REPORT

ON

THE COOPERATIVE MINERAL EXPLORATION

IN

THE CURAÇÁ-NOVO AREA

FEDERATIVE REPUBLIC OF BRAZIL

(PHASE II)

MARCH 1992

JAPAN INTERNATIONAL COOPERATION AGENCY

METAL MINING AGENCY OF JAPAN

M P N
CR(3)
92-031

REPORT ON THE COOPERATIVE MINERAL EXPLORATION IN THE CURAÇÁ-NOVO AREA FEDERATIVE REPUBLIC OF BRAZIL (PHASE II)

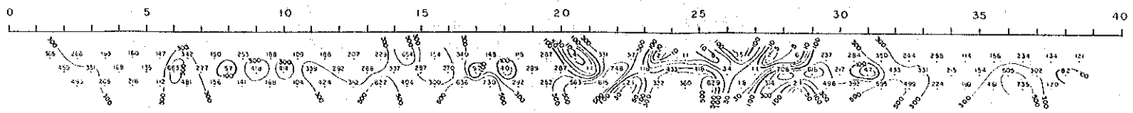
MARCH 1992

MJ
MI
AC

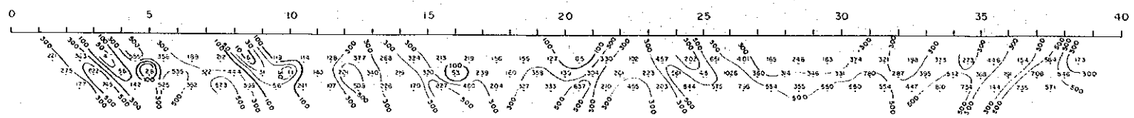
703
66.1
MPN
LIBRARY

JICA LIBRARY
1098360(9)
国際協力事業団
23846

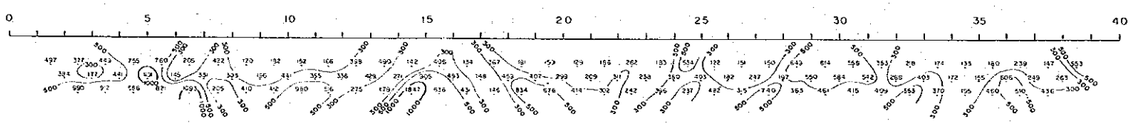
LINE-A



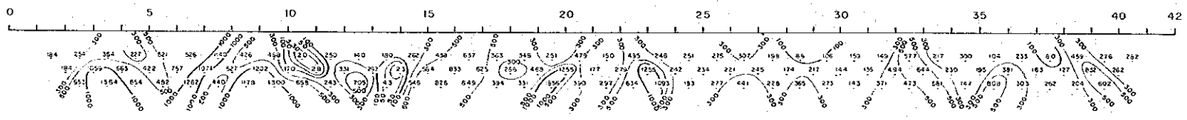
LINE-B



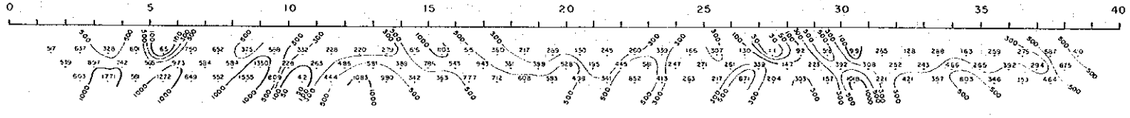
LINE-C



LINE-D

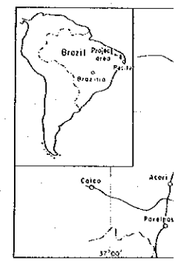


LINE-E



MINERAL EX
IN THE CURRA
FEDERATIVE REPU
PHAS

Apparent Resi



JAPAN INTERNATIONA
METAL MINING A
JAN

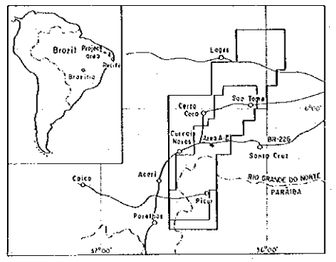
0
1 : 5

LEGEND

AR Contour
AR : Appa
Unit : Ω·m

MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL PHASE III

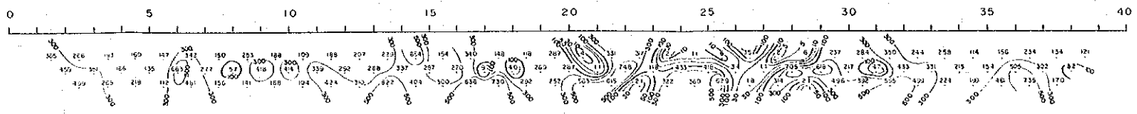
Apparent Resistivity section



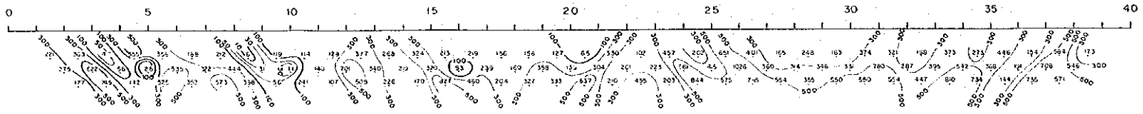
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1992

0 250m
1 : 5,000

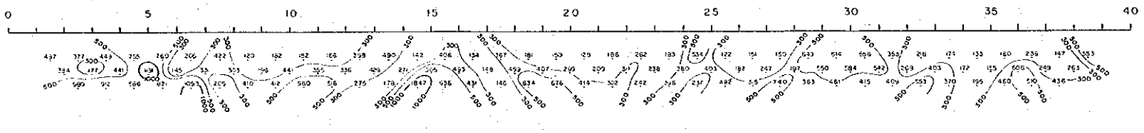
LINE-A



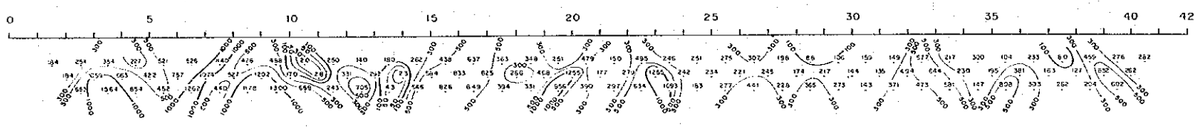
LINE-B



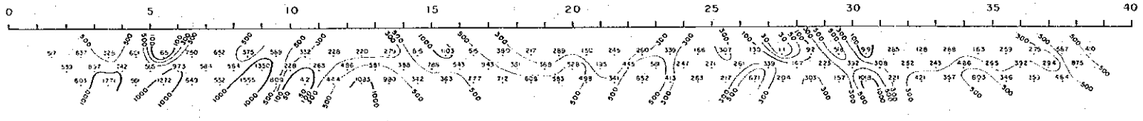
LINE-C



LINE-D



LINE-E

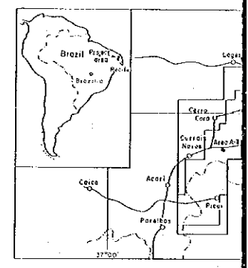


LEGEND

AR Contour
AR : Apparent Resistivity
Unit : Ω-m

MINERAL EXPLORAT
IN THE CURRAIS NOVO
FEDERATIVE REPUBLIC O
PHASE III

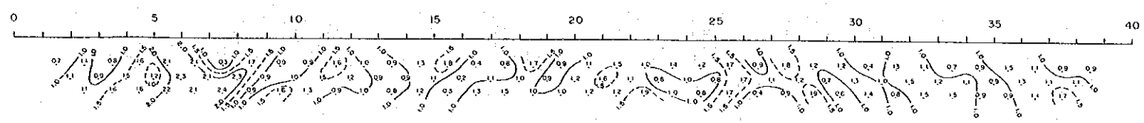
Percent Frequency E
section (Figure II



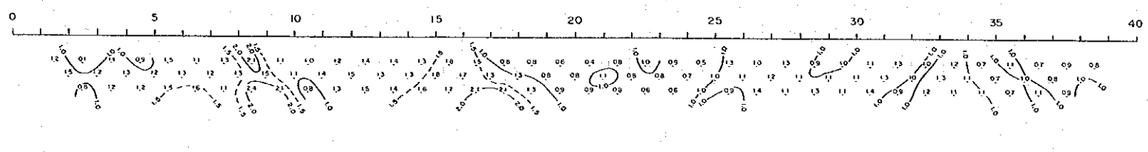
JAPAN INTERNATIONAL COOPERAT
METAL MINING AGENCY OF J
JAN 1992

0
1 : 5,000

LINE – A

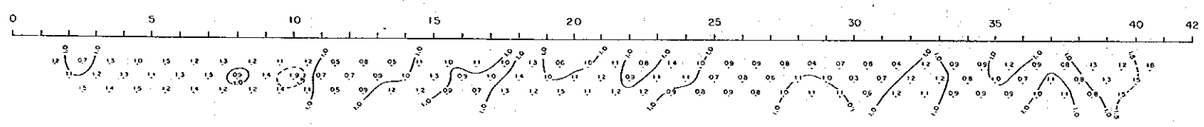


LINE – B

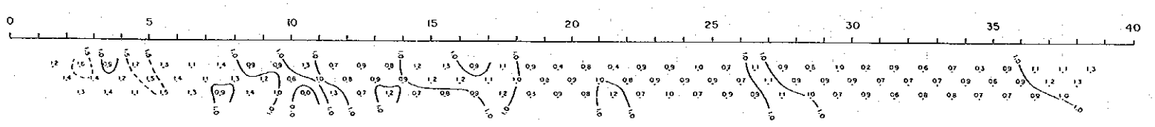


LINE – C

LINE – D



LINE – E

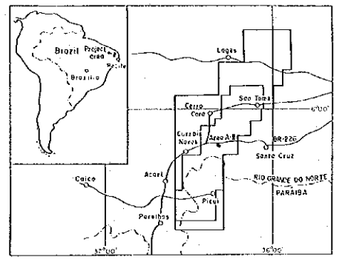


LEGEND

PFE Contour
PEF : Percent Fre
Unit : %

MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL PHASE III

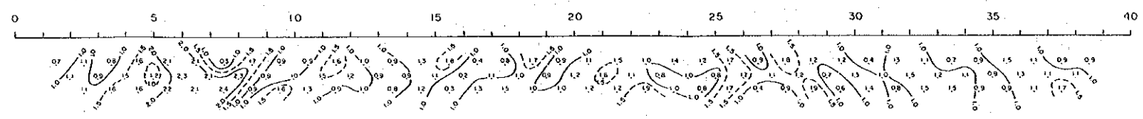
Percent Frequency Effect section (Figure II - 1 - 4)



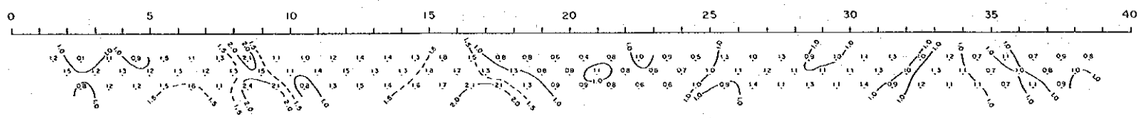
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1992

0 250m
1 : 5,000

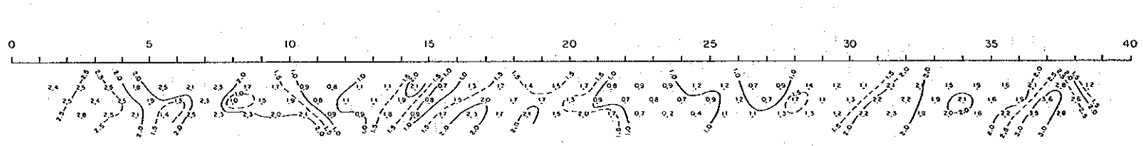
LINE - A



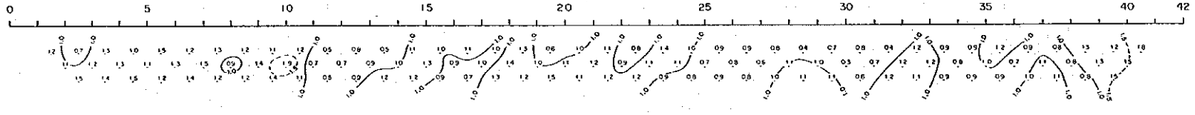
LINE - B



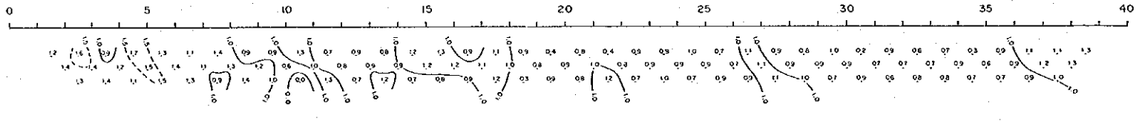
LINE - C



LINE - D

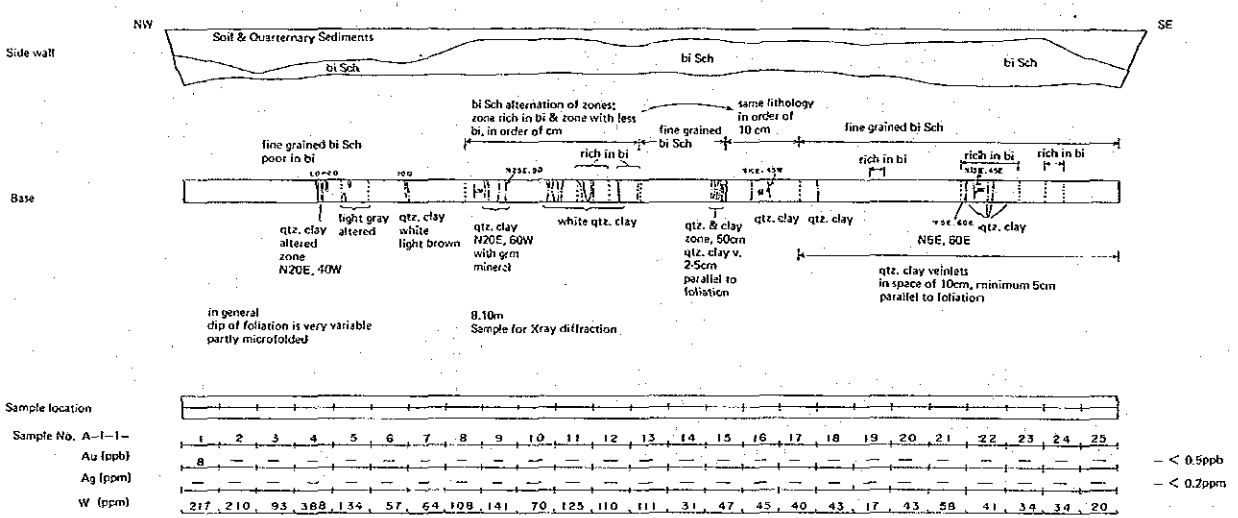


LINE - E



LEGEND

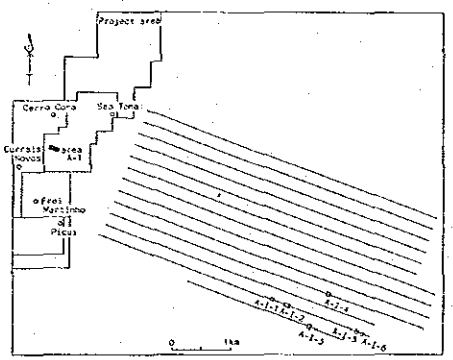
PFE Contour
PEF : Percent Frequency Effect
Unit : %



PL.II-2-1

MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL PHASE III

Location of Trench A-I-1



JAPAN INTERNATIONAL COOPERATION AGENCY

METAL MINING AGENCY OF JAPAN

JAN 1992

scale

0 5 10m

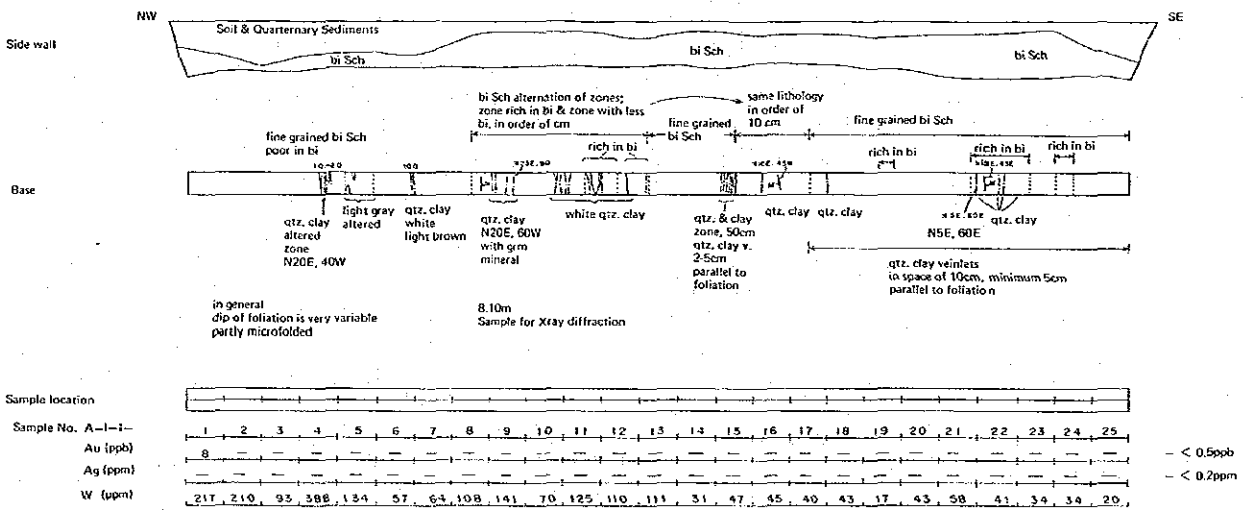
1 : 100

LEGEND

70 strike & dip of fracture

40 strike & dip of foliation

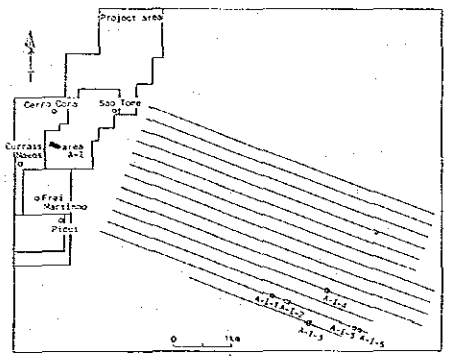
10 quartz vein



PL.II-2-2

MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL PHASE III

Location of Trench A-I-1



JAPAN INTERNATIONAL COOPERATION AGENCY

METAL MINING AGENCY OF JAPAN

JAN 1992

scale

0 5 10m

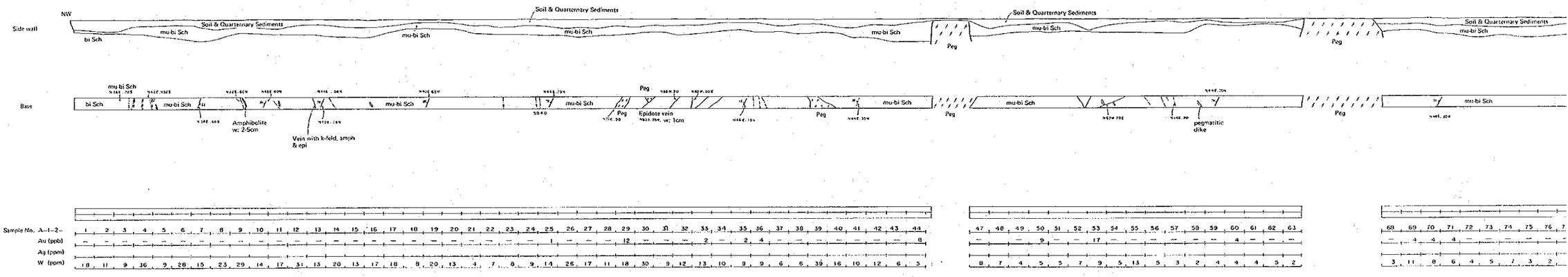
1 : 100

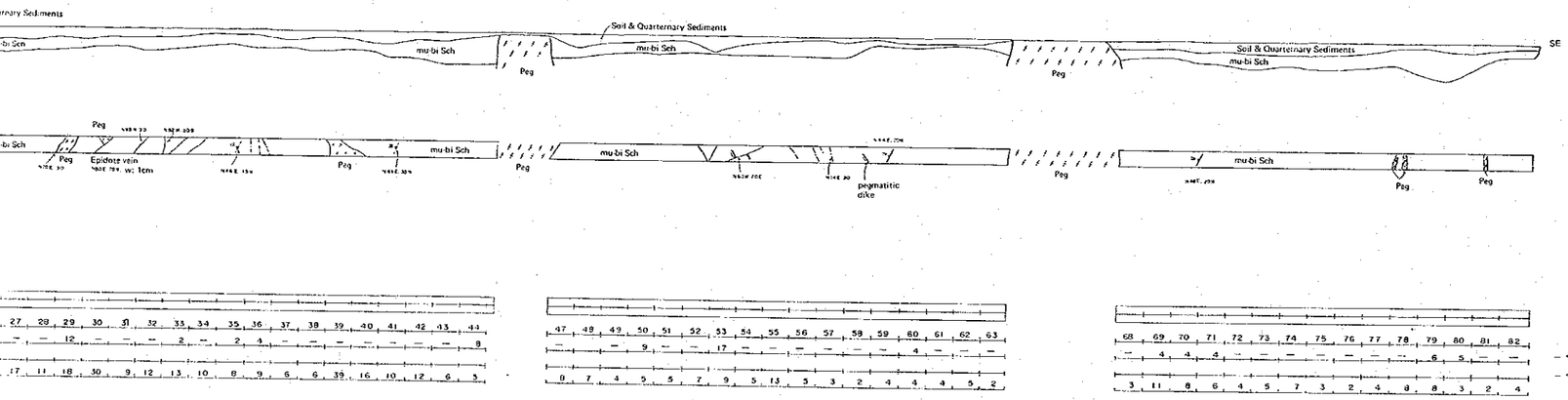
LEGEND

N70 strike & dip of fracture

N40 strike & dip of foliation

quartz vein


NW
Side wall
Soil & Quarternary Sediments
mu-bi Sch
bi Sch
Peg
Base
Amphibolite
w: 2-5cm
Vein with k-feld, amph
& epi
Epidote vein
w: 1cm
pegmatitic
dike
Sample No. A-1-2-
Au (ppb)
Ag (ppm)
W (ppm)

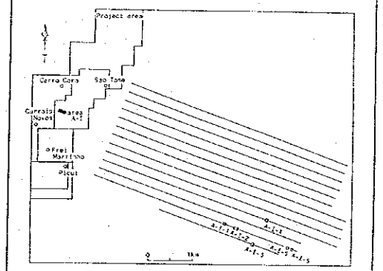


PL.II-2-2

MINERAL EXPLORATION
IN THE CURRAIS NOVOS AREA
FEDERATIVE REPUBLIC OF BRAZIL
PHASE III

Location of Trench

A-I-2

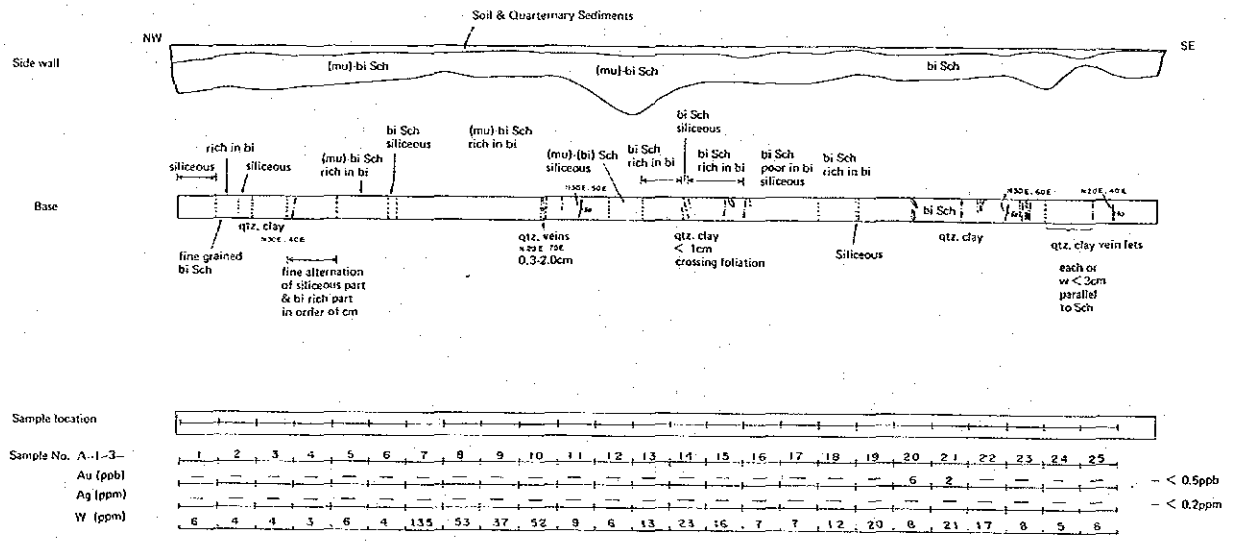


JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1992

scale
0 5 10m
1 : 100

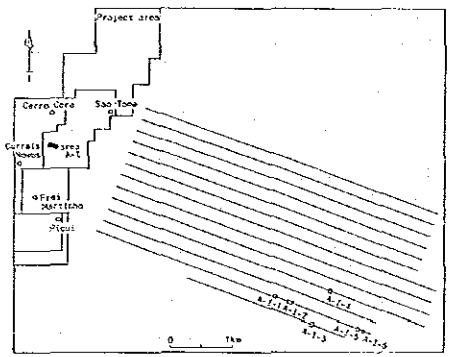
LEGEND

- 70 — strike & dip of fracture
- 40 — strike & dip of foliation
- Q — quartz vein



MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL PHASE III

Location of Trench A-I-3



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1992

scale
0 5 10m
1 : 100

LEGEND

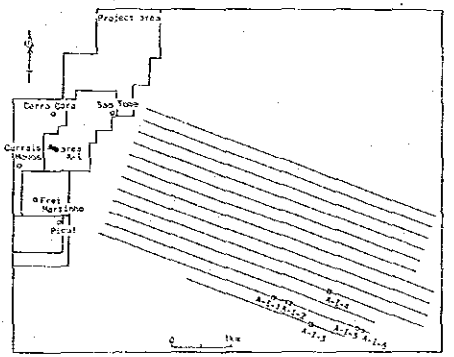
70 strike & dip of fracture

40 strike & dip of foliation

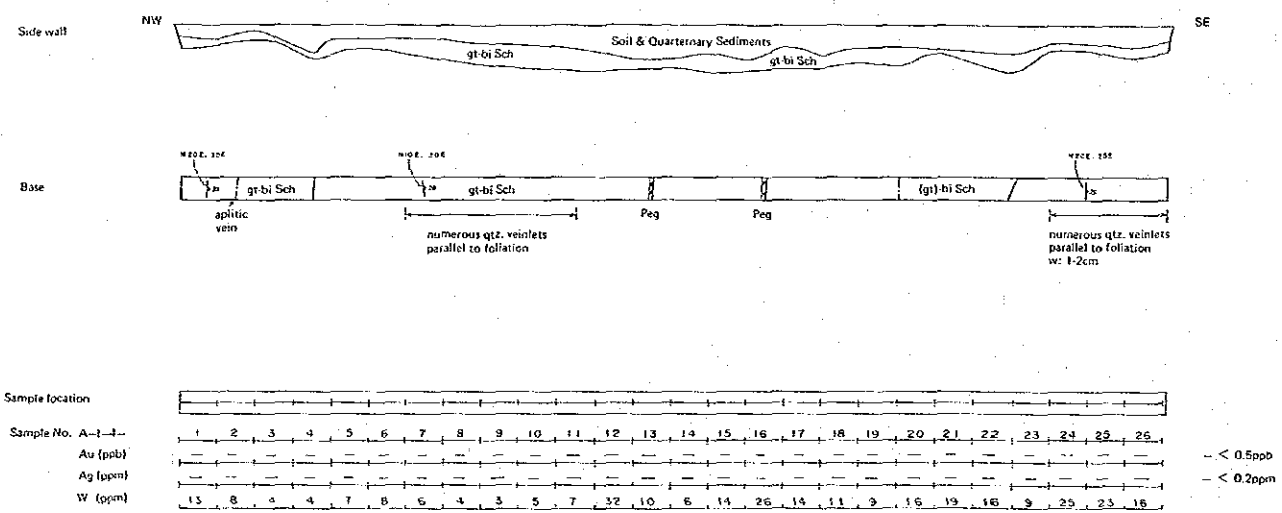
quartz vein

MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL PHASE III

Location of Trench A-I-4



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1992



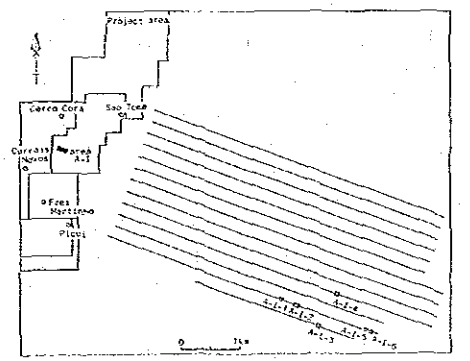
scale
0 5 10m
1 : 100

LEGEND

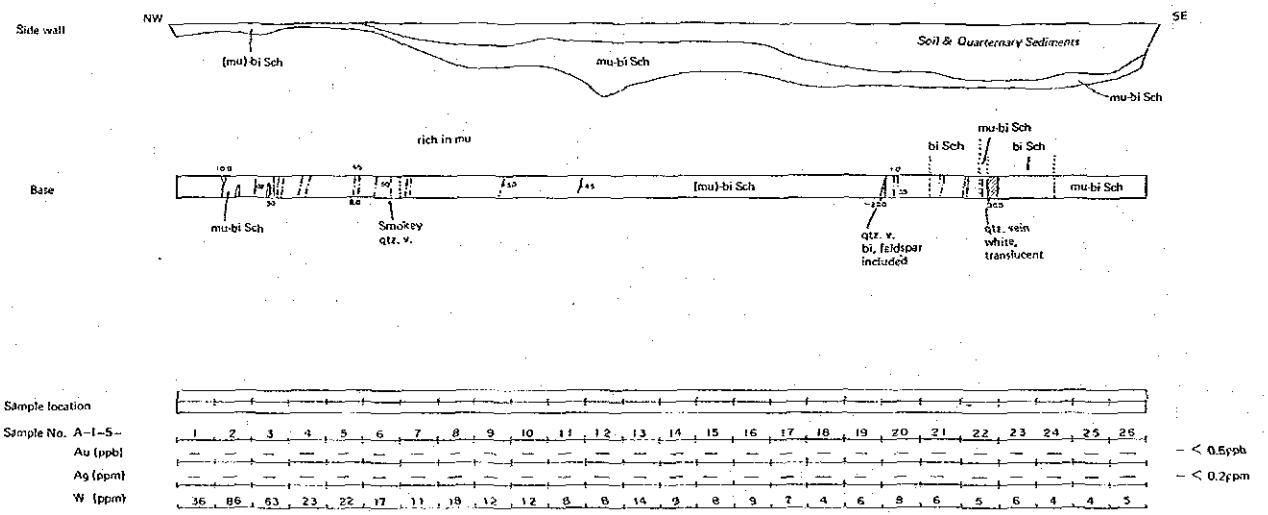
- strike & dip of fracture
- strike & dip of foliation
- quartz vein

MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL PHASE III

Location of Trench A-I-5



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1992



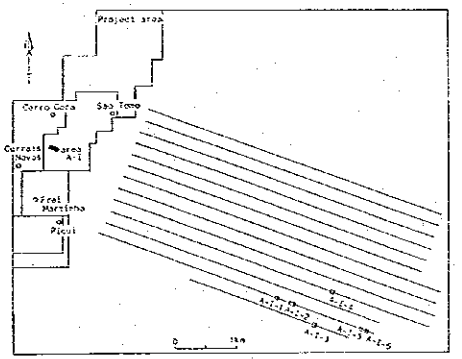
scale
0 5 10m
1 : 100

LEGEND

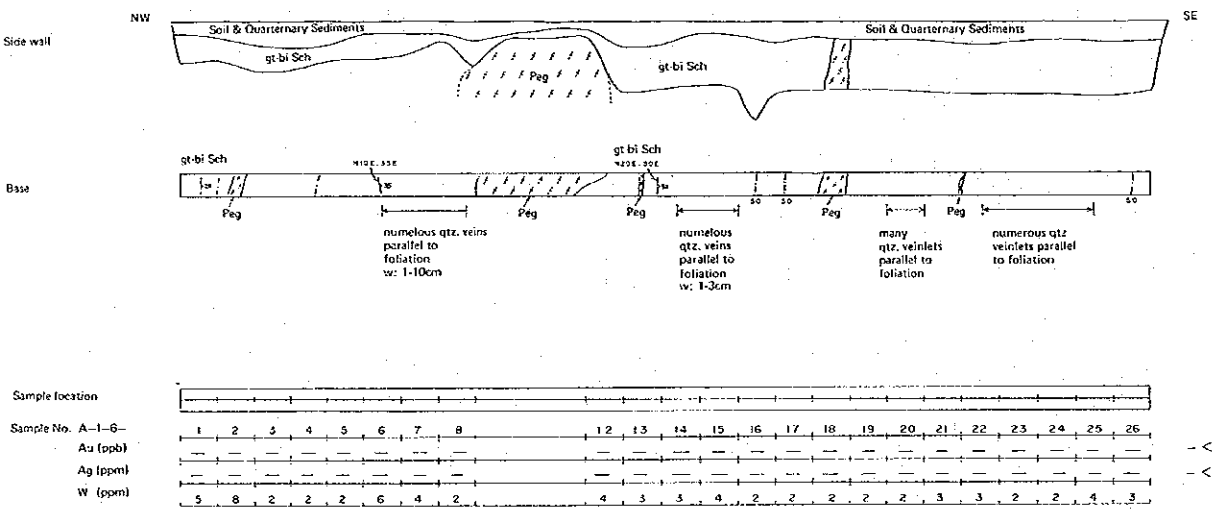
- strike & dip of fracture
- strike & dip of foliation
- quartz vein

MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL PHASE III

Location of Trench A-I-6



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1992



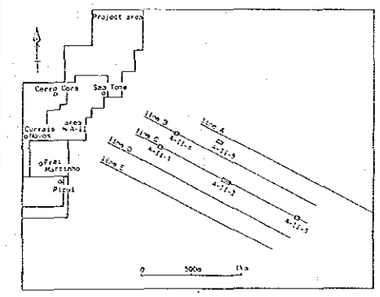
scale
0 5 10m
1 : 100

LEGEND

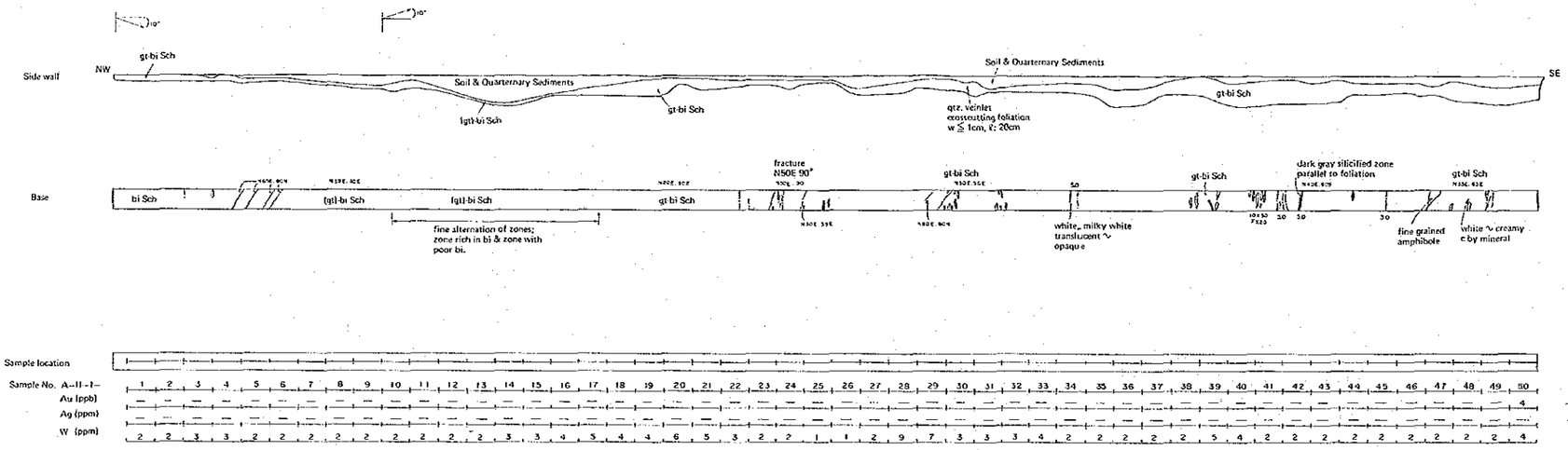
- strike & dip of fracture
- strike & dip of foliation
- quartz vein

MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL PHASE III

Location of Trench A-II-1



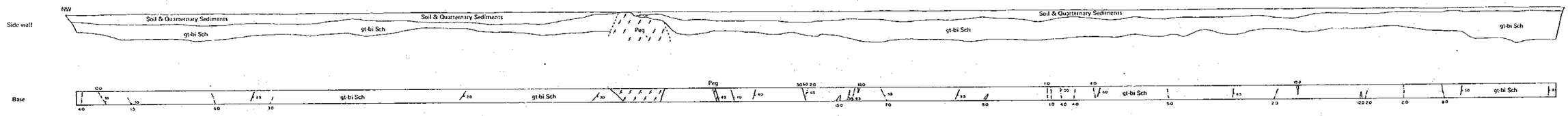
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1992

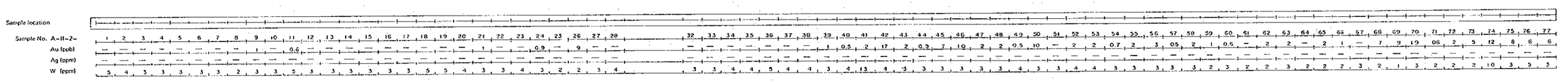


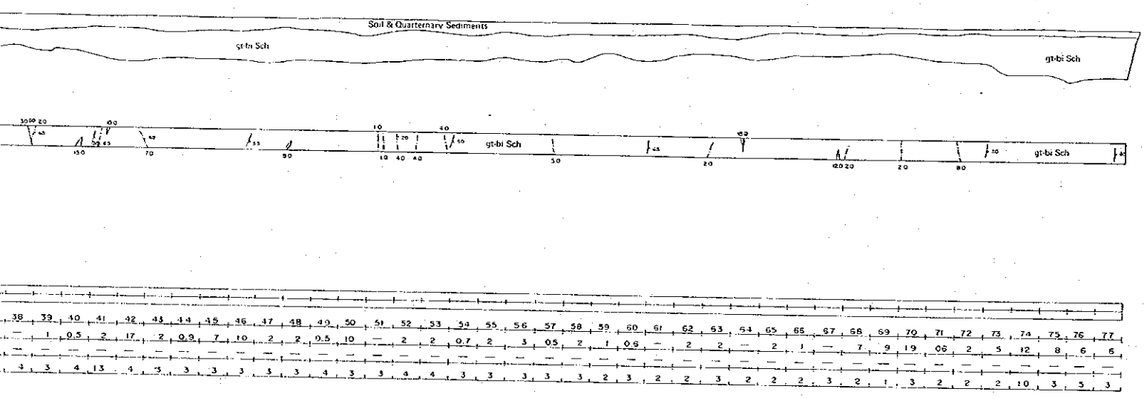
scale
0 5 10m
1 : 100

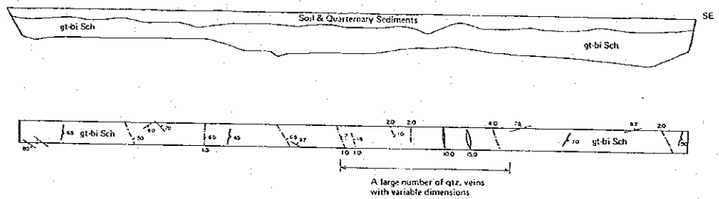
LEGEND

- strike & dip of fracture
- strike & dip of foliation
- quartz vein


NW
Side wall
Soil & Quarternary Sediments
gt-bi Sch
Soil & Quarternary Sediments
gt-bi Sch
Peg
Soil & Quarternary Sediments
gt-bi Sch
gt-bi Sch
Base
gt-bi Sch
gt-bi Sch
Peg
gt-bi Sch
gt-bi Sch


Sample location
Sample No. A-11-2-
Au (ppb)
Ag (ppm)
W (ppm)



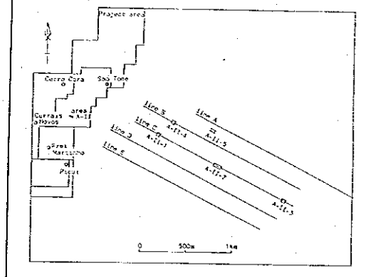


PL.II-2-8

MINERAL EXPLORATION
IN THE CURRAIS NOVOS AREA
FEDERATIVE REPUBLIC OF BRAZIL
PHASE III

Location of Trench

A-II-2

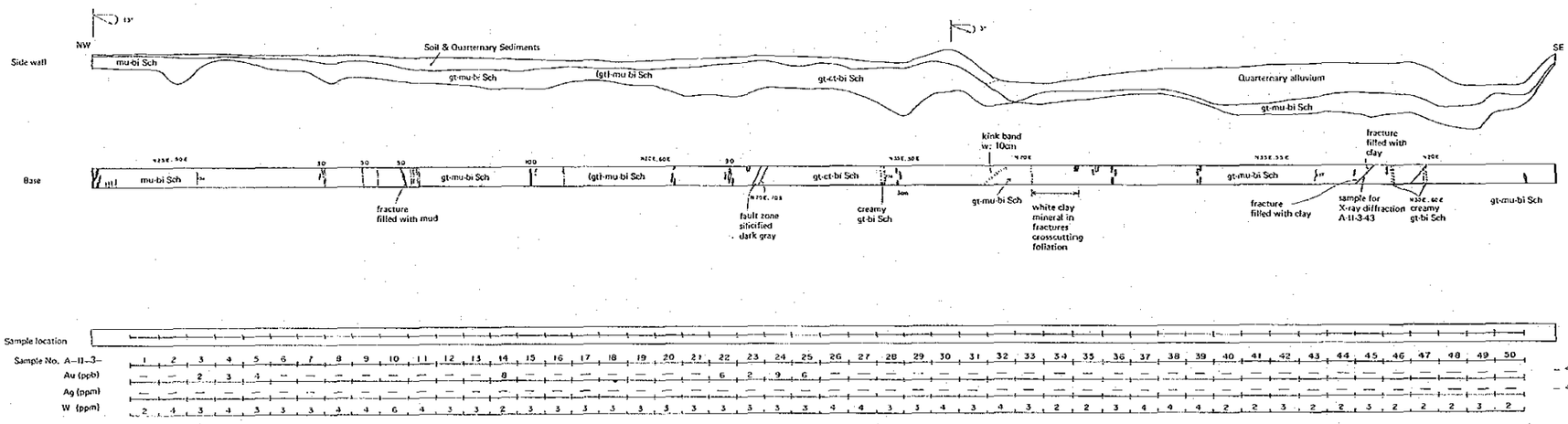


JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1992

scale
0 5 10m
1 : 100

LEGEND

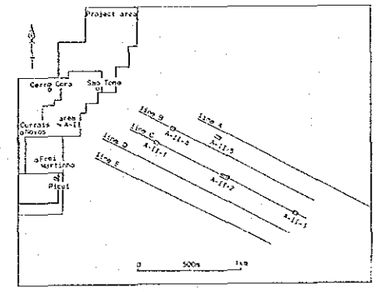
- strike & dip of fracture
- strike & dip of foliation
- quartz vein



PL.II-2-9

MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL PHASE III

Location of Trench A-II-3

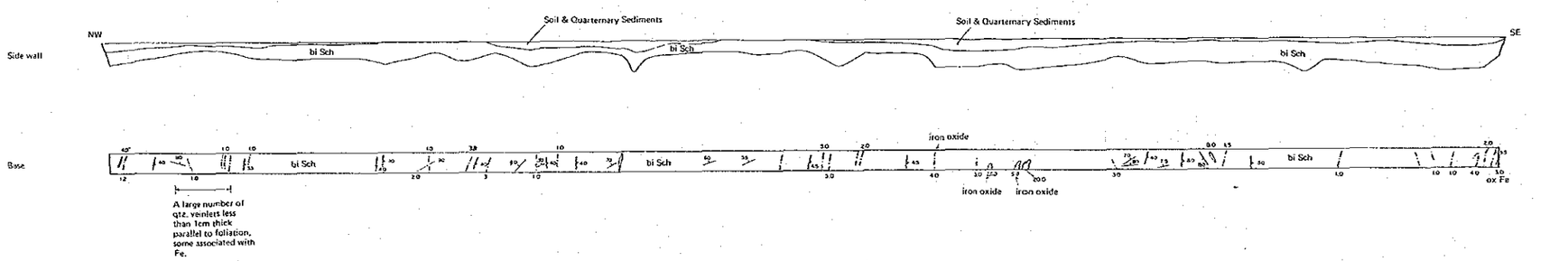


JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1992

scale
0 5 10m
1 : 100

LEGEND

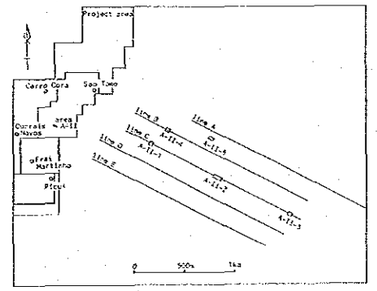
- 70 — strike & dip of fracture
- 40 — strike & dip of foliation
- 10 — quartz vein



PL. II-2-10

MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL PHASE III

Location of Trench A-II-4

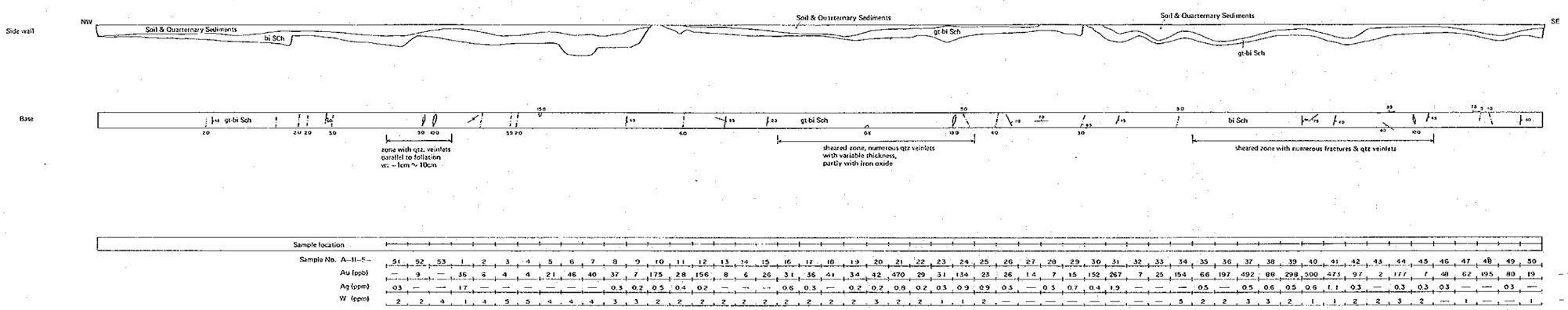


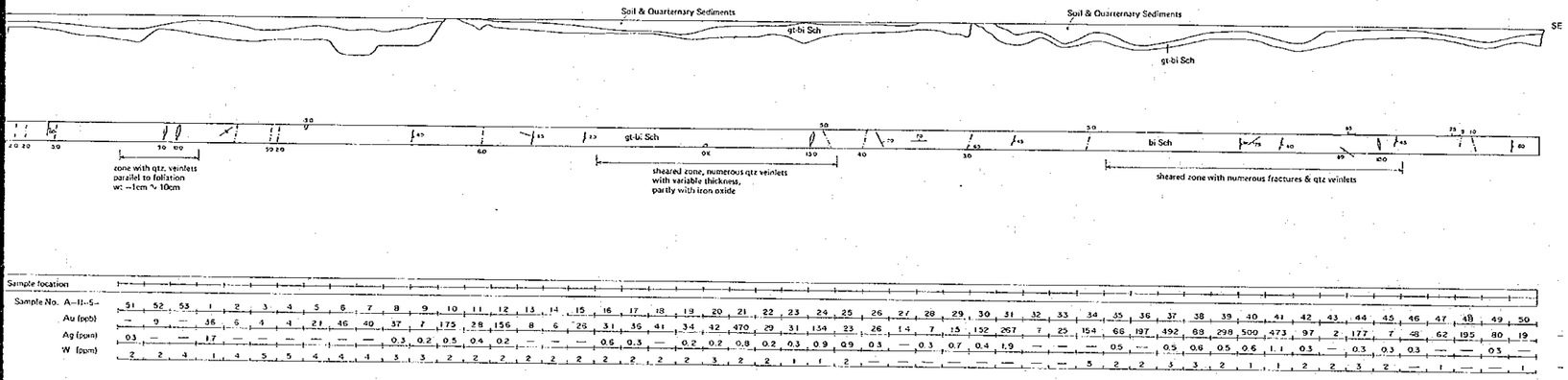
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1992

scale
0 5 10m
1 : 100

LEGEND

- strike & dip of fracture
- strike & dip of foliation
- quartz vein

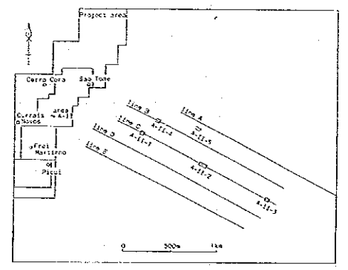

NW
SE
Side wall
Soil & Quarternary Sediments
bi SCh
Soil & Quarternary Sediments
gt-bi Sch
Soil & Quarternary Sediments
gt-bi Sch
Base
gt-bi Sch
gt-bi Sch
bi Sch
zone with qtz. veinlets
parallel to foliation
w: ~1cm ~ 10cm
sheared zone, numerous qtz veinlets
with variable thickness,
partly with iron oxide
sheared zone with numerous fractures & qtz veinlets
Sample location
Sample No. A-11-S-
Au (ppb)
Ag (ppm)
W (ppm)
- < 0.5ppb
- < 0.2ppm
- < 1ppm



PL.II-2-11

MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL PHASE III

Location of Trench A-II-5



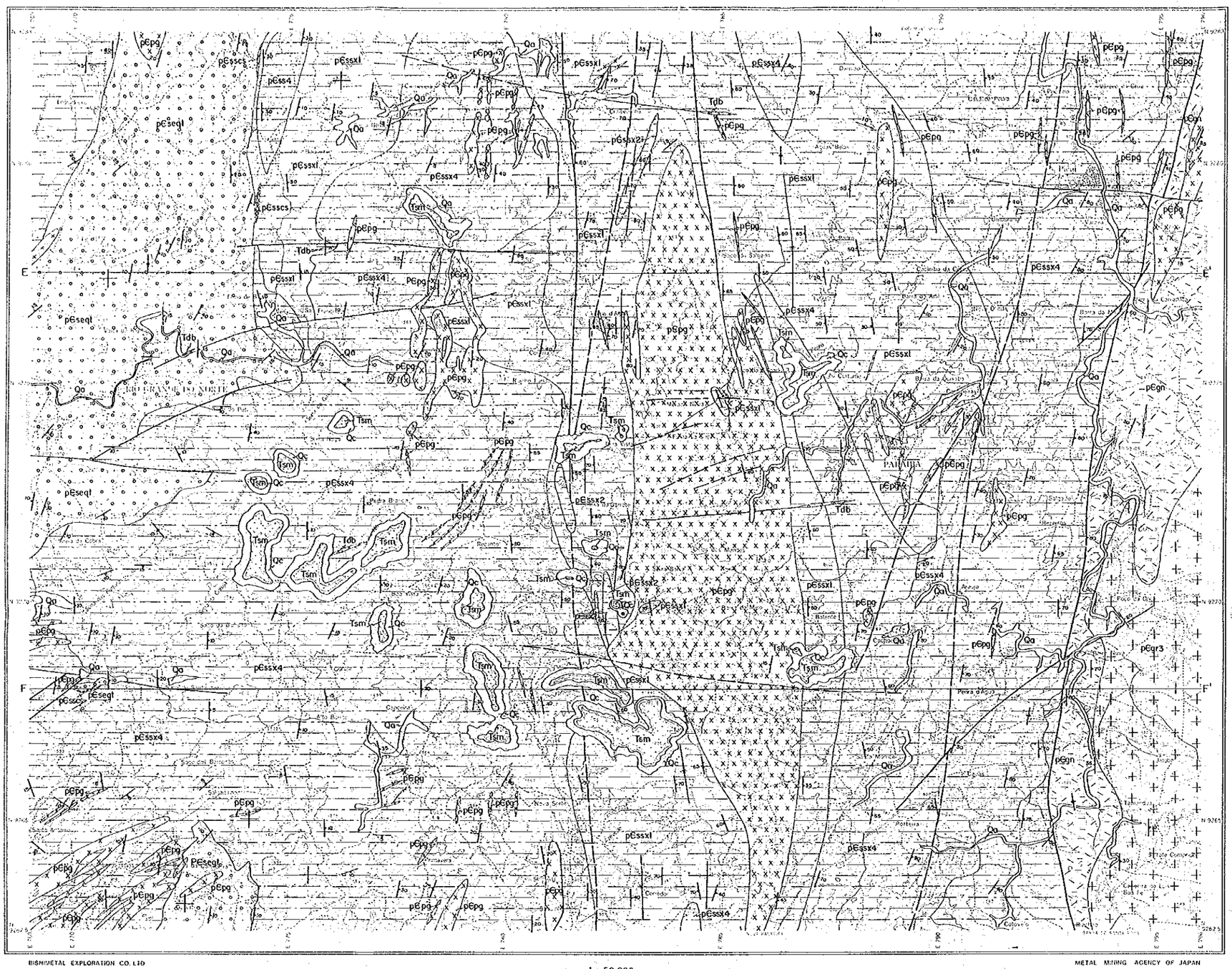
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1992

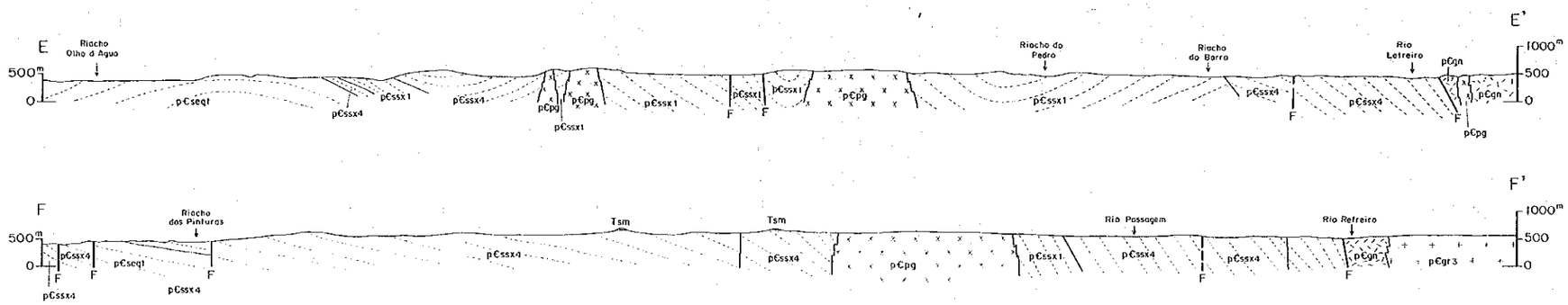
scale
0 5 10m
1 : 100

LEGEND

- strike & dip of fracture
- strike & dip of foliation
- quartz vein

CURRAIS NOVOS (Phase III)



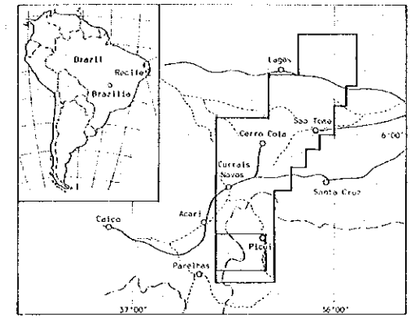


PL.II-4-1

MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL PHASE III

Geologic Map of Area C

Scale 1:50,000



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN

JAN 1992

L E G E N D

- CENOZOIC
  - Quaternary
    - Aluvium — Qa — Sand & gravel
    - Colluvium — Qc — Sand & gravel
  - Tertiary
    - Serra dos Martins Fm — Tsm — Conglocerate & sandstone
    - Dykes — Tdb — Basalt & diabase
- PROTEROZOIC
  - Brasilian Plutonics
    - pCpg — Pegmatite
    - pCgr3 — Granite
  - Seridó Group
    - Seridó Fm
      - pCssx1 — Bi-schist, gt-bi-schist, mu-bi-schist
      - pCssx2 — Siliceous schist
      - pCssx4 — Alternation of bi-schist, gt-bi-schist, ct-gt-bi-schist & mu-bi-schist
      - pCsscs — Calc silicate rocks
    - Equador Fm — pCseql — Mu-quartzite
- ARCHEAN
  - Caicó Complex — pCgn — Bi-gneiss, orthogneiss, mafic dykes

Boundary of formations & rock types

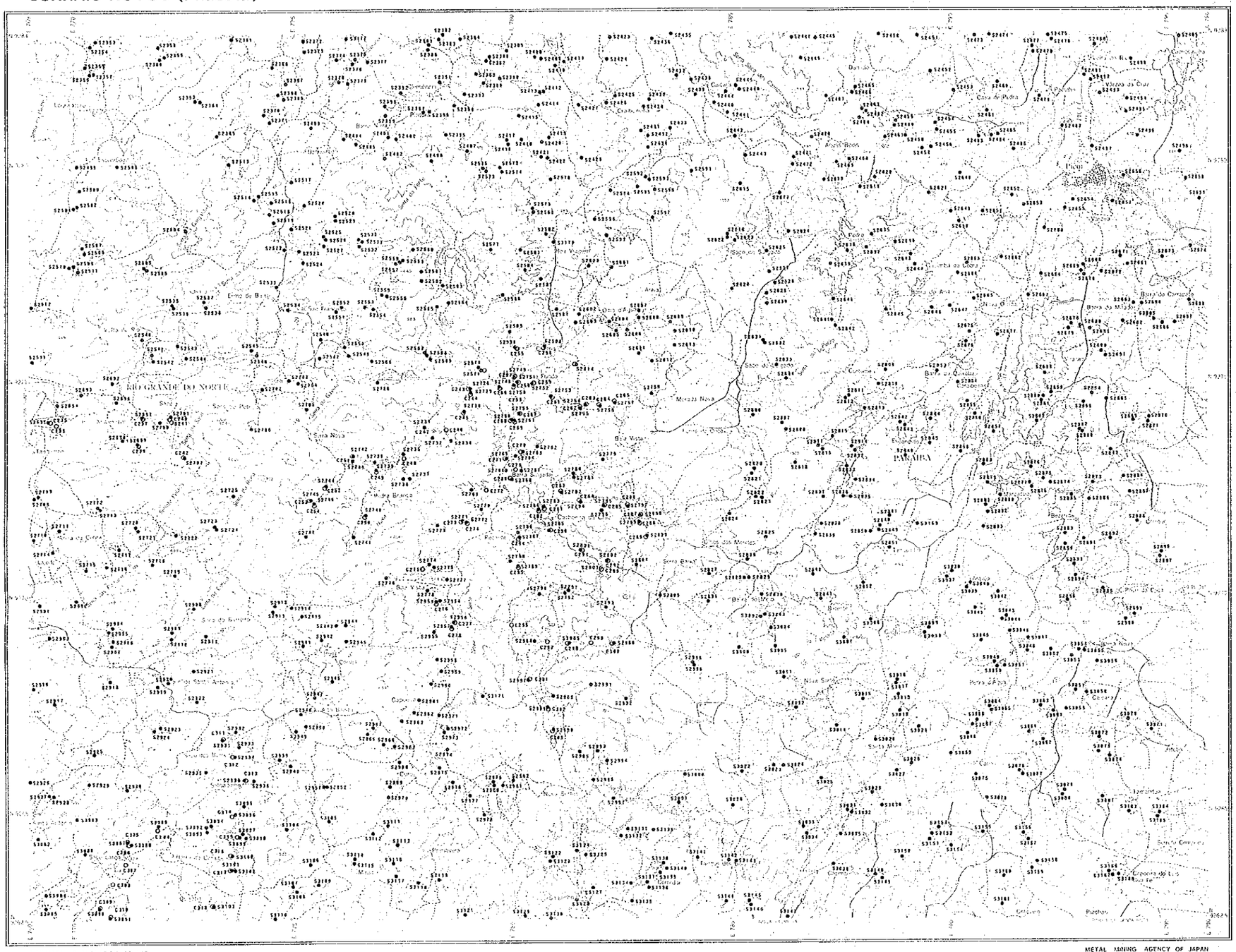
Strike & dip of foliation

Antiform

Synform

Fault

CURRAIS NOVOS (Phase III)



BISHIMETAL EXPLORATION CO LTD

1 : 50,000

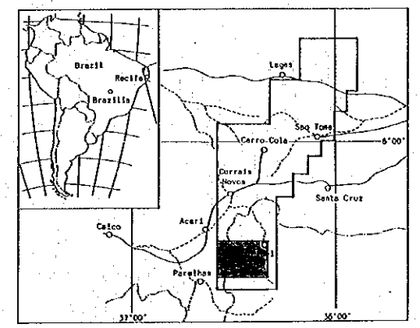
METAL MINING AGENCY OF JAPAN
July 1991

PL.II-5-2

MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL PHASE III

Location of Samples: Stream Sediments Pan Concentrates

Scale 1:50,000



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1992

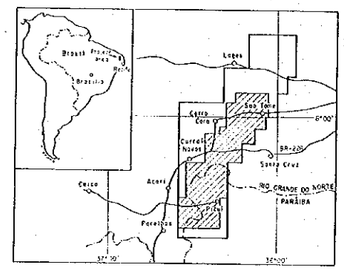
● S2191 Location and the number of stream sediment sample

○ C171 Location and the number of pan concentrate sample

MINERAL EXPLORATION IN THE CURRAIS NOVOS AREA FEDERATIVE REPUBLIC OF BRAZIL

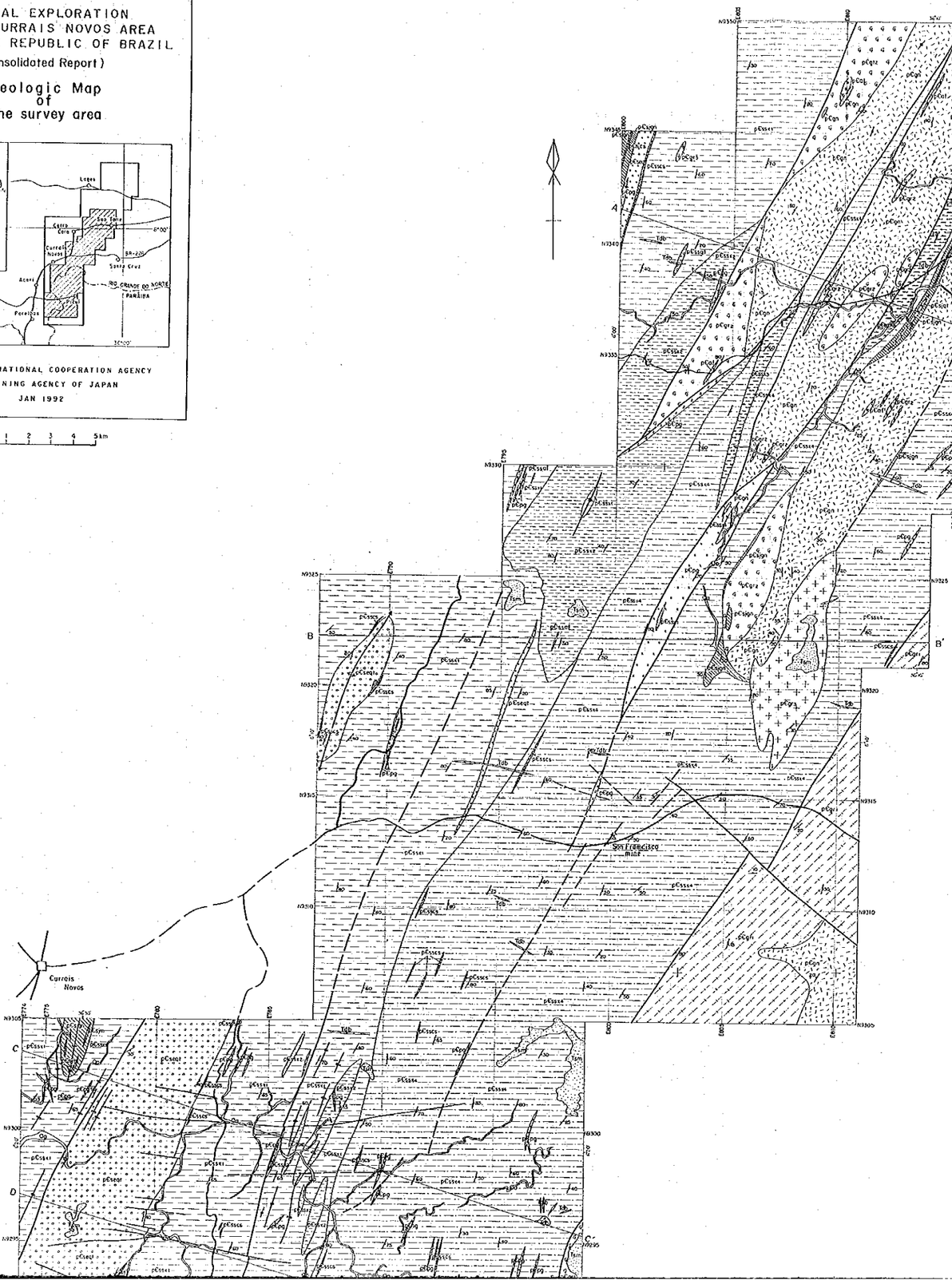
(Consolidated Report)

Geologic Map of the survey area



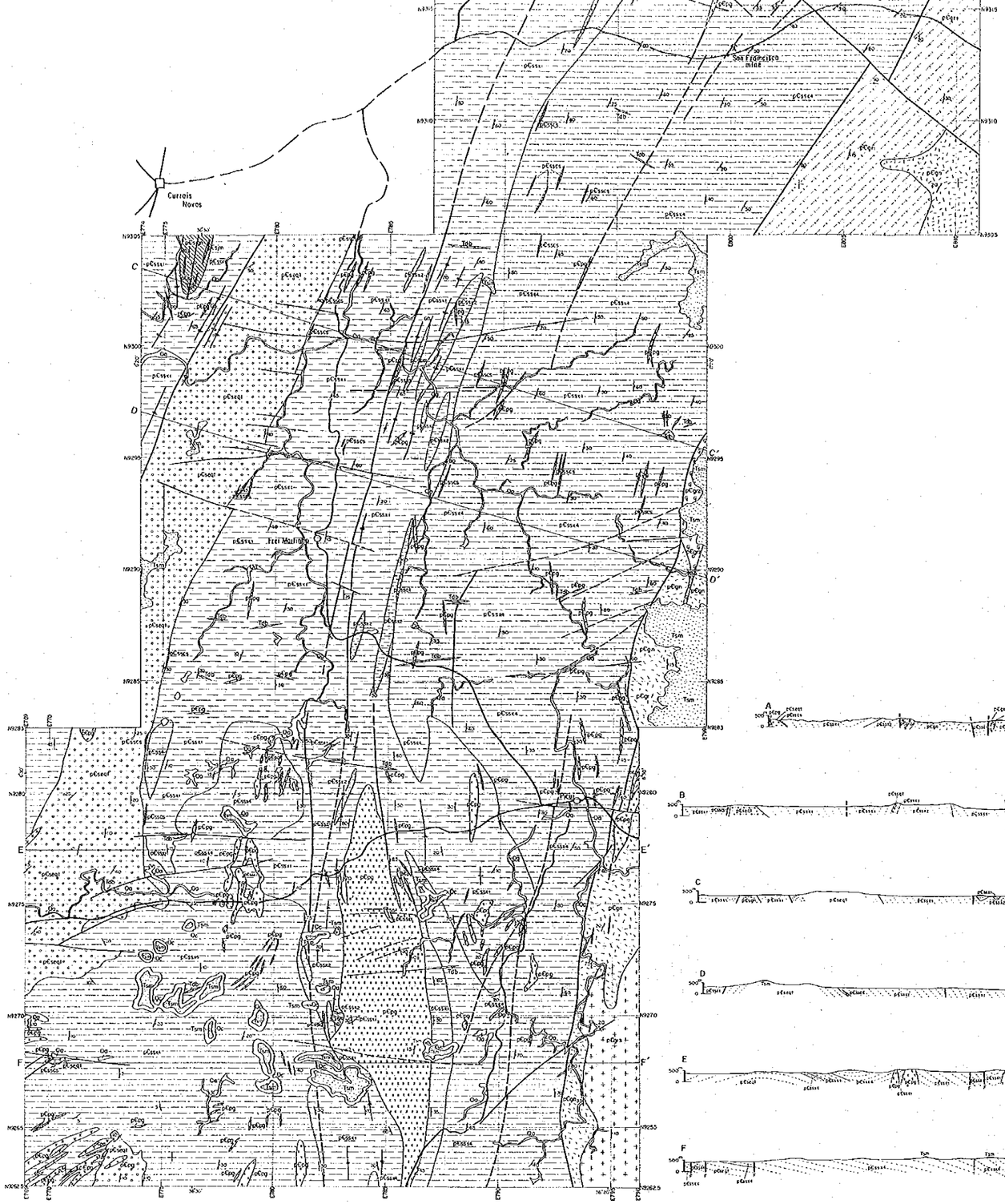
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
JAN 1992

0 1 2 3 4 5km



LEGEND

- CENOZOIC
  - Quaternary
    - Alluvium — Qa — Sand & gravel
    - Colluvium — Qc — Sand & gravel
  - Tertiary
    - Serra dos Martines Fm — Tsm — Argillitic & arkosic sandstone
    - Dykes — Tdb — Diabase & basalt
- PROTEROZOIC
  - Brasilian Plutonics
    - pCpg — Pegmatite
    - pCgra — Granite & granodiorite
    - pCgb — Diorite
    - pCgab — Ultrabasic rocks
  - Transamazonian plutonics
    - pCgnz — Augen gneiss
  - Seridó Group
    - Seridó Fm
      - pCsss1 — Bi schist, gt-bi schist & mu-bi schist
      - pCsss2 — Mu-bi siliceous schist
      - pCsss3 — Mu-bi schist
      - pCsss4 — Alternation of bi schist, gt-bi schist, cr-gt-bi schist & mu-bi schist
      - pCsss5 — Amphibolite
      - pCsss6 — Calc silicate rocks
      - pCsss7 — Quartzite
    - Equador Fm — pCsss8 — Mu quartzite



LEGEND

CENOZOIC
- Quaternary
  - Alluvium — Qa — Sand & gravel
  - Colluvium — Qc — Sand & gravel
- Tertiary
  - Serra dos Martines Fm — Tsm — Argillite & sandstone
  - Dykes — Tdb — Diabase & basalt

PROTEROZOIC
- Brasilian Plutonics
  - pCgp — Pegmatite
  - pCgrb — Granite & granodiorite
  - pCgb — Diorite
  - pCub — Ultrabasic rocks
- Transamazonian plutonics — pCgr2 — Augen gneiss
- Seridó Group
  - Seridó Fm
    - pCsss1 — Bi schist, gt-bi schist & mu-bi schist
    - pCsss2 — Mu-bi siliceous schist
    - pCsss3 — Mu-bi schist
    - pCsss4 — Alternation of bi schist, gt-bi schist, cc-gt-bi schist & mu-bi schist
    - pCsssf — Amphibolite
    - pCsssc — Calc silicate rocks
    - pCsssq — Quartzite
  - Equador Fm — pCsseq — Mu quartzite
  - Jucuruto Fm
    - pCsjgn — Ep-bi gneiss
    - pCsjcs — Calc silicate rocks
    - pCsjqt — Quartzite
    - pCsjef — Amphibolite
    - pCsjm — Marble

ARCHEAN
- Caicó Complex
  - pCgn1 — Granite
  - pCgn — Bi-gneiss, orthogneiss, mafic dykes & granodiorite
  - pCef — Amphibolite

Strike & dip of foliation
Antiform
Synform
Fault