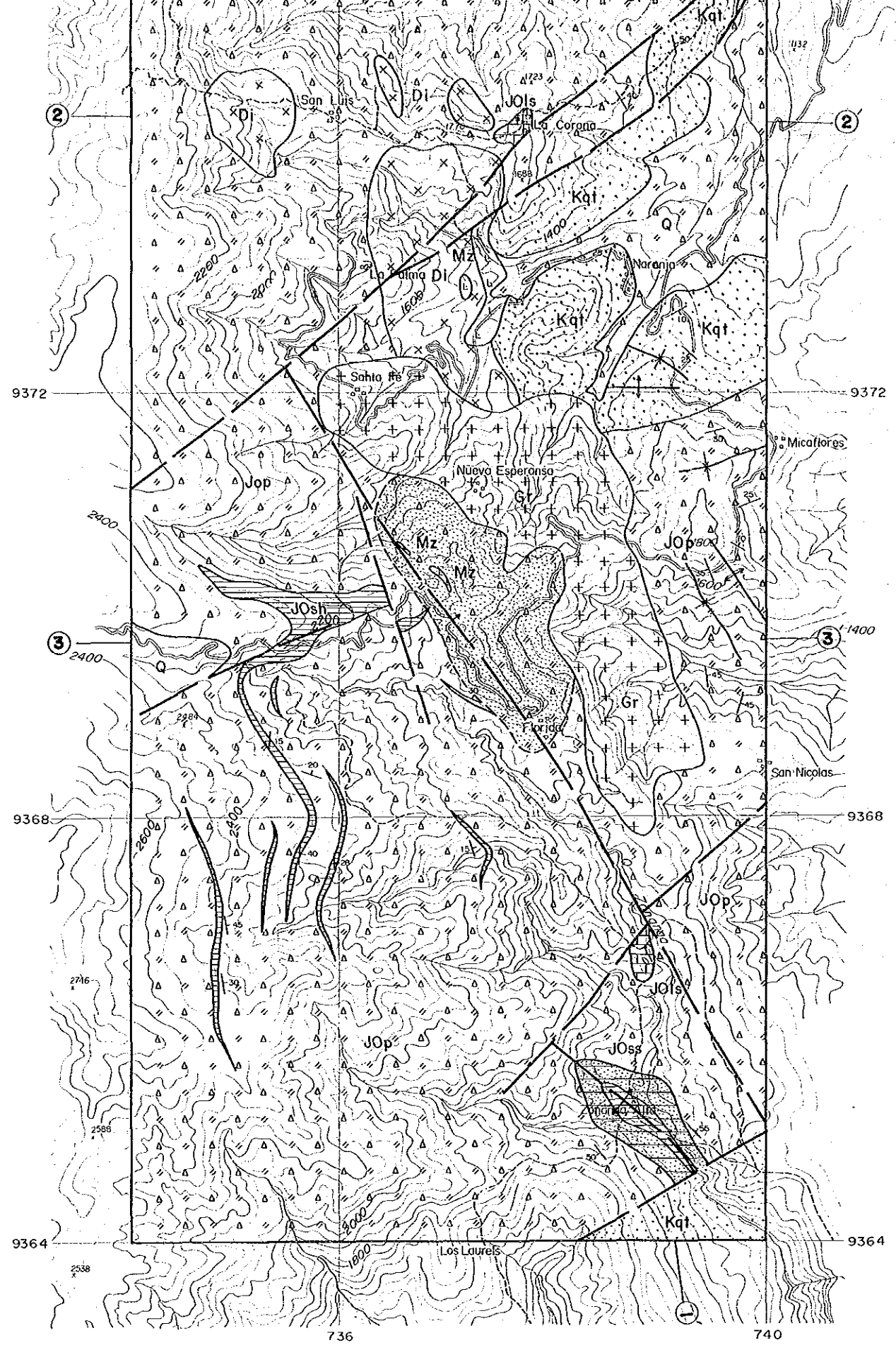
JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
FEBRUARY 1989



LEGEND

Quaternary	Alluvium	Q	Gravel, Sand
Cretaceous	Goylla risquizgo F.	Kqt	Quartzite, Sandstone
Jurassic	Oyolun Vol.	J0sh	Shale
		J0ss	Sandstone
		J0ls	Limestone
		J0p	Andesite, Tuff, Tuffbreccia
Intrusives		Mz	Monzonite, Tonalite
		Gr	Granite
		Di	Diorite, Granodiorite
Others			Silicified Zone
			Fault
			Anticlinal Axis
			Synclinal Axis
			Bedding

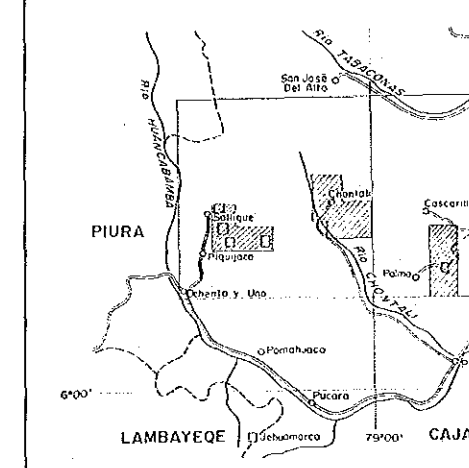




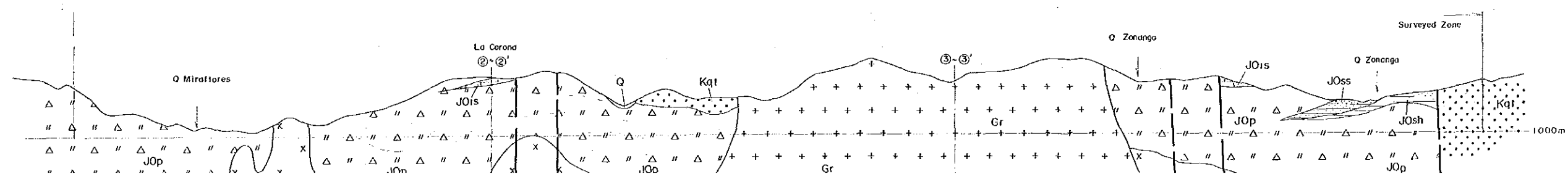
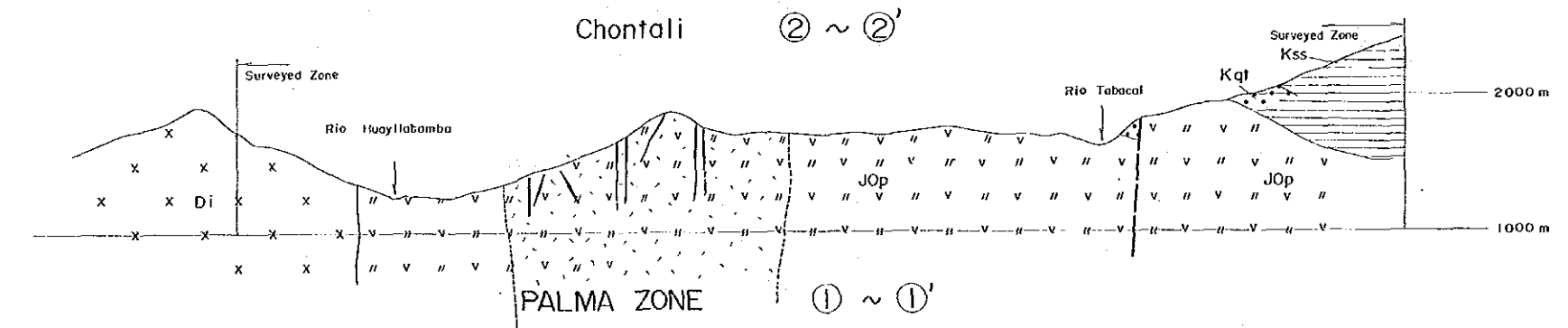
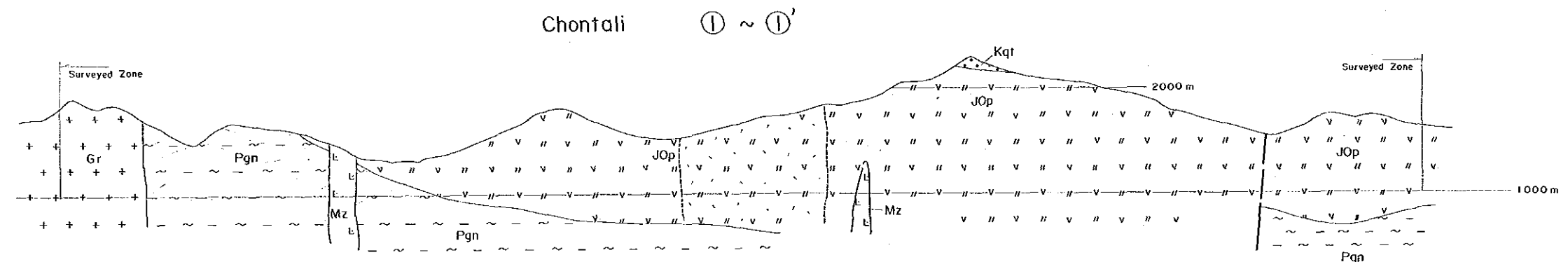
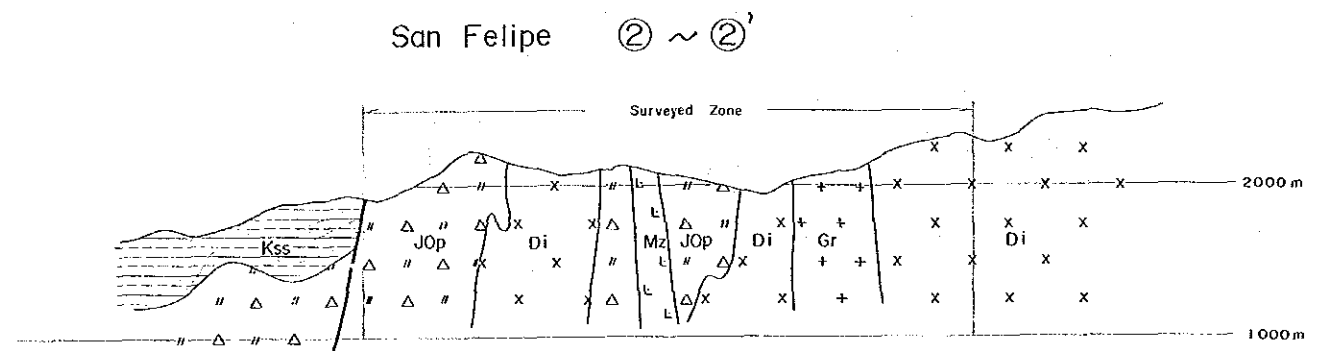
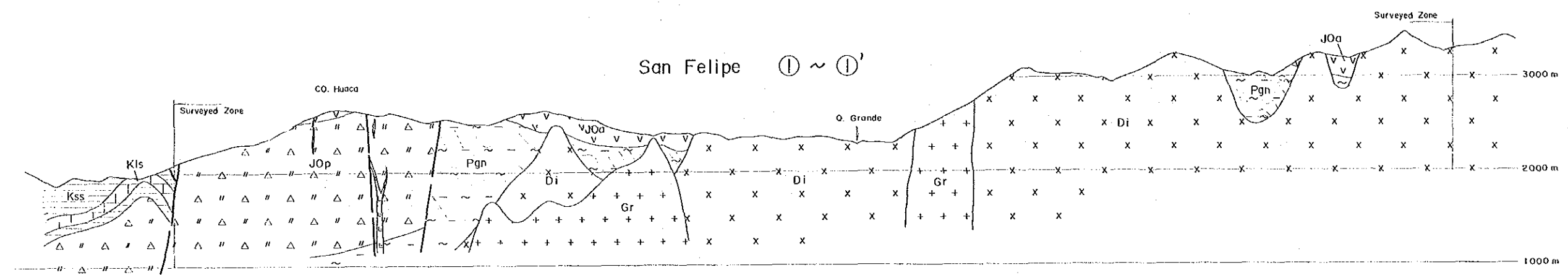
LEGEND

- |                               |      |                             |
|-------------------------------|------|-----------------------------|
| Quaternary Alluvium           | Q    | Gravel, Sand                |
| Cretaceous Goylla rlaquiza F. | Kqt  | Quartzite, Sandstone        |
| Jurassic Oyelun Vol.          | Josh | Shale                       |
|                               | Joss | Sandstone                   |
|                               | Jois | Limestone                   |
|                               | JOp  | Andesite, Tuff, Tuffbreccia |
| <b>Intrusives</b>             |      |                             |
|                               | Mz   | Monzonite, Tonalite         |
|                               | Gr   | Granite                     |
|                               | Di   | Diorite, Granodiorite       |
| <b>Others</b>                 |      |                             |
|                               |      | Silicified Zone             |
|                               |      | Fault                       |
|                               |      | Anticlinal Axis             |
|                               |      | Synclinal Axis              |
|                               |      | Bedding                     |

THE MINERAL EXPLORATION  
IN  
THE PACHAPIRIANA AREA, REPUBLIC OF PERU  
( PHASE I )  
GEOLOGICAL PROJECT  
OF  
THE SEMI DETAILED SURVEY



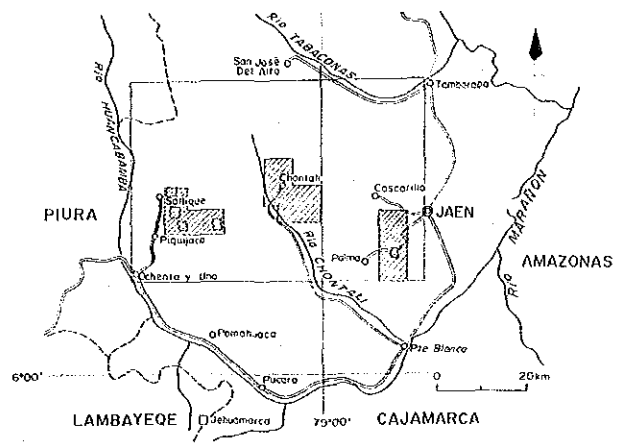
JAPAN INTERNATIONAL COOPERATION  
METAL MINING AGENCY OF JAPAN  
FEBRUARY 1989



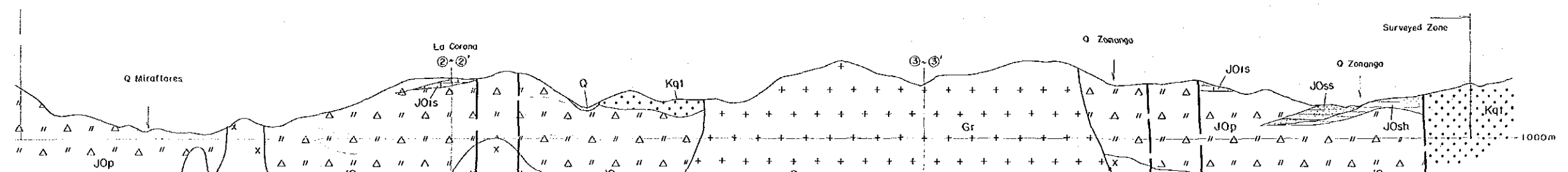
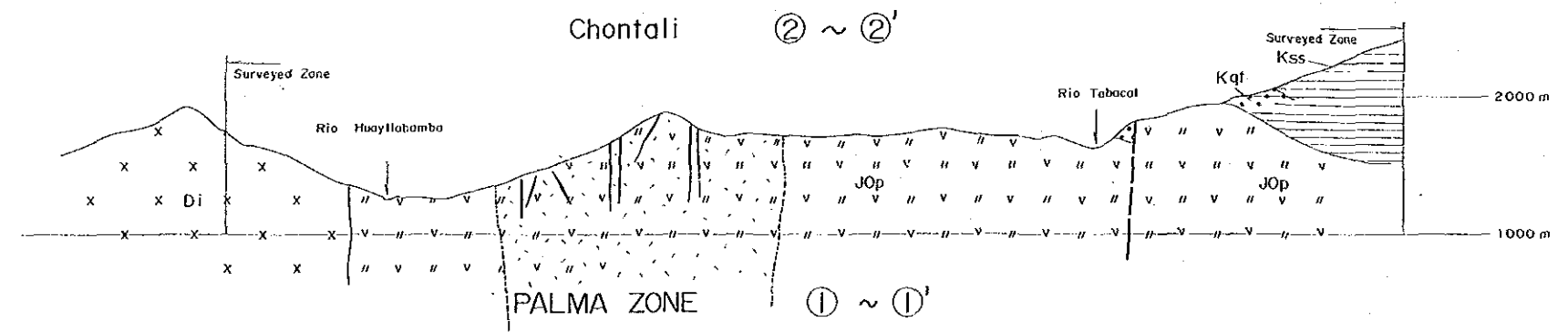
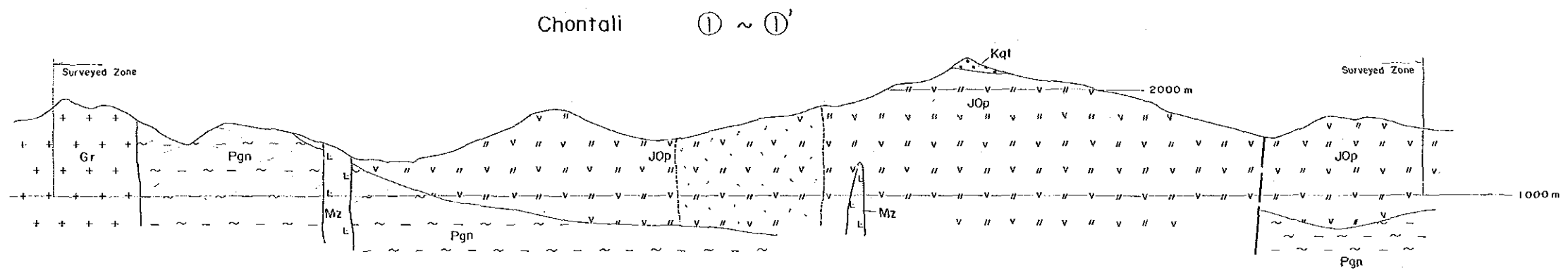
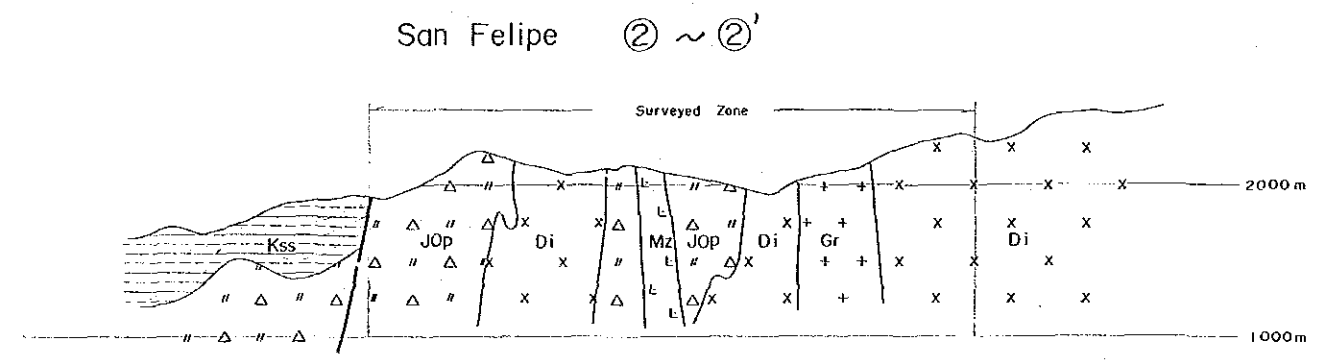
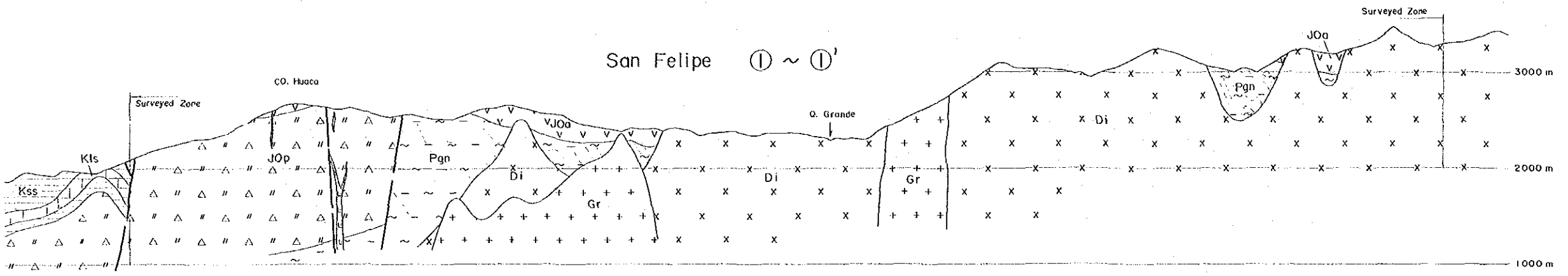
LEGEND

Quaternary	Alluvial	Q	Sand, G
Cretaceous	Pariatambo F.	Kss	Shale, S
	Chulec F.	Kls	Limeston
	Inco F.	Kls	Limeston
	Gavlla-risquizga Gp.	Kqt	Quartzite
Jurassic		JOa	Andesite
		JOsh	Shale
	Oyatun Vol.	JOss	Sandston
		JOis	Limeston
	Triassic	JOp	Tuff, Tu Lapilli tu
Silurian	Solos Gp.	Pgn	Phillite,
	Ofmos Cpx.		
Intrusives		a	Andesite
		Mt	Monzonit
		Gr	Granite
		Di	Diorite,
Others			Silicified
			Fault

















THE MINERAL EXPLORATION  
IN  
THE PACHAPIRIANA AREA, REPUBLIC OF PERU  
( PHASE I )  
GEOLOGICAL PROFILE  
OF  
THE SEMI DETAILED SURVEY AREA

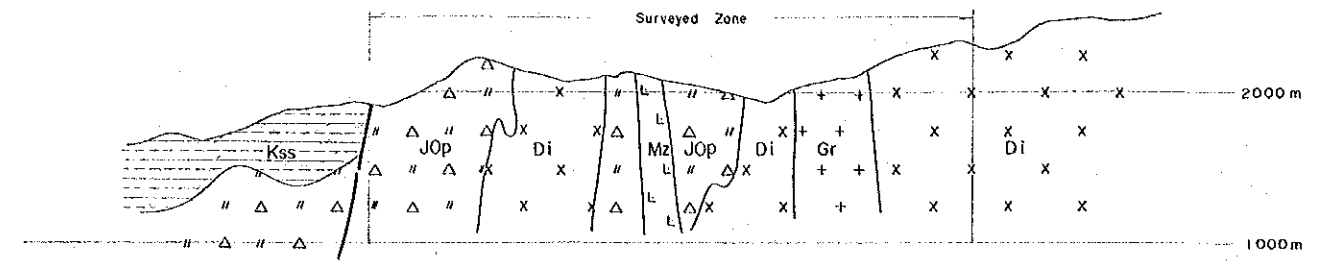


JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
FEBRUARY 1989

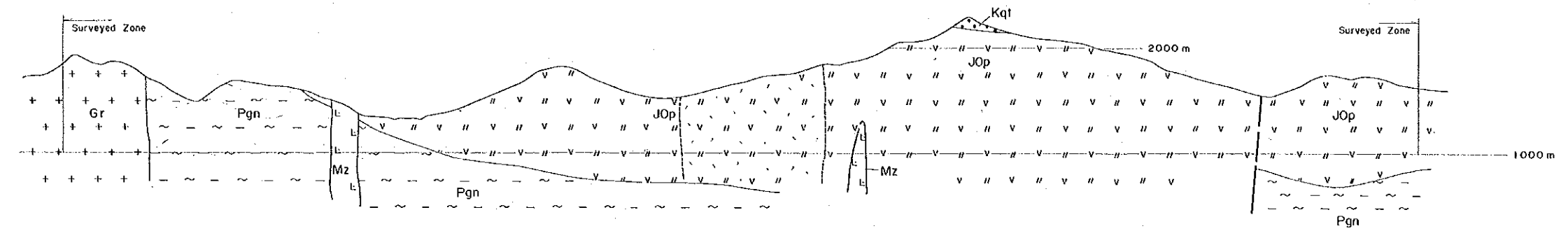


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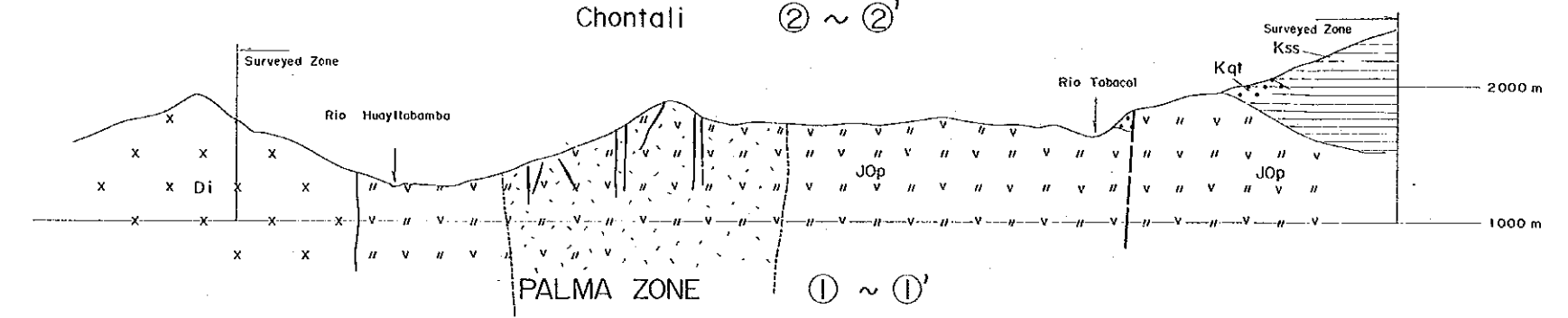
Quaternary	Alluvial		Q Sand, Gravel
Cretaceous	Pariatambo F.		Kss Shale, Sandstone
	Chulec F.		Kls Limestone
	Inca F.		Kqt Quartzite
Jurassic Triassic	Oyotun Vol.		JOa Andesite
			JOSH Shale
			JOSs Sandstone
			JOIs Limestone
Silurian Ordovician	Salas Gp. Oimos Cpx.		JOp Tuff, Tuffbreccia, Lapilli tuff, Andesite
			Pgn Phillite, Schist, Gneiss
Intrusives			a Andesite
			Mt Monzonite, Tonalite
			Gr Granite
			Di Diorite, Granodiorite
Others			Silicified zone
			Fault



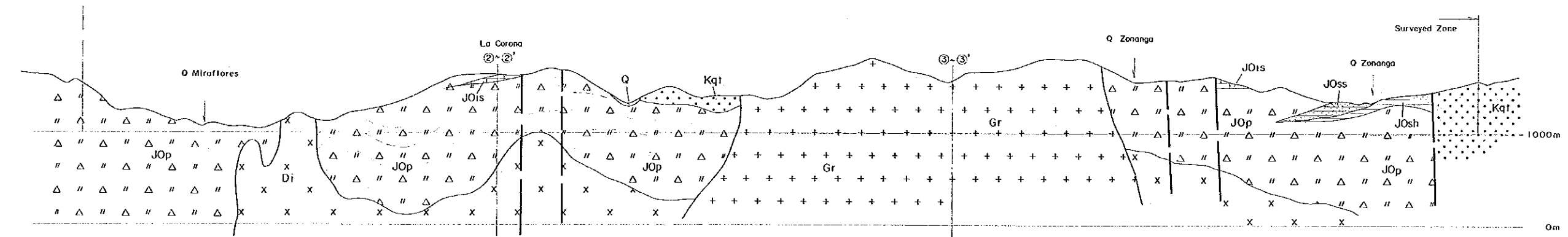
Chontali ① ~ ①'



Chontali ② ~ ②'

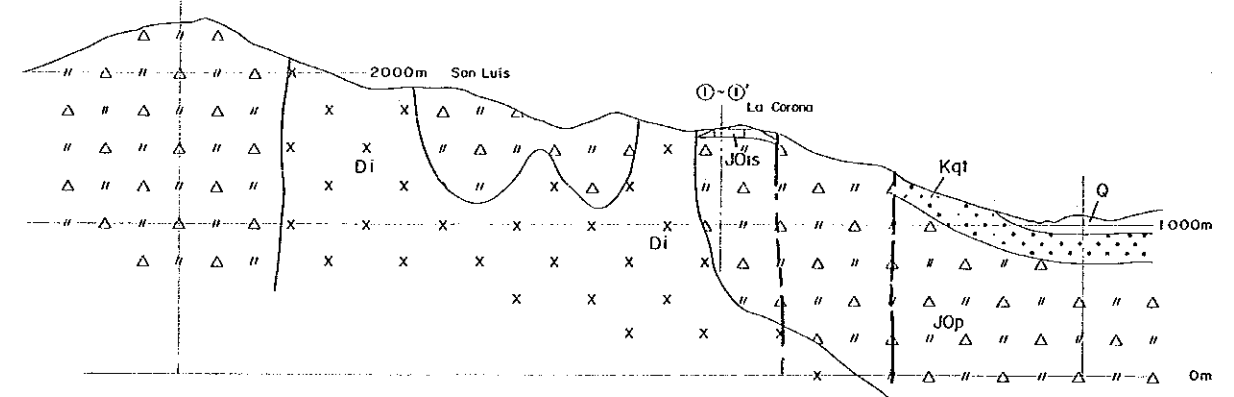


PALMA ZONE ① ~ ①'

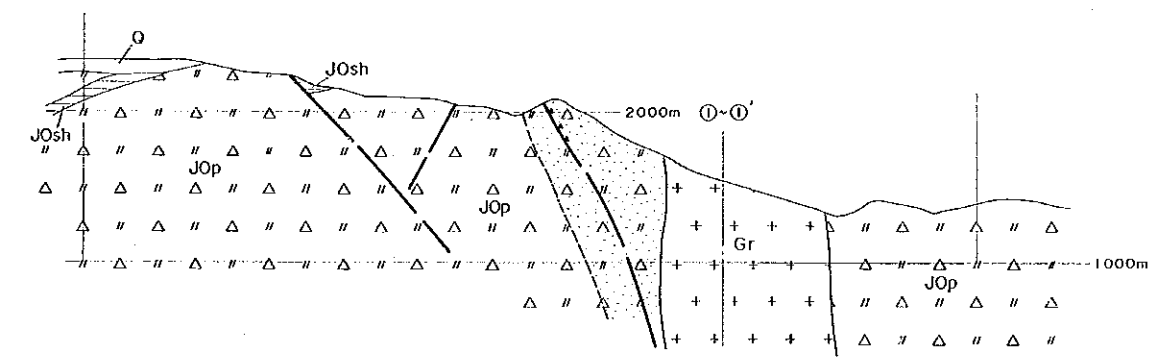


PALMA ZONE ② ~ ②'

PALMA ZONE ③ ~ ③'



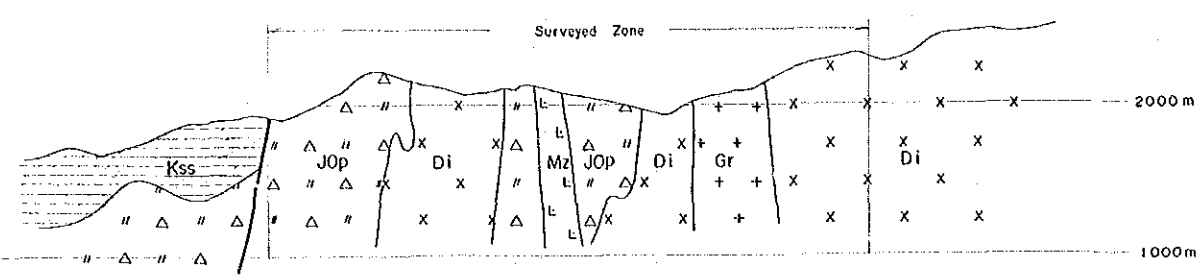
①-①' La Corona



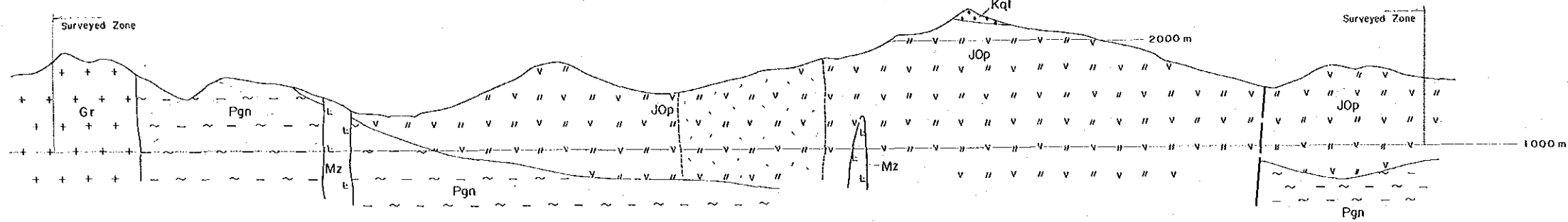
①-①'

LEGEND

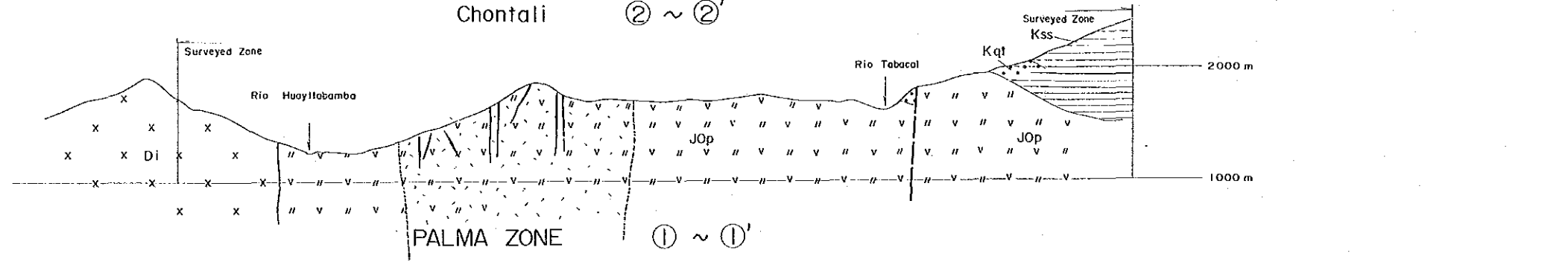
Quaternary	Alluvial	Q	Sand
Cretaceous	Pariatambo F.	Kss	Shale
	Chulec F.	Kls	Limestone
	Inca F.	Kqt	Quartzite
Jurassic Triassic	Govla-risquizga Gp.	JOp	Tuff Lapilli
	Oyulun Vol.	JOp	Andesite
		JOp	Shale
		JOp	Sandstone
		JOp	Limestone
Silurian Ordovician	Salas Gp.	Pgn	Phyllonite
	Olmos Cpx.		
Intrusives	a	Andesite	
	Mt	Monzonite	
	Gr	Granite	
	Di	Diorite	
Others	Silic	Silicification	
	Faul	Fault	
	Cu	Copper	
	Atte	Alteration	



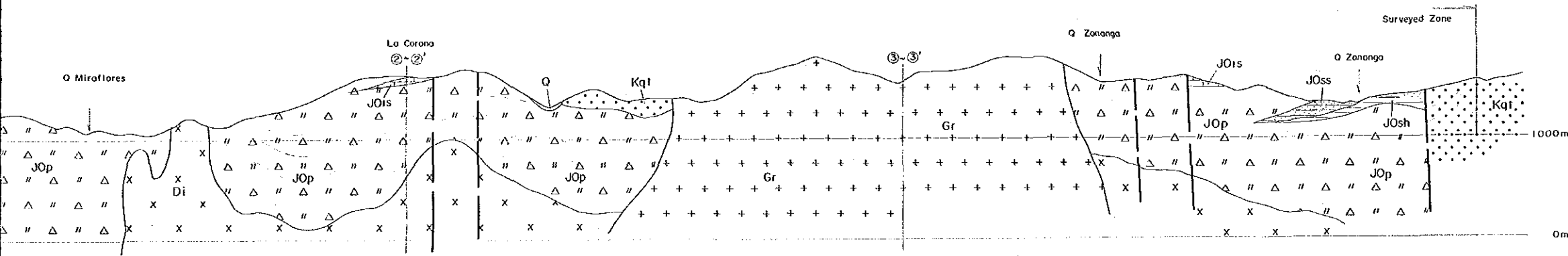
Chontali ① ~ ①'



Chontali ② ~ ②'

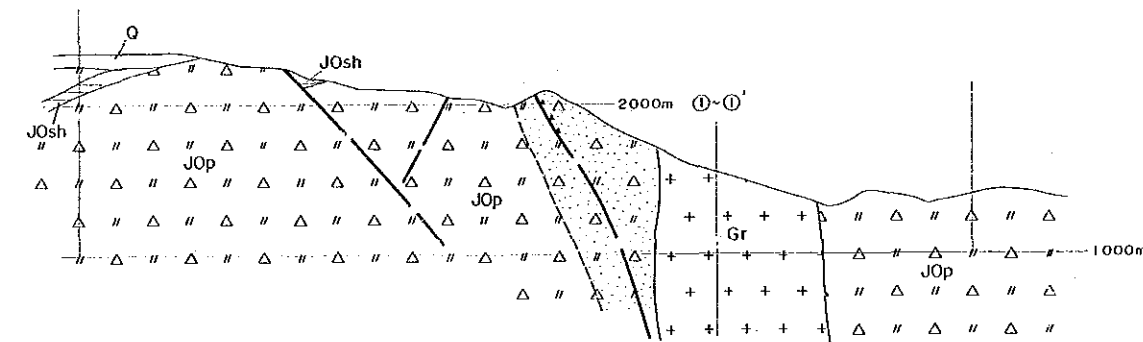
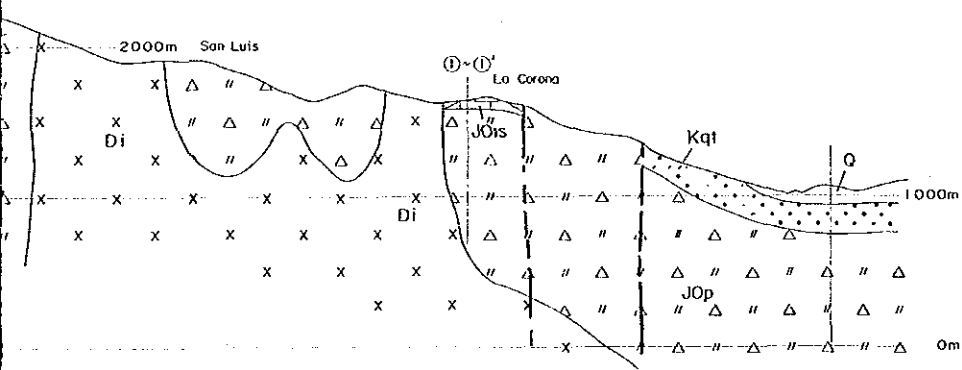


PALMA ZONE ① ~ ①'



PALMA ZONE ② ~ ②'

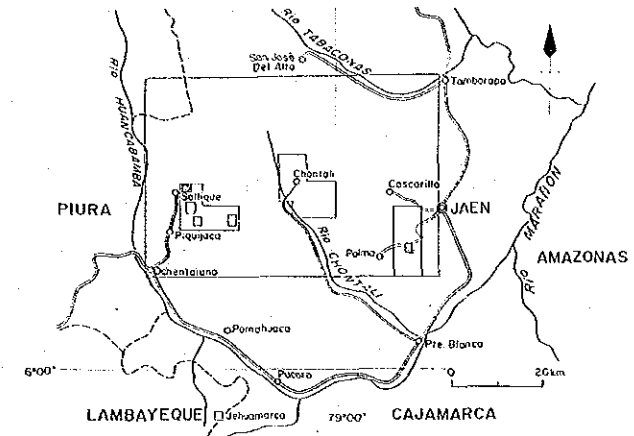
PALMA ZONE ③ ~ ③'



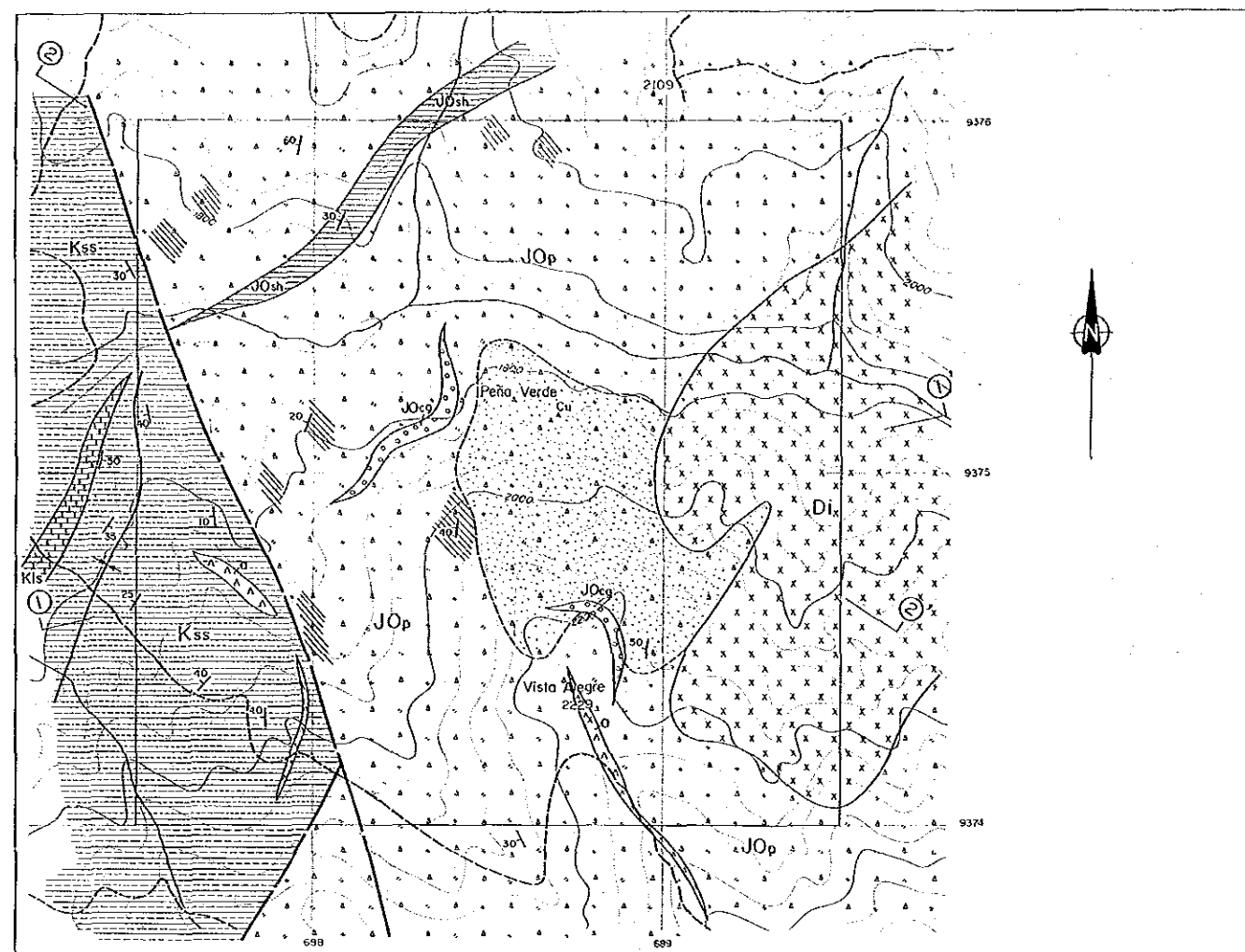
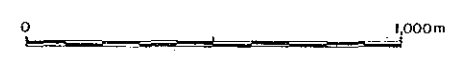
LEGEND

Quaternary	Alluvial	Q	Sand, Gravel
Cretaceous	Pariatambo F.	Kss	Shale, Sandstone
	Chulec F.	Kls	Limestone
	Inca F.	Kqt	Quartzite
	Govllarisquizga Gp.		
Jurassic Triassic	Oyotun Vol.	J0a	Andesite
		J0sh	Shale
		J0ss	Sandstone
		J0ls	Limestone
		JOp	Tuff, Tuffbreccia, Lapilli tuff, Andesite
Silurian Ordovician	Salas Gp.	Pgn	Phyllite, Schist, Gneiss
	Olmos Cpx.		
Intrusives	a	Andesite	
	Mt	Monzonite, Tonalite	
	Gr	Granite	
	Di	Diorite, Grandiorite	
Others		Silicified zone	
		Fault	
	▲▲	Cu Mineralization	
		Altered zone	

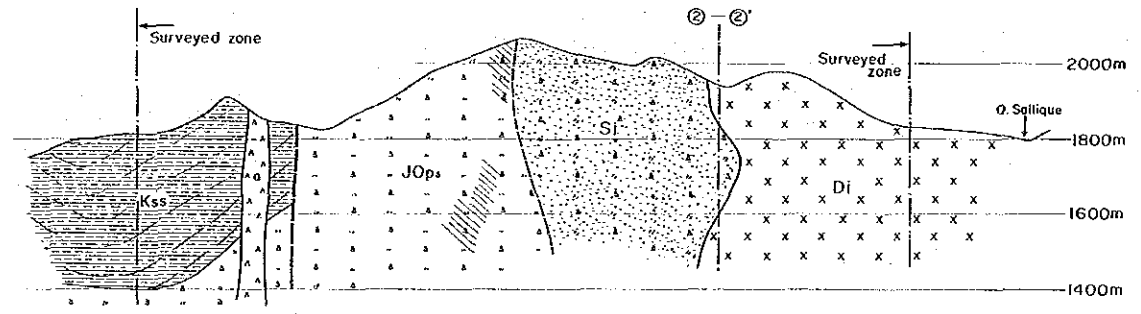
THE MINERAL EXPLORATION  
 IN  
 THE PACHAPIRIANA AREA, REPUBLIC OF PERU  
 ( PHASE I )  
 GEOLOGICAL MAP AND PROFILES  
 OF THE PEÑA VERDE MINERALIZED ZONE



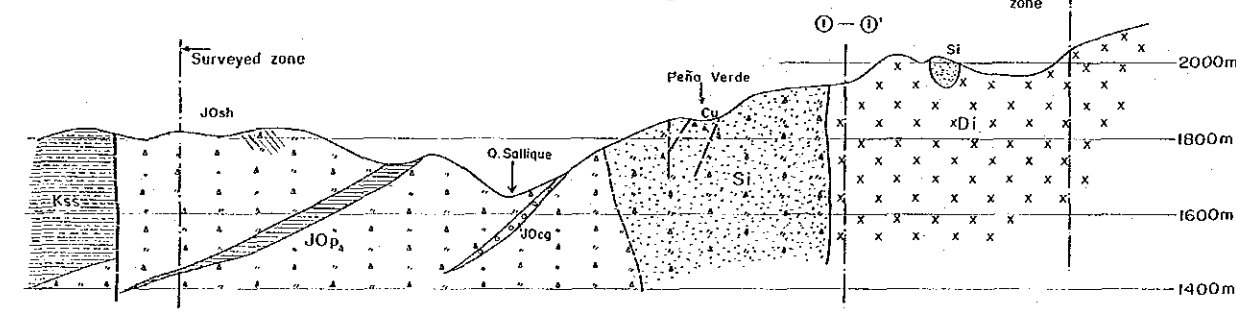
JAPAN INTERNATIONAL COOPERATION AGENCY  
 METAL MINING AGENCY OF JAPAN  
 FEBRUARY 1989



① — ①'



② — ②'

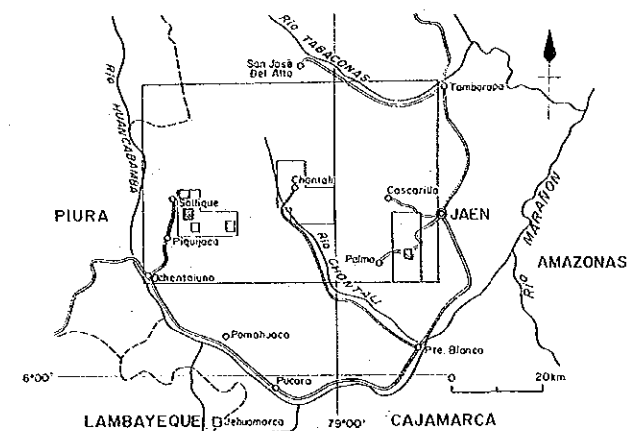


LEGEND

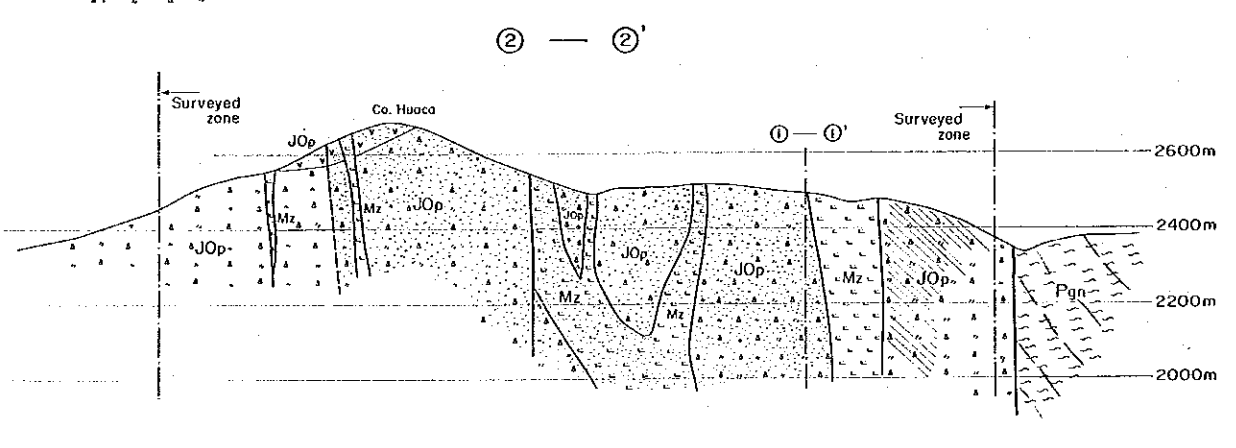
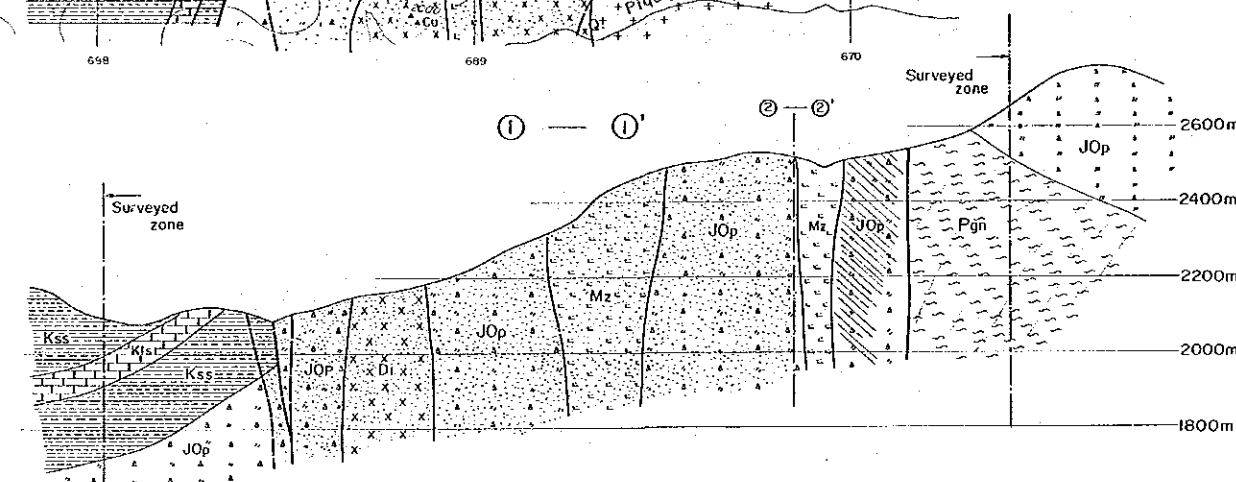
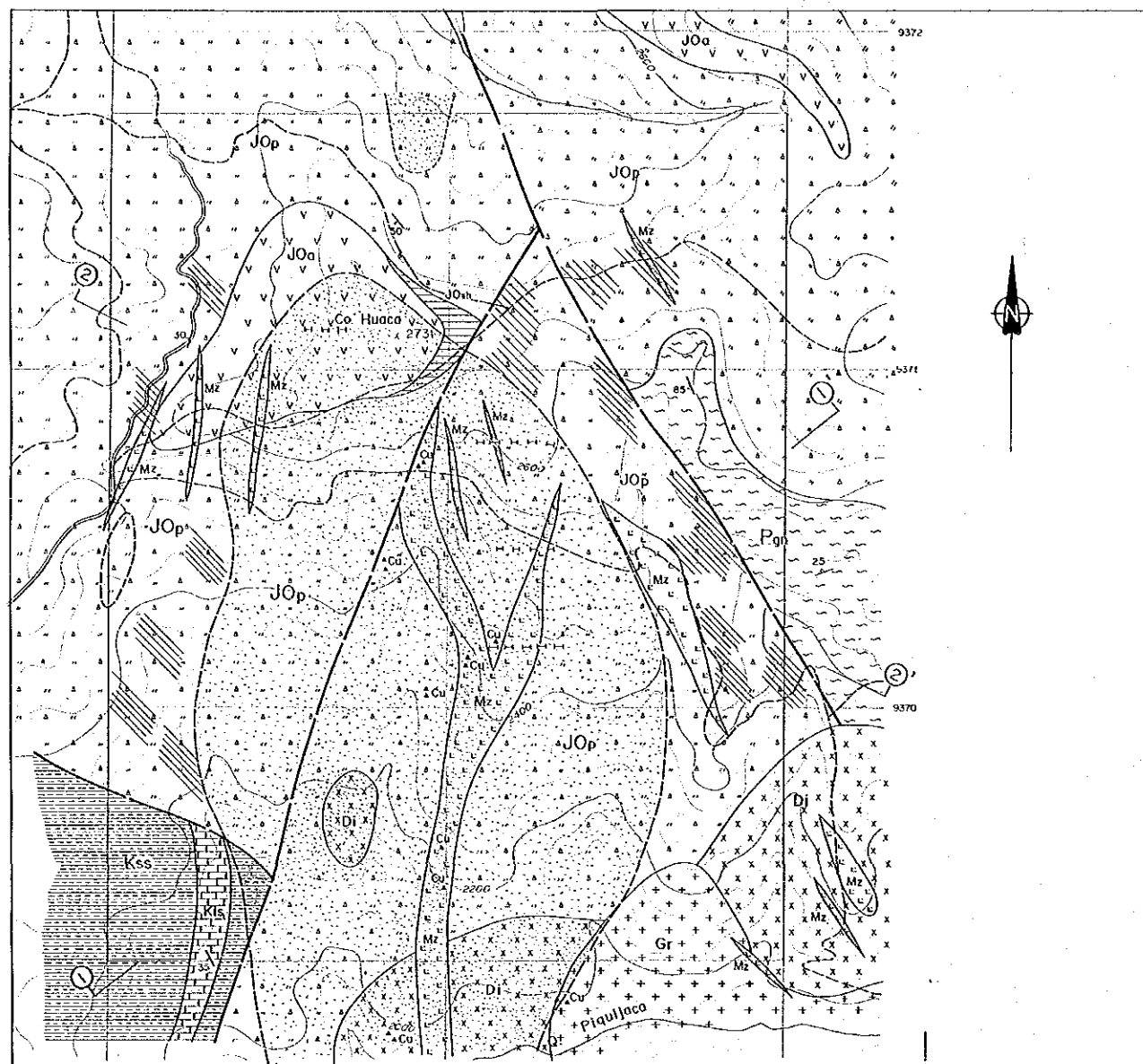
Cretaceous	Pariotambo F.	Kss	Shale, Sandstone
	Chulec F.		
	Inca F.	Kls	Limestone
Jurassic Triassic		JOsh	Shale
	Oyotun vol.	JOcg	Conglomerate
		JOp	Tuff
Intrusives		a	Andesite
		Di	Diorite, Granodiorite
Others		○	Silicified zone
		▨	Argillized zone
		—	Fault
		+	Synclinal axis
		—	Bedding
		*	Cu mineralization



THE MINERAL EXPLORATION  
IN  
THE PACHAPIRIANA AREA, REPUBLIC OF PERU  
( PHASE I )  
GEOLOGICAL MAP AND PROFILES  
OF THE HUACA MINERALIZED ZONE



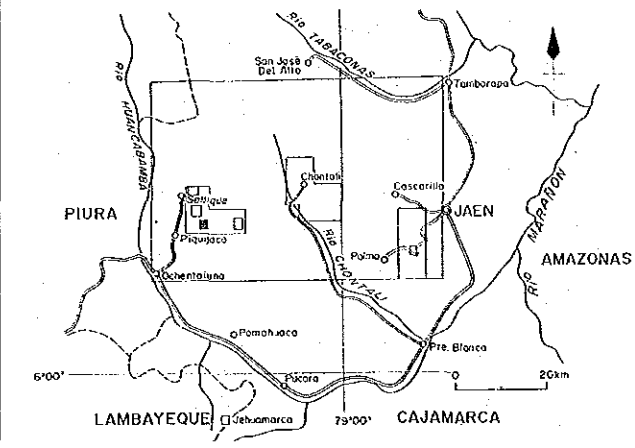
JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
FEBRUARY 1989



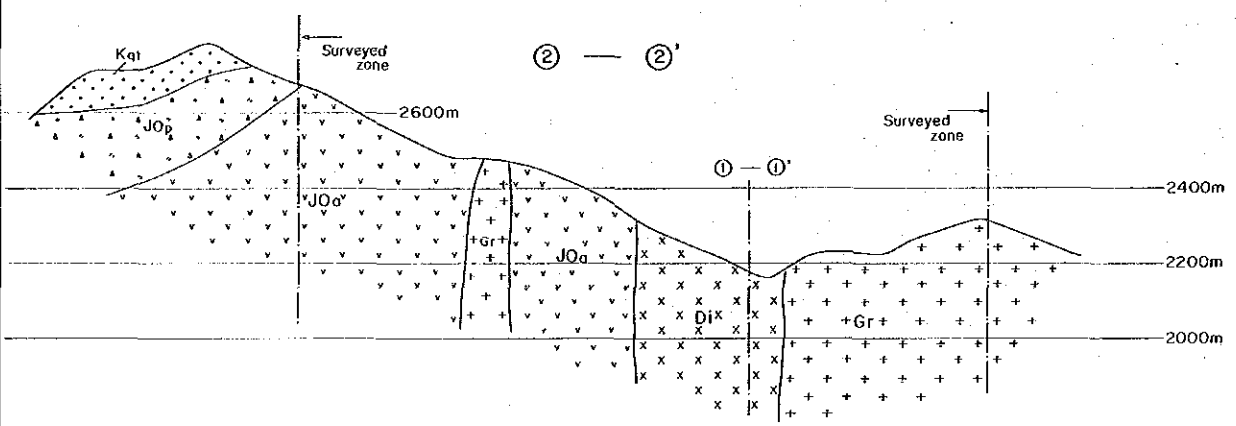
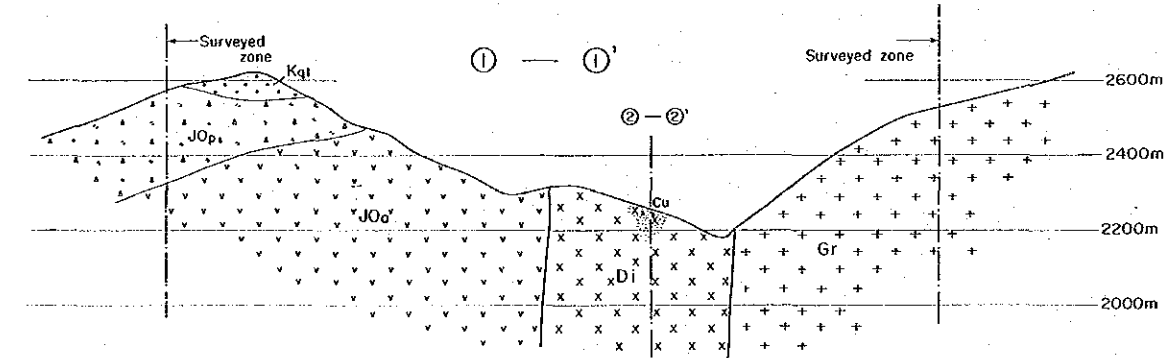
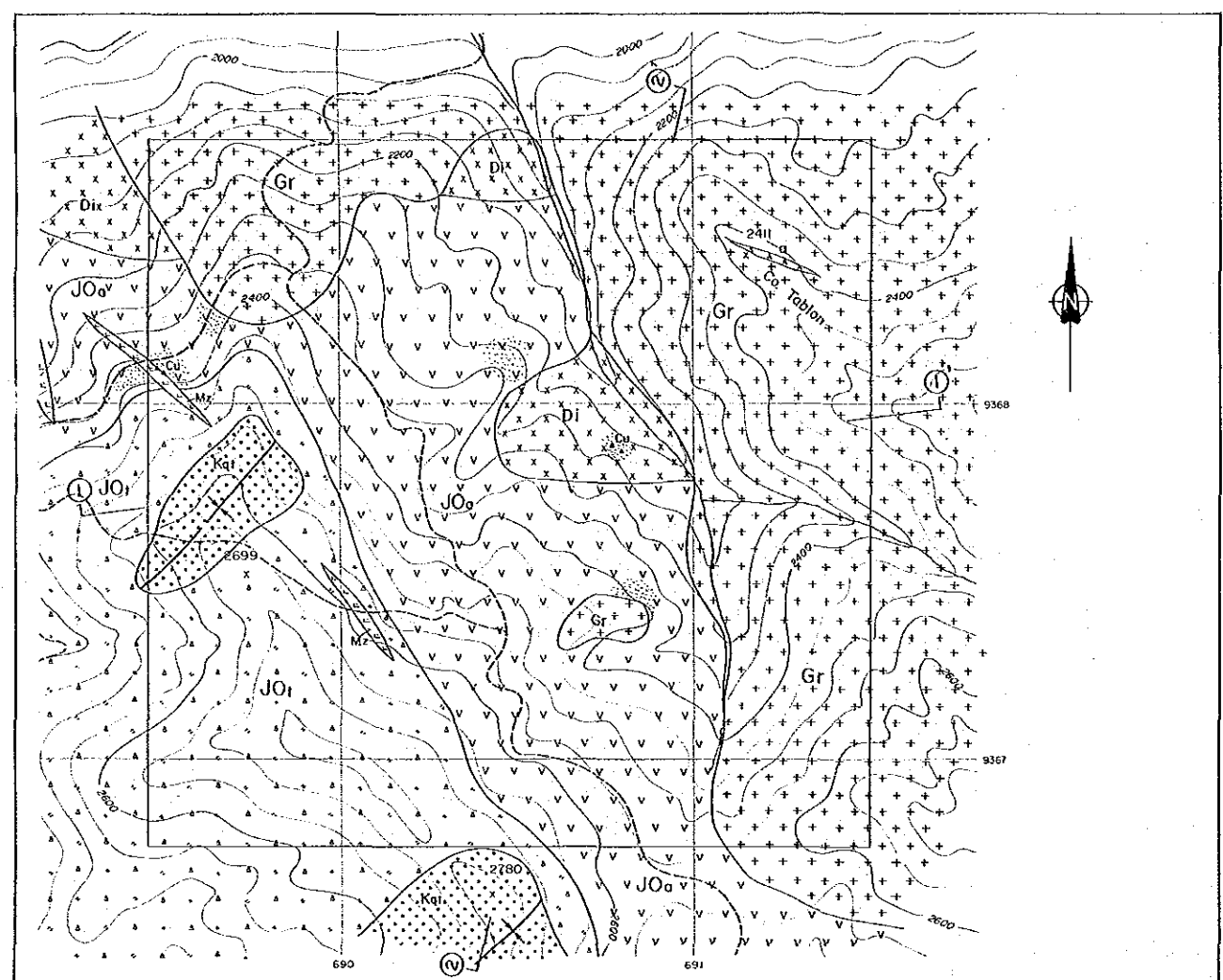
LEGEND

Jurassic		J0sh	Shale
Triassic	Oyotun vol.	J0a	Andesite
		J0p	Tuff, Lapilli tuff, Tuff breccio
Silurian	Salas group	Pgn	Phyllite, Schist, Gneiss
Cambrian	Olmos cpx.		
<b>Intrusives</b>			
		Mz	Monzonite
		Gr	Granite
		Di	Diorite, Granodiorite
<b>Others</b>			
			Silicified zone
			Argillized zone
			Cu mineralization
			Fault
			Bedding
			Trench

THE MINERAL EXPLORATION  
IN  
THE PACHAPIRIANA AREA, REPUBLIC OF PERU  
( PHASE I )  
GEOLOGICAL MAP AND PROFILES  
OF THE VEGA MINERALIZED ZONE



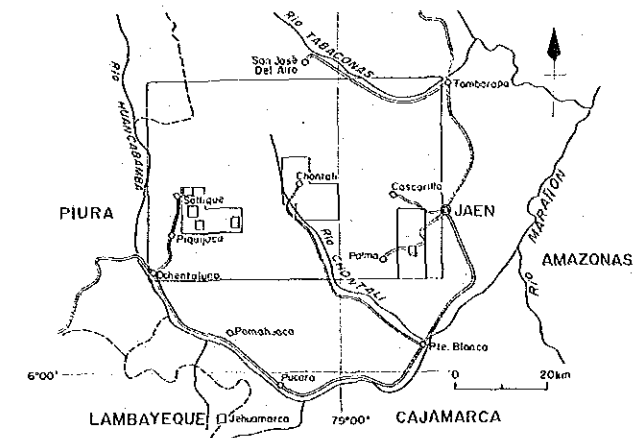
JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
FEBRUARY 1989



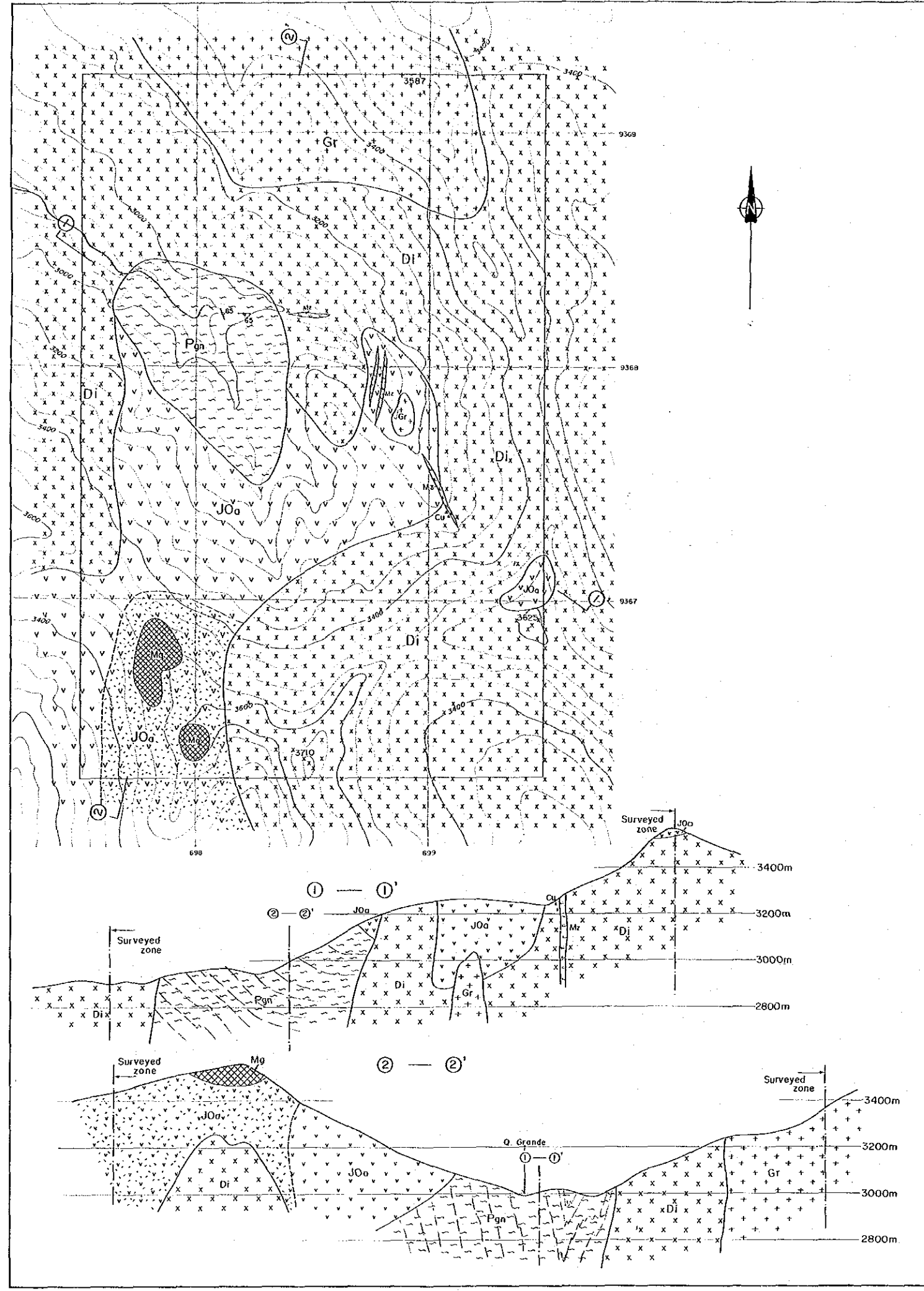
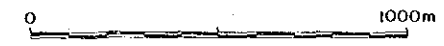
LEGEND

- |            |                    |  |     |                                  |
|------------|--------------------|--|-----|----------------------------------|
| Cretaceous | Goyllarisquizgo F. |  | Kqt | Quartzite                        |
| Jurassic   | Oyotun Vol.        |  | JOa | Andesite                         |
| Triassic   |                    |  | JOp | Tuff, Lapilli-tuff, Tuff breccio |
| Intrusives |                    |  | o   | Andesite                         |
|            |                    |  | Mz  | Monzonite                        |
|            |                    |  | Gr  | Granite                          |
|            |                    |  | Di  | Diorite                          |
| Others     |                    |  |     | Silicified Zone                  |
|            |                    |  |     | Cu Mineralization                |
|            |                    |  |     | Synclinal Axis                   |

THE MINERAL EXPLORATION  
IN  
THE PACHAPIRIANA AREA, REPUBLIC OF PERU  
( PHASE I )  
GEOLOGICAL MAP AND PROFILES  
OF THE PARAMO MINERALIZED ZONE



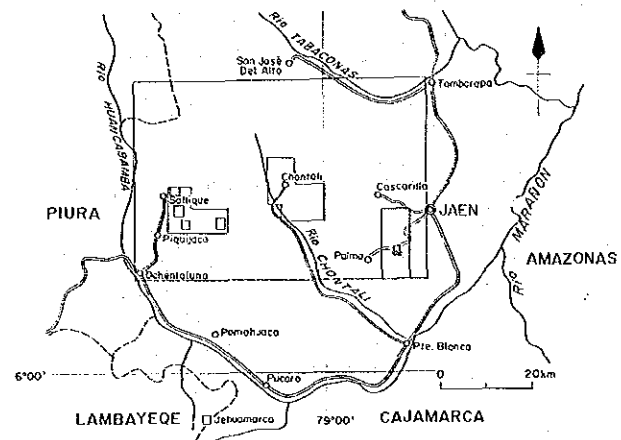
JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
FEBRUARY 1989



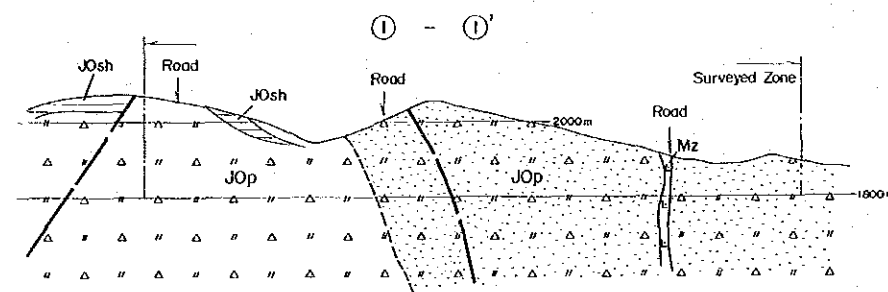
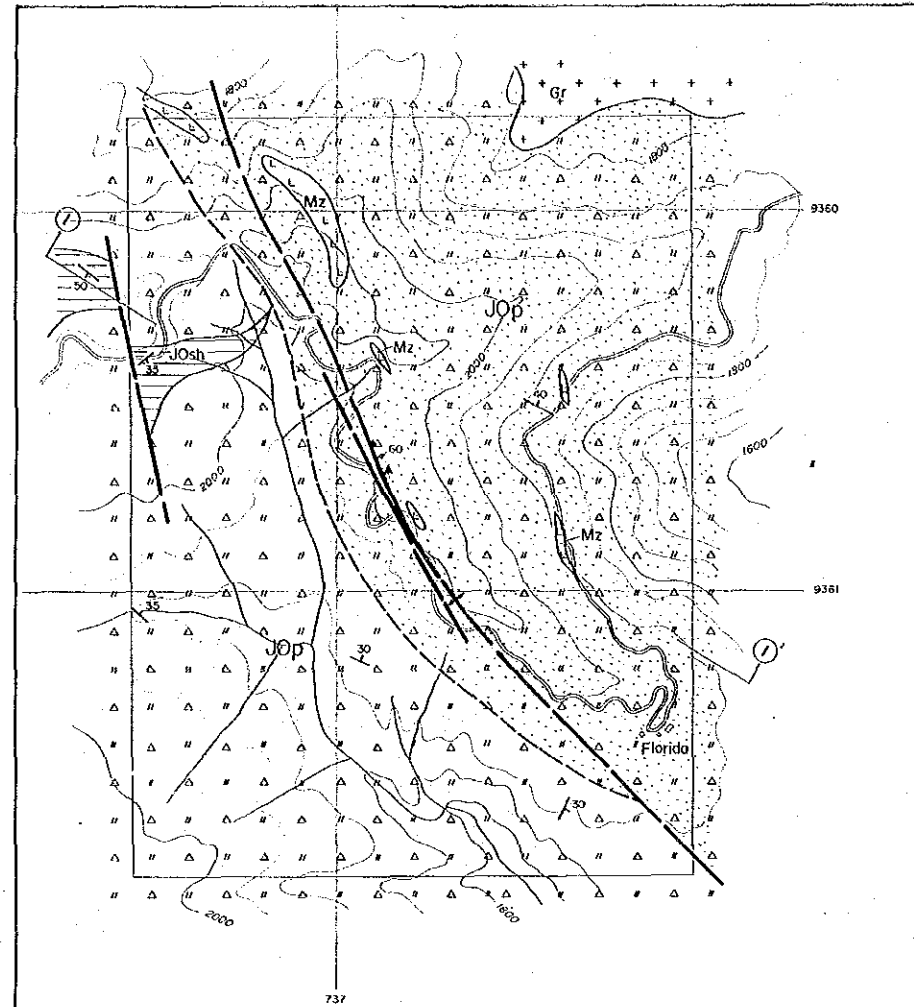
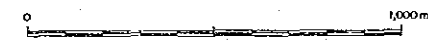
LEGEND

- |            |             |      |  |     |                          |
|------------|-------------|------|--|-----|--------------------------|
| Jurassic   | Oyotun      | vol. |  | JOa | Andesite                 |
| Triassic   |             |      |  |     |                          |
| Silurian   | Salas group |      |  | Pgn | Phyllite, Schist, Gneiss |
| Cambrian   | Oimos       | cpx. |  |     |                          |
| Intrusives |             |      |  |     |                          |
|            |             |      |  | Mz  | Monzonite                |
|            |             |      |  | Gr  | Granite                  |
|            |             |      |  | Di  | Diorite, Granodiorite    |
| Others     |             |      |  |     |                          |
|            |             |      |  | Mg  | Magnetite skarn          |
|            |             |      |  |     | Chloritized zone         |
|            |             |      |  |     | Schistosity              |
|            |             |      |  |     | Cu mineralization        |

THE COOPERATIVE MINERAL EXPLORATION  
 IN  
 THE PACHAPIRIANA AREA, REPUBLIC OF PERU  
 ( PHASE I )  
 GEOLOGICAL MAP AND PROFILES.  
 OF THE ZONANGA MINERALIZED  
 ZONE

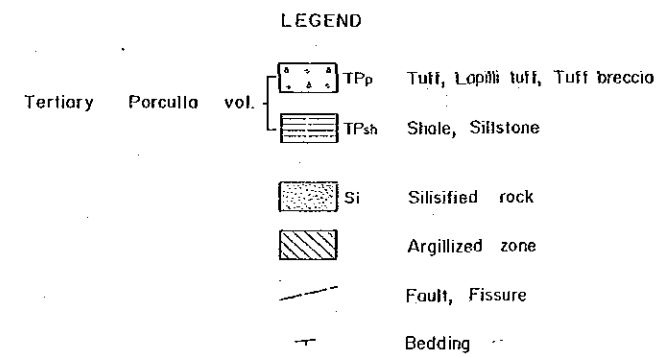
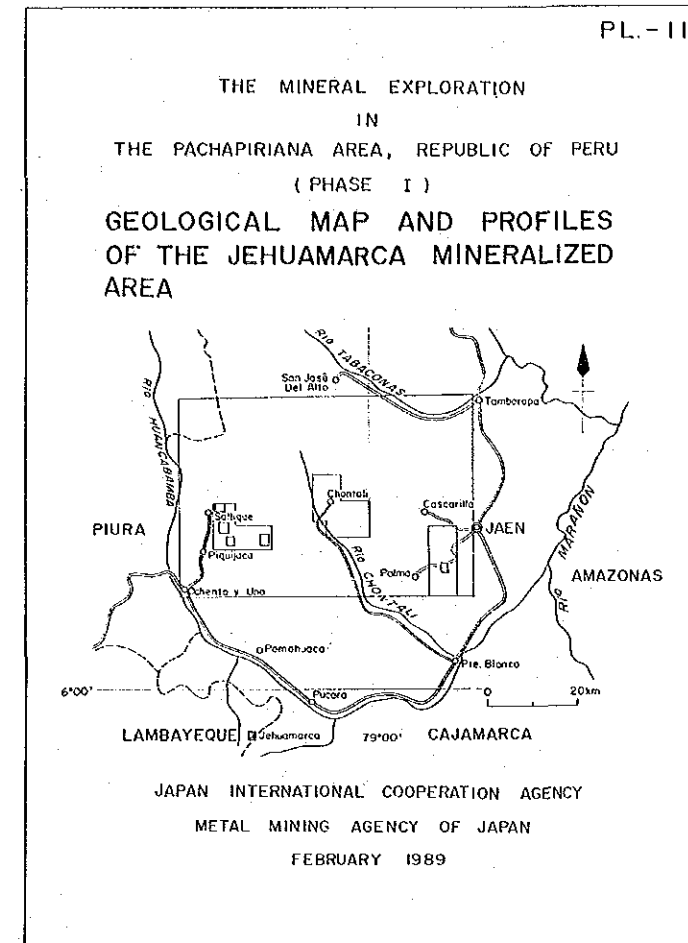
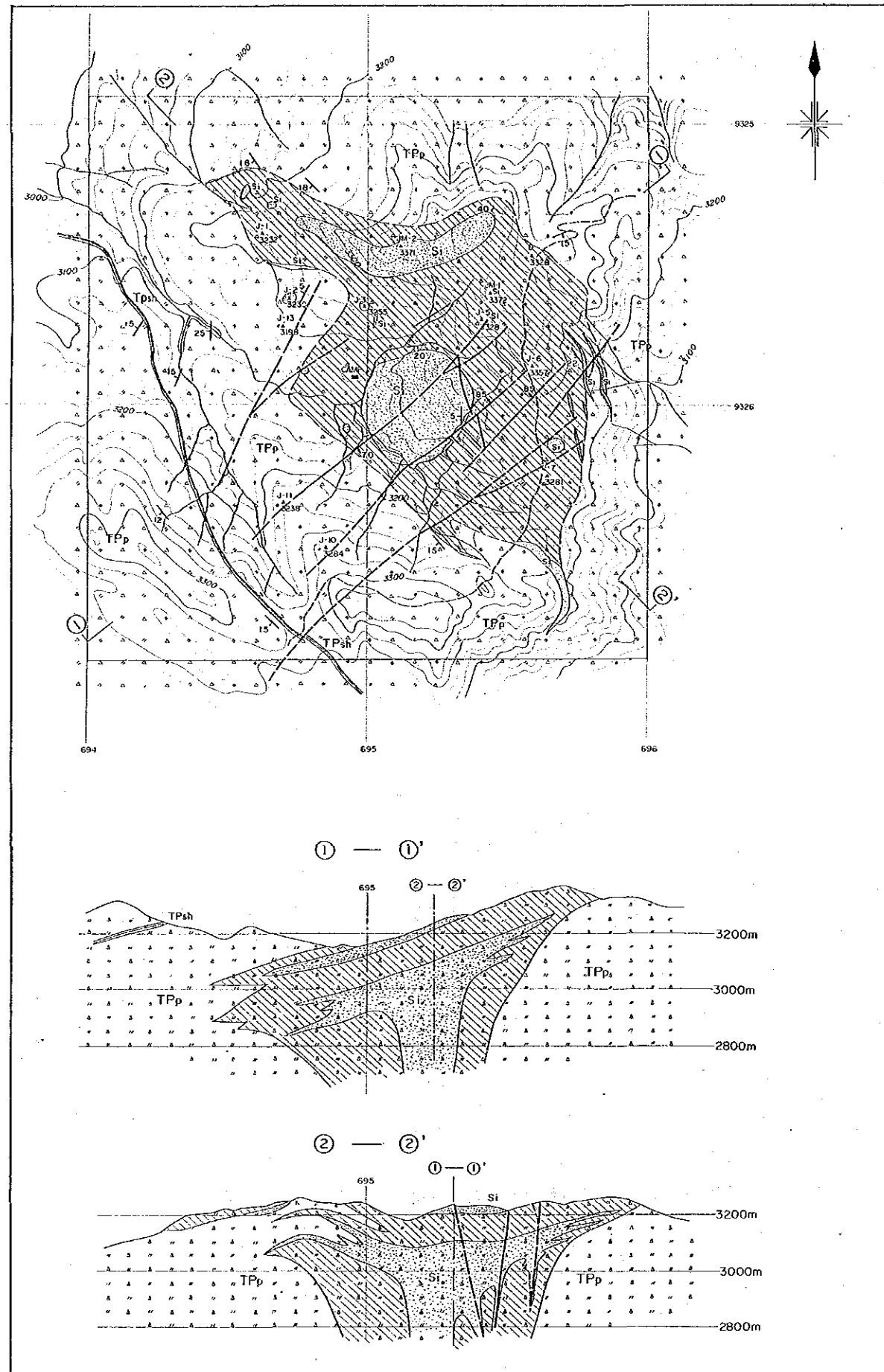


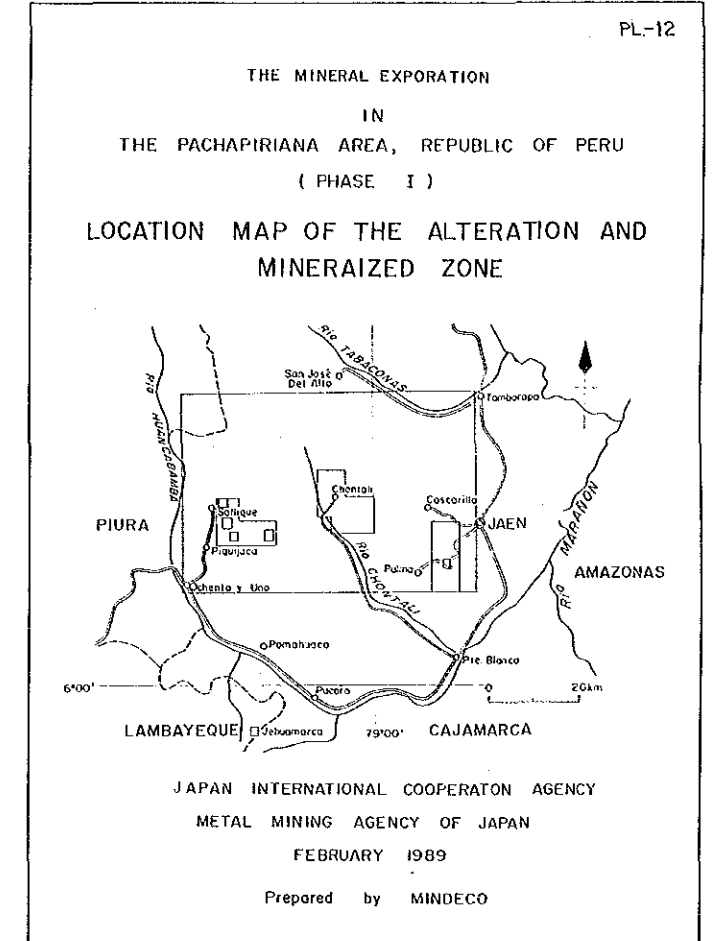
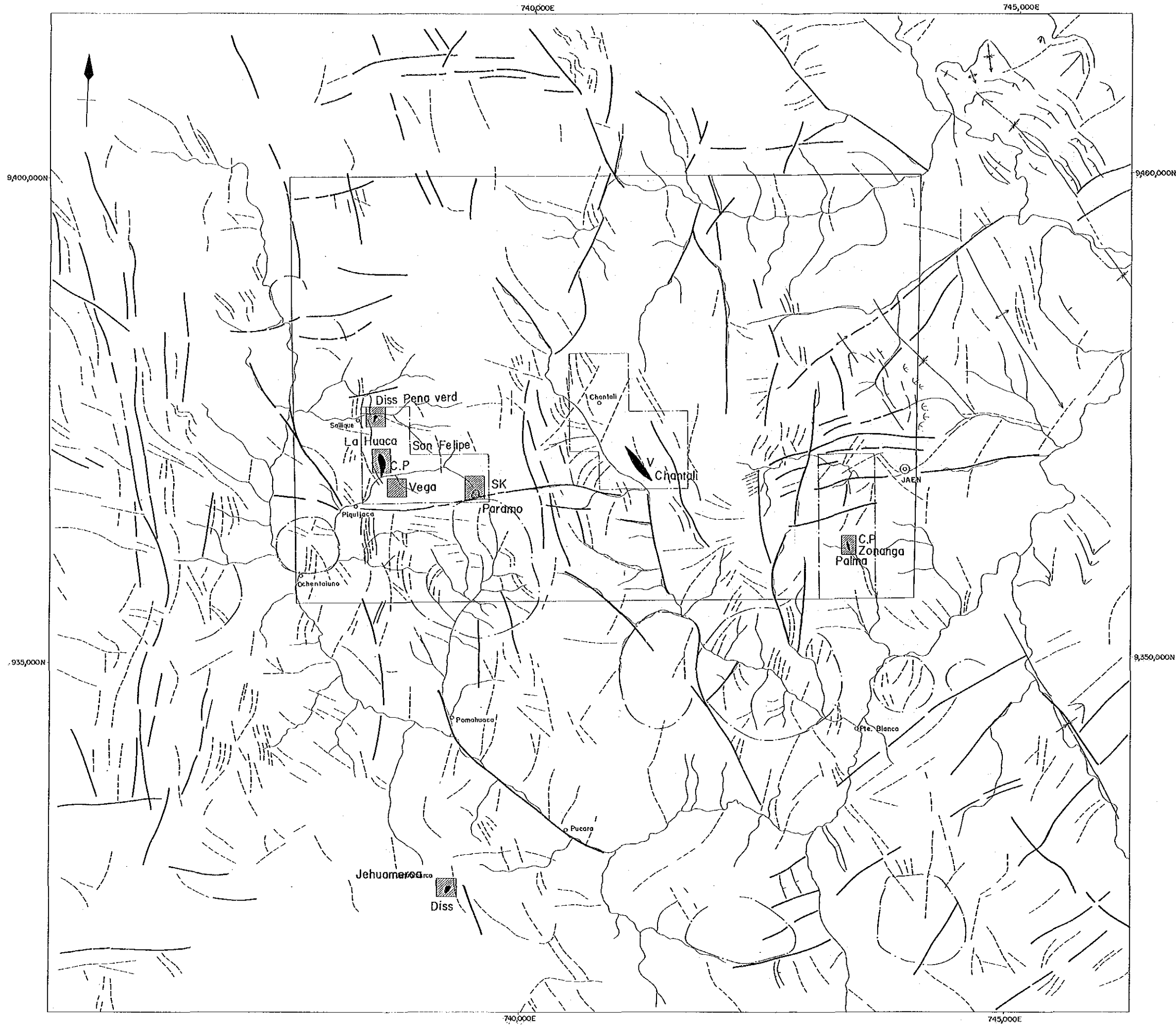
JAPANESE INTERNATIONAL COOPERATION AGENCY  
 METAL MINING AGENCY OF JAPAN  
 FEBRUARY 1989  
 Prepared by MINDECO



LEGEND

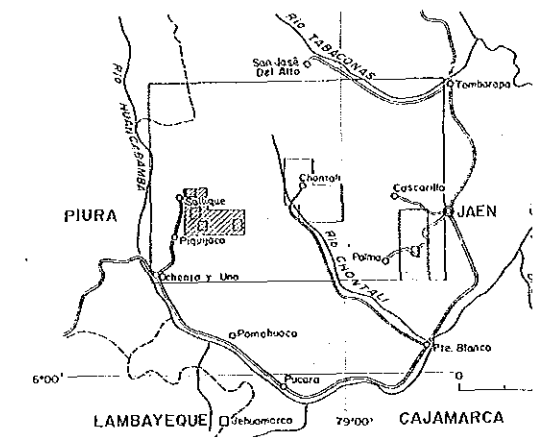
- |            |           |                   |                   |
|------------|-----------|-------------------|-------------------|
| Jurassic   | Oyotun F. | JOp               | Tuff, Tuffbreccia |
| Triassic   |           | JOsh              | Shale Sandstone   |
| Intrusives |           | Mz                | Monzonite         |
|            |           | Gr                | Granite           |
| Others     |           | (Dotted pattern)  | Silicified Zone   |
|            |           | (Thick line)      | Fault             |
|            |           | (Thin line)       | Bedding           |
|            |           | (Small triangles) | Cu Mineralization |





- LEGEND**  
凡例
- MAJOR LINEAMENTS  
線構造(強)
  - MINOR LINEAMENTS  
線構造(弱)
  - CIRCULAR FEATURE  
環状構造
  - BEDDING  
層理
  - ANTICLINAL AXIS  
背斜軸
  - SYNCLINAL AXIS  
向斜軸
  - SURVEY AREA  
調査地域
  - SEMIDETAILED SURVEY AREA  
準精査地区
  - DETAILED SURVEY AREA  
精査地区
  - MINERAL INDICATION  
鉱徴地
- C.P : Porphyry Copper Type  
Diss : Dissemination of Base Metal Type  
V : Vein Type  
Sk : Skarn Type

THE MINERAL EXPLORATION  
IN  
THE PACHAPIRIANA AREA, REPUBLIC OF  
( PHASE I )  
GEOCHEMICAL MAP  
OF THE SAN FELIPE AREA.  
( Au, Ag and Pb )



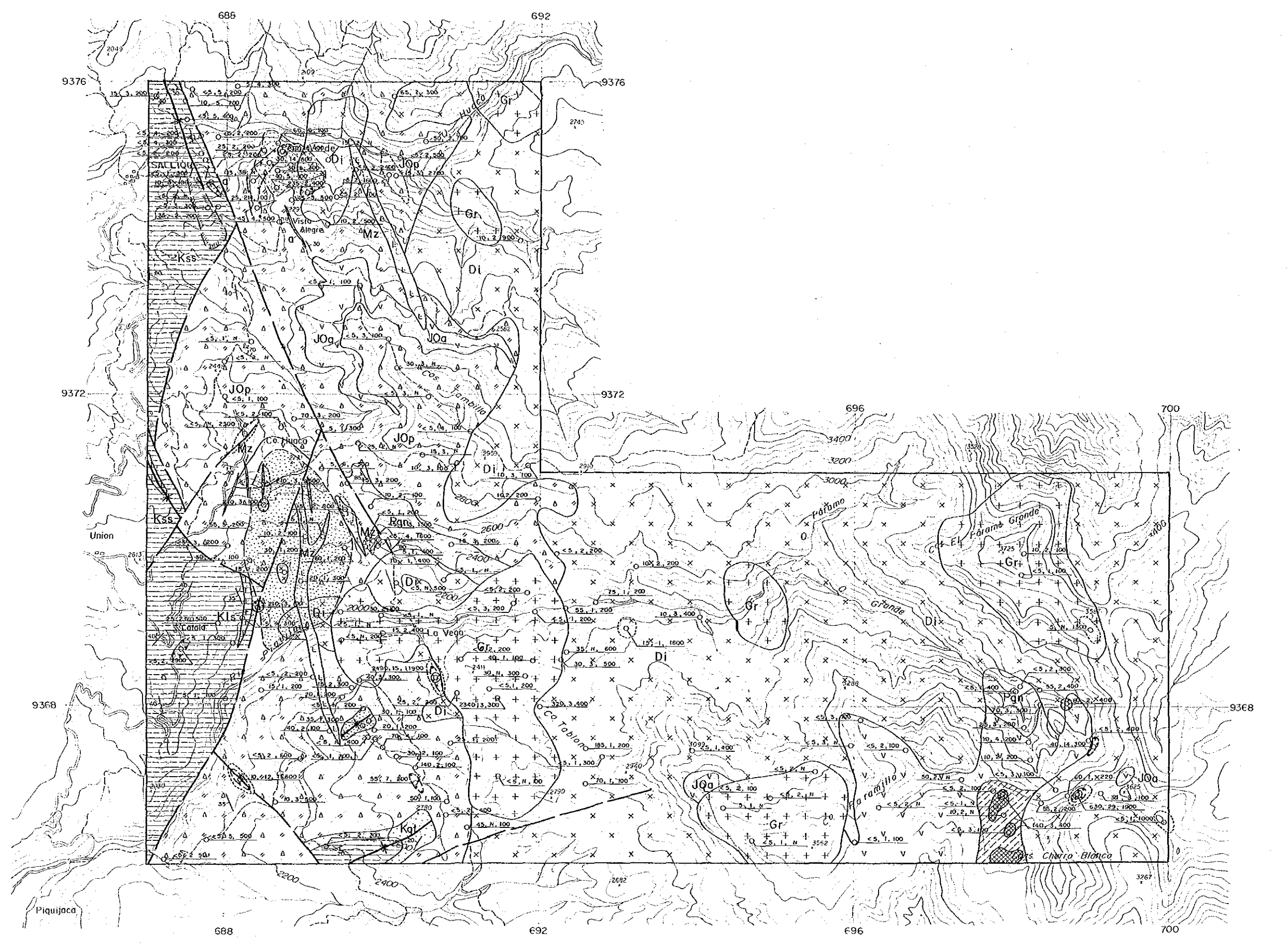
JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
FEBRUARY 1989



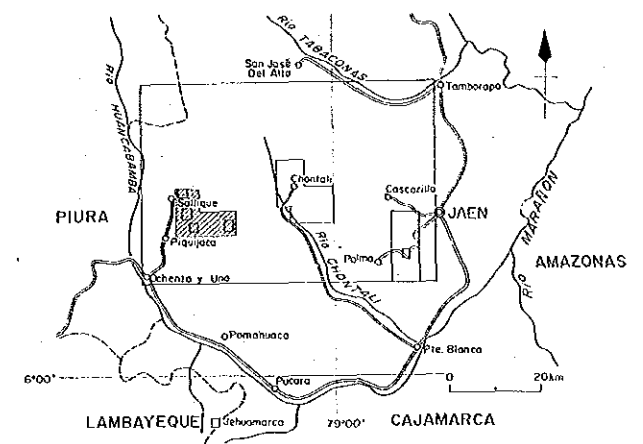
LEGEND

- Geochemical Anomaly
- Au ≅ 80 ppb
  - Ag ≅ 6.79 ppm
  - Pb ≅ 610 ppm

- |                        |                      |  |                                |
|------------------------|----------------------|--|--------------------------------|
| Cretaceous             | Paríatambo F.        |  | Kss Shale, Sandstone           |
|                        | Chufec F.            |  | Kls Limestone                  |
|                        | Inco F.              |  | Kqt Quartzite                  |
|                        | Goylla-risquizgo GP. |  | Kqt Quartzite                  |
| Jurassic               | Oyotun Vol.          |  | JOa Andesite                   |
|                        |                      |  | JOp Tuff, Tuffbreccia, Lapilli |
| Silurian<br>Ordovician | Solas GP.            |  | Pgn Phyllite, Schist, Gneiss   |
|                        | Olimos Cpx           |  | Pgn Phyllite, Schist, Gneiss   |
| Intrusives             |                      |  | Jo Andesite                    |
|                        |                      |  | Mz Monzonite Tonalite          |
|                        |                      |  | Gr Granite                     |
|                        |                      |  | Di Diorite, Granodiorite       |
| Alteration             |                      |  | Skarn                          |
|                        |                      |  | Silicified Zone                |



THE MINERAL EXPLORATION  
IN  
THE PACHAPIRIANA AREA, REPUBLIC OF PERU  
( PHASE I )  
GEOCHEMICAL MAP  
OF THE SAN FELIPE AREA  
( Au, Ag and Pb )



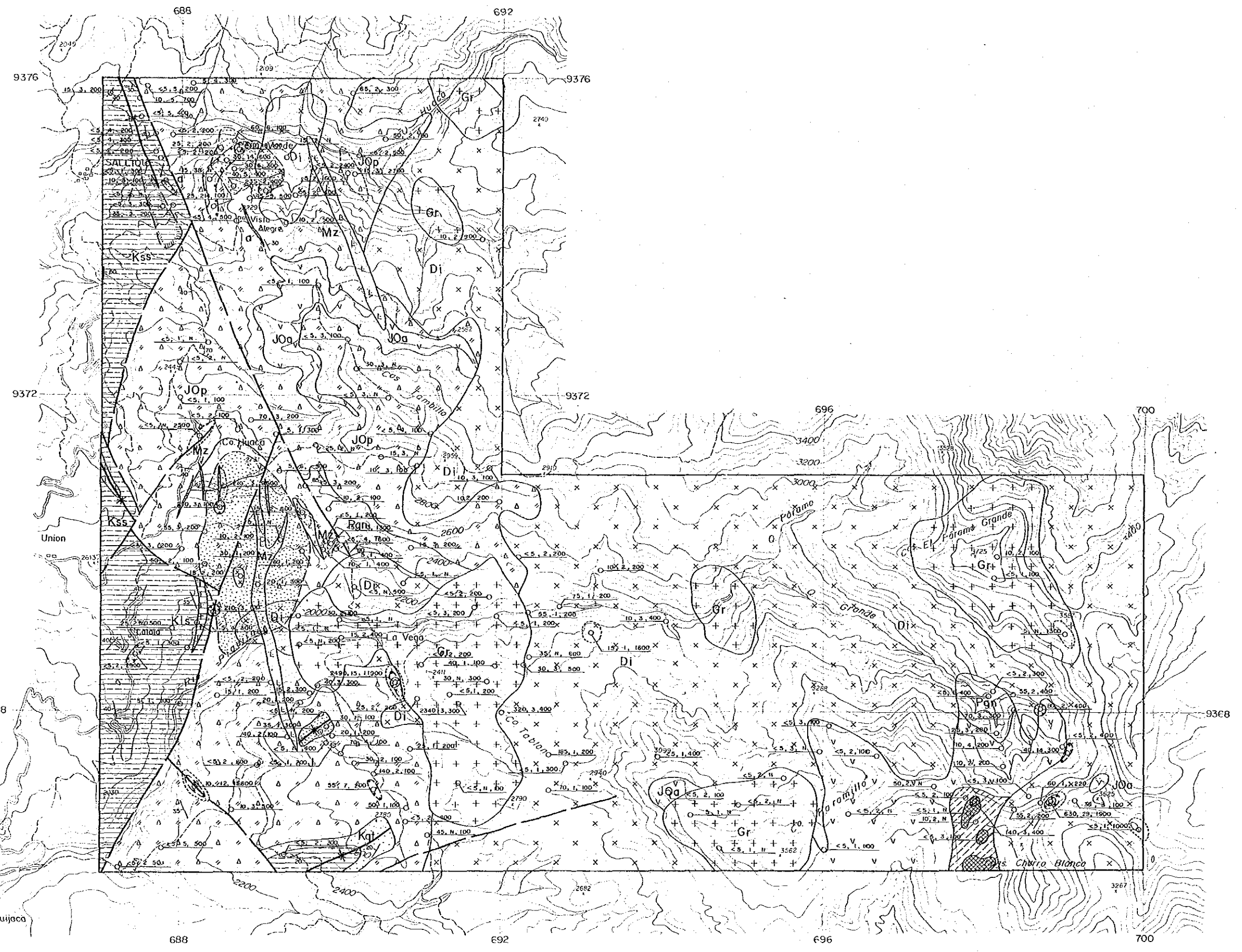
JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
FEBRUARY 1989



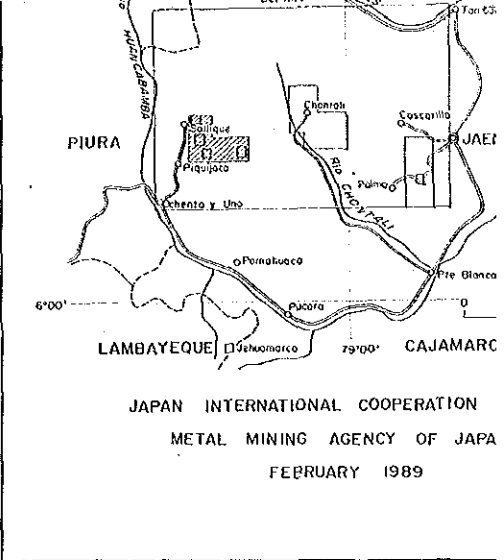
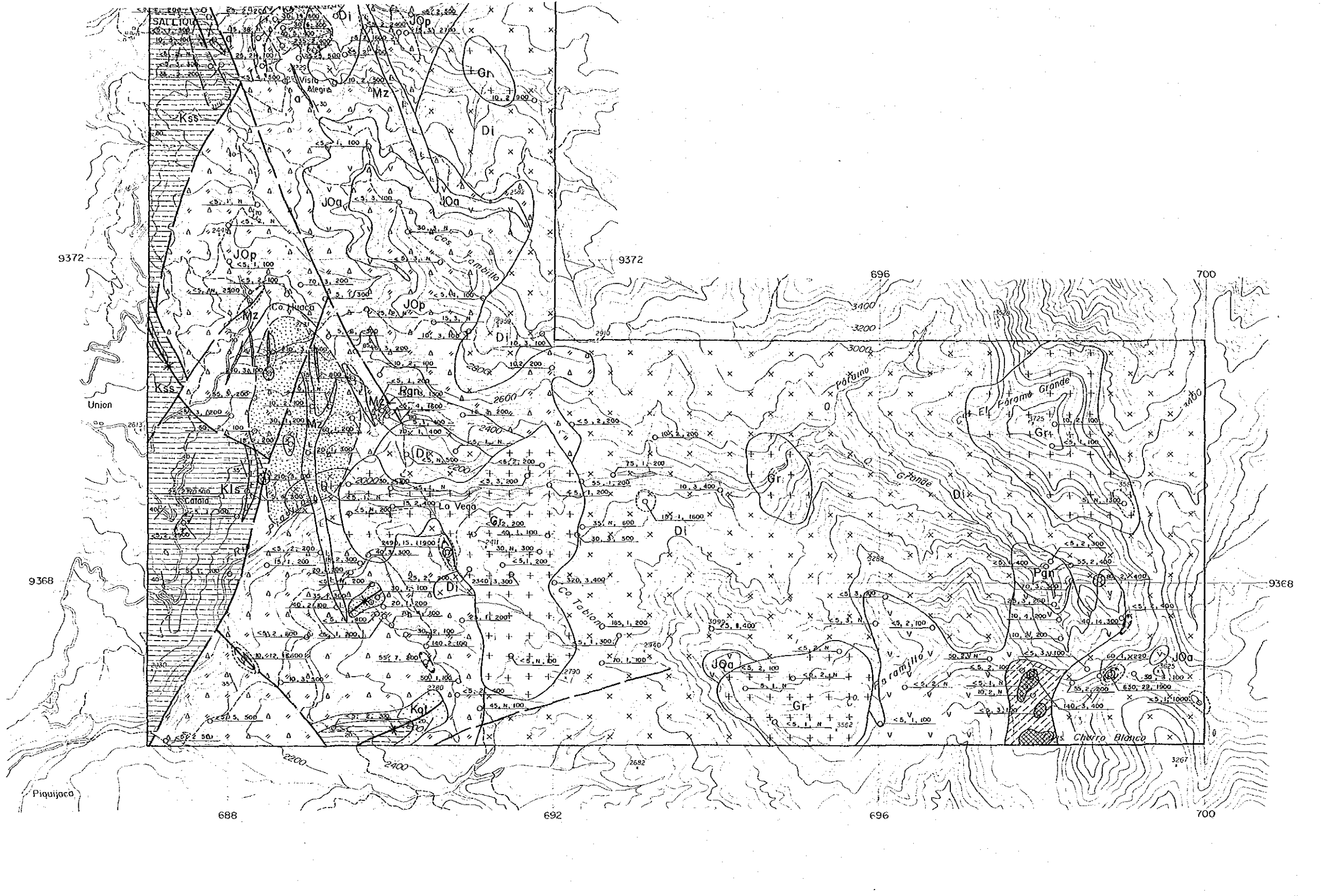
- LEGEND**
- Geochemical Anomaly
- Au ≅ 80 ppb
  - Ag ≅ 6.79 ppm
  - Pb ≅ 610 ppm

- Cretaceous**
  - ParIntambo F. Kss Shale, Sandstone
  - Chulec F. Kis Limestone
  - Inca F. Kq1 Quartzite
  - Goylla-risquizga GP. JQa Andesite
- Jurassic**
  - Oyotun Vol. JOp Tuff, Tuffbreccia, Lapilli Tuff
- Triassic**
  - Pgn Phyllite, Schist, Gneiss
- Silurian Ordovician**
  - Salas GP. Skorn
  - Olimos Cpx. Siliticac Zone

- Intrusives**
- a Andesite
  - Mz Monzonite Tonalite
  - Gr Granite
  - Di Diorite, Granodiorite
- Alteration**
- Skorn
  - Siliticac Zone







JAPAN INTERNATIONAL COOPERATION  
METAL MINING AGENCY OF JAPAN  
FEBRUARY 1989

LEGEND

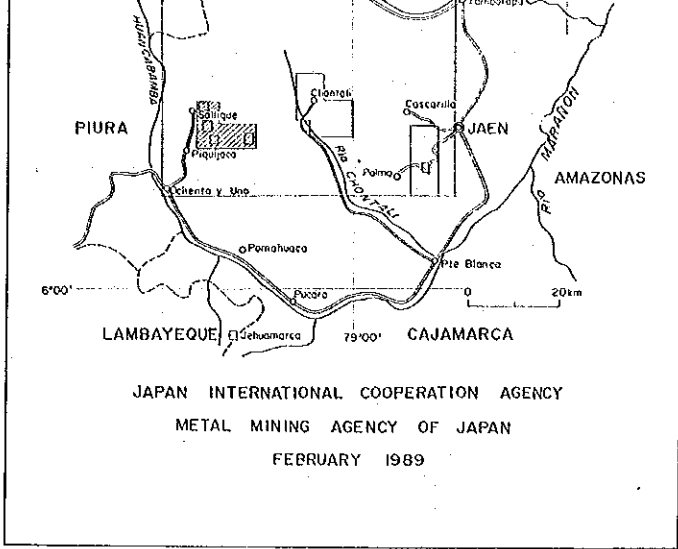
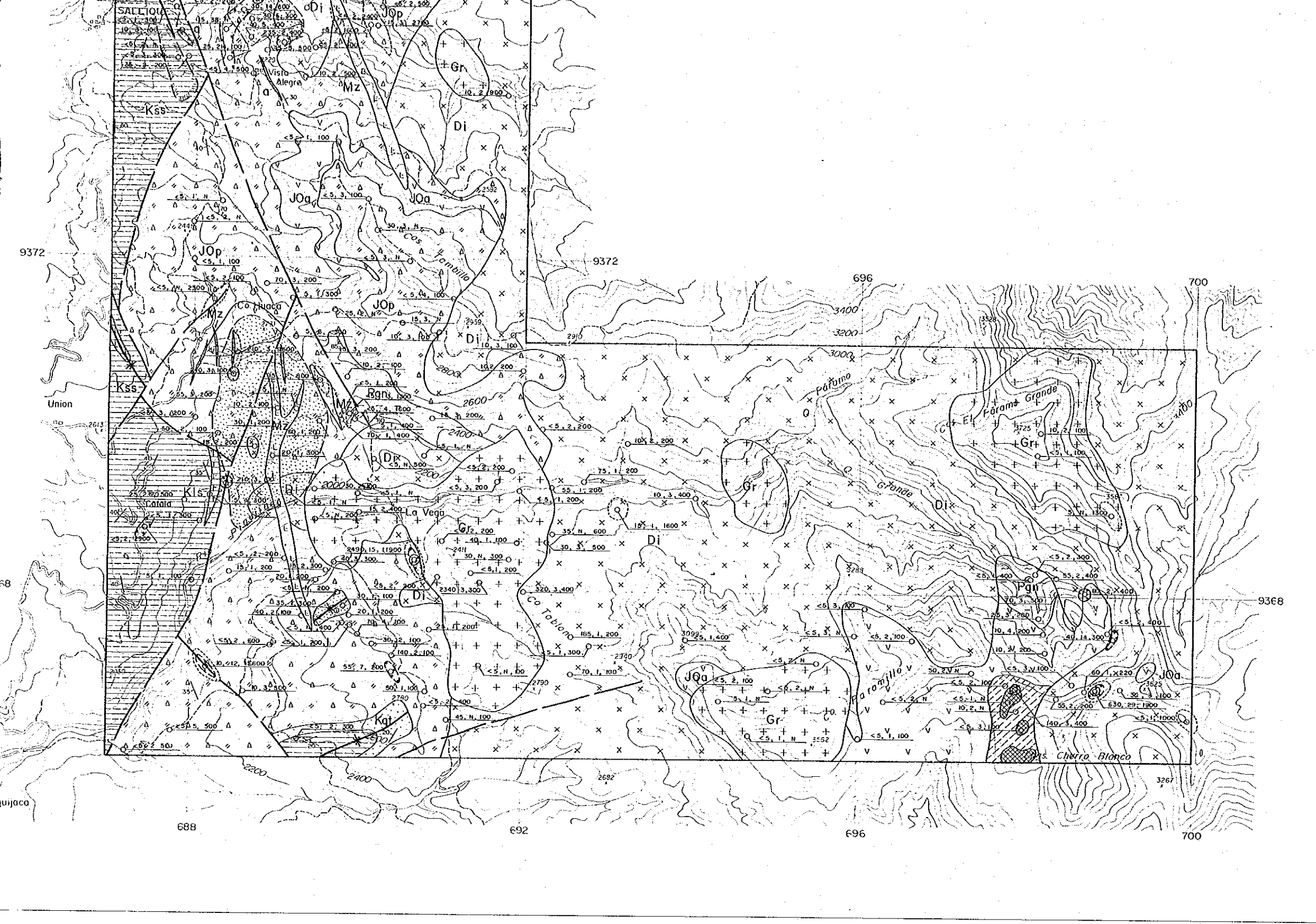
- Geochemical Anomaly
- Au ≅ 80 ppb
  - Ag ≅ 6.79 ppm
  - Pb ≅ 610 ppm

- Geological Units:
- Pariatambo F. Kss Shale, Sandstone
  - Chulec F. Kls Limestone
  - Inca F. Kls Limestone
  - Goylla-risquizga GP. Kqt Quartzite
  - Jurassico JOa Andesite
  - Triassico JOp Tuff, Tuffbreccia
  - Silurion Ordovician Pgn Phyllite, Schist

- Intrusives:
- Andesite
  - Monzonite Tanc.
  - Granite
  - Diorite, Grand.

- Alteration:
- Skarn
  - Silicific Zone
  - Chloritized Zone

- Others:
- Fault
  - Anticlinal Axis
  - Synclinal Axis
  - Bedding
  - Schistosity
  - Landslide



JAPAN INTERNATIONAL COOPERATION AGENCY  
 METAL MINING AGENCY OF JAPAN  
 FEBRUARY 1989



- LEGEND**
- Geochemical Anomaly**
- Au ≧ 80 ppb
  - Ag ≧ 6.79 ppm
  - Pb ≧ 610 ppm
- Geological Units**
- Cretaceous**
    - Paríambo F. Kss Shale, Sandstone
    - Chulec F. Kis Limestone
    - Inca F. Kqt Quartzite
    - Goylla-tisquizgo GP. Pgn Phyllite, Schist, Gneiss
  - Jurassic**
    - Oyotun Vol. JOa Andesite
  - Triassic**
    - JOp Tuff, Tuffbreccia, Lopilli Tuff,
  - Silurian Ordovician**
    - Pgn Phyllite, Schist, Gneiss
- Intrusives**
- And Andesite
  - Mz Monzonite Tonalite
  - Gr Granite
  - Di Diorite, Granodiorite
- Alteration**
- Skn Skarn
  - Silitec Zone
  - Chlortized Zone
- Others**
- Fault
  - Anticlinal Axis
  - Synclinal Axis
  - Bedding
  - Schistosity
  - Landslide