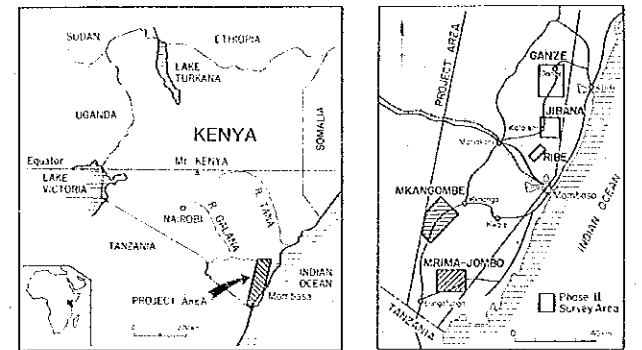


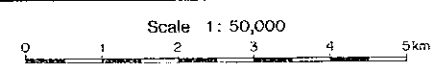
MINERAL EXPLORATION  
IN  
THE MOMBASA AREA, REPUBLIC OF KENYA  
PHASE II

GEOCHEMICAL INTERPRETATION MAP  
OF  
THE MKANGOMBE AND MRIMA-JOMBO AREA (2)  
— Mn, Fe, As, Hg, S, P, Sr —

LOCATION INDEX



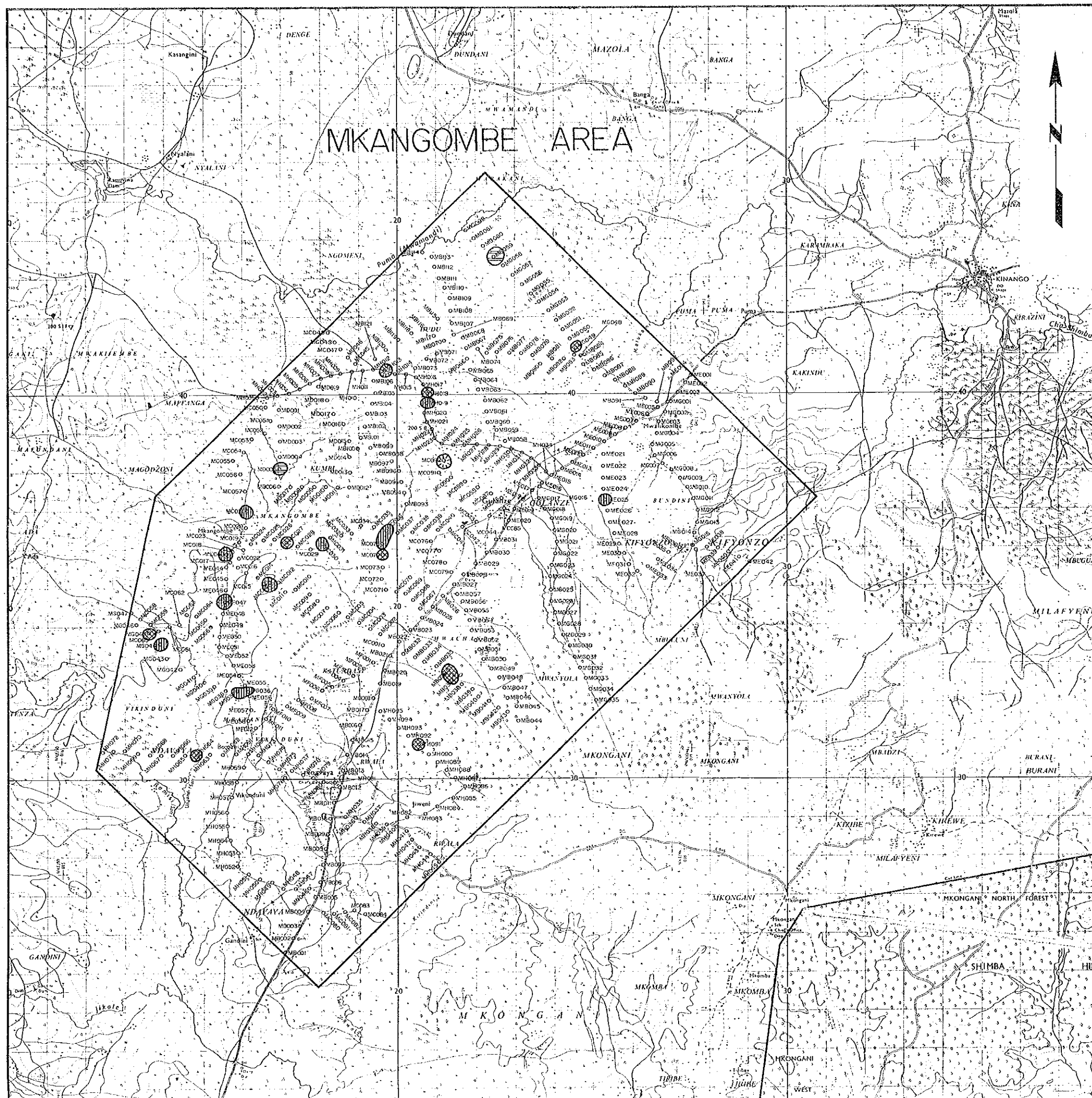
JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
February 1992

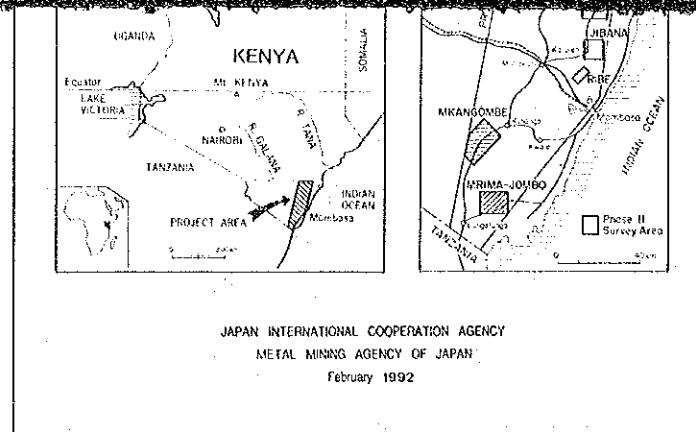
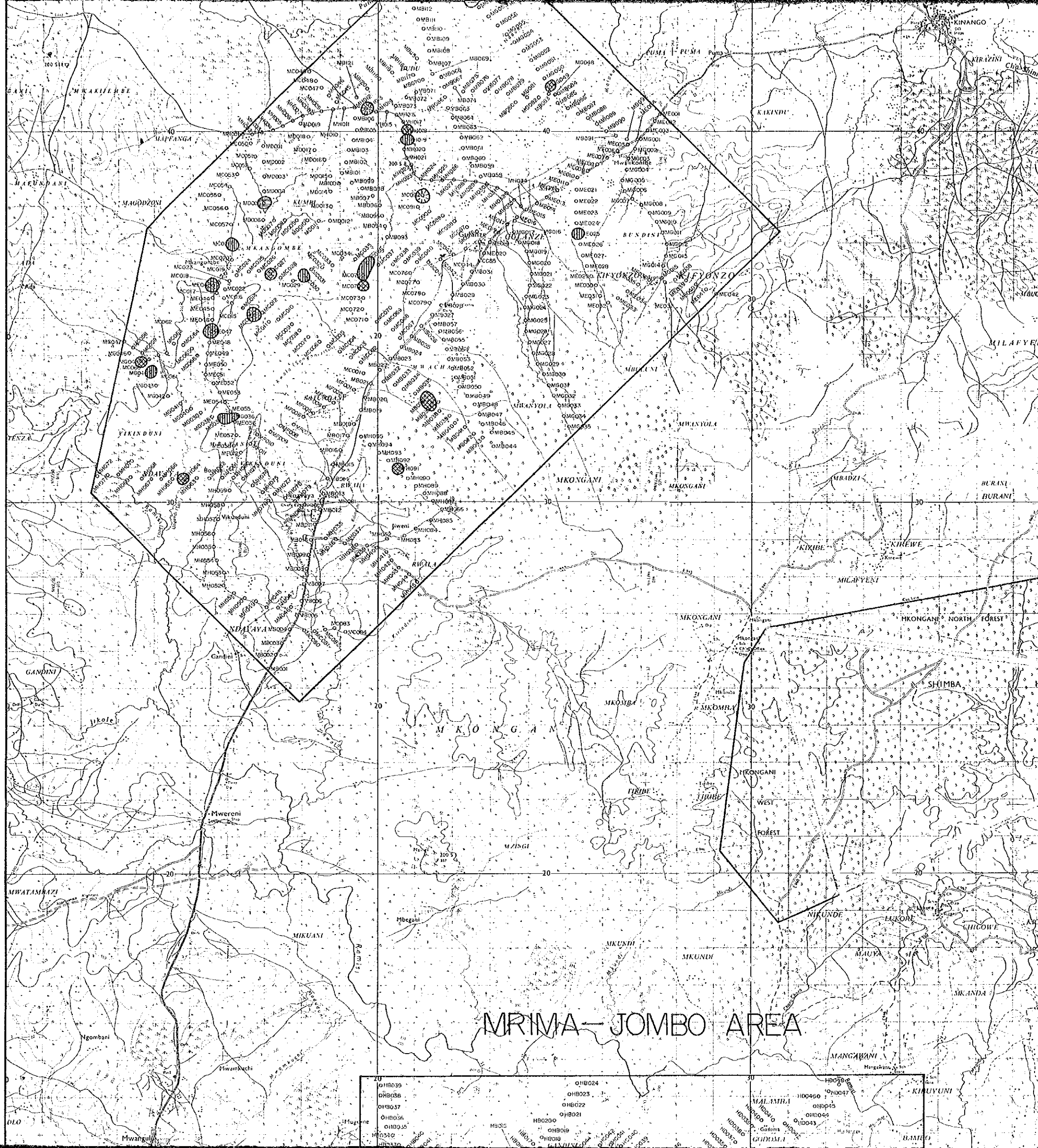


LEGEND

Mkangombe Area			
Element	Anomaly	Threshold	Maximum
Mn		≧ 3100 ppm	4310 ppm
Fe		≧ 5 %	12.65 %
As		≧ 18.5 ppm	30 ppm
Hg		≧ 2.6 ppm	4 ppm
S		≧ 0.023 %	0.031 %

Mrima-Jombo Area			
Element	Anomaly	Threshold	Maximum
Mn		≧ 6320 ppm	9800 ppm
Fe		≧ 10 %	14 %
P		≧ 6000 ppm	> 10000 ppm
Sr		≧ 719 ppm	3390 ppm





Scale 1: 50,000  
0 1 2 3 4 5 km

### LEGEND

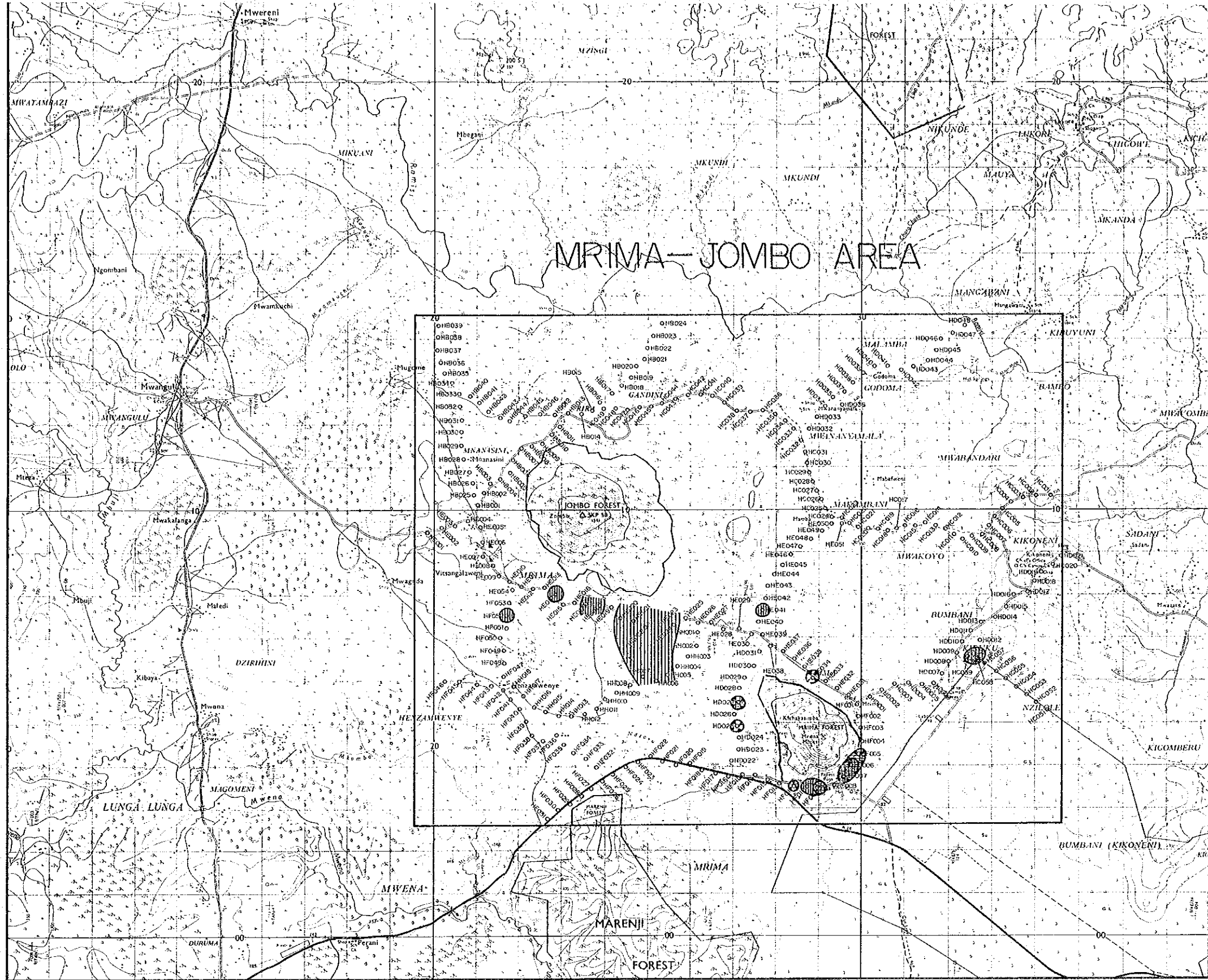
#### Mkwangombe Area

Element	Anomaly	Threshold	Maximum
Mn		≧ 3100 ppm	4310 ppm
Fe		≧ 5 %	12.65 %
As		≧ 18.5 ppm	30 ppm
Hg		≧ 2.6 ppm	4 ppm
S		≧ 0.023 %	0.031 %

#### Mrima-Jombo Area

Element	Anomaly	Threshold	Maximum
Mn		≧ 6320 ppm	9800 ppm
Fe		≧ 10 %	14 %
P		≧ 6000 ppm	> 10000 ppm
Sr		≧ 719 ppm	3390 ppm

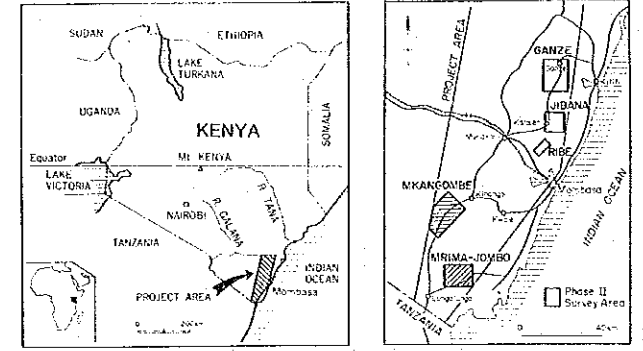
## MRIMA-JOMBO AREA



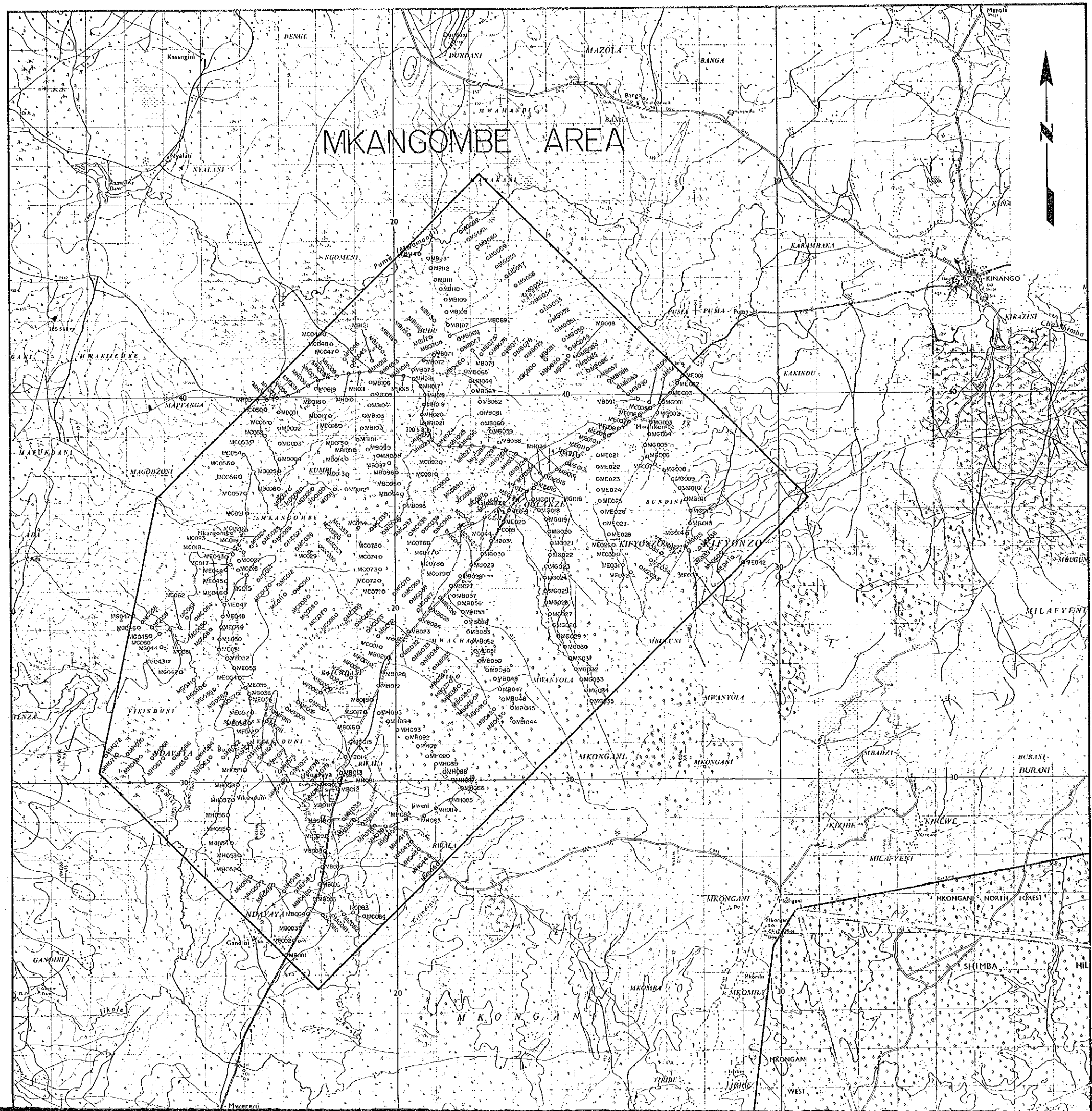
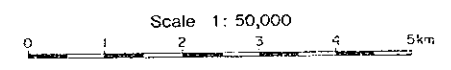
MINERAL EXPLORATION  
 IN  
 THE MOMBASA AREA, REPUBLIC OF KENYA  
 PHASE II

**GEOCHEMICAL INTERPRETATION MAP**  
 OF  
**THE MKANGOMBE AND MRIMA-JOMBO AREA (3)**  
 — Nb, La, Ce, Nd, Sm, Eu —

LOCATION INDEX



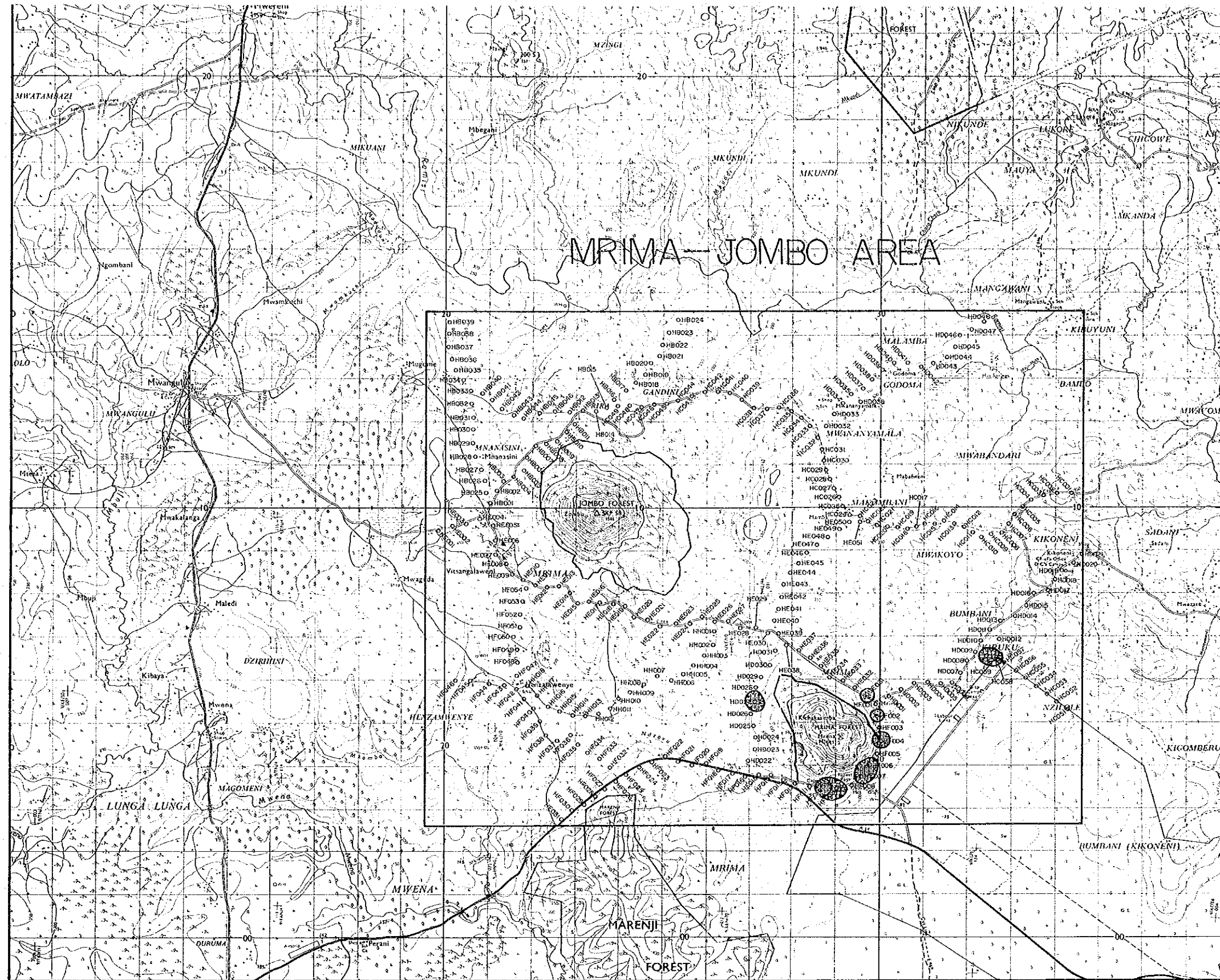
JAPAN INTERNATIONAL COOPERATION AGENCY  
 METAL MINING AGENCY OF JAPAN  
 February 1992



JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
February 1992

Scale 1:50,000  
0 1 2 3 4 5 km





LEGEND

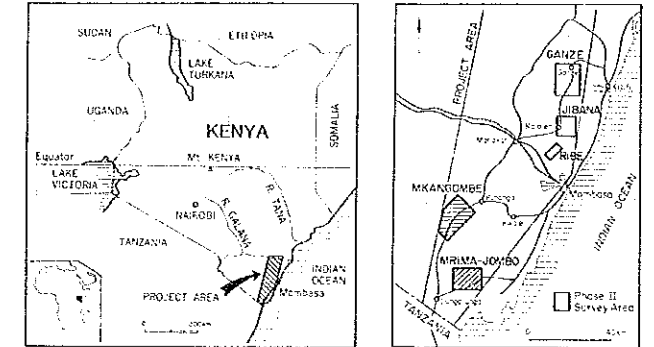
Element	Anomaly	Threshold	Maximum
Nb		≥ 1200 ppm	2600 ppm
Lo		≥ 1900 ppm	6512 ppm
Ce		≥ 2200 ppm	7450 ppm
Nd		≥ 1200 ppm	1865 ppm
Sm		≥ 220 ppm	433.4 ppm
Eu		≥ 40 ppm	93.5 ppm

Chemical analysis was done only for the samples in the Mrima-Jombo area.

MINERAL EXPLORATION  
IN  
THE MOMBASA AREA, REPUBLIC OF KENYA  
PHASE II

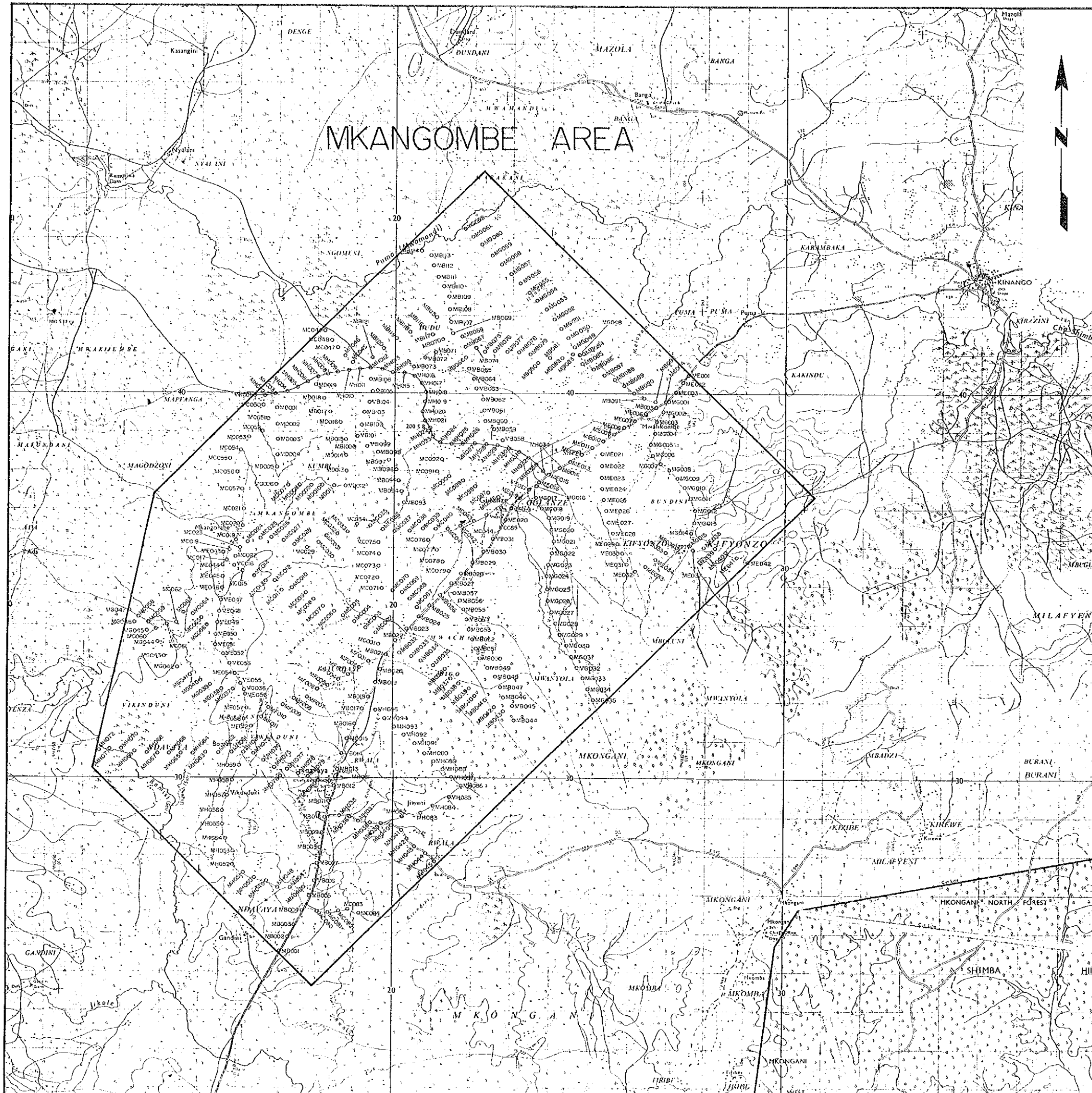
GEOCHEMICAL INTERPRETATION MAP  
OF  
THE MKANGOMBE AND MRIMA-JOMBO AREA (4)  
— Y, U, Th, Tb, Yb, Lu —

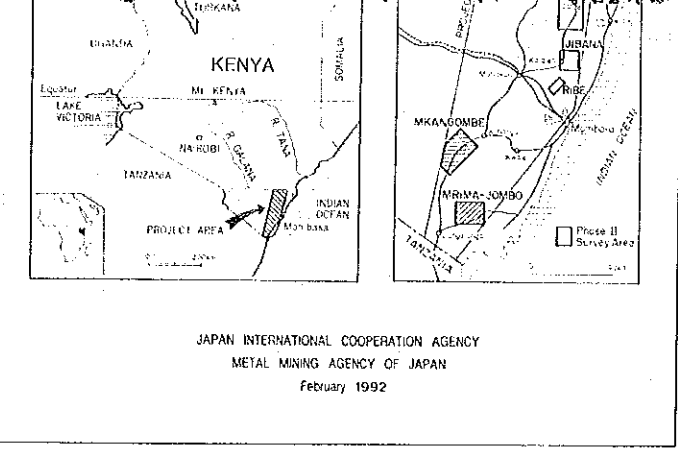
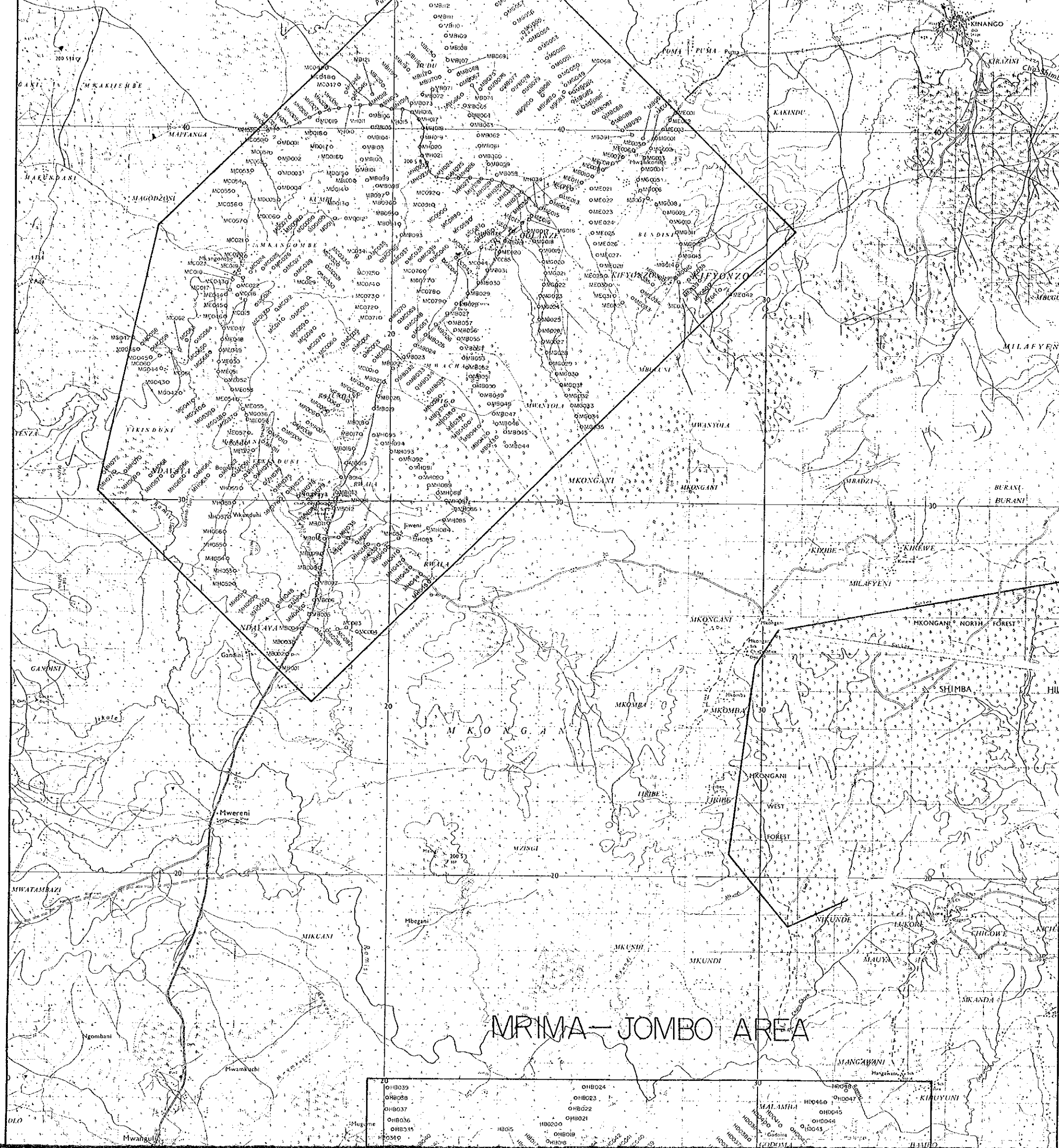
LOCATION INDEX



JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
February 1992

Scale 1: 50,000



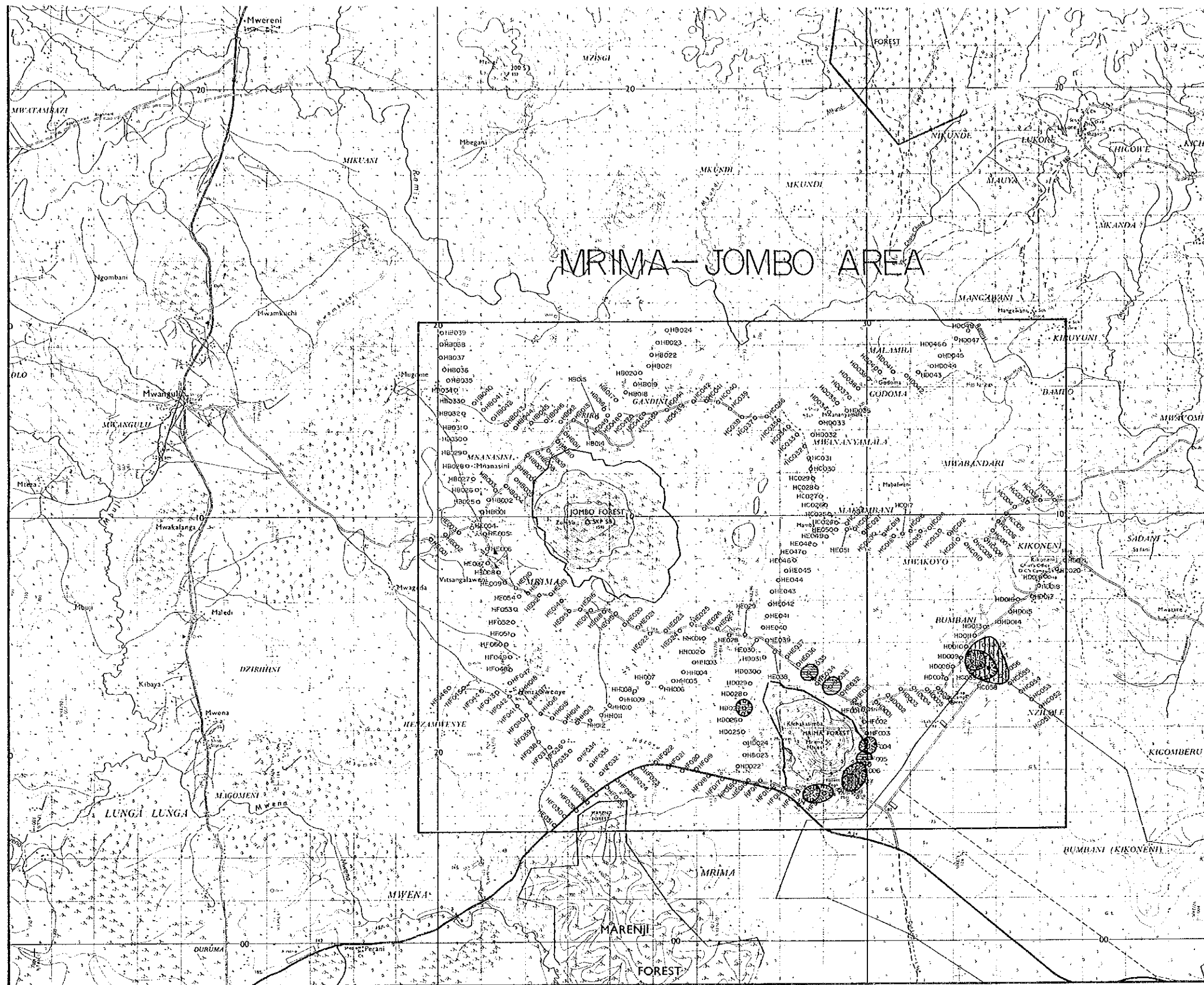


Scale 1:50,000  
0 1 2 3 4 5 km

MRIMA-JOMBO AREA

01B039	01B024	01B040	01B041
01B038	01B023	01B039	01B040
01B037	01B022	01B038	01B039
01B036	01B021	01B037	01B038
01B035	01B020	01B036	01B037
01B034	01B019	01B035	01B036
01B033	01B018	01B034	01B035
01B032	01B017	01B033	01B034
01B031	01B016	01B032	01B033
01B030	01B015	01B031	01B032
01B029	01B014	01B030	01B031
01B028	01B013	01B029	01B030
01B027	01B012	01B028	01B029
01B026	01B011	01B027	01B028
01B025	01B010	01B026	01B027
01B024	01B009	01B025	01B026
01B023	01B008	01B024	01B025
01B022	01B007	01B023	01B024
01B021	01B006	01B022	01B023
01B020	01B005	01B021	01B022
01B019	01B004	01B020	01B021
01B018	01B003	01B019	01B020
01B017	01B002	01B018	01B019
01B016	01B001	01B017	01B018
01B015		01B016	01B017
01B014		01B015	01B016
01B013		01B014	01B015
01B012		01B013	01B014
01B011		01B012	01B013
01B010		01B011	01B012
01B009		01B010	01B011
01B008		01B009	01B010
01B007		01B008	01B009
01B006		01B007	01B008
01B005		01B006	01B007
01B004		01B005	01B006
01B003		01B004	01B005
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01B001		01B002	01B003
		01B001	01B002
			01B001





### LEGEND

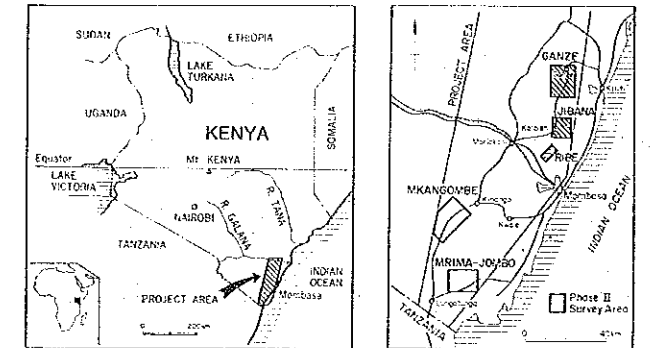
Element	Anomaly	Threshold	Maximum
Y		≥ 400 ppm	880 ppm
U		≥ 10 ppm	16 ppm
Th		≥ 200 ppm	413 ppm
Tb		≥ 9.5 ppm	22.8 ppm
Yb		≥ 21 ppm	40.3 ppm
Lu		≥ 3.5 ppm	5.3 ppm

Chemical analysis was done only for the samples in the Mirima-Jombo area.

MINERAL EXPLORATION  
IN  
THE MOMBASA AREA, REPUBLIC OF KENYA  
PHASE II

INTERPRETATION MAP  
OF  
THE PHASE II SURVEY RESULTS--  
GANZE, JIBANA AND RIBE AREA

LOCATION INDEX



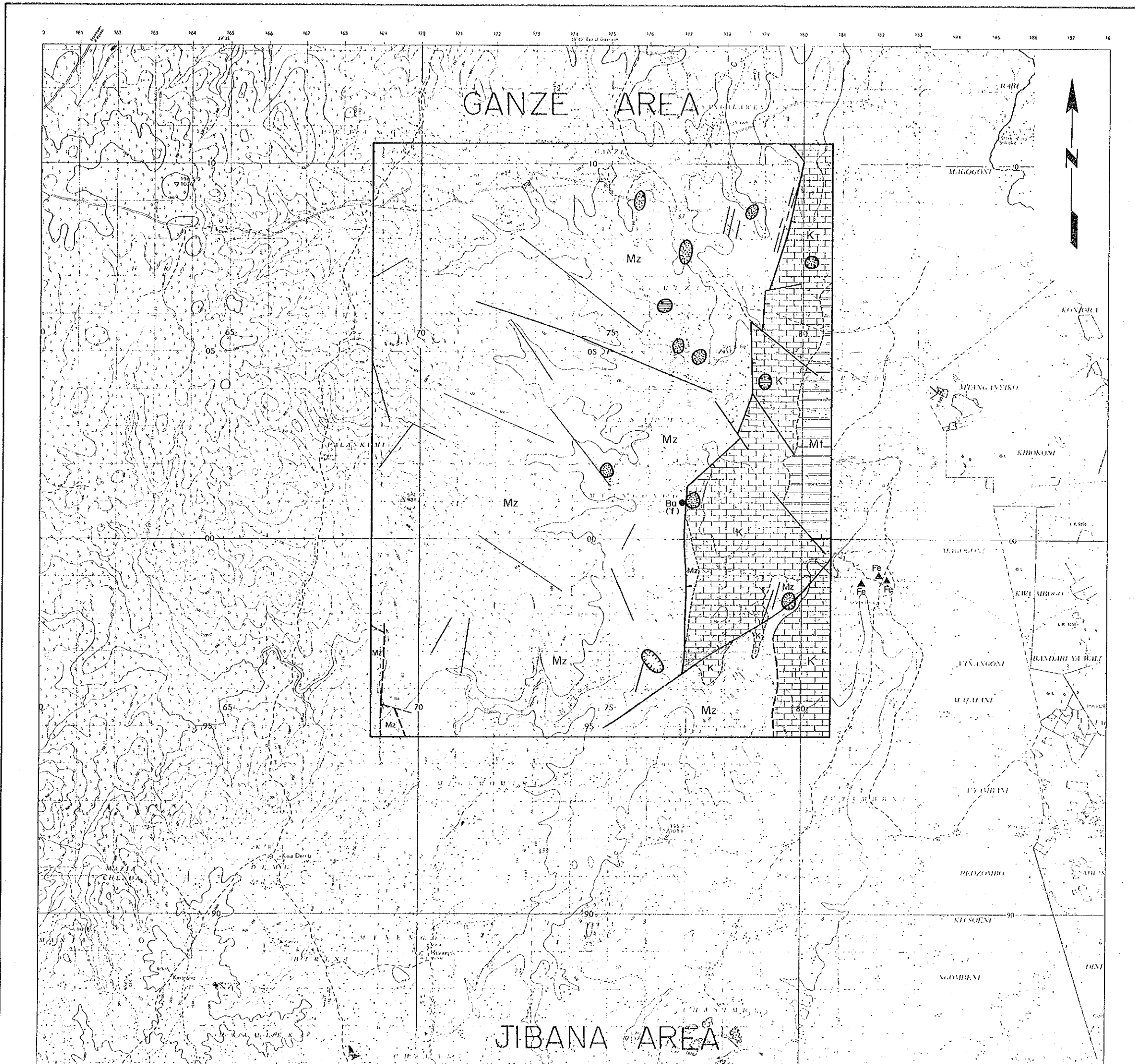
JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
February 1992

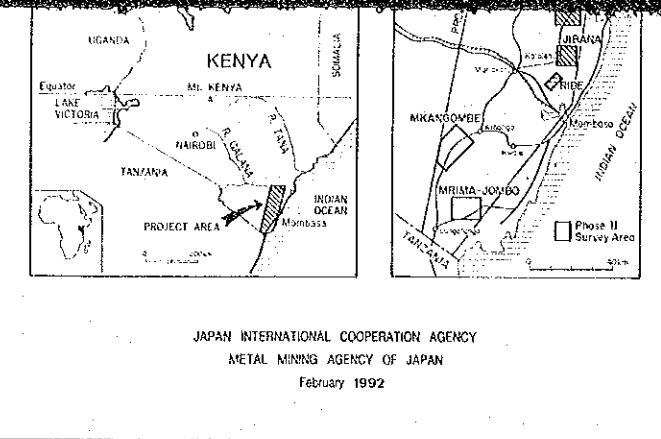
Scale 1: 50,000  
0 1 2 3 4 5km

LEGEND

- ⊗ Active mine (Kinogoni mine)
- Gossan
- Ba Barite (f : float)
- ▲Fe Iron concretion
- Mt Mtomkku formation
- K Kambe formation
- Mz Mazeras formation
- Mk Mariakani formation
- /// Fault, known and inferred
- Photo lineament
- ~ Breccia, shear zone
- Geological boundary

Geochemical Anomaly





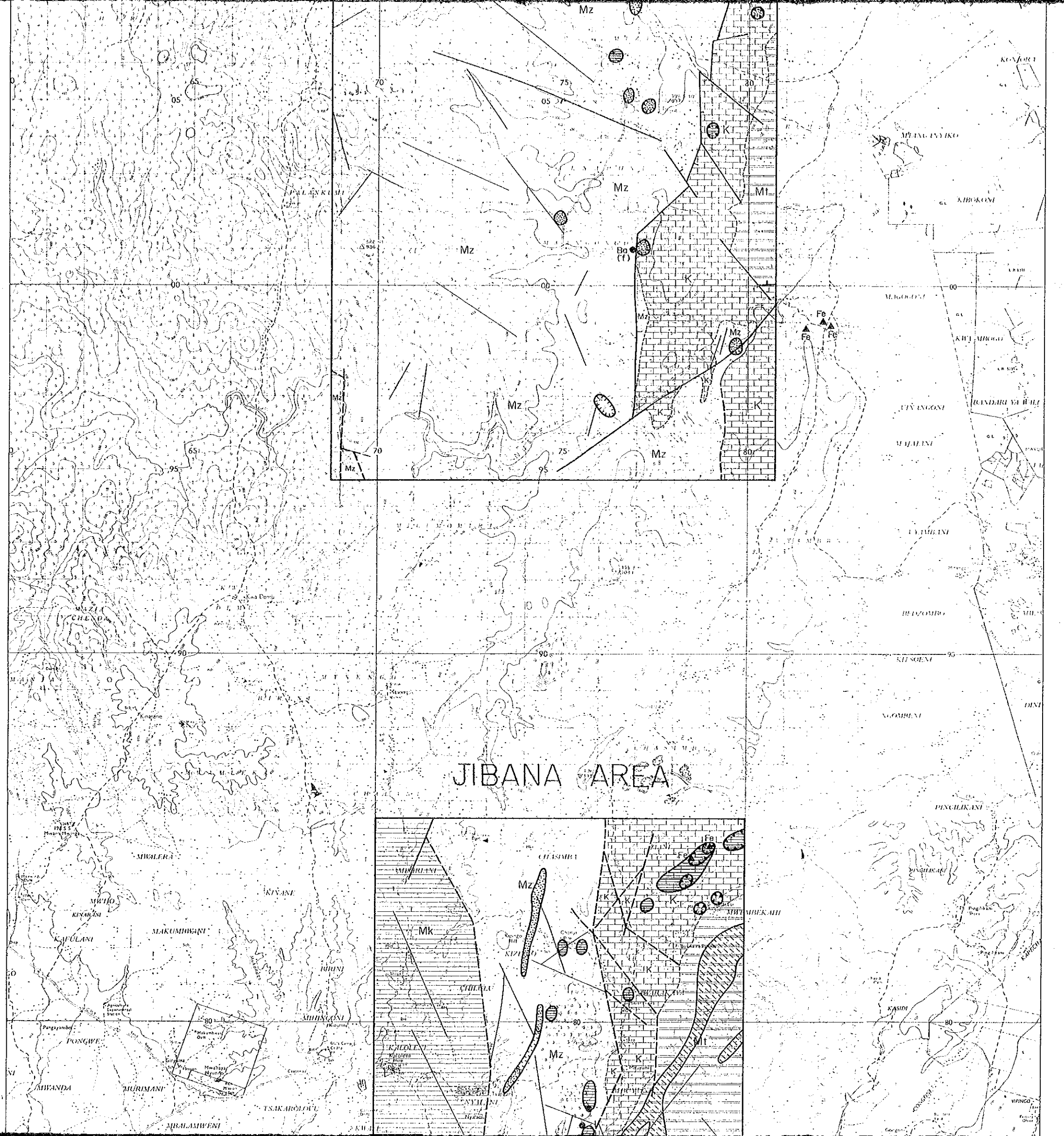
Scale 1:50,000  
 0 1 2 3 4 5 km

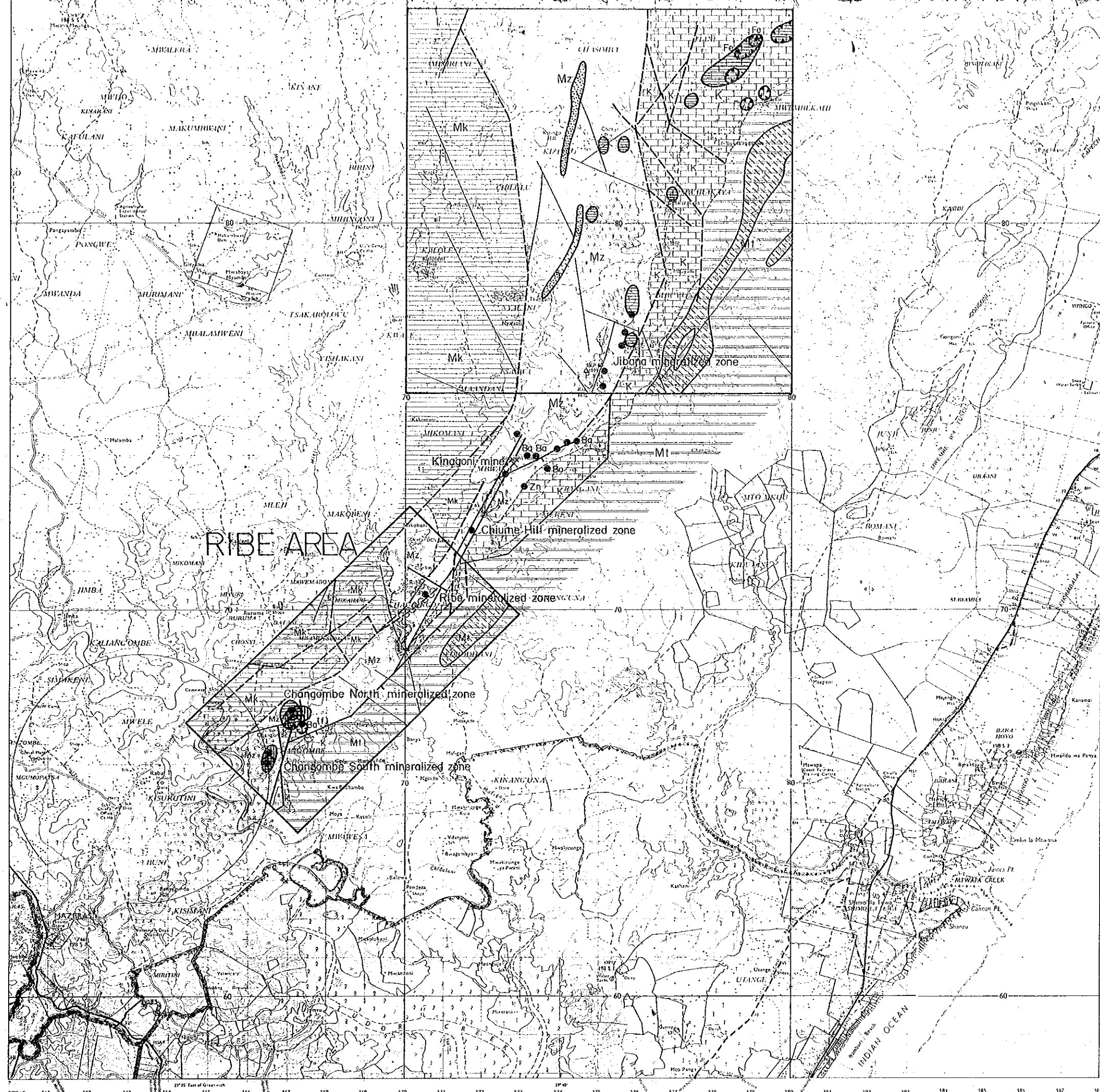
LEGEND

- ⊗ Active mine (Kinogoni mine)
- Gossan
- Ba Barite (f : float)
- ▲Fe Iron concretion
- Mi Mtomkuu formation
- K Kambe formation
- Mz Mazeras formation
- Mk Mariakani formation
- Fault, known and inferred
- Photo lineament
- ~ Breccia, shear zone
- Geological boundary

Geochemical Anomaly

Element	Anomaly	Threshold
Ag	⊘	≧ 0.2 ppm
Cu	⊘	≧ 66 ppm
Pb	⊘	≧ 80 ppm
Zn	⊘	≧ 600 ppm
Ba	⊘	≧ 1100 ppm
S	⊘	≧ 0.025 %





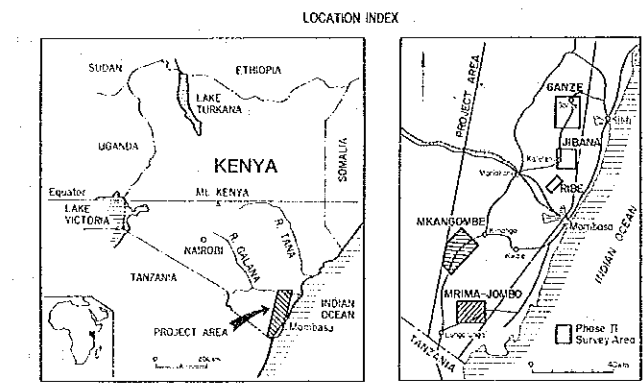
Element	Anomaly	Threshold
Ag		≧ 0.2 ppm
Cu		≧ 66 ppm
Pb		≧ 80 ppm
Zn		≧ 600 ppm
Ba		≧ 1100 ppm
S		≧ 0.025 %

0000E 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188

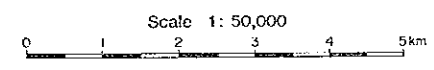
10°S East of Greenwich

10°S 8°S 6°S

MINERAL EXPLORATION  
 IN  
 THE MOMBASA AREA, REPUBLIC OF KENYA  
 PHASE II  
 INTERPRETATION MAP  
 OF  
 THE PHASE II SURVEY RESULTS—  
 MKANGOMBE AND MRIMA-JOMBO AREA

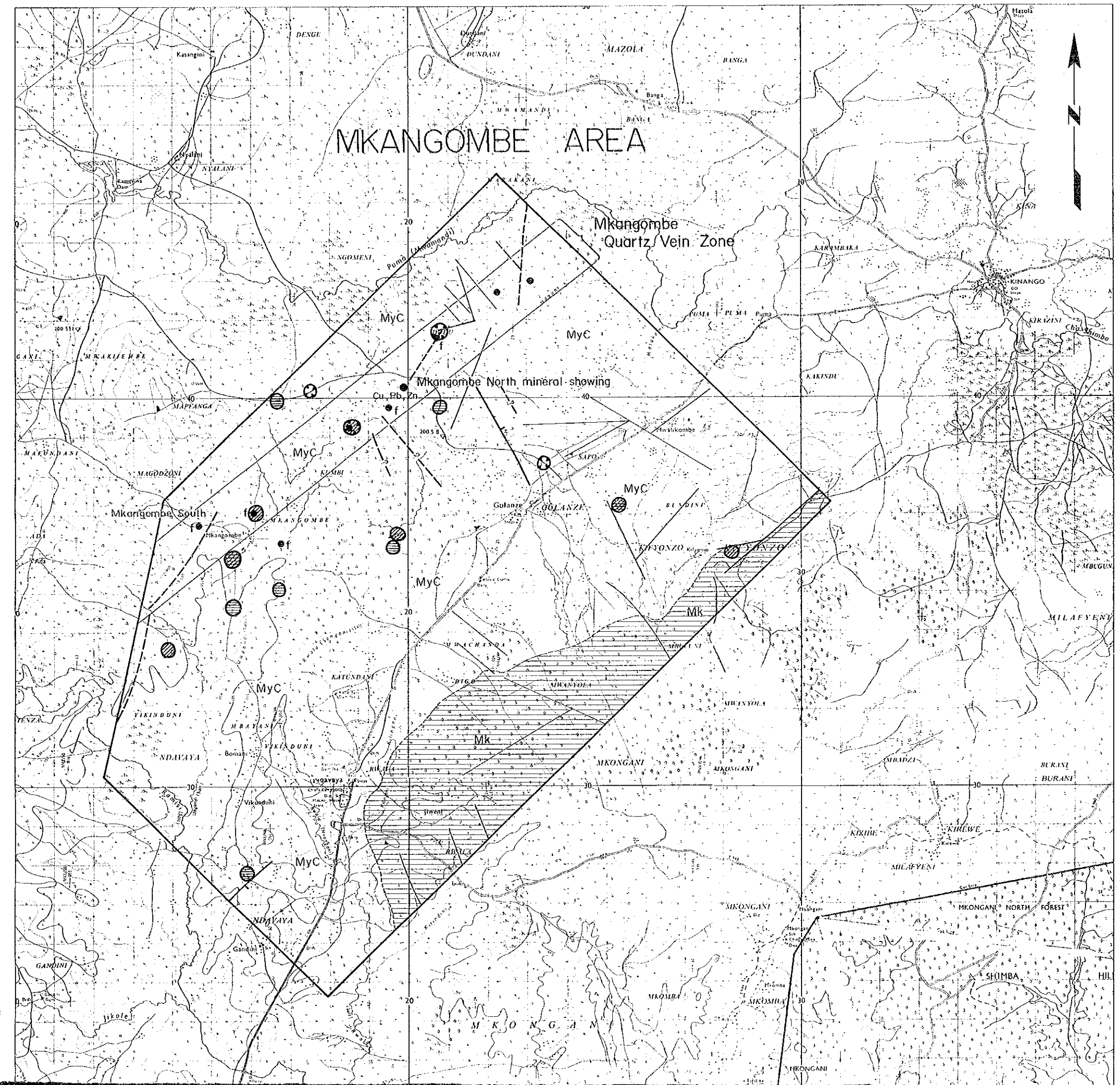


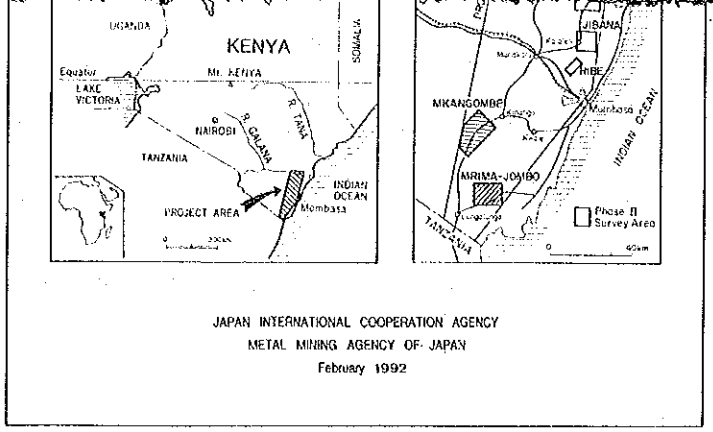
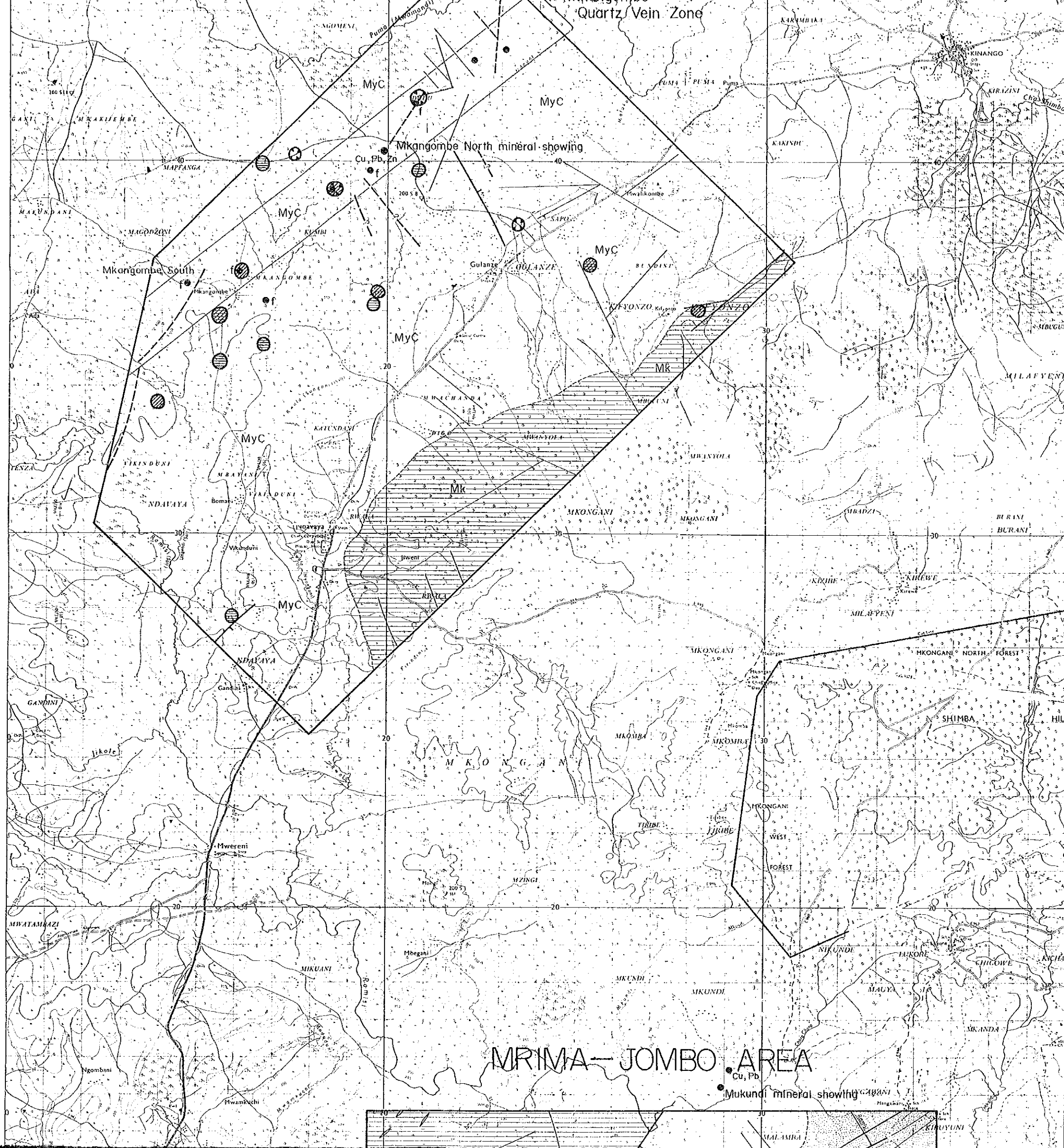
JAPAN INTERNATIONAL COOPERATION AGENCY  
 METAL MINING AGENCY OF JAPAN  
 February 1992



LEGEND

- Quartz vein ( f : float )
- Cu,Pb,Zn Metalliferous quartz vein
- ▲ Fe,Mn Iron-Manganese concretion
- ⊗ Fe Abandoned Iron Mine
- ⊞ Niobium, rare earth elements mineralization accompanied with carbonatite
- Rc Colluvium and residual soils
- M Magarini formation
- Mz Mazeras formation
- Mk Mariakani formation
- MyC Maji-ya-Chumvi formation
- Igneous Rocks
  - ▲▲▲ A Agglomerate
  - C Carbonatite
  - ++++ S Alkaline holocrystalline rock
  - Lamprophyric dyke





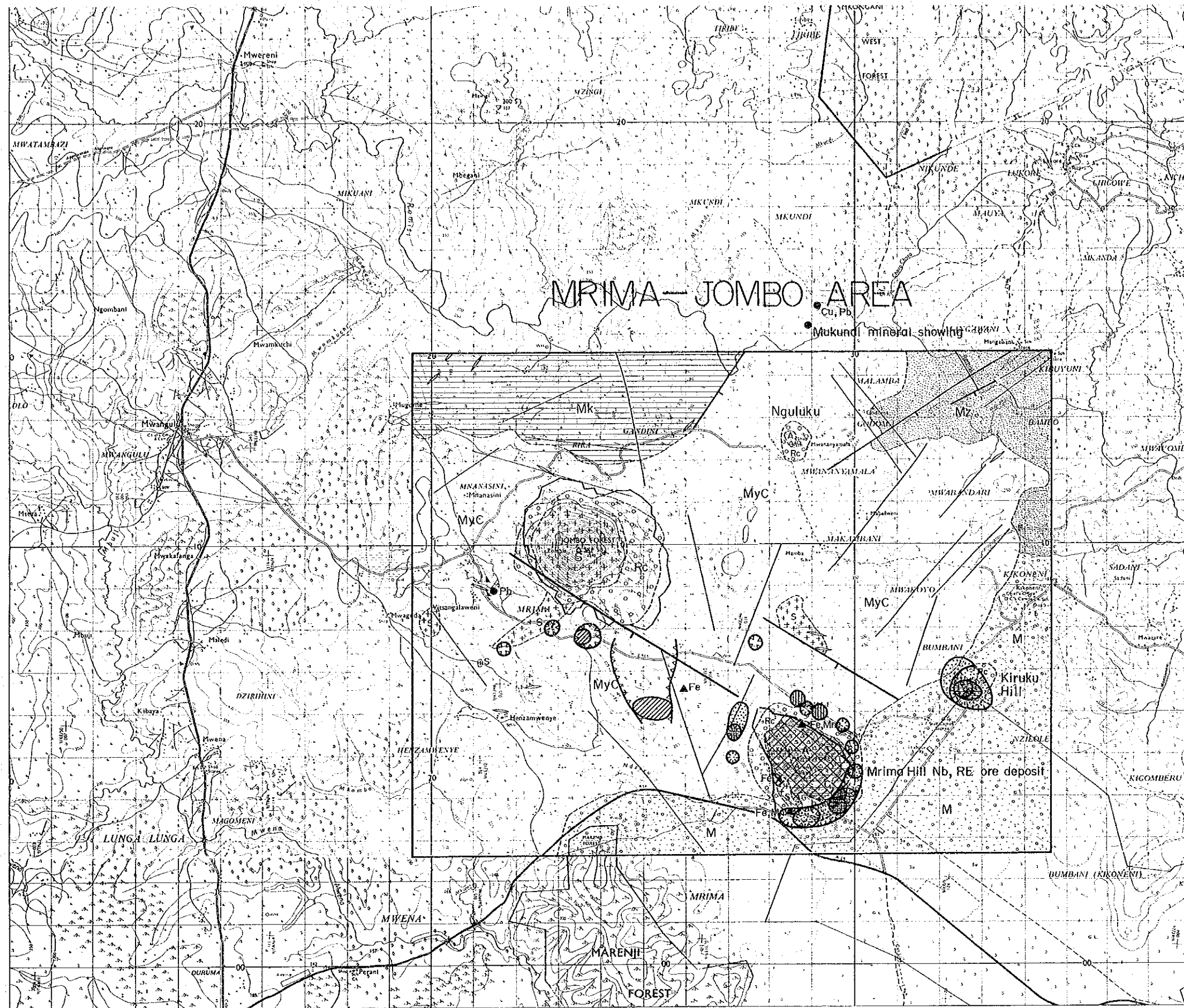
Scale 1: 50,000  
0 1 2 3 4 5 km

**LEGEND**

- Quartz vein ( f : float )
- Cu,Pb,Zn Metalliferous quartz vein
- ▲ Fe,Mn Iron-Manganese concretion
- ⊗ Fe Abandoned Iron Mine
- ⊗ Niobium, rare earth elements mineralization accompanied with carbonatite
- ⊗ Rc Colluvium and residual soils
- ⊗ M Magarini formation
- ⊗ Mz Mazeras formation
- ⊗ Mk Mariakani formation
- ⊗ MyC Maji-ya-Chumvi formation
- Igneous Rocks**
- ⊗ A Agglomerate
- ⊗ C Carbonatite
- ⊗ S Alkaline holocrystalline rock
- ⊗ Lamprophyric dyke
- ⊗ Fault, known and inferred
- ⊗ Photo lineament
- ⊗ Geological boundary

**Geochemical Anomaly**

Mkwangombe Area		
Element	Anomaly	Threshold
Cu	⊗	≥ 31 ppm
Pb	⊗	≥ 8 ppm
Zn	⊗	≥ 80 ppm



- Lamprophyric dyke
- Fault, known and inferred
- Photo lineament
- Geological boundary

### Geochemical Anomaly

#### Mkangombe Area

Element	Anomaly	Threshold
Cu		≥ 31 ppm
Pb		≥ 8 ppm
Zn		≥ 80 ppm

#### Mrima-Jombo Area

Element	Anomaly	Threshold
Au		≥ 10 ppb
Cu		≥ 120 ppm
Pb		≥ 100 ppm
Fe		≥ 10 %
U		≥ 10 ppm

Contribution Elements of the First Principal Component (Factor loading ≈ 0.834)  
Ba, Mn, P, Sr, Zn, Nb, Y, Ce, Eu, La, Lu, Nd, Sm, Tb, Th, Yb





