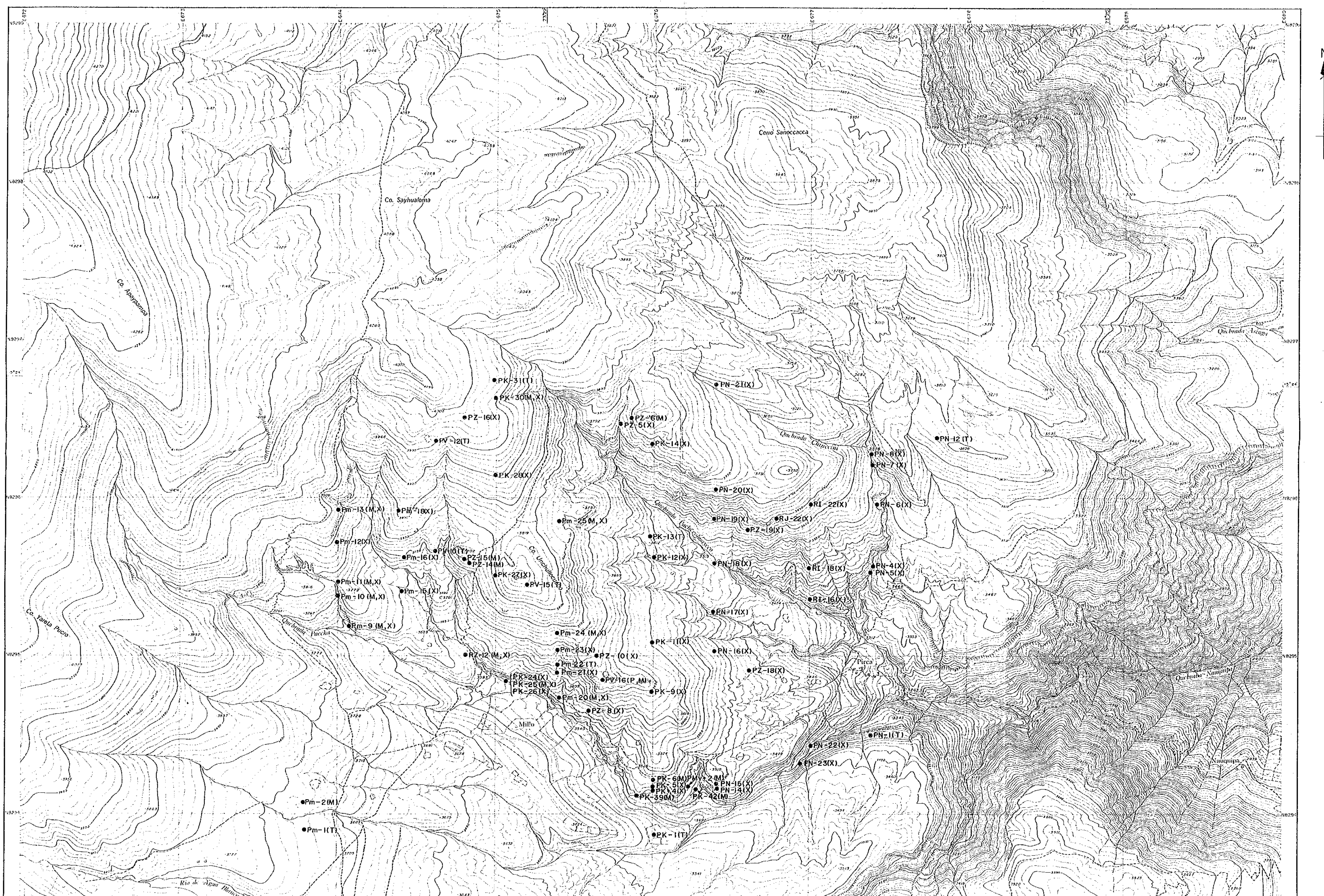
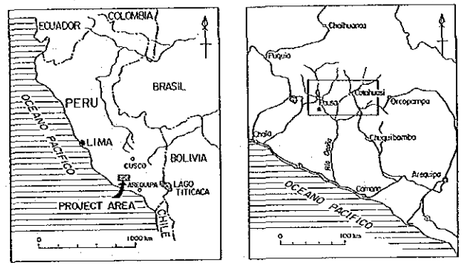

N
Co. Sayhualoma
Cerro Sañoccacca
Co. Apaypampa
Co. Yareta Pucro
Millo
Pirca
Rio de Agua Blanca
PK-31(T)
PK-30(M,X)
PZ-16(X)
PV-12(T)
PK-28(X)
PZ-6(M)
PZ-5(X)
PK-14(X)
PN-21(X)
PN-12(T)
PN-8(X)
PN-7(X)
PN-20(X)
RI-22(X)
PN-6(X)
PN-19(X)
RJ-22(X)
PZ-19(X)
Pm-13(M,X)
Pm-18(X)
Pm-25(M,X)
PK-13(T)
Pm-12(X)
PV-10(T)
PZ-15(M)
PZ-14(M)
Pm-16(X)
PK-27(X)
PK-12(X)
PN-18(X)
RI-18(X)
PN-4(X)
PN-5(X)
Pm-11(M,X)
Pm-10(M,X)
Pm-15(X)
PV-15(T)
RI-16(X)
PN-17(X)
Pm-9(M,X)
Pm-24(M,X)
PK-11(X)
RZ-12(M,X)
Pm-23(X)
PZ-10(X)
PN-16(X)
Pm-22(T)
Pm-21(X)
PV-16(P,M)
PZ-18(X)
PK-24(X)
PK-25(M,X)
PK-26(X)
PK-9(X)
Pm-20(M,X)
PZ-8(X)
PN-22(X)
PN-11(T)
PN-23(X)
PK-6(M)
PMV-2(M)
PK-5(X)
PK-4(X)
PN-15(X)
PN-14(X)
PK-39(M)
PK-42(M)
Pm-2(M)
Pm-1(T)
PK-1(T)

MINERAL EXPLORATION
IN
COTAHUASI AREA
(PHASE II)

LOCATION MAP OF ROCK AND ORE SAMPLES OF THE PIRCA EASTERN AREA

LOCATION INDEX



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO
February 1987

0 05 1 Km
Scale 1:10,000

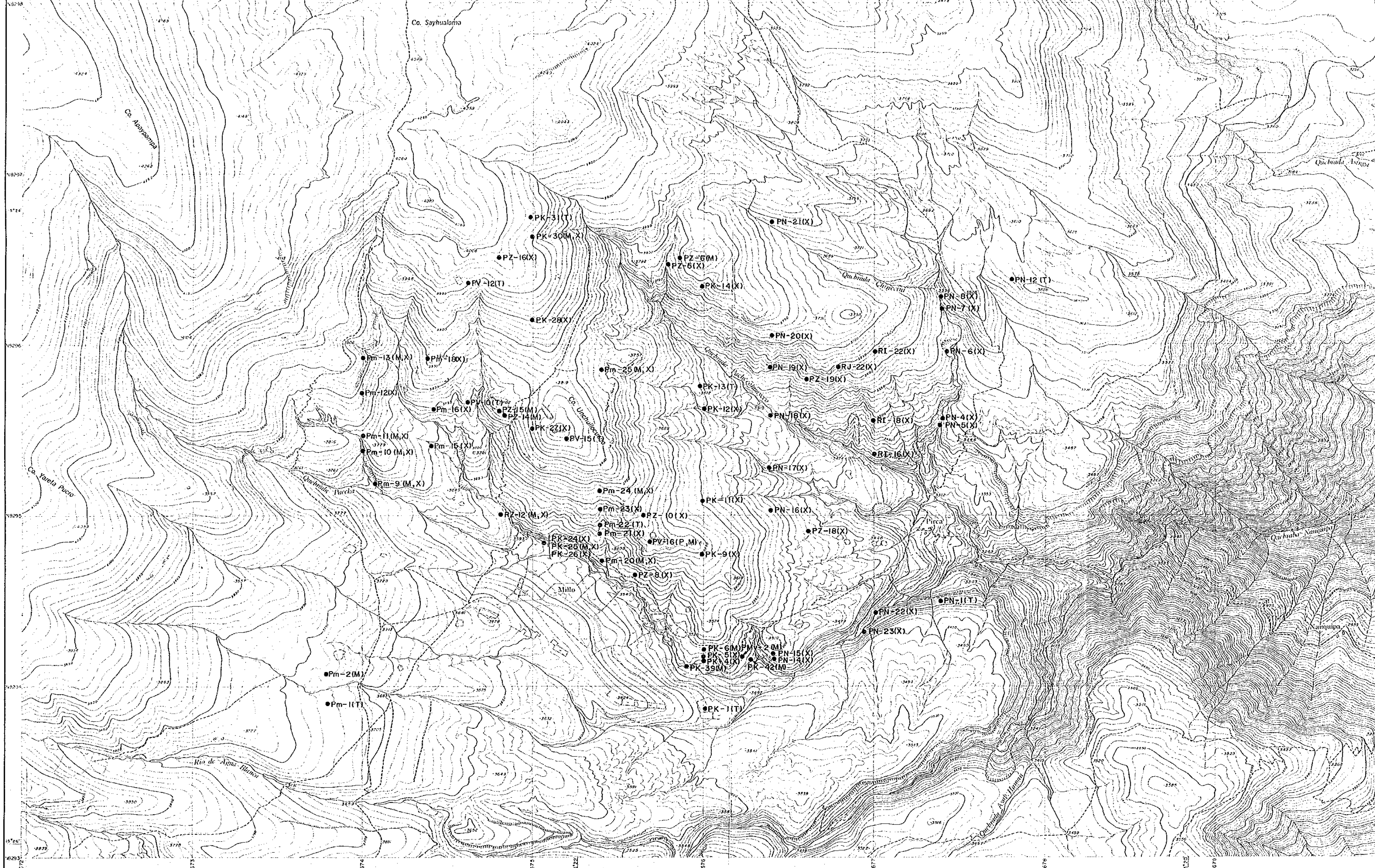
LEGEND

(P) : Polished Section

(T) : Thin Section

(X) : X-Ray Powder diffraction

(M) : Chemical Analysis of Ore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Co. Apaypampa
Co. Yareta Pucro
PK-31(T)
PK-30(M,X)
PZ-16(X)
PZ-6(M)
PZ-5(X)
PV-12(T)
PK-14(X)
PK-28(X)
PN-21(X)
PN-12(T)
PN-8(X)
PN-7(X)
PN-20(X)
RI-22(X)
PN-6(X)
Pm-13(M,X)
Pm-18(X)
Pm-25(M,X)
PN-19(X)
RJ-22(X)
PZ-19(X)
PK-13(T)
Pm-12(X)
PV-10(T)
PZ-15(M)
PZ-14(M)
Pm-16(X)
PK-12(X)
PN-18(X)
RI-18(X)
PN-4(X)
PN-5(X)
PK-27(X)
Pm-11(M,X)
Pm-10(M,X)
Pm-15(X)
PV-15(T)
RI-16(X)
PN-17(X)
Pm-9(M,X)
Pm-24(M,X)
PK-11(X)
Pm-23(X)
PN-16(X)
RZ-12(M,X)
PZ-10(X)
Pm-22(T)
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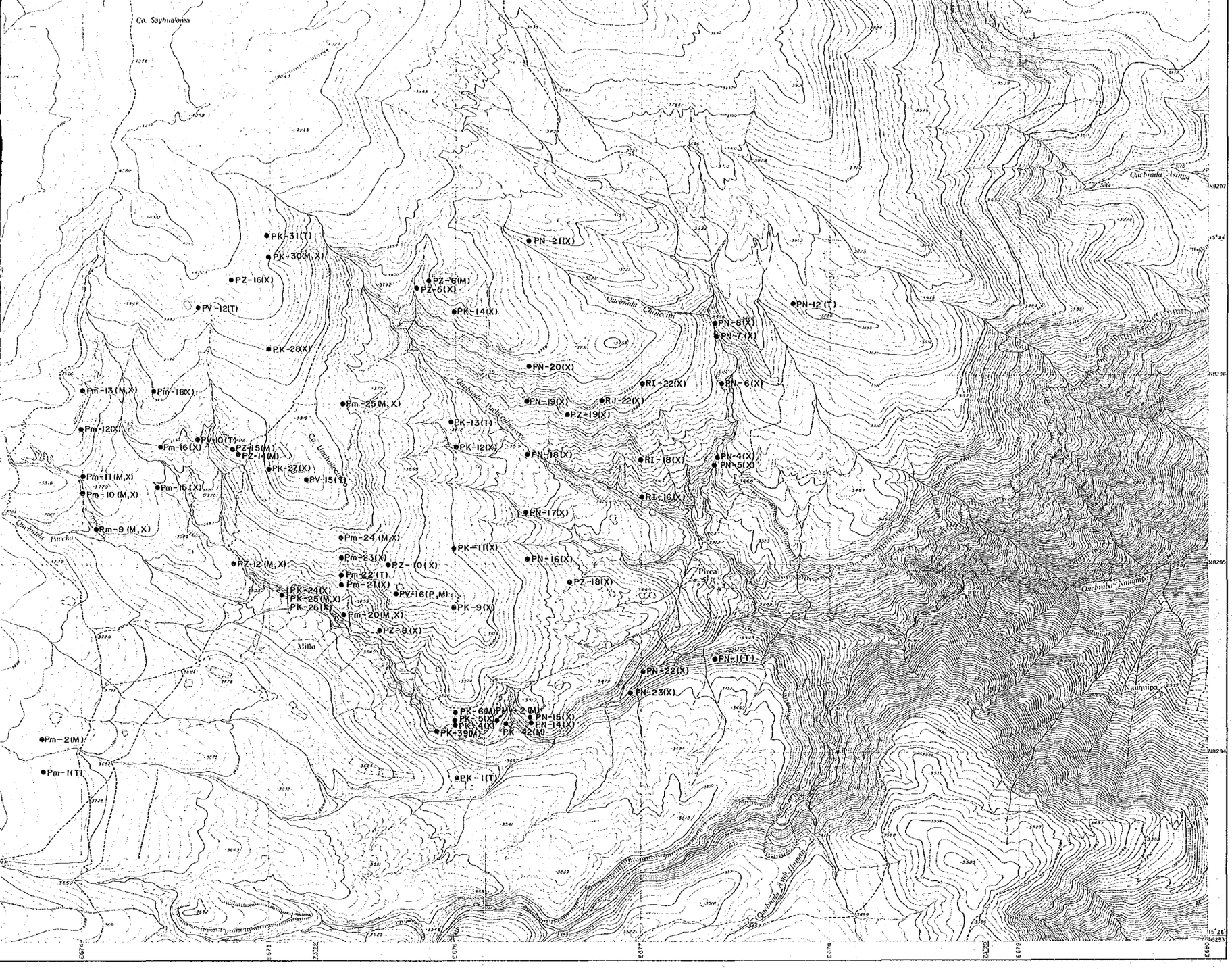
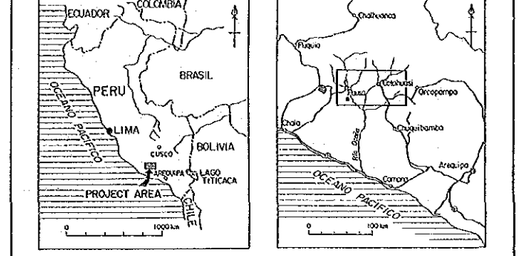
Pm-21(X)
PK-24(X)
PK-25(M,X)
PV-16(P,M)
PK-26(X)
PK-9(X)
Pm-20(M,X)
PZ-8(X)
Pirca
Millo
PN-11(T)
PN-22(X)
PN-23(X)
Nauquipa
PK-6(M)
PMy-2(M)
PK-5(X)
PN-15(X)
PK-4(X)
PN-14(X)
PK-39(M)
PK-42(M)
Pm-2(M)
Pm-1(T)
PK-1(T)
Rio de Agua Blanca





JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO
February 1987

0 0.5 1 Km

Scale 1:10,000

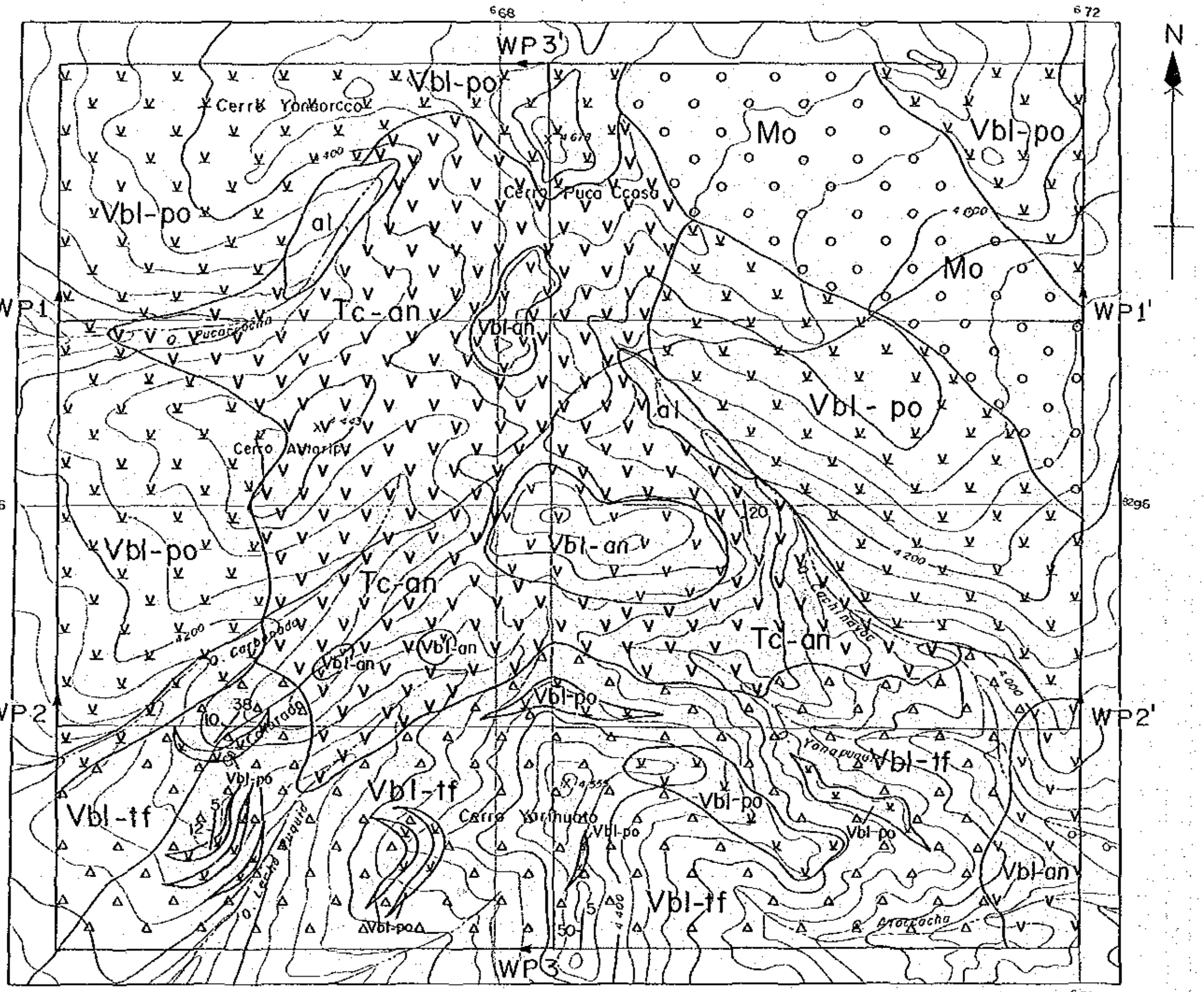
LEGEND

(P) : Polished Section

(T) : Thin Section

(X) : X-Ray Powder diffraction

(M) : Chemical Analysis of Ore



LEGEND

Quaternary	Holocene	Alluvium and Talus		al	Gravel, sand, silt and clay
		Moraine Sediments		Mo	Gravel, sand and mud
	Pleistocene	Barroso Group	Barroso Lower Formation	Vbl-an	Pyroxene andesite lava
				Vbl-tf	Andesitic tuff, lapilli tuff and tuff breccia
				Vbl-po	Hornblende andesite lava
Tertiary	Miocene	Tacaza Formation		Tc-an	Andesite lava with thin bedded tuff, lapilli tuff and tuff breccia

20 10 Strike and dip of bedding

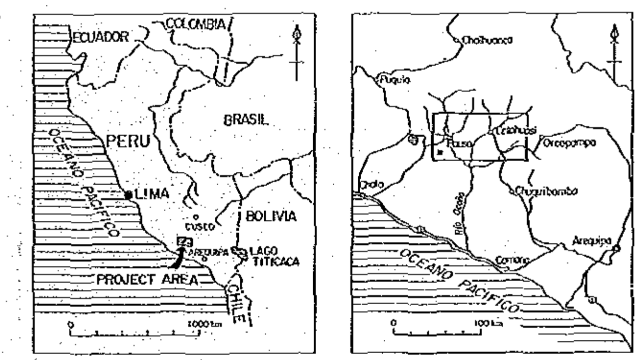
WP1 WP1' Geological profile line

PL. 9

MINERAL EXPLORATION
IN
COTAHUASI AREA
(PHASE II)

GEOLOGICAL MAP OF THE PIRCA WESTERN AREA

LOCATION INDEX



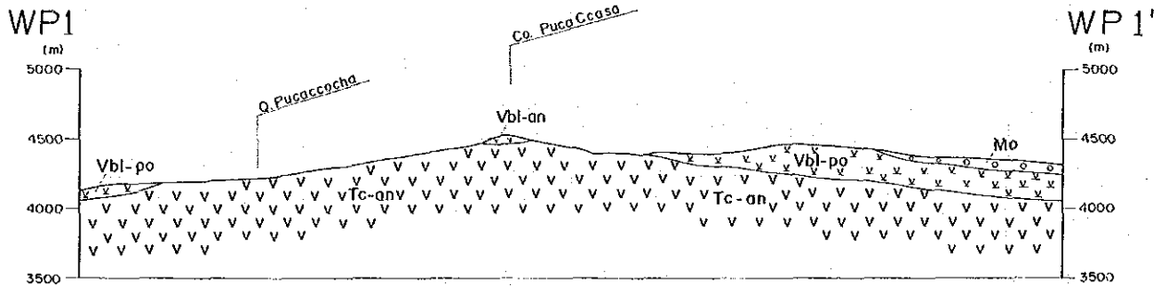
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO
February 1987

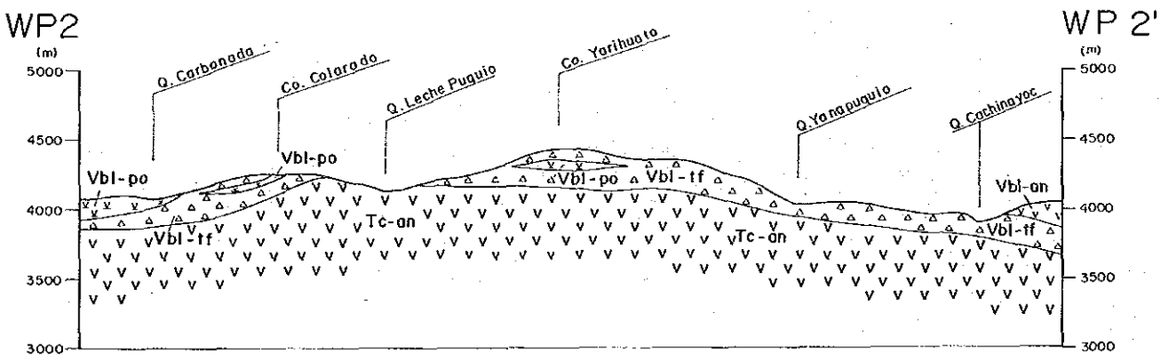
Scale 1 : 25,000

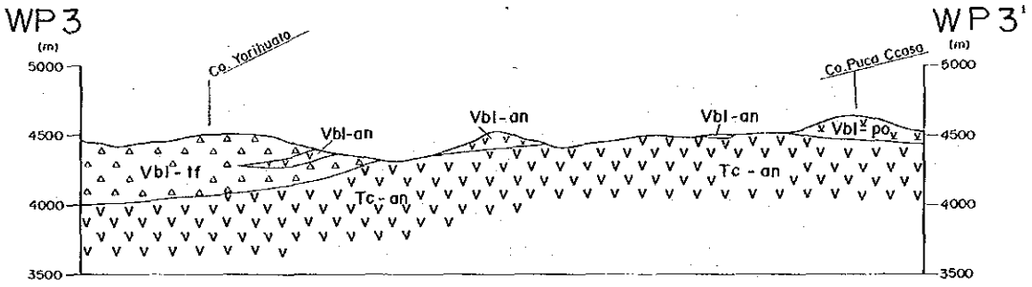
0 1 2km

MINERAL EXPLORATION
IN
COTAHUASI AREA
(PHASE II)

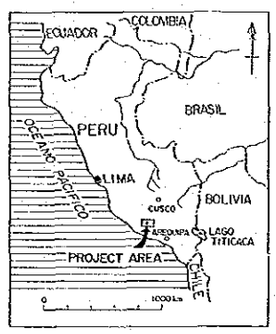
GEOLOGICAL PROFILES OF THE PIRCA WESTERN AREA

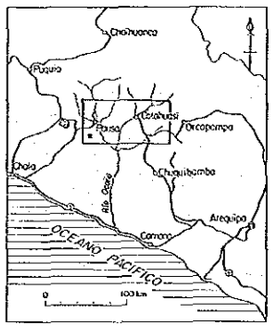






LOCATION INDEX





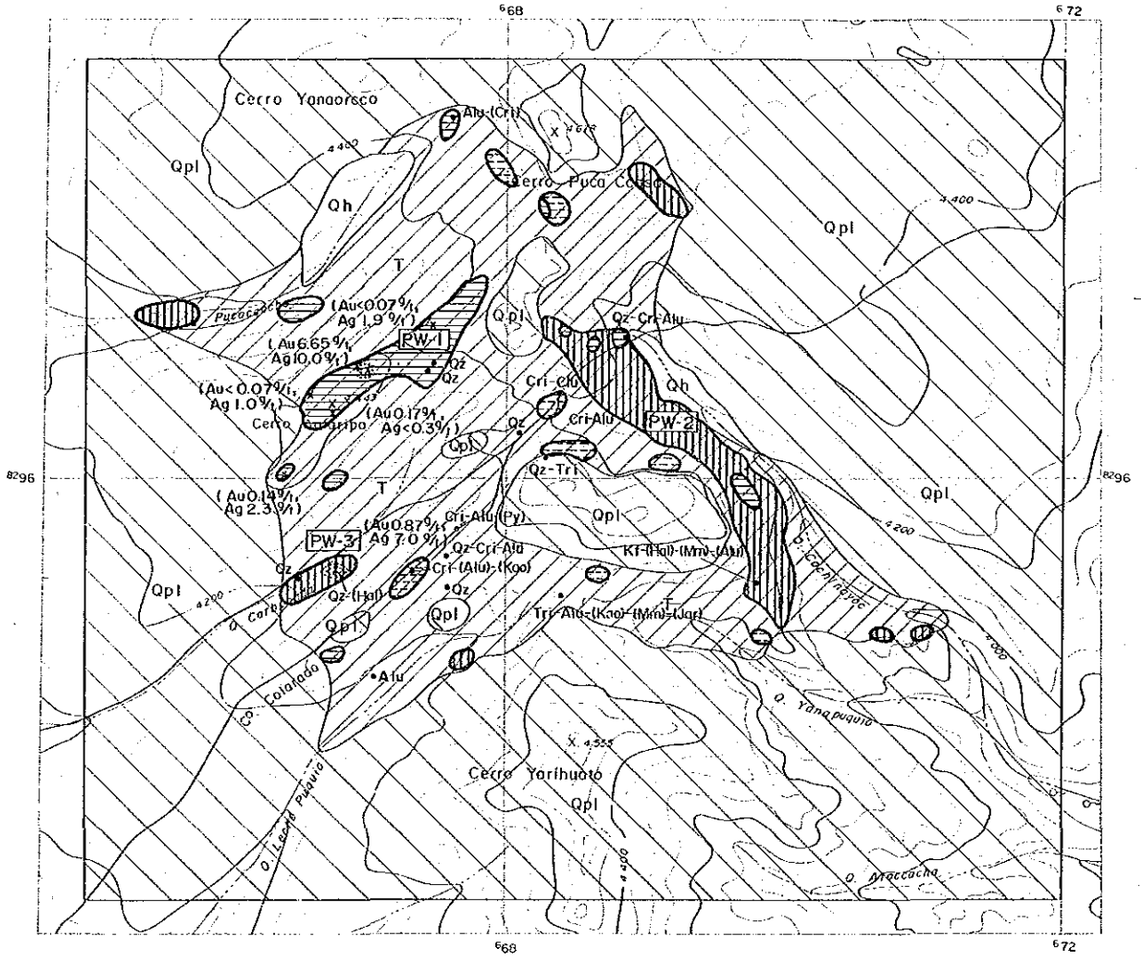
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO
February 1987

Scale 1 : 25,000

0 1 2km

LEGEND

Quaternary	Holocene	Alluvium and Talus	al	Gravel, sand, silt and clay
		Moraine Sediment	Mo	Gravel, sand and mud
	Pleistocene	Barroso Group	Vbl-an	Pyroxene andesite lava
			Barroso Lower Formation Vbl-tf	Andesitic tuff, lapilli tuff and tuff breccia
			Vbl-po	Hornblende andesite lava
Tertiary	Miocene	Tacaza Formation	Tc-an	Andesite lava with thin bedded tuff, lapilli tuff and tuff breccia



N

LEGEND

Geological System

- Qh — Quaternary (Holocene) System
- Qpl — Quaternary (Pleistocene) System
- T — Tertiary System

Alteration and Mineralization Zones

- Mainly silicification
- Silicification and argillization
- Mainly argillization
- Mineralization

Abbriviation

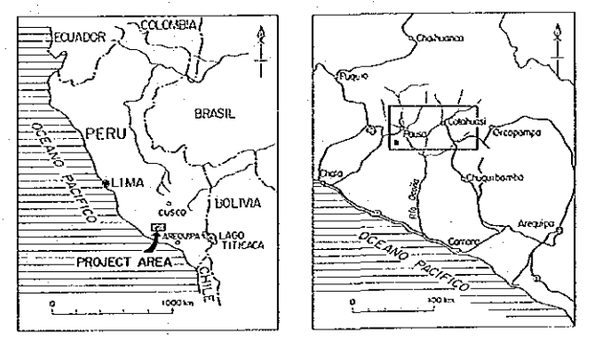
Qz : quartz
Tri : tridymite
Cri : α-cristbolite
Alu: alunite
Jar : jarosite
Hal: halloysite
Kao: kaolinite
Mm: montmorillonite

PL. II

MINERAL EXPLORATION
IN
COTAHUASI AREA
(PHASE II)

LOCATION MAP OF ALTERATION AND MINERALIZATION ZONES OF THE PIRCA WESTERN AREA

LOCATION INDEX

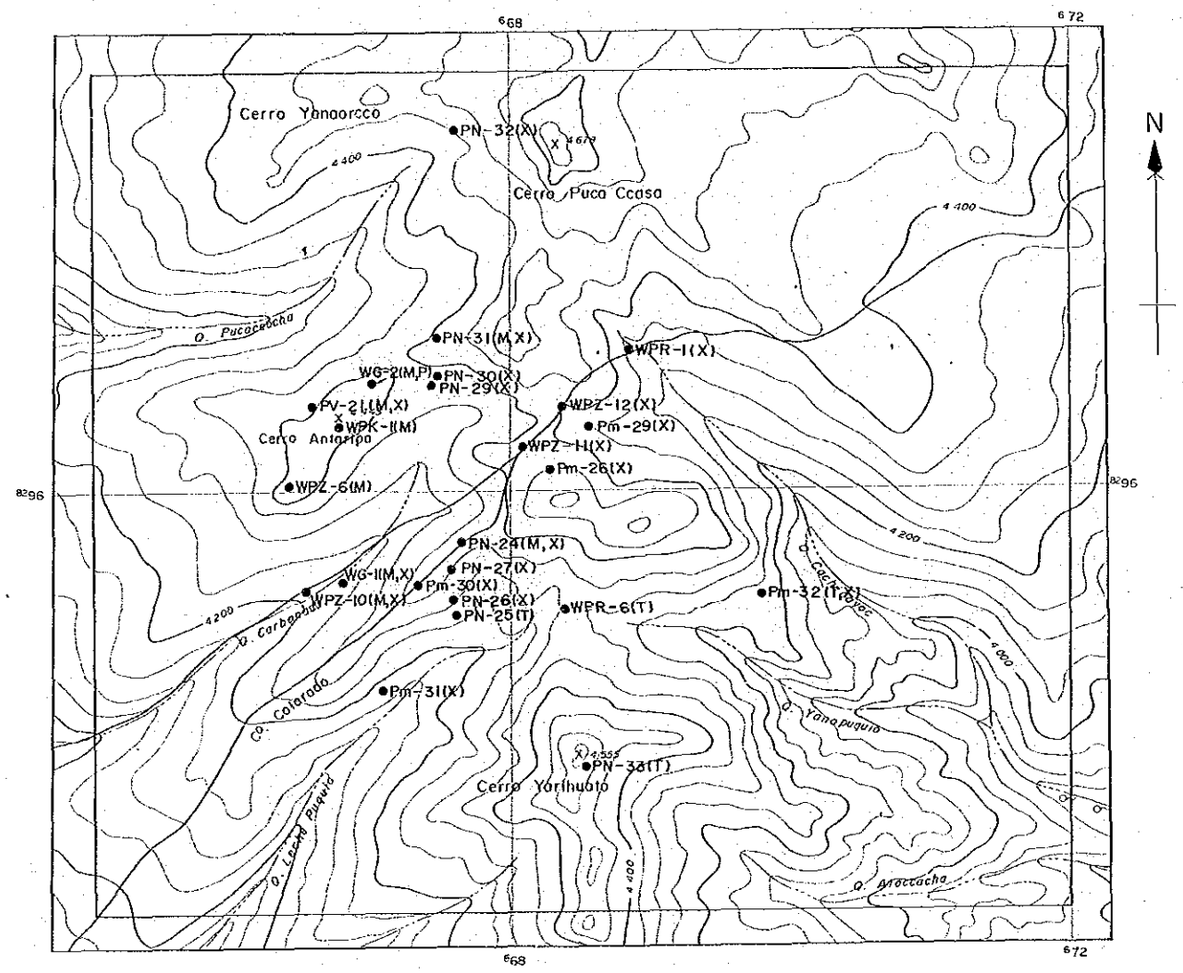


JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO

February 1987

Scale 1 : 25,000

0 1 2 km

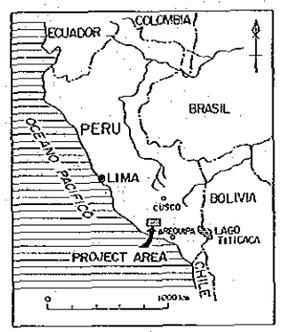


PL 12

MINERAL EXPLORATION
IN
COTAHUASI AREA
(PHASE II)

LOCATION MAP OF ROCK AND ORE SAMPLES OF THE PIRCA WESTERN AREA

LOCATION INDEX

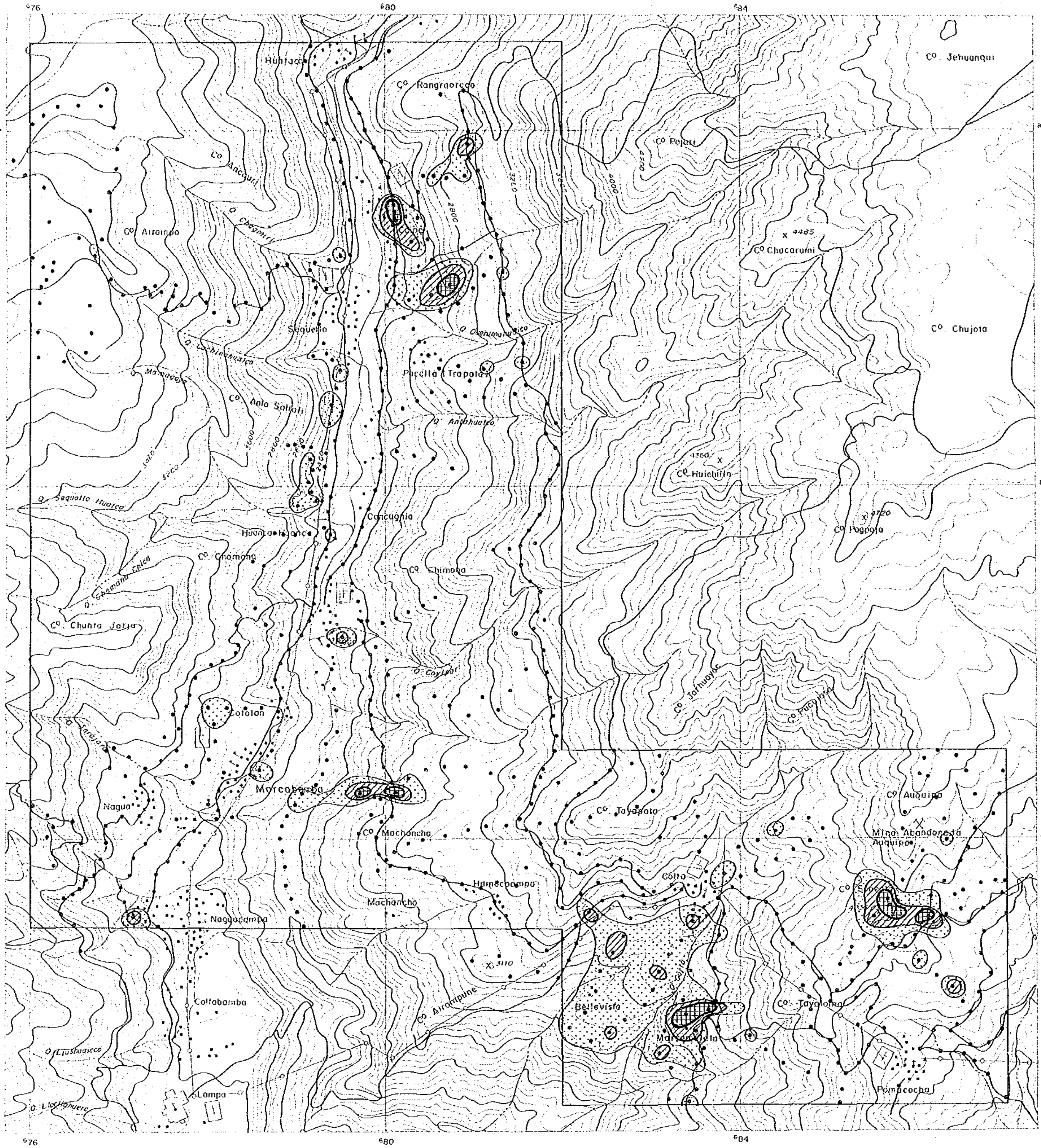


JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO
February 1987

0 1 2 Km
Scale 1:25,000

LEGEND

(P) : Polished Section (X) : X-Ray Powder diffraction
(T) : Thin Section (M) : Chemical Analysis of Ore



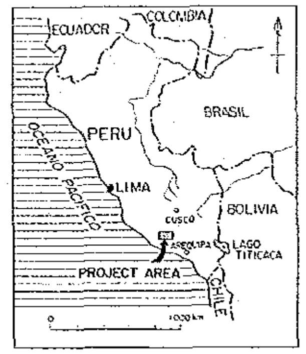
PL.13-(1)

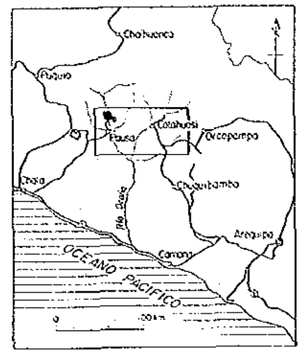
16201

MINERAL EXPLORATION
IN
COTAHUASI AREA
(PHASE Ⅱ)

GEOCHEMICAL ANOMALY MAP OF THE MARCABAMBA AREA (Au)

LOCATION INDEX





JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO
February 1987

Scale 1 : 25,000

0 1 2km

LEGEND

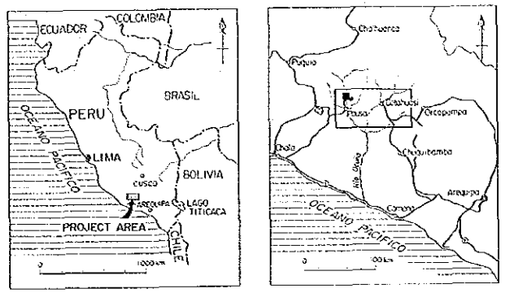
Symbol	Classification	Contents (in ppb)
	Anomaly A (M+3σ)	Au ≧ 292.1
	Anomaly B (M+2σ)	292.1 > Au ≧ 73.0
	High background (M+1σ)	73.0 > Au ≧ 18.2

MINERAL EXPLORATION
IN
COTAHUASI AREA
(PHASE II)

GEOCHEMICAL ANOMALY MAP OF THE MARCABAMBA AREA

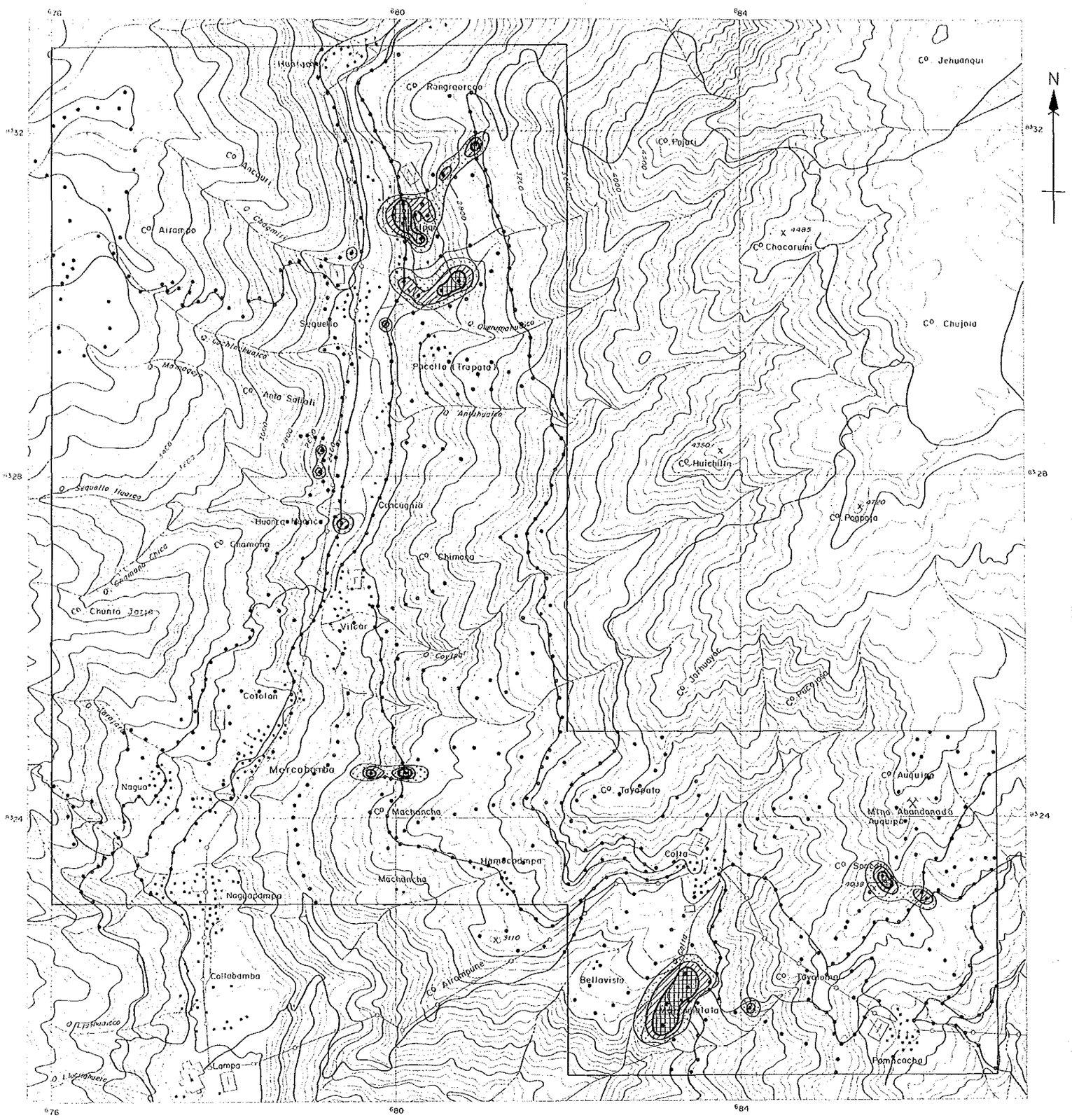
(Ag)

LOCATION INDEX



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO
February 1987

Scale 1 : 25,000
0 1 2km



LEGEND

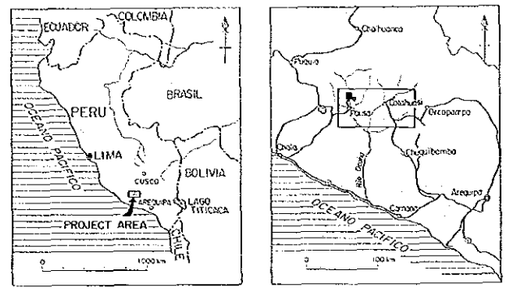
Symbol	Classification	Contents (in ppm)
	Anomaly A M+3σ	Ag ≧ 3.18
	Anomaly B M+2σ	3.18 > Ag ≧ 1.15
	High background M+1σ	1.15 > Ag ≧ 0.42

MINERAL EXPLORATION
IN
COTAHUASI AREA
(PHASE II)

GEOCHEMICAL ANOMALY MAP OF THE MARCABAMBA AREA

(As)

LOCATION INDEX



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO
February 1987

Scale 1 : 25,000
0 1 2km

LEGEND

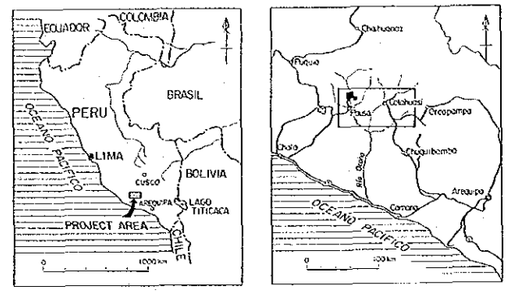
Symbol	Classification	Contents (in ppm)
	Anomaly A M+3σ	As ≥ 223.4
	Anomaly B M+2σ	223.4 > As ≥ 72.9
	High background M+1σ	72.9 > As ≥ 23.8

MINERAL EXPLORATION
IN
COTAHUASI AREA
(PHASE II)

GEOCHEMICAL ANOMALY MAP OF THE MARCABAMBA AREA

(Cu)

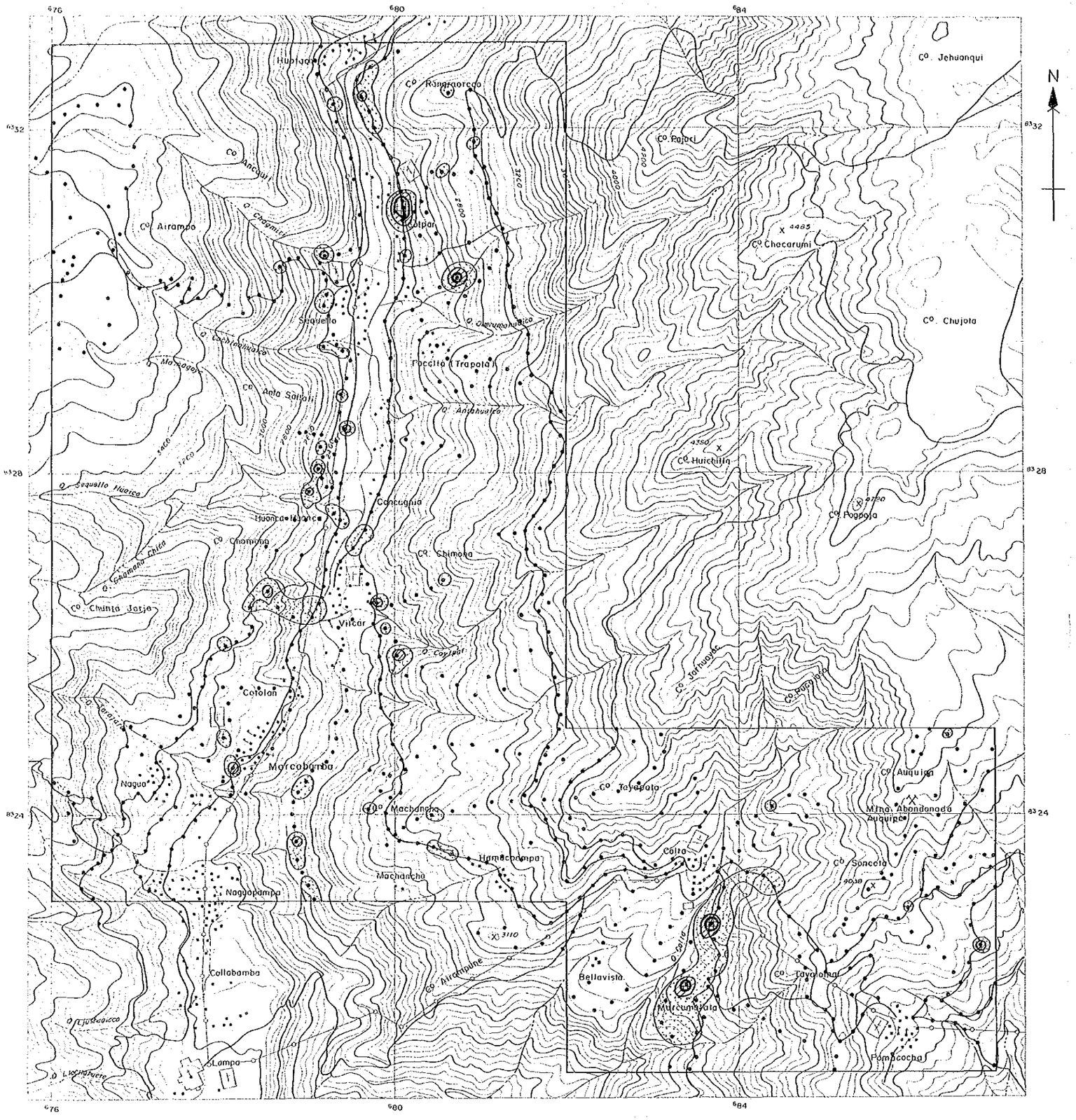
LOCATION INDEX



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO
February 1987

Scale 1 : 25,000

0 1 2km



LEGEND

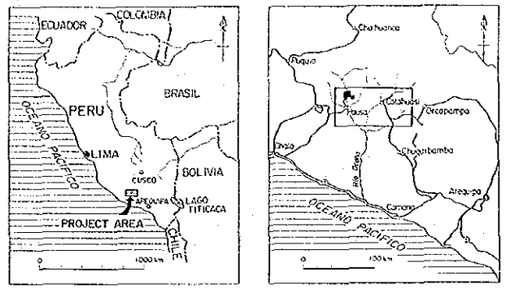
Symbol	Classification	Contents (in ppm)
	Anomaly A M+3σ	Cu ≧ 116.7
	Anomaly B M+2σ	116.7 > Cu ≧ 72.5
	High background M+1σ	72.5 > Cu ≧ 45.1

MINERAL EXPLORATION
IN
COTAHUASI AREA
(PHASE II)

GEOCHEMICAL ANOMALY MAP OF THE MARCABAMBA AREA

(Pb)

LOCATION INDEX



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO
February 1987

Scale 1 : 25,000
0 1 2km

LEGEND

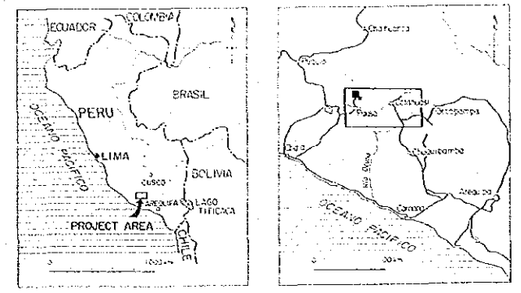
Symbol	Classification	Contents (in ppm)
	Anomaly A M+3σ	Pb ≥ 210.4
	Anomaly B M+2σ	210.4 > Pb ≥ 83.9
	High background M+1σ	83.9 > Pb ≥ 33.5

MINERAL EXPLORATION
IN
COTAHUASI AREA
(PHASE II)

GEOCHEMICAL ANOMALY MAP OF THE MARCABAMBA AREA

(Zn)

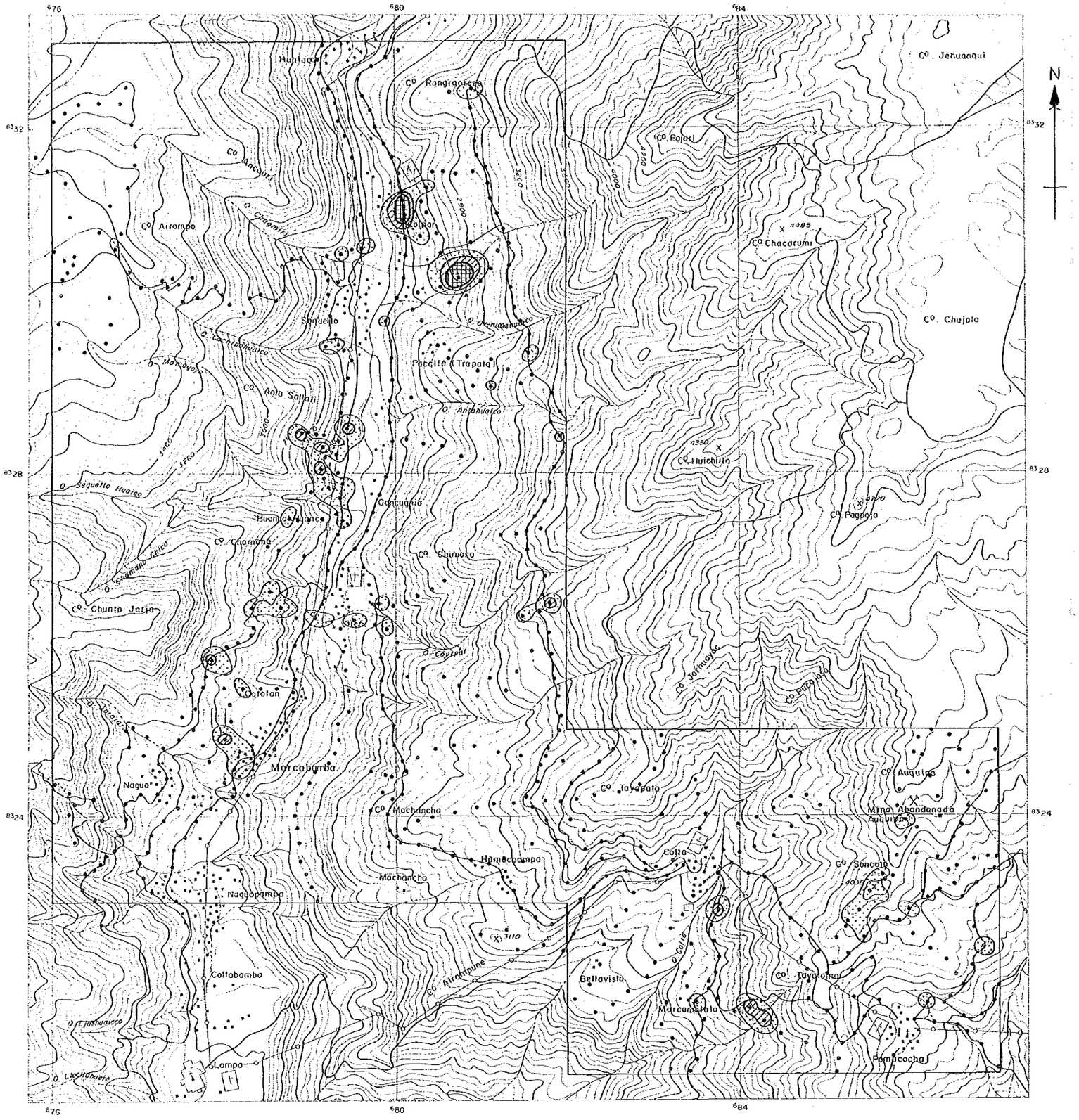
LOCATION INDEX



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO
February 1987

Scale 1 : 25,000

0 1 2km



LEGEND

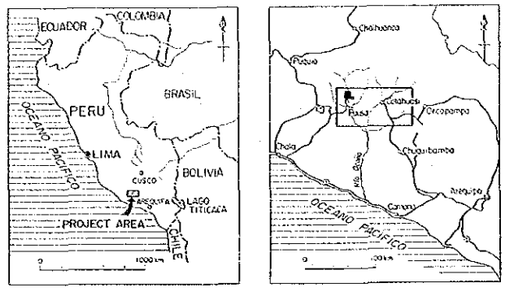
Symbol	Classification	Contents (in ppm)
	Anomaly A M+3σ	Zn ≧ 278.4
	Anomaly B M+2σ	278.4 > Zn ≧ 174.6
	High background M+1σ	174.6 > Zn ≧ 109.6

MINERAL EXPLORATION
IN
COTAHUASI AREA
(PHASE II)

GEOCHEMICAL ANOMALY MAP BY PRINCIPAL COMPONENT ANALYSIS, MARCABAMBA AREA

(FIRST: Z1)

LOCATION INDEX



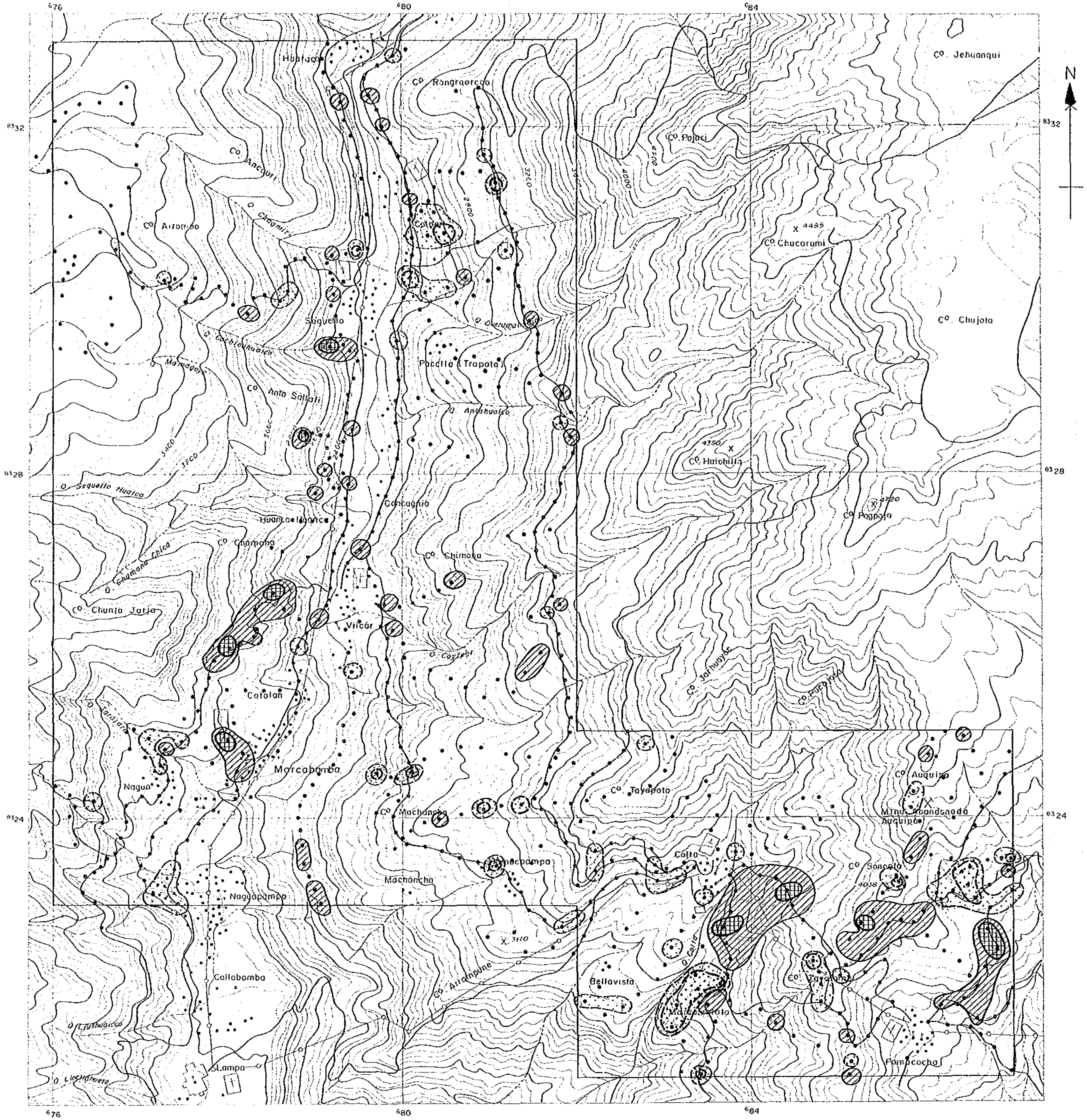
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO
February 1987

Scale 1: 25,000

0 1 2km

LEGEND

Symbol	Score	Classification
	M+2σ 3.75	+ Anomaly
	M+σ 1.88	+ High background
	+ M — 0 — −	Background
	M−σ −1.88	− High background
	M−2σ −3.75	− Anomaly



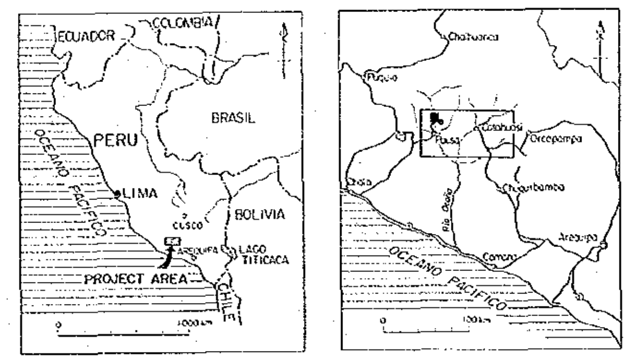
PL. 14-(2)

MINERAL EXPLORATION
IN
COTAHUASI AREA
(PHASE Ⅱ)

GEOCHEMICAL ANOMALY MAP BY PRINCIPAL COMPONENT ANALYSIS, MARCABAMBA AREA

(SECOND : Z2)

LOCATION INDEX



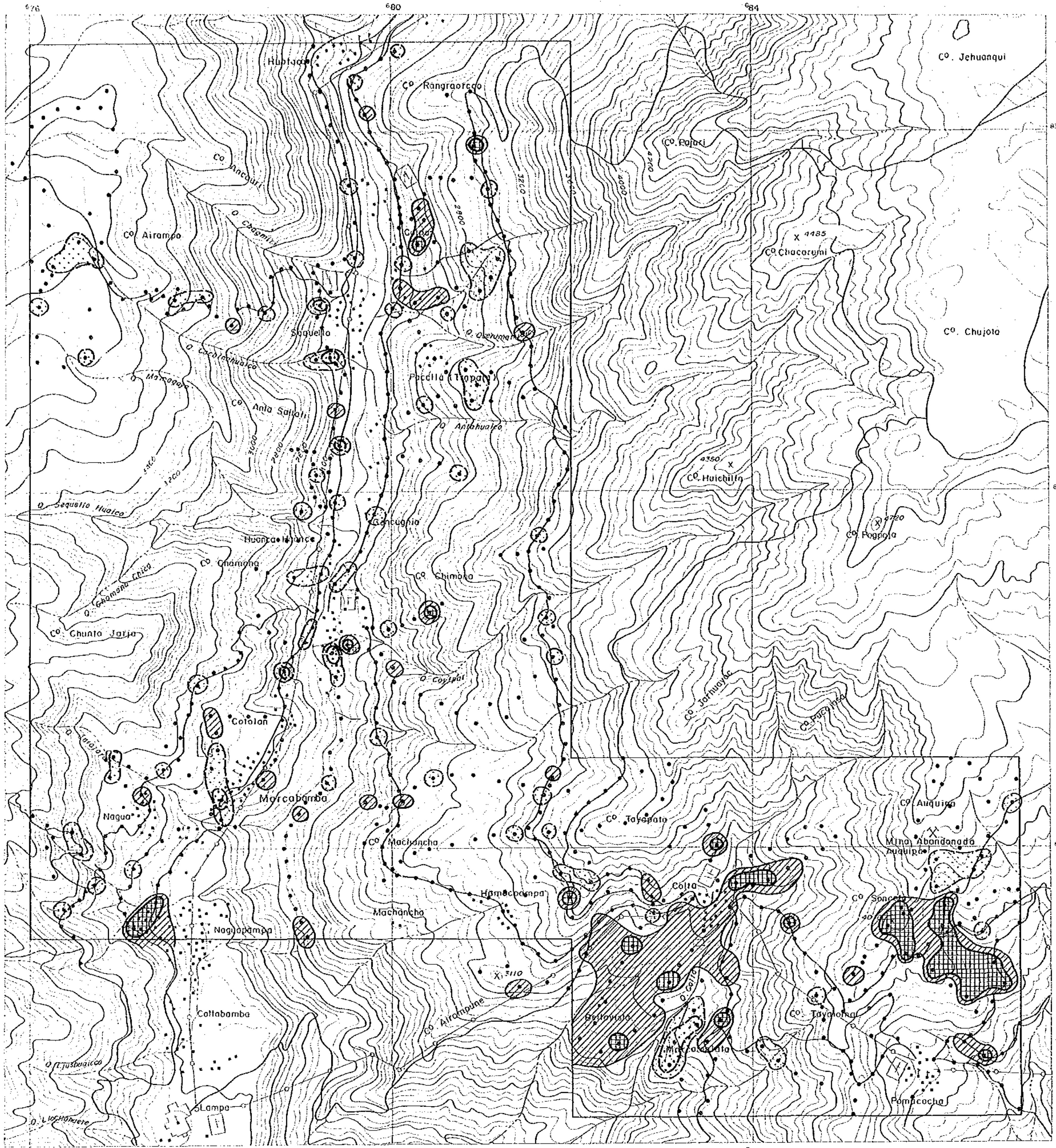
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO
February 1987

Scale 1 : 25,000

0 1 2km

LEGEND

Symbol	Score	Classification
(cross-hatched)	M+2σ 1.93	+ Anomaly
(diagonal hatched)	M+σ 0.97	+ High background
(blank)	+ / M — 0 — / −	Background
(light dots)	M+σ −0.97	− High background
(dense dots)	M+2σ −1.93	− Anomaly

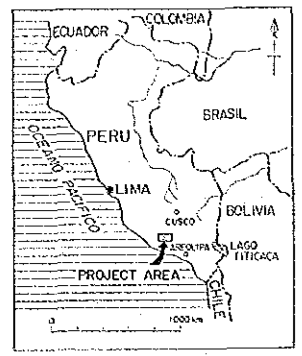


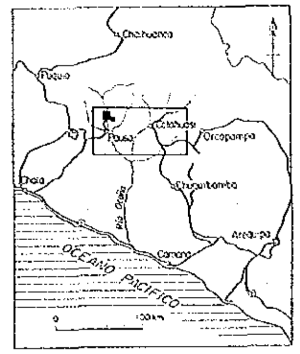
PL. 14-(3)

MINERAL EXPLORATION
IN
COTAHUASI AREA
(PHASE II)

GEOCHEMICAL ANOMALY MAP BY PRINCIPAL COMPONENT ANALYSIS, MARCABAMBA AREA (THIRD: Z3)

LOCATION INDEX





JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
INSTITUTO GEOLOGICO MINERO Y METALURGICO
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Scale 1 : 25,000

0 — 1 — 2 km

LEGEND

Symbol	Score	Classification
	↑ M+2σ ↑ 1.43	+ Anomaly
	↑ M+σ ↑ 0.71	+ High background
- - - - -	↑ + M — 0 — ↓ −	Background
	M+σ ↓ −0.71 ↓	− High background
	M+2σ ↓ −1.43 ↓	− Anomaly