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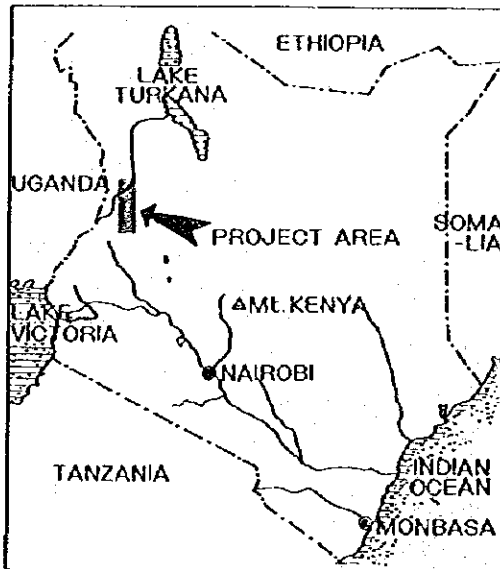




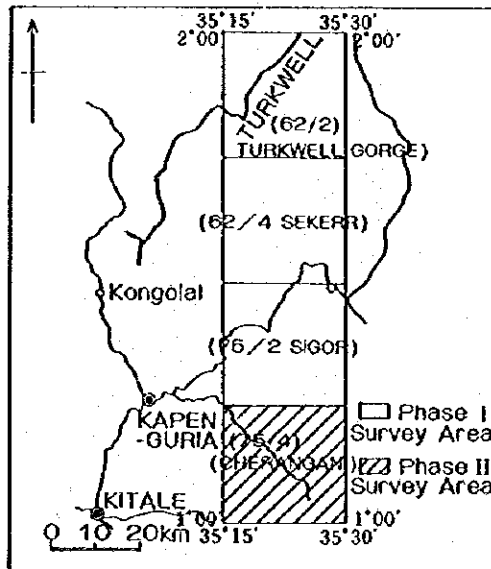
MINERAL EXPLORATION  
 IN  
 THE KERIO VALLEY DEVELOPMENT AUTHORITY AREA  
 REPUBLIC OF KENYA

**GEOLOGICAL MAP  
 OF  
 THE SEKERR-CHERANGANI HILLS AREA**

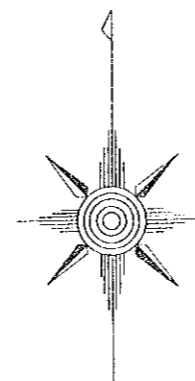
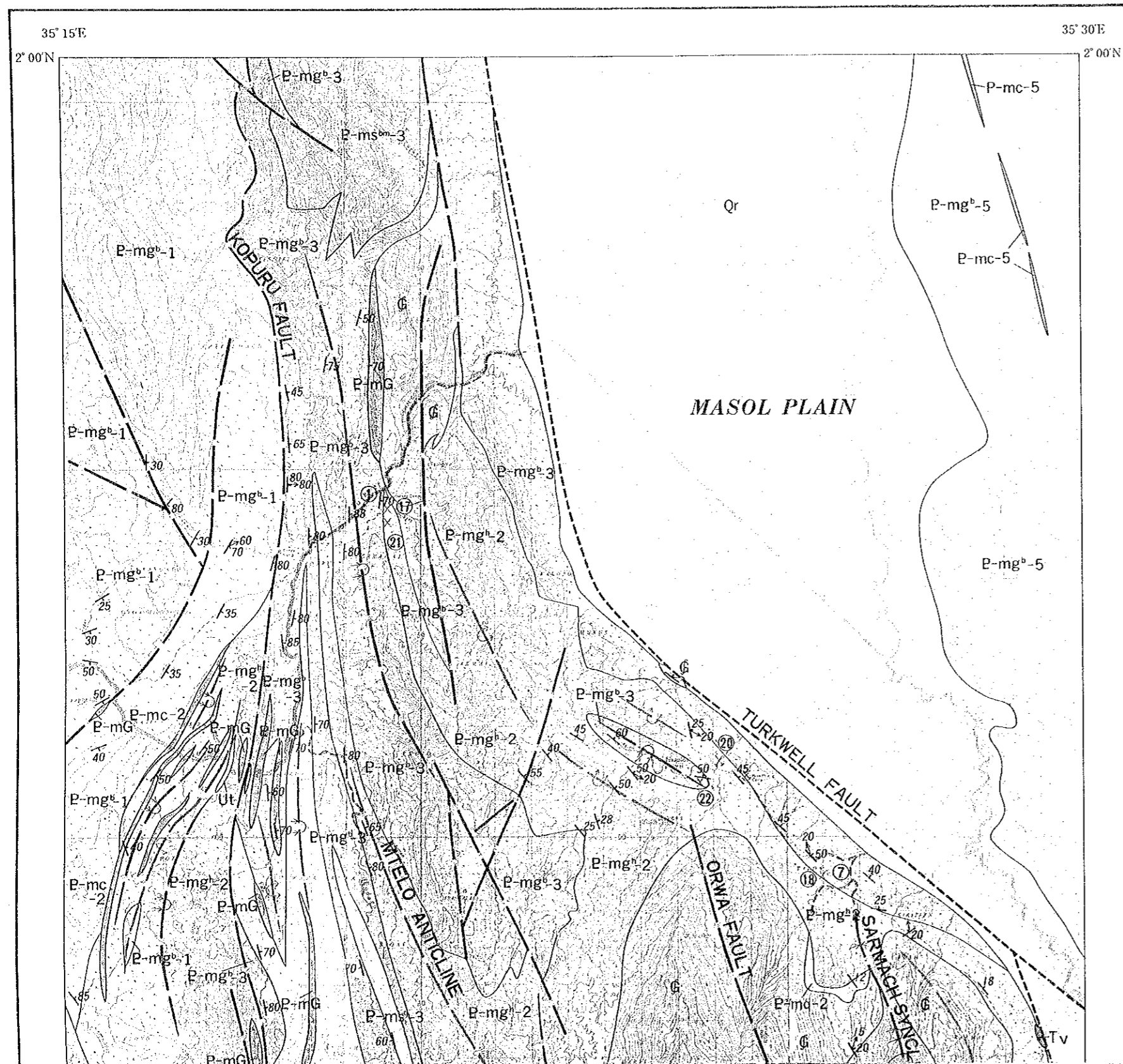
LOCATION



INDEX OF TOPOGRAPHIC MAP (1:50,000)  
 BY SURVEY OF KENYA

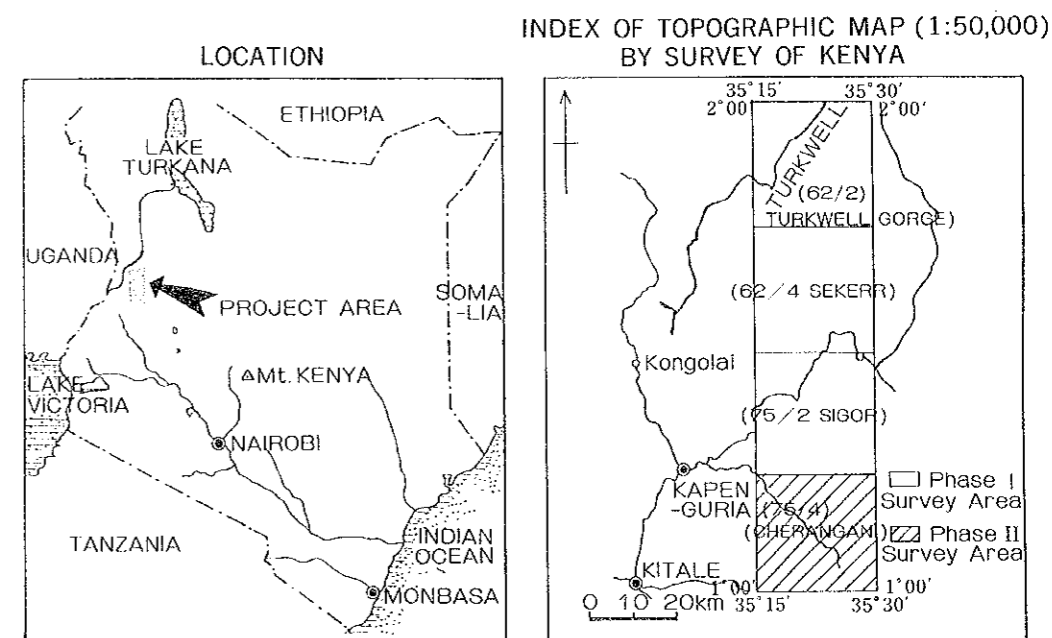


JAPAN INTERNATIONAL COOPERATION AGENCY  
 METAL MINING AGENCY OF JAPAN  
 December 1985



MINERAL EXPLORATION  
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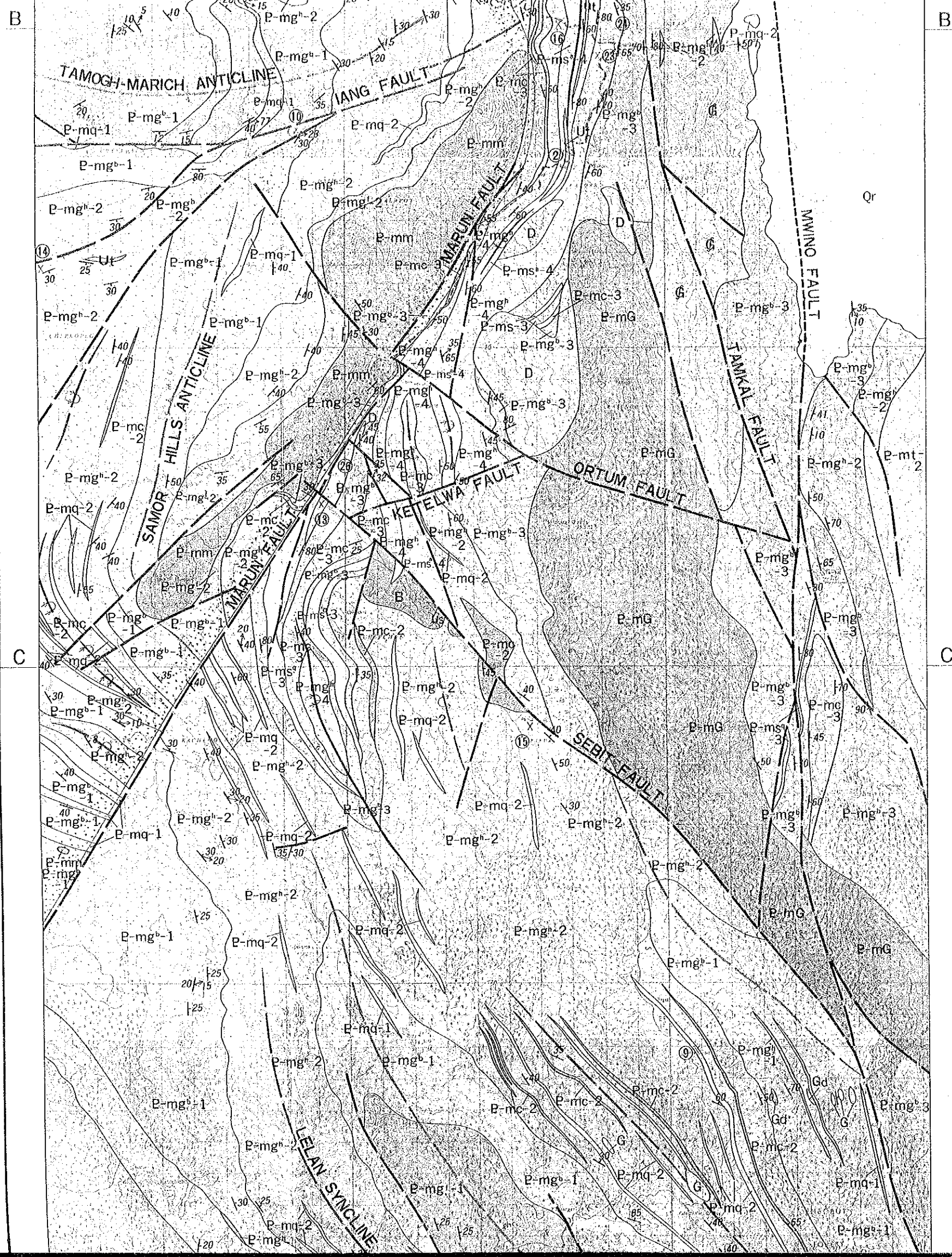
## GEOLOGICAL MAP OF THE SEKERR-CHERANGANI HILLS AREA



JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
December 1985







PRECAMBRIAN

PROTEROZOIC

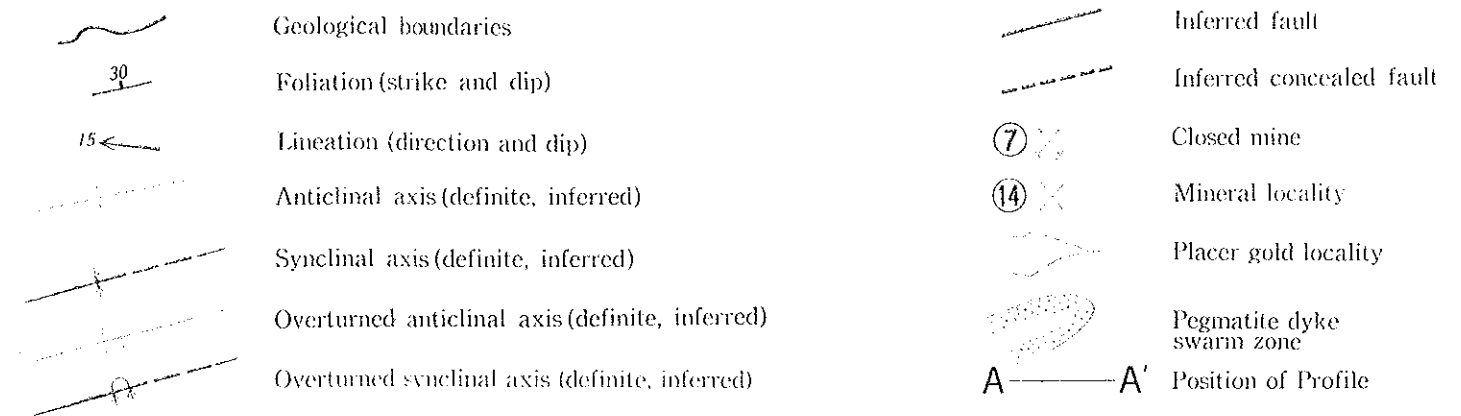
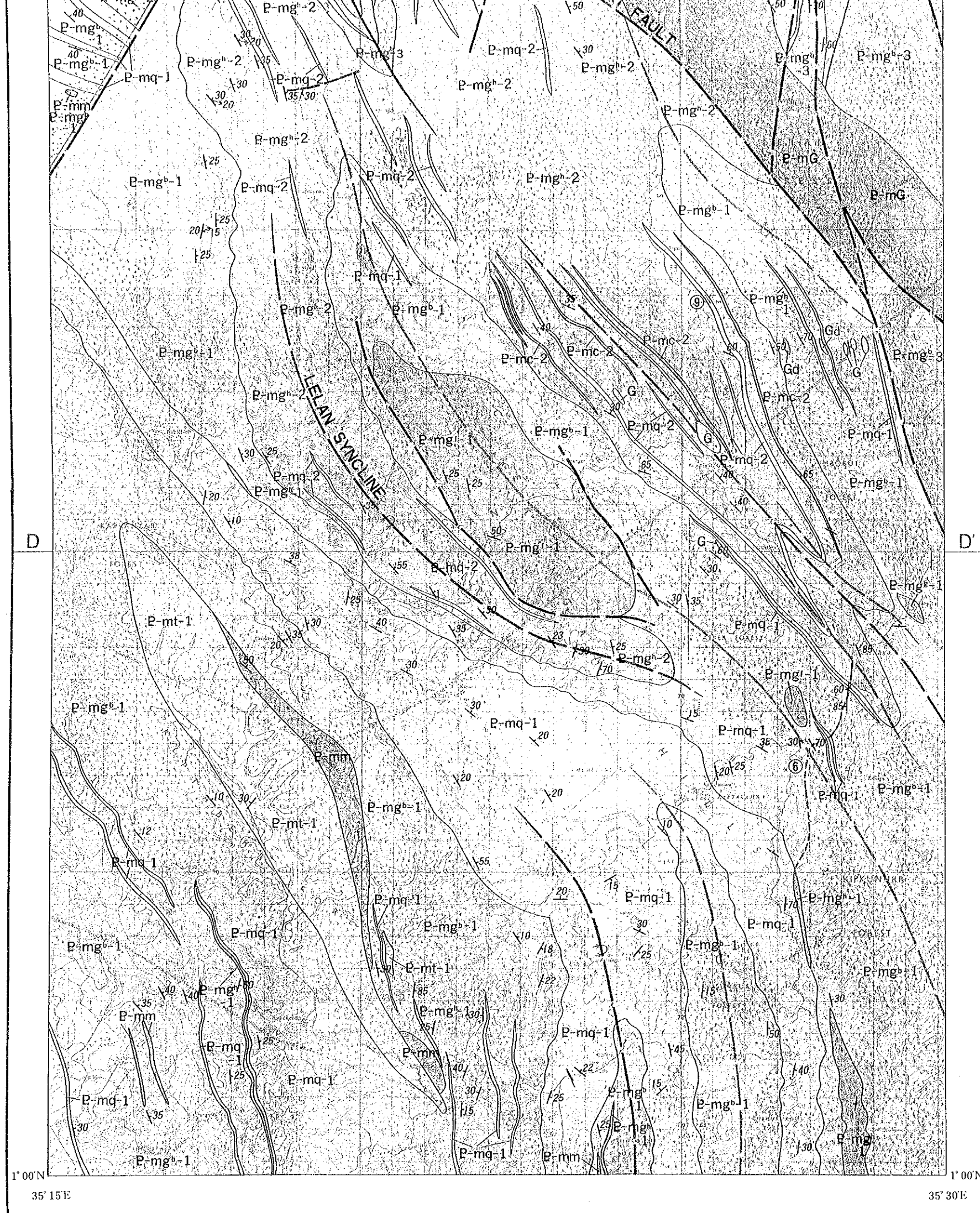
- P-mg<sup>a</sup>4 Hornblende gneisses with subordinate amphibole schists, quartzites and quartz schists
- M-3 FORMATION**
- P-ms<sup>bm</sup>3 Biotite-muscovite schists, biotite-muscovite-hornblende schists
- P-mg<sup>b</sup>3 Biotite gneisses with subordinate hornblende biotite gneisses and hornblende gneisses
- P-ms<sup>a</sup>3 Quartz schists, quartzites
- P-mc-3 Crystalline limestones
- M-2 FORMATION**
- P-mg<sup>l</sup>2 Potash-feldspar porphyroblast gneisses
- P-mg<sup>h</sup>2 Hornblende gneisses with subordinate biotite gneisses and hornblende-biotite gneisses
- P-mq-2 Quartzites, quartz schists
- P-mc-2 Crystalline limestones
- P-mt-2 Quartz-feldspathic paragneisses
- M-1 FORMATION**
- P-mg<sup>b</sup>1 Biotite gneisses with subordinate hornblende-biotite gneisses and minor hornblende gneisses
- P-mq-1 Quartzites, quartz schists
- P-mg<sup>h</sup>1 Hornblende gneisses
- P-mg<sup>l</sup>1 Potash-feldspar porphyroblast gneisses
- P-mg<sup>g</sup>1 Garnet porphyroblast gneisses
- P-mt-1 Calc-silicate granulites

\* M-1 - M-5 FORMATION: Stratigraphic units in ascending order

- Geological boundaries
- Foliation (strike and dip)
- Lineation (direction and dip)
- Anticlinal axis (definite, inferred)
- Synclinal axis (definite, inferred)
- Overturned anticlinal axis (definite, inferred)
- Overturned synclinal axis (definite, inferred)
- Inferred fault
- Inferred concealed fault
- Closed mine
- Mineral locality
- Placer gold locality
- Pegmatite dyke swarm zone
- Position of Profile

**INVENTORY OF MINERAL LOCALITIES**

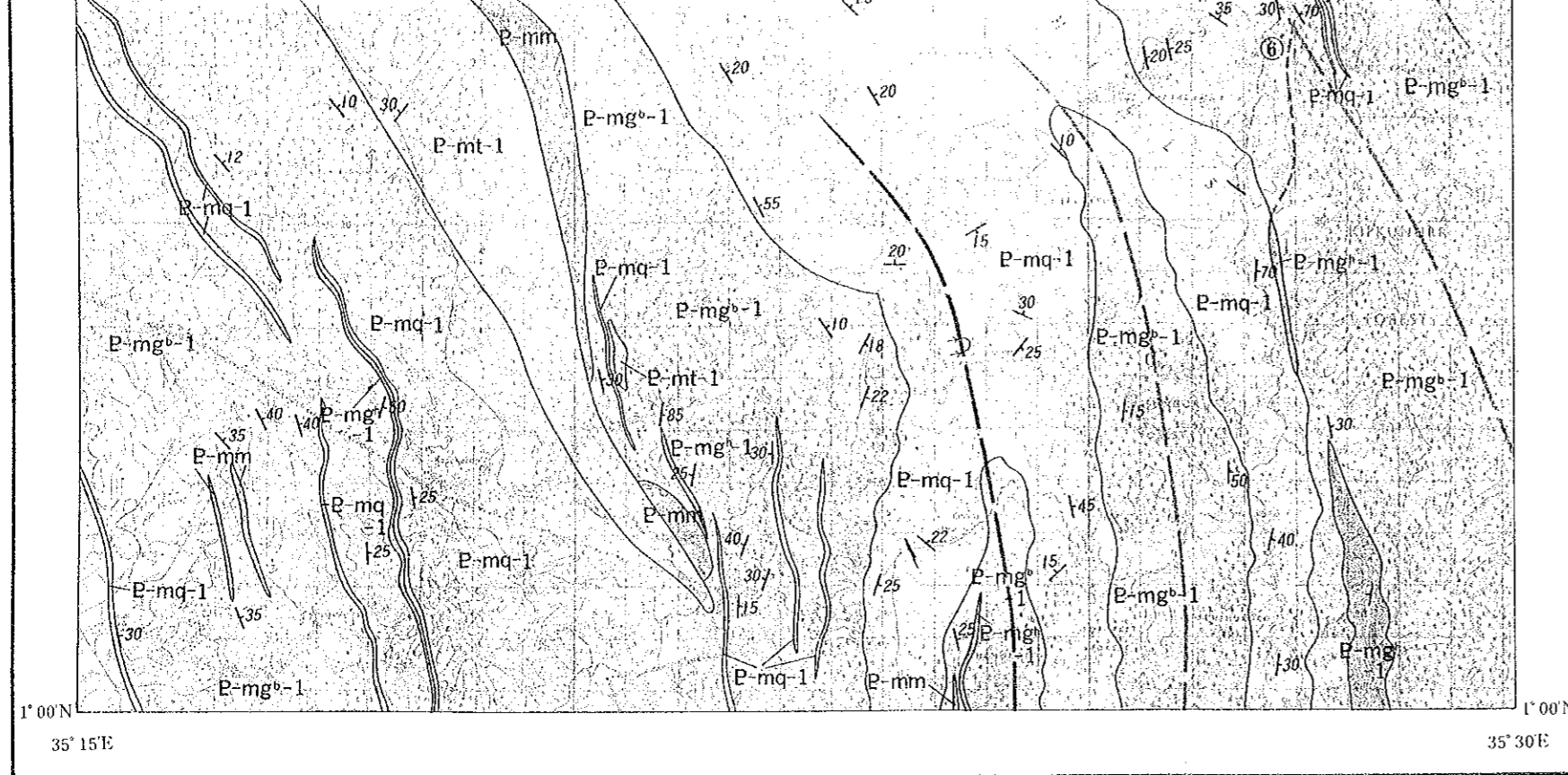
No. on Geological map	Name of Mineral Localities	Metal or Minerals	Type of Mineralization	Location		Information Source	Host Rock	Ore Mineral	Occurrence	Remarks
				Survey of Kenya, Map	UTM co-ord. X Y					
①	Turkwel Swamp River	Au	Alluvial gold	82 2	757 208 763 213	McCall(1964) Thum(1976) Bridge(1977) JICA MMAJ (1984)	Alluvial gravels	Native gold	The gold in the river bed is mainly found in gravels.	Production 1953-1960. Au: 1,160.80 Fine ounces Ag: 54.38 Ounces. Recently operation is only held in dry season by local people.
②	Marun River (Wakour-Marich)	Au	Alluvial gold	82 4	767 165 771 170	McCall(1964) Miller(1965)	Alluvial gravels	Native gold	The deposits are restricted to superficial soils, alluvial gravel etc. in the river bed	Production 1951-1955. Au: 232.72 Fine ounces



### INVENTORY OF MINERAL LOCALITIES

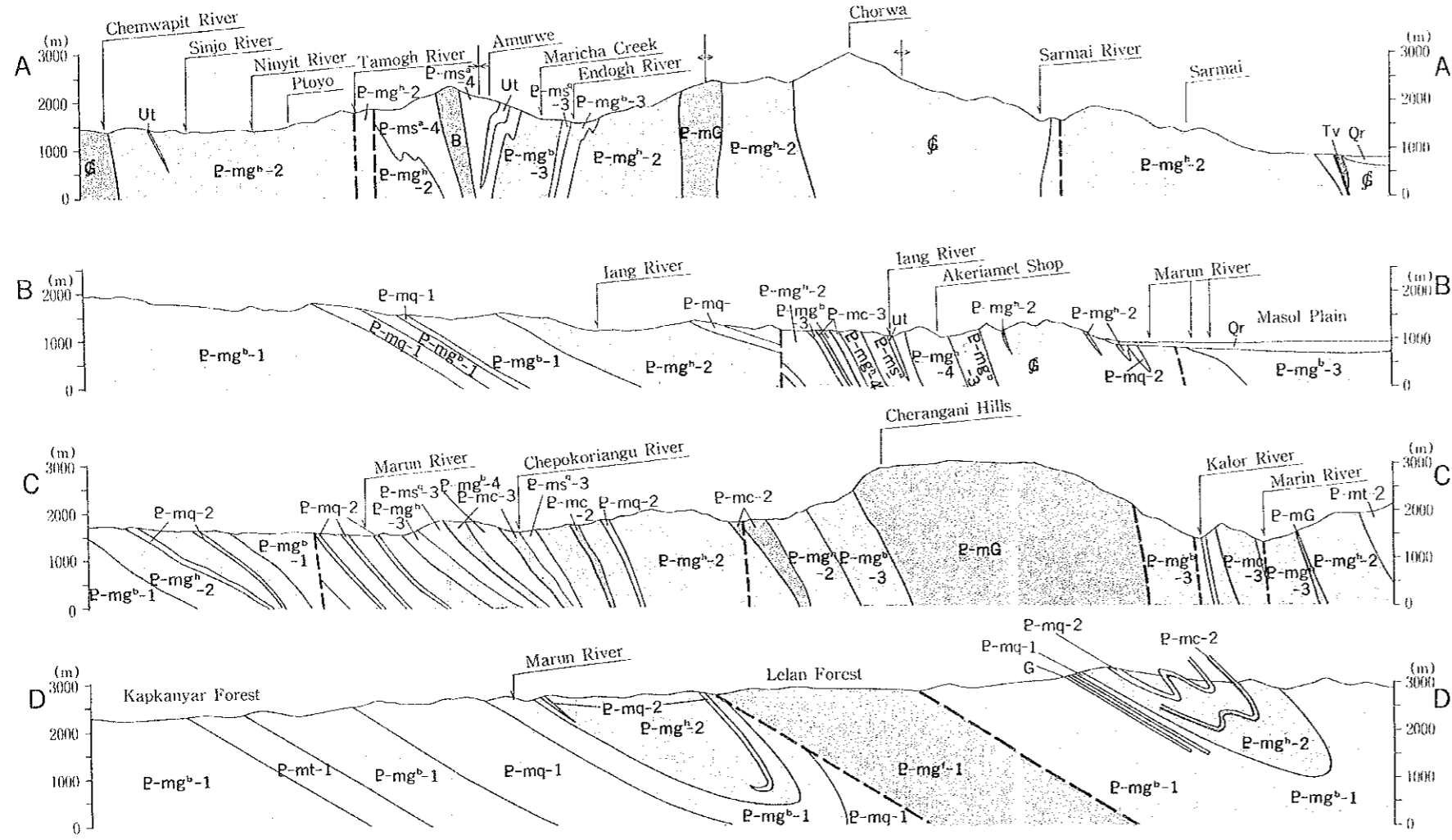
No. on Geological map	Name of Mineral Localities	Metal or Minerals	Type of Mineralization	Location		Information Source	Host Rock	Ore Mineral	Occurrence	Remarks
				Survey of Kenya Map	UTM coord. X Y					
①	Turkwel Suam River.	Au	Alluvial gold	62 2 Turkwel Gorge	757 -763 208 -213	McCall(1964) Theun(1956) Bridge(1977) JICA MMAJ (1984)	Alluvial gravels	Native gold	The gold in the river bed is mainly found in gravels.	Production 1953-1960 Au: 1,160.80 Fine ounces Ag: 5,438 Ounces. Recently operation is only held in dry season by local people.
②	Maron River (Wakuru-Maricha)	Au	Alluvial gold	62 4 Sekerr 75 2 Sigor	767 -771 165 -170	McCall(1964) Miller(1965) Theun(1976) JICA MMAJ (1984)	Alluvial gravels	Native gold	The deposits are restricted to superficial soils, alluvial gravel etc. in the river bed	Production 1954-1955. Au: 232.72 Fine ounces Ag: 11.09 " Panning is being operated by local people in a small scale
③	Eulogh River	Au	Eluvial and alluvial gold	62 4 Sekerr	761 -186 -192	JICA MMAJ (1984)	Weathered Talc schist, Act. schist	Native gold	The eluvial gold is digged from weathered rock or talus composed of talc schist and actinolite schist. The alluvial gold occurs in the river bed downward.	Panning operation is flourishing by local people all the year.
④	Telot	Au	Eluvial gold	62 4 Sekerr	766 176	McCall(1964) Kaye(1967,1968) JICA MMAJ (1984)	Weathered Serpentine	Native gold	The eluvial gold occurs in weathered serpentine or talus composed of serpentine.	Geochemical anomaly covers the area of 5 km <sup>2</sup> . Small scale panning is being continued by local people.
⑤	lang	Au	Alluvial gold	62 4 Sekerr	757 -768 167 -176	JICA MMAJ (1984)	Alluvial gravels	Native gold		
⑥	Mollen River (Upper stream)	Au	Alluvial gold	75 4 Cherangani	773 -776 117 -127	JICA MMAJ (1984)	Alluvial gravels	Native gold	The gold is found in river-bed deposits.	Panning of gold is being operated by local people in a very small scale.
⑦	Sarrai River	Au	Alluvial gold	62 2 Turkwel Gorge	760 -770 200 -201	JICA MMAJ (1984)	Alluvial gravels	Native gold	The gold occurs in detrital sediments.	Small scale panning by local people.
⑧	Sarrai	Au	Alluvial gold	62 4 Sekerr	776 -778 196	JICA MMAJ (1984)	Alluvial gravels	Native gold	ditto	ditto.
⑨	Chepkotet	Au, Cu	Hydrothermal vein	75 4 Cherangani	770 -771 137 -139	JICA MMAJ (1984)	Quartzite	Native gold, Chalcopyrite	Avery small amount of chalcopyrites and golds occurs in strongly silicified quartzites.	The area of silicified zone is estimated more than 1 km <sup>2</sup> .
⑩	lang	Au	Hydrothermal vein	62 4 Sekerr	759 (2) 167 (2)	McCall(1964)	Metasorphic rocks	Gold, Pyrite	The quartz-pyrite veins occur in a small swarm which traverses the bed of lun River	Assay Au: 0.3 dwt. per short ton.
⑪	Telot	Cr, Ni	Magmatic segregation Secondary enrichment	62 4 Sekerr	766 176	McCall(1964) Kaye(1967, 1968) Kusan Kosyo (1977) JICA MMAJ (1984)	Serpentine	Chromite, Kinnorite, Garnierite	The podiform chromite bodies occur in the Telot serpentine body. Garnierite occurs mainly as impregnation patchily distributed in the layers of the banded serpentine. Thin seams of a mixture of Hematite and Malachite in the serpentine-talc schist complex.	Prospecting included 412 m (41 Holes) of drillings was done by Japanese Company. Assay: see JICA MMAJ (1984).
⑫	Kamugeyon	Cr	Magmatic segregation	62 4 Sekerr	758 180	McCall(1964) JICA MMAJ (1984)	Serpentine	Chromite	Scattered Chromite ores occur on the surface of weathered serpentine covering the area of 80 x 50 m.	Traces of prospecting are seen in the area.
⑬	Twin Bridge	Cu	Hydrothermal vein	75 2 Sigor	759 155	Miller(1956)	Quartzite	Malachite, Pyrite, Chalcopyrite	The malachite staining occurs in a band of quartzite. An irregular veinlike streak of pyrite and chalcopyrite about two feet in length occurs in a contorted aplite dyke.	Assay Cu: 0.105%.
⑭	Chepkopegh	Cu	Primary impregnation	75 2 Sigor	751 162	Miller(1956)	Metadiorite	Malachite, Bornite, Azurite, Chalcopyrite	The malachite occurs as a local impregnation of Metadiorite.	15 localities in 3,000 x 800 yards country. Most part is in the outside of the survey area.
⑮	Parua	Cu	Hydrothermal vein	75 2 Sigor	766 118	JICA MMAJ (1984)	Hornblend gneiss, Crystalline limestone	Malachite, Bornite, Chalcopyrite, Chalcocite	Quartz vein. Floats	Old pit or tunnel is said to be upper part of the float zone. Assay: Cu 1.1%

Scale 1:125,000



Scale 1:125,000

GEOLOGICAL SECTIONS



7.	Sarmai River	Au	Alluvial gold	62.2 Turkwel Gorge	769-770	200	JICA MMAJ (1984)	Alluvial gravels	Native gold	The gold occurs in detrital sediments.	Small scale panning by local people.
8.	Sarmai	Au	Alluvial gold	62.4 Sekerr	776-778	190	JICA MMAJ (1984)	Alluvial gravels	Native gold	ditto	ditto
9.	Chepokot	Au, Cu	Hydrothermal vein	75.4 Cherangani	770-771	137-139	JICA MMAJ (1984)	Quartzite	Native gold, Chalcopyrite	A very small amount of chalcopyrites and golds occurs in strongly silicified quartzites.	The area of silicified zone is estimated more than 1 km <sup>2</sup> .
10.	Jang	Au	Hydrothermal vein	62.4 Sekerr	759-691	167-691	McCall (1964)	Metamorphic rocks	Gold, Pyrite	The quartz-pyrite veins occur in a small swarm which traverses the bed of Jang River	Assay: Au: 0.3 dwt. per short ton.
11.	Teba	Cr, Ni	Magmatic segregation Secondary enrichment	62.4 Sekerr	766	176	McCall (1964), Kaye (1967, 1968), Kokan Kogyo (1977), JICA MMAJ (1984)	Serpentine	Chromite, Kinnereite, Garnierite	The podiform chromite bodies occur in the Teba serpentinite body. Garnierite occurs mainly as impregnation patchily distributed in the layers of the banded serpentinite. Thin seam of a mixture of Hematite and Malachite in the serpentinite-talc schist complex.	Prospecting included 412 m (11 Holes) of drilling was done by Japanese Company. Assay: see JICA MMAJ (1984).
12.	Kumeyon	Cr	Magmatic segregation	62.4 Sekerr	758	189	McCall (1964), JICA MMAJ (1984)	Serpentine	Chromite	Scattered Chromite ores occur on the surface of weathered serpentinite covering the area of 80 x 50 m.	Traces of prospecting are seen in the area.
13.	Twm Bridge	Cu	Hydrothermal vein	75.2 Sigor	759	155	Miller (1956)	Quartzite	Malachite, Pyrite, Chalcopyrite	The malachite staining occurs in a band of quartzite. An irregular veinlike streak of pyrite and chalcopyrite about two feet in length occurs in a contorted aplitic dyke.	Assay: Cu: 0.167%
14.	Chepokoteh	Cu	Primary impregnation	75.2 Sigor	751	182	Miller (1956)	Metadiorite	Malachite, Bornite, Azurite, Chalcopyrite	The malachite occurs as a local impregnation of Meta diorite.	15 localities in 3000 x 800 yards country. Most part is in the outside of the survey area.
15.	Pana	Cu	Hydrothermal vein	75.2 Sigor	766	148	JICA MMAJ (1984)	Hornblend gneiss, Crystalline limestone	Malachite, Bornite, Chalcopyrite, Chalcocite, Pyrite	Quartz vein; Floats	Old pit or tunnel is said to be upper part of the float zone. Assay: Cu 1.1%
16.	Akeriamet	Cu	Hydrothermal vein	62.4 Sekerr	767	170	McCall (1964)	Foliated granite	Chalcocite, Malachite	Quartz-calcite vein with ore minerals	Very small outcrop.
17.	Nakang	Cu	Hydrothermal vein	62.2 Turkwel Gorge	759	209	McCall (1964)		Malachite	The copper is present in small and sparsely distributed lodes (quartz vein).	Very small outcrop.
18.	Talor	Cu	Primary dissemination	62.2 Turkwel Gorge	771	199	JICA MMAJ (1984)	Amphibolite	Malachite	Several floats; the source is not found.	Assay of a chip sample: Cu: 1.92%
19.	Chachai	Mo	Hydrothermal vein	62.4 Sekerr	769	187	JICA MMAJ (1984)	Muscovite quartzite	Molybdenite	The molybdenite occurs in a small quartz vein.	Width: 0.15m Length: 7m Depth: ?
20.	Nasalot	Mica	Pegmatite	62.2 Turkwel Gorge	772	202	McCall (1964)	Schist		The mica occurs in a swarm of large pegmatites of rather unusual dike-like form ranging 1 mile wide.	Operated in 1928-1929. 3,615 pounds of cut mica. Another operation in 1929. 0.5 Ton of low grade mica
21.	Nakang	Kyanite	Hydrothermal vein	62.2 Turkwel Gorge	759	209					Very small outcrop
22.	Nasalot	Kyanite	ditto	62.2 Turkwel Gorge	772	292				The Kyanite is concentrated in bluish gray patches of crystals up to three inches long.	Bigger than other three outcrops.
23.	Marun	Kyanite	ditto	62.4 Sekerr	768	169					Very small outcrop
24.	Sostin	Kyanite	ditto	62.4 Sekerr	768	170					Very small outcrop
25.	Tale	Talc	Alteration massive	62.4 Sekerr	765-767	175-179	JICA MMAJ (1984)	Talc rock	Talc schist, Serpentine	Large amount of talc rocks occur surrounding and inside the Teba serpentinite body.	Investigation of reserves and quality is recommended.
26.	Sebit	Limestone	Sedimentary origin	75.2 Sigor	758-763	146-159	MGD Report	Crystalline limestone		Folded enlarged crystalline limestone.	Preliminary drill work has finished by MGD. Feasibility study should be needed for exploitation.

Prepared by the Japan International Cooperation Agency and the Metal Mining Agency of Japan in close cooperation with the Kerio Valley Development Authority and Mines and Geological Department of the Republic of Kenya through the three years (fiscal 1983-1985) mineral exploration project.











JICA