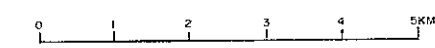




ST-1-D	ST-7-R	ST-11-D
ST-1-R	ST-8-R	ST-12-P
ST-1-T	ST-8-T	ST-12-O
ST-2-O	ST-9-R	ST-12-P
ST-3-O	ST-9-T	ST-13-O
ST-3-P	ST-9-O	ST-13-P
ST-4-O	ST-9-P	ST-14-R
ST-5-O	ST-10-O	ST-15-O
ST-6-O	ST-11-O	ST-15-P

Fig. II-2-2
 Location Map of Samples
 in Labuk Region, Sabah

Scale 1 : 50,000



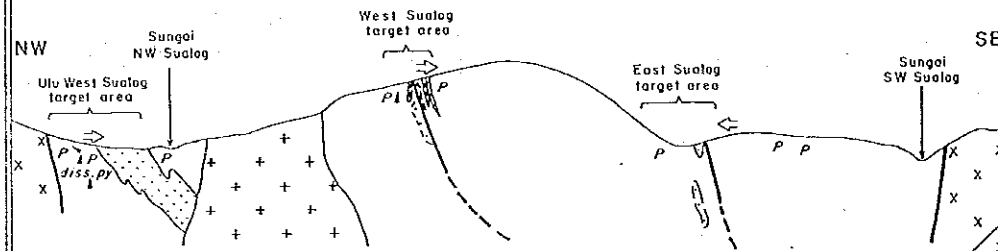
⊗ ST-1-D: Location of sample with number

Fig. II-2-3
 Geological Map, Central Part of
 the Bidu Bidu Ophiolite Complex

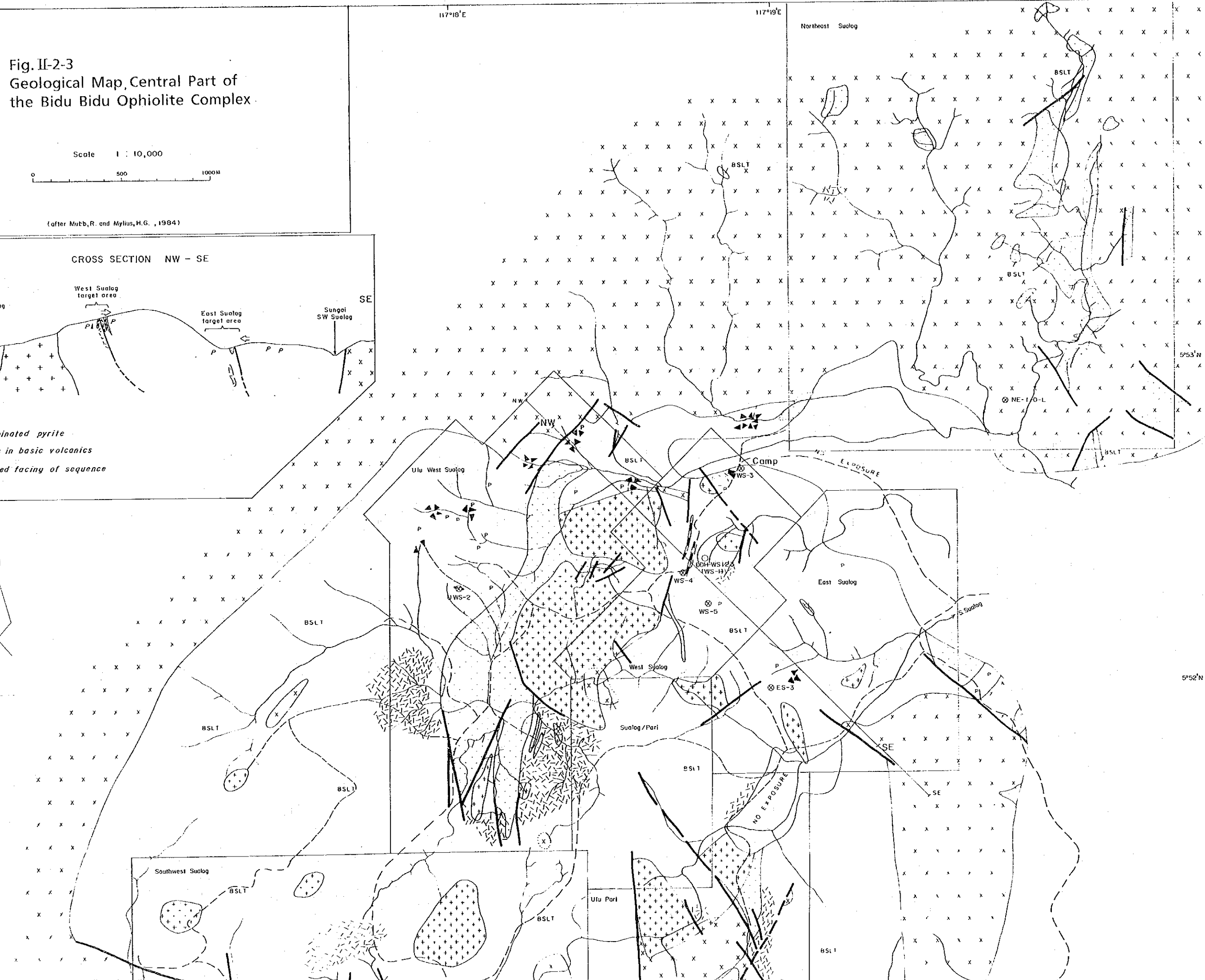
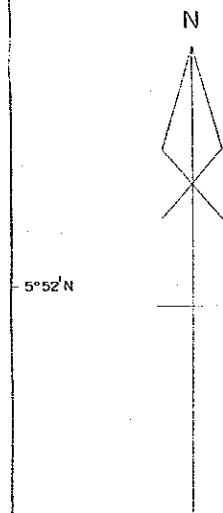
Scale 1 : 10,000
 0 500 1000M

(after Mutb, R. and Mylius, H.G., 1984)

CROSS SECTION NW - SE



- diss. py disseminated pyrite
- P pillows in basic volcanics
- inferred facing of sequence



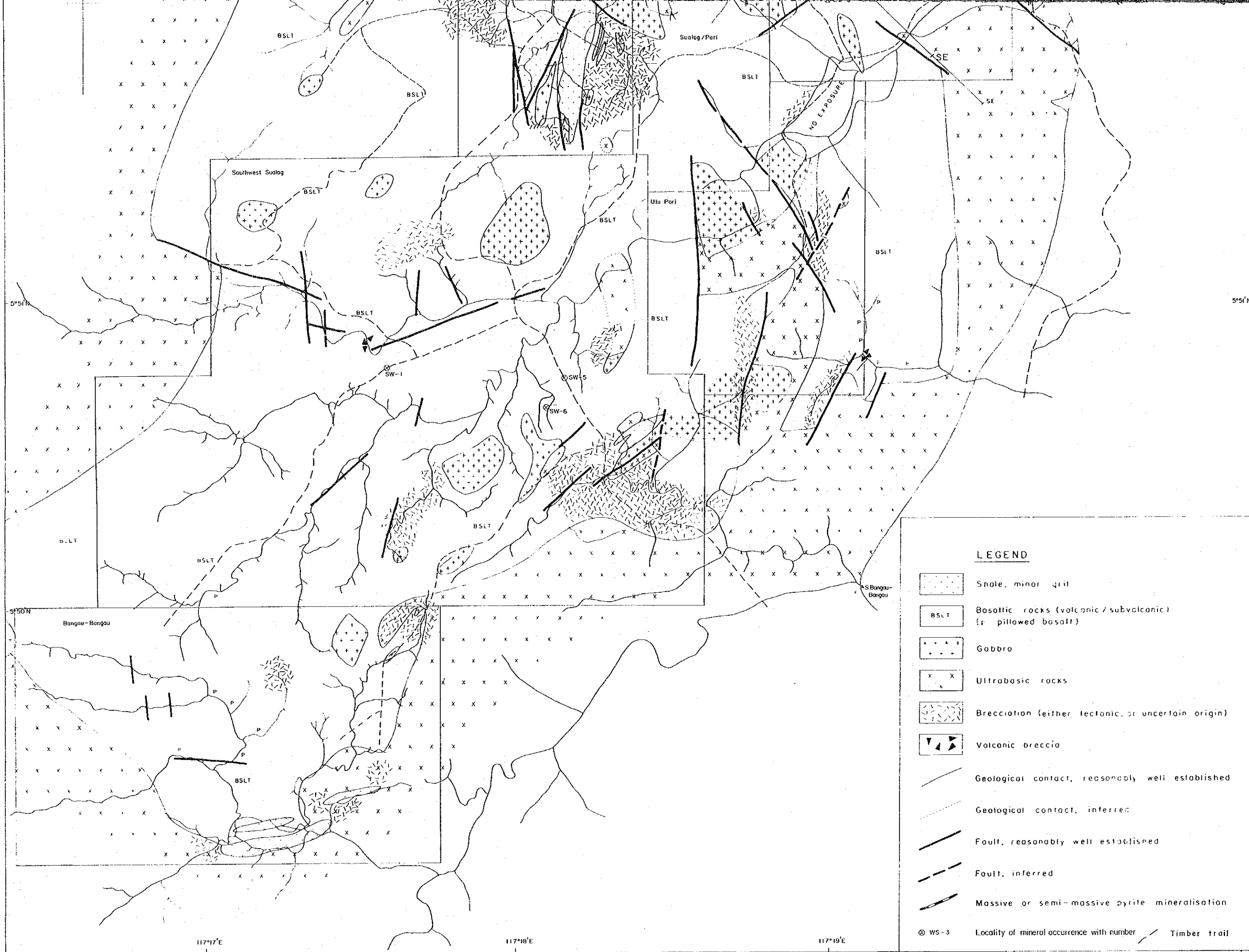
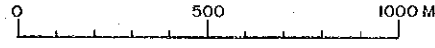


Fig. II-2-4
Geological Map of the Telupid
Area, Labuk Region, Sabah

Scale 1 : 10,000



(after Johnston, J.C. and Walls, P.J., 1978)

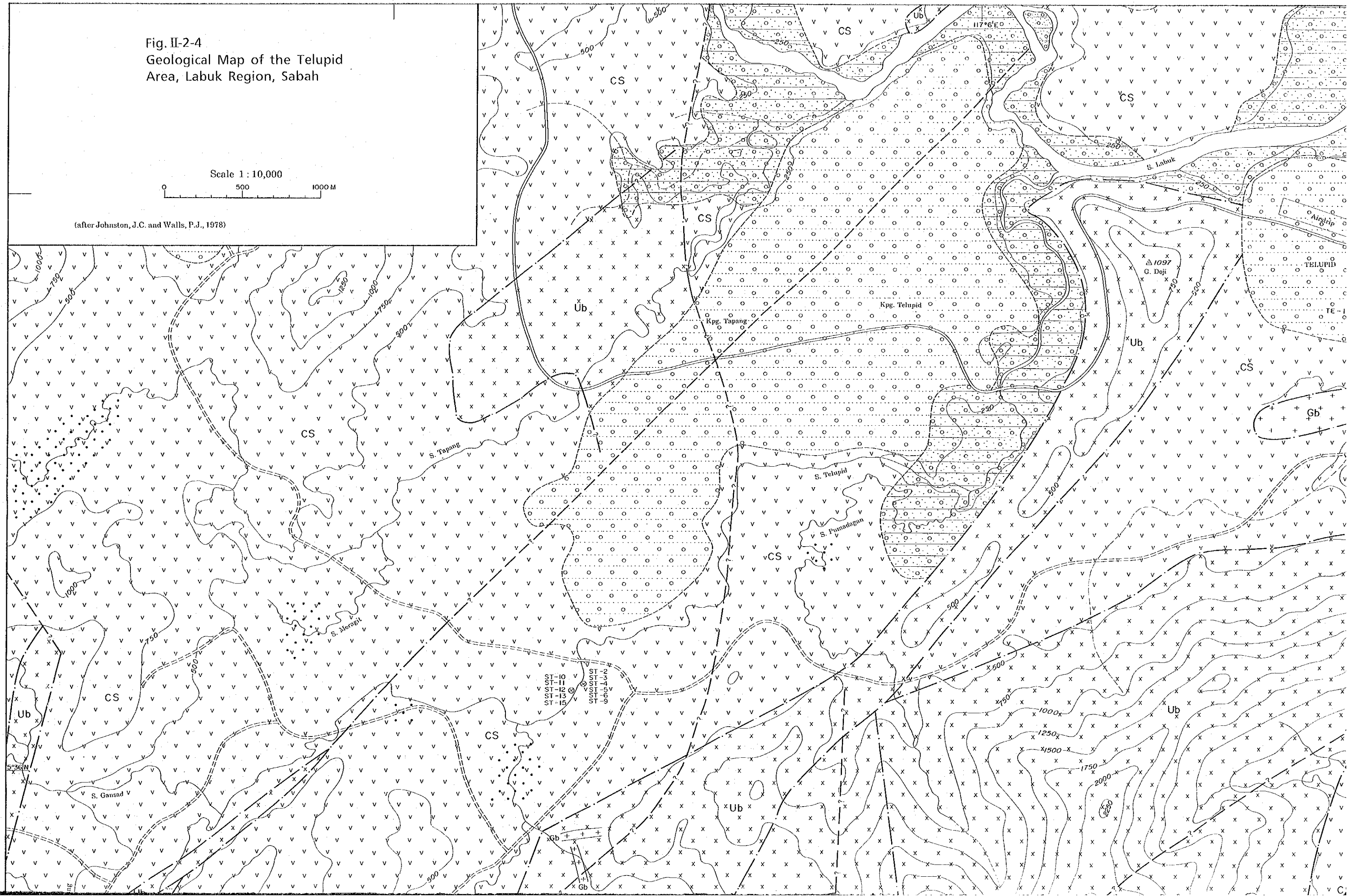
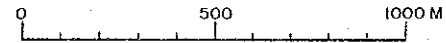
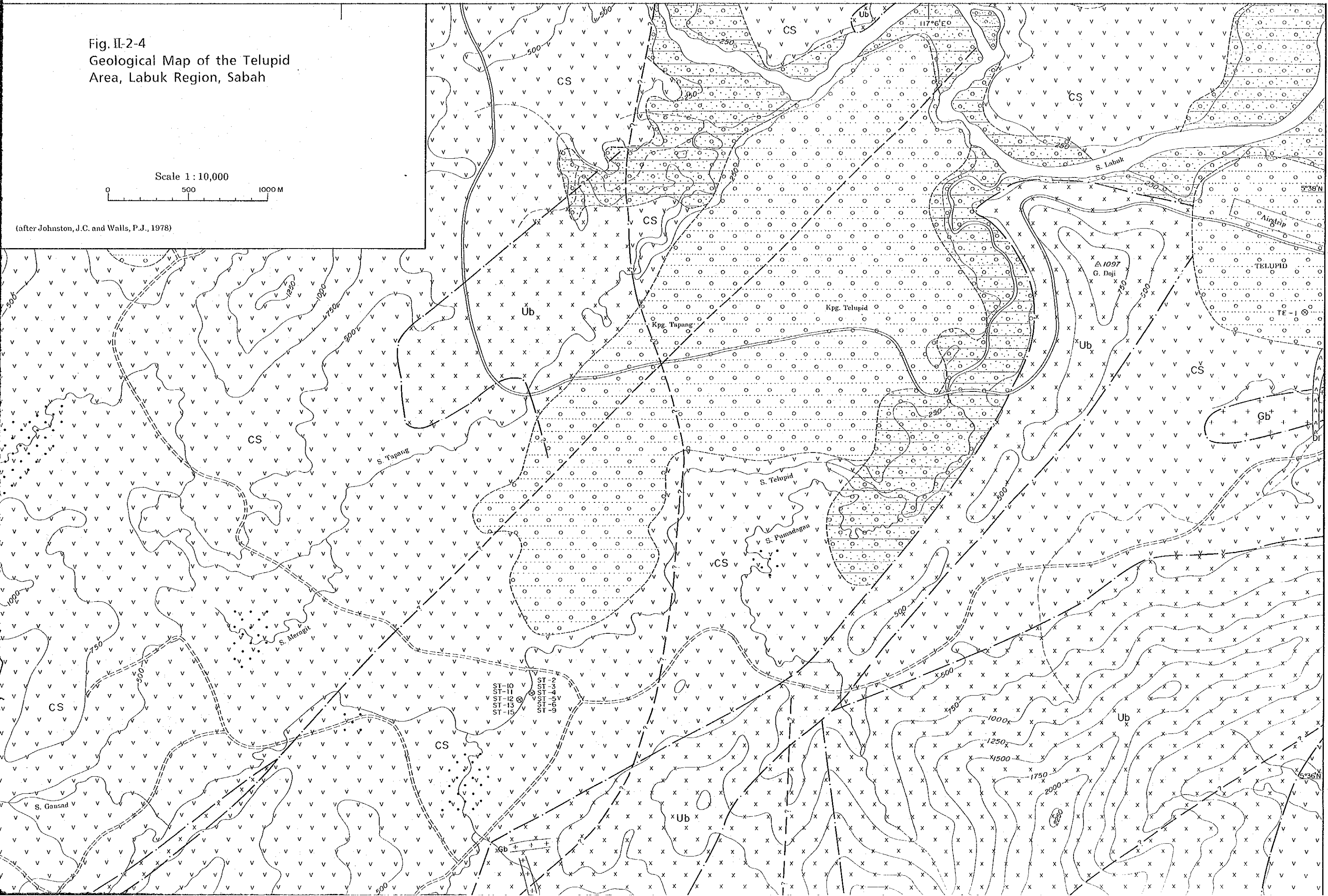


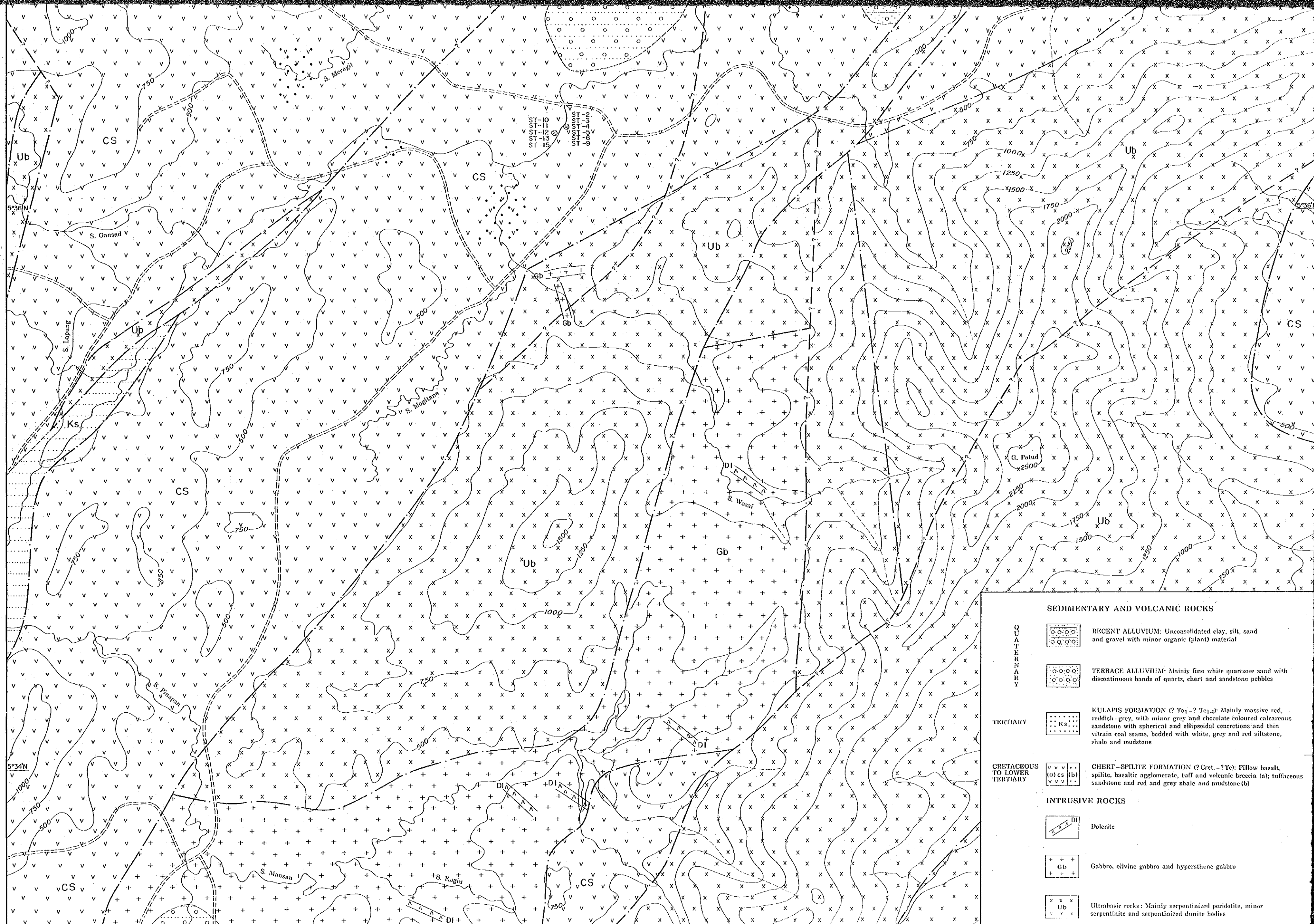
Fig. II-2-4
Geological Map of the Telupid
Area, Labuk Region, Sabah

Scale 1 : 10,000

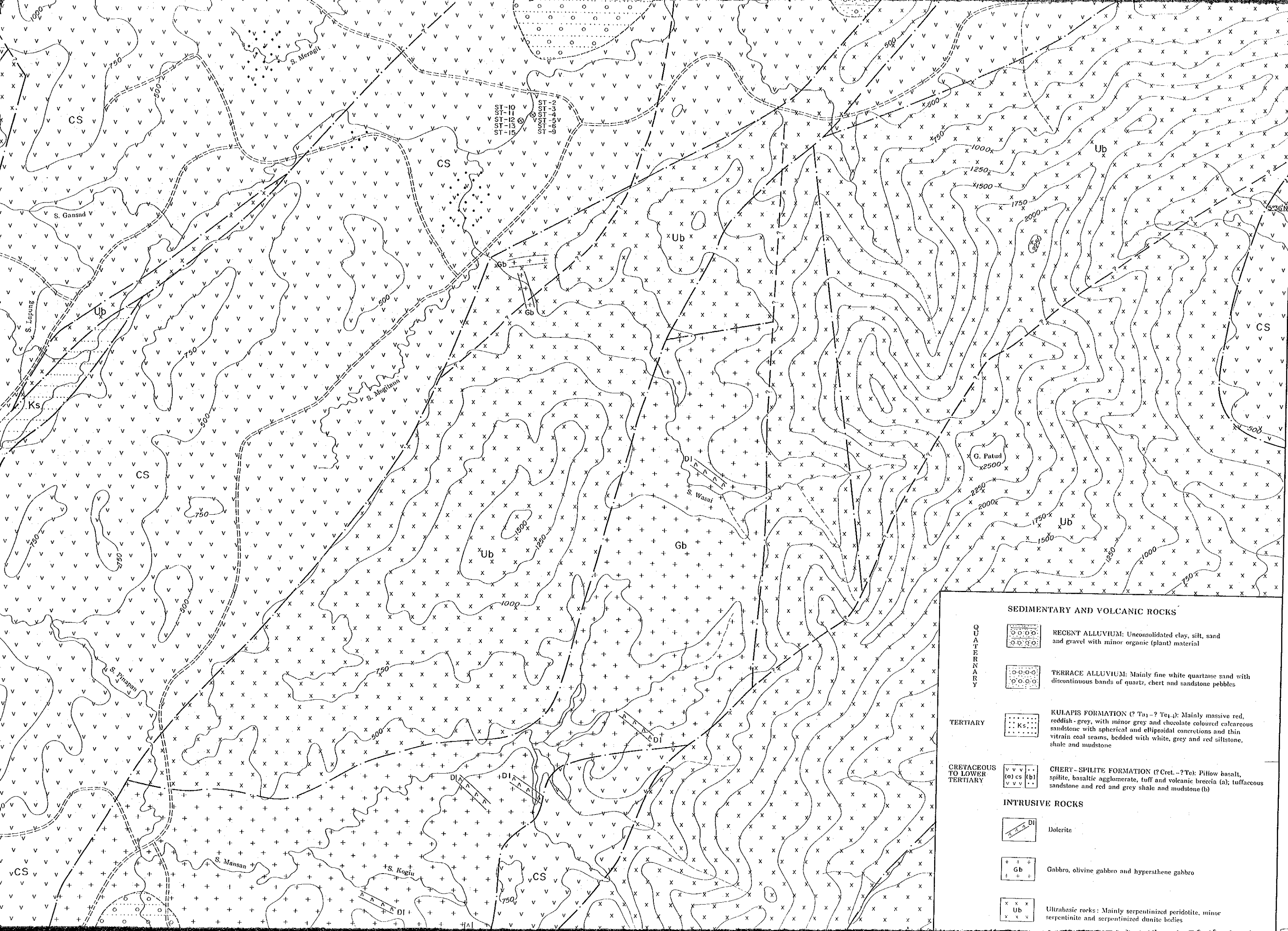


(after Johnston, J.C. and Walls, P.J., 1978)



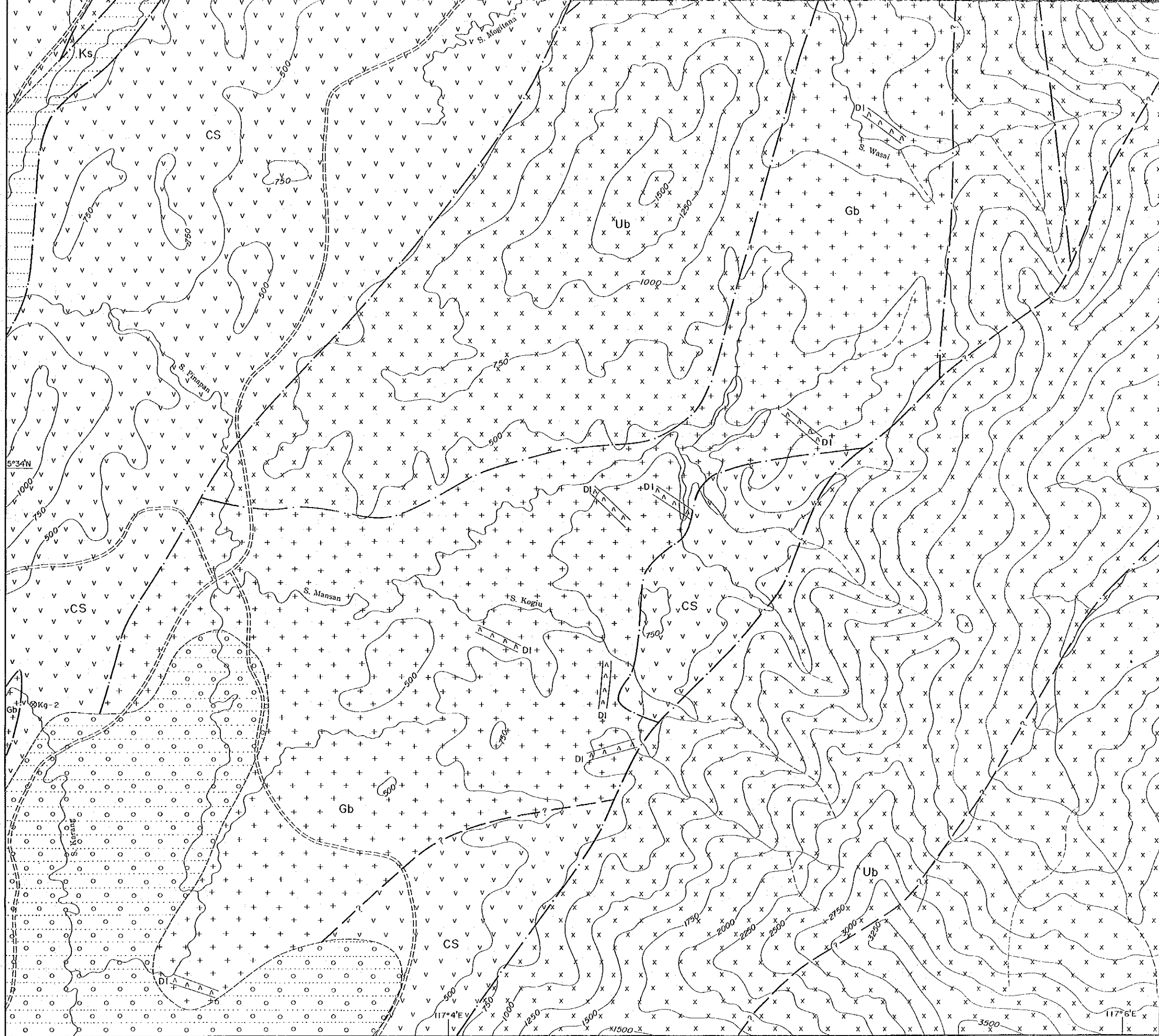


SEDIMENTARY AND VOLCANIC ROCKS	
QUATERNARY	RECENT ALLUVIUM: Unconsolidated clay, silt, sand and gravel with minor organic (plant) material
	TERRACE ALLUVIUM: Mainly fine white quartzose sand with discontinuous bands of quartz, chert and sandstone pebbles
TERTIARY	KULAPIS FORMATION (? Ta ₁ - ? Te ₁): Mainly massive red, reddish-grey, with minor grey and chocolate coloured calcareous sandstone with spherical and ellipsoidal concretions and thin vitrain coal seams, bedded with white, grey and red siltstone, shale and mudstone
CRETACEOUS TO LOWER TERTIARY	CHERT-SPILITE FORMATION (? Cr ₁ - ? Te ₁): Pillow basalt, spilite, basaltic agglomerate, tuff and volcanic breccia (a); tuffaceous sandstone and red and grey shale and mudstone (b)
INTRUSIVE ROCKS	
	Dolerite
	Gabbro, olivine gabbro and hypersthene gabbro
	Ultrabasic rocks: Mainly serpentinized peridotite, minor serpentinite and serpentinized dunite bodies



SEDIMENTARY AND VOLCANIC ROCKS

- | | | |
|------------------------------|--|---|
| QUATERNARY | | RECENT ALLUVIUM: Unconsolidated clay, silt, sand and gravel with minor organic (plant) material |
| | | TERRACE ALLUVIUM: Mainly fine white quartzose sand with discontinuous bands of quartz, chert and sandstone pebbles |
| TERTIARY | | KULAPIS FORMATION (? Ta ₁ - ? Te ₁): Mainly massive red, reddish-grey, with minor grey and chocolate coloured calcareous sandstone with spherical and ellipsoidal concretions and thin vitrain coal seams, bedded with white, grey and red siltstone, shale and mudstone |
| CRETACEOUS TO LOWER TERTIARY | | CHERT-SPILITE FORMATION (? Cret. - ? Te): Pillow basalt, spilitic, basaltic agglomerate, tuff and volcanic breccia (a); tuffaceous sandstone and red and grey shale and mudstone (b) |
| INTRUSIVE ROCKS | | |
| | | Dolerite |
| | | Gabbro, olivine gabbro and hypersthene gabbro |
| | | Ultrabasic rocks: Mainly serpentinized peridotite, minor serpentinite and serpentinized dunite bodies |



SEDIMENTARY AND VOLCANIC ROCKS

QUATERNARY

- RECENT ALLUVIUM: Unconsolidated clay, silt, sand and gravel with minor organic (plant) material
- TERRACE ALLUVIUM: Mainly fine white quartzose sand with discontinuous bands of quartz, chert and sandstone pebbles

TERTIARY

- KULAPIS FORMATION (? Ta₁ - ? Te₁): Mainly massive red, reddish-grey, with minor grey and chocolate coloured calcareous sandstone with spherical and ellipsoidal concretions and thin vitrain coal seams, bedded with white, grey and red siltstone, shale and mudstone

CRETACEOUS TO LOWER TERTIARY

- CHERT-SPILITE FORMATION (? Cret. - ? Te): Pillow basalt, spilite, basaltic agglomerate, tuff and volcanic breccia (a); tuffaceous sandstone and red and grey shale and mudstone (b)

INTRUSIVE ROCKS

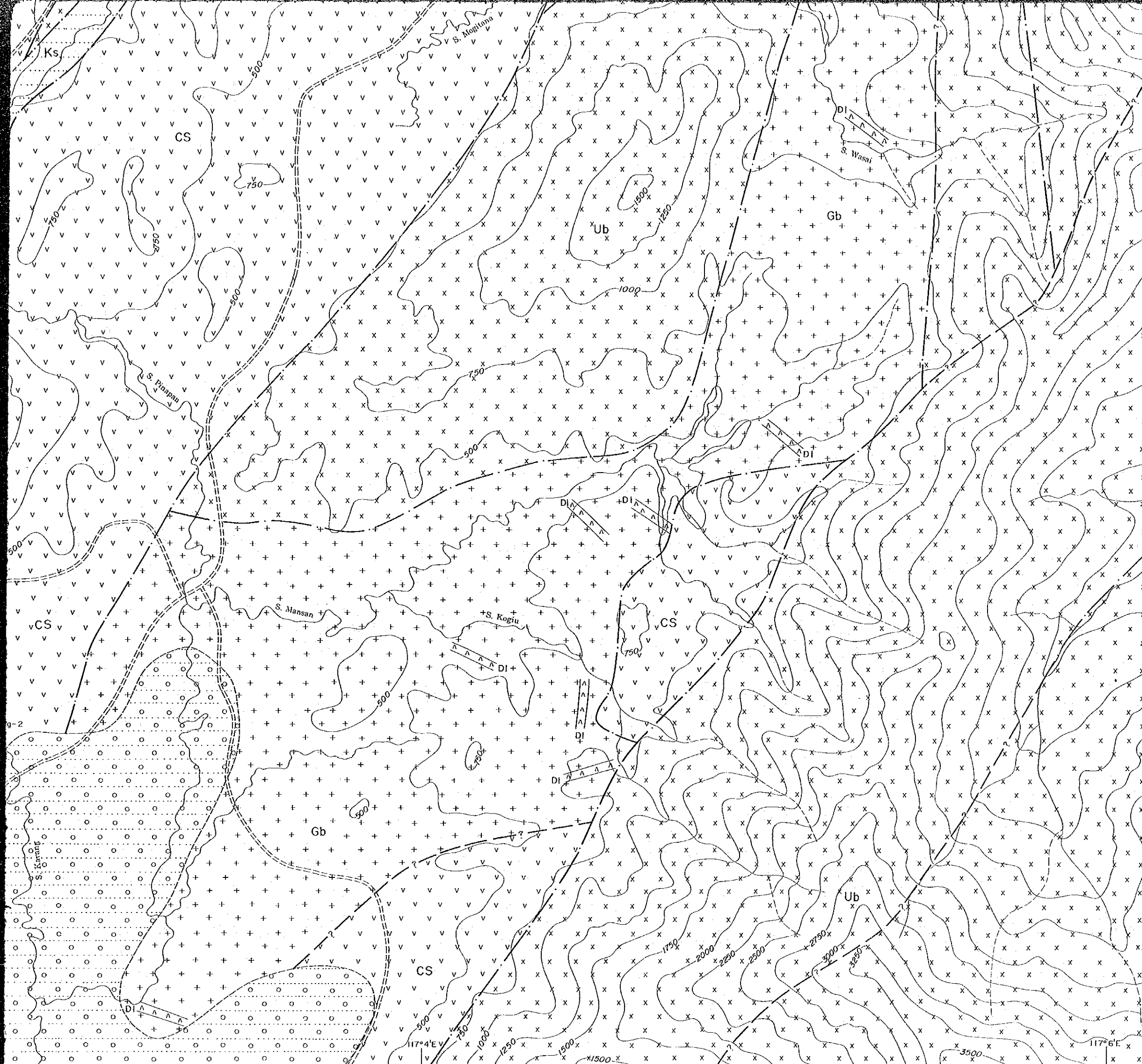
- Dolerite
- Gabbro, olivine gabbro and hypersthene gabbro
- Ultrabasic rocks: Mainly serpentinized peridotite, minor serpentinite and serpentinized dunite bodies

GEOLOGICAL SYMBOLS

- Geological boundary (defined, approximate, inferred)
- Fault: approximate
- assumed
- inferred beneath alluvium
- Investigated locality of mineral occurrence with number

TOPOGRAPHICAL SYMBOLS

- Contours with height in feet (vertical interval 250 feet)
- Major road
- Timber road (approximate alignment)
- River course (defined, indefinite)
- Kpg. Kampong (village)
- S Sungai (river, stream)
- G. B: Gunong, Bukit (mountain, hill)



SEDIMENTARY AND VOLCANIC ROCKS

QUATERNARY

- RECENT ALLUVIUM: Unconsolidated clay, silt, sand and gravel with minor organic (plant) material
- TERRACE ALLUVIUM: Mainly fine white quartzose sand with discontinuous bands of quartz, chert and sandstone pebbles

TERTIARY

- KULAPIS FORMATION (? Ta₁ - ? Te₁): Mainly massive red, reddish-grey, with minor grey and chocolate coloured calcareous sandstone with spherical and ellipsoidal concretions and thin vitrain coal seams, bedded with white, grey and red siltstone, shale and mudstone

CRETACEOUS TO LOWER TERTIARY

- CHELT-SPIILITE FORMATION (? Cret. - ? Te): Pillow basalt, spilite, basaltic agglomerate, tuff and volcanic breccia (a); tuffaceous sandstone and red and grey shale and mudstone (b)

INTRUSIVE ROCKS

- Dolerite
- Gabbro, olivine gabbro and hypersthene gabbro
- Ultrabasic rocks: Mainly serpentinized peridotite, minor serpentinite and serpentinized donite bodies

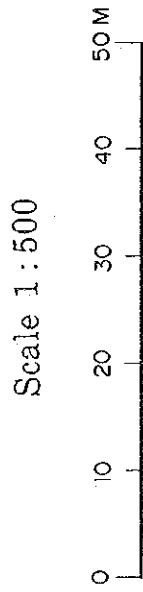
GEOLOGICAL SYMBOLS

- Geological boundary (defined, approximate, inferred)
- Fault: approximate
- assumed
- inferred beneath alluvium
- Investigated locality of mineral occurrence with number

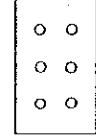
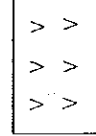
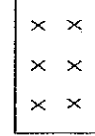
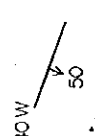
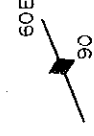

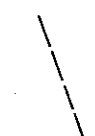
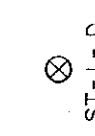
TOPOGRAPHICAL SYMBOLS

- Contours with height in feet (vertical interval 250 feet)
- Major road
- Timber road (approximate alignment)
- River course (defined, indefinite)
- Kpg. Kampong (village)
- S Sungai (river, stream)
- G. Br Gunung, Bukit (mountain, hill)

Fig. II-2-5
 Geological Sketch Map at Mineral
 Occurrences along Sungai Telupid,
 Telupid Area, Labuk Region, Sabah

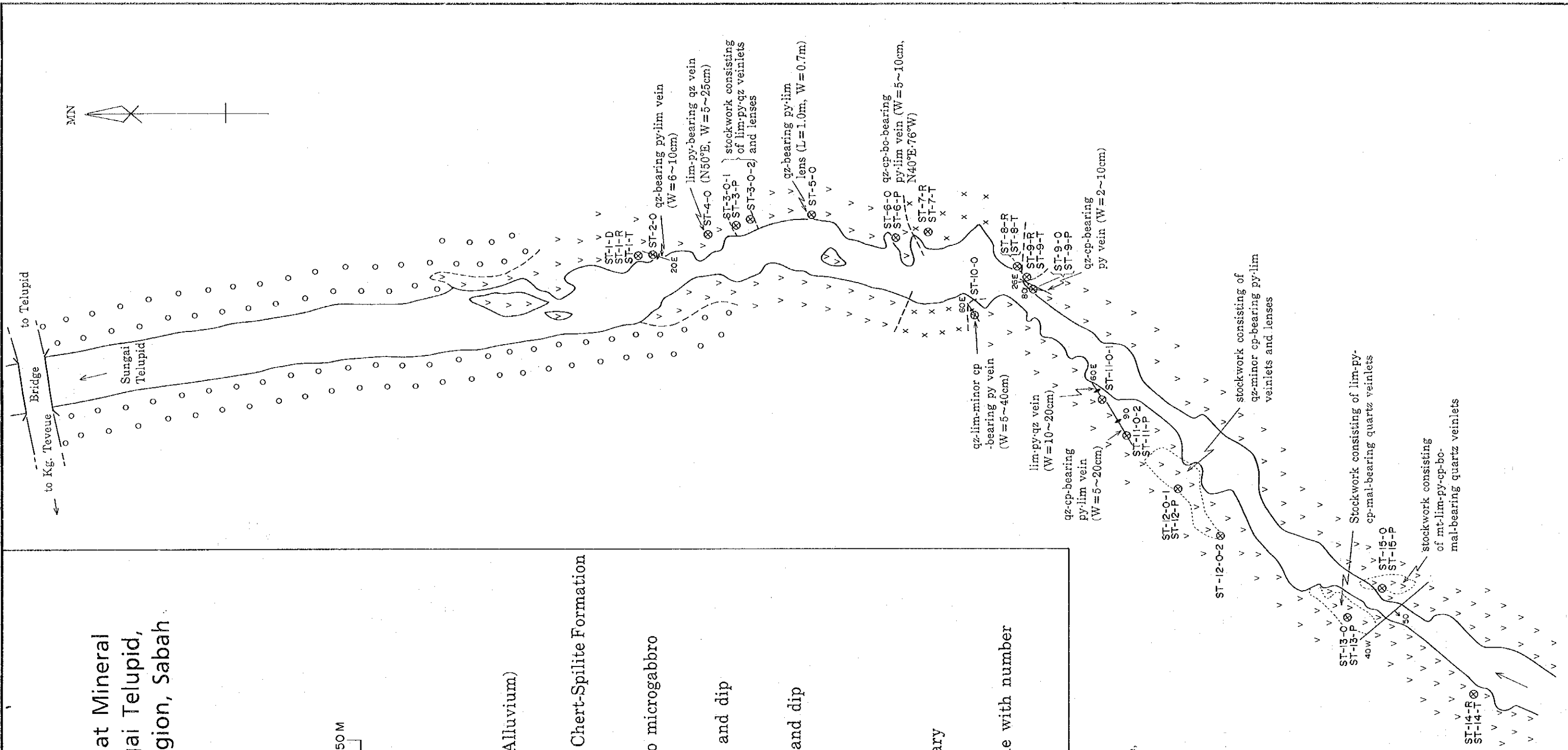


LEGEND

-  Gravel and soil (Alluvium)
-  Altered basalt of Chert-Spilitite Formation
-  Altered dolerite to microgabbro
-  Fault with strike and dip
-  Vein with strike and dip
-  Stockwork zone
-  Geological boundary
-  Location of sample with number

Abbreviation;

- qz : quartz,
- cp : chalcopyrite,
- mal : malachite,
- L : length,
- py : pyrite,
- lim : limonite,
- bo : bornite,
- mt : magnetite,
- W : width



JICA