CHAPTER 4. GUNUNG ROPIH AREA

In the Gunung Ropih Area, the possibility of Cu-Mo mineralization of the porphyry-copper type was confirmed by geological studies and a geochemical soil survey carried out during Phase II. Based on the results, geophysical surveys and exploration drilling were conducted during this phase to confirm Cu-Mo mineralization at depth and to examine the mechanism of mineralization.

4–1 Method of Investigation

4–1–1 Geophysical Survey

For the geophysical survey, the induced polarization and magnetic methods were used.

Induced Polarization Survey

Eight lines with a total length of 9.9 km, 5 lines running N32°E and 3 E-W with a line spacing of 100 m were surveyed by the IP method using the frequency domain (Fig. II–21 and 22). The dipole-dipole array with an electrode spacing of 100 m and an electrode spacing factor of n = 1–5, was employed. To reduce the current electrode contact resistence, large quantities of salt water were applied to the aluminium foil current electrodes. Copper sulphate porous pots were used as potential electrodes. A Chiba CH–T7802 IP transmitter and 2 Chiba receivers, CH–R7801 and CH–R7802, were used. The generator was powered by a Geotronics - 421 petrol-engine which can generate a maximum power of 3.0 kw.

Magnetic Survey

A magnetic survey employing a total magnetic field measurement was conducted along the same lines, simultaneously with the IP survey. Two portable Proton Magnetometers Model G–816 were used, one at the base station and the other in the field. Readings were taken along the survey lines at 50 m intervals. Readings were also recorded regularly with the other magnetometer at the base station to monitor the diurnal variations.

4–1–2 Exploration Drilling

Exploration drilling was conducted at the sites shown in Figure II–23, after systematically considering the surface geology, and the results of the geophysical and geochemical soil surveys. Three vertical holes, MJM–1, MJM–2 and MJM–3 with a total depth of 692.8 m, were drilled on the western and the southwestern slopes of Gunung Ropih.

4–2 Geology

The Gunung Ropih area is underlain by an acidic intrusive stock which had intruded into the Bau Limestone (fig. II–24).

The stock covers an area of approximately 0.6 km^2 and forms Gunung Ropih with a maximum elevation of 221 m. Its contact with the limestone country rock is very irregular and many dikes diverge outwards. The original rock type of the intrusive is described as a quartz porphyry, although it is not possible to determine accurately the original mineral composition because of extensive alteration, deep weathering and the lack of outcrops.

The Bau Limestone surrounding the intrusive stock is composed mainly of a massive, grey to dark grey, relatively pure limestone. The limestone is unevenly recrystallized to marble which is mainly developed to the south of Gunung Ropih.

Silicification is extensive in the southern part of Gunung Ropih where it is observed occurring mainly as networks of quartz veinlets. Chloritization is also dominant in this part. Probable weak potassic alteration occurs as a narrower zone just SW of the center of the stock. Argillization probably mainly as kaolinite and sericite alterations is also commonly observed in the north-central part. No distinct zoning of the alteration types as yet can be distinguished but from the distribution of the major alteration minerals, overlapping of the various alterations appears likely.

Mineralization observed in the floats which are scattered abundantly in the southwestern slope of Gunung Ropih consists mainlyof malachite, chalcopyrite, pyrite and molybdenite. Malachite partly stains some floats to a light green colour. The floats contain networks of quartz veinlets, commonly with a small amount of chalcopyrite and molybdenite, in the lower part of the slope. Chalcopyrite and pyrite occur as fine-grained disseminations in the quartz veinlets and in the quartz porphyry rock. Some chalcopyrite grains are oxidized to bornite. Molybdenite occurs as fine-grained disseminations or aggregates up to 5 mm across in quartz veinlets and in the quartz porphyry rock.

Analysis of 6 samples of mineralized floats carried out during Phase II gave a mean value of 0.1% Cu and 70 ppm Mo.

4–3 Geophysical Survey

4–3–1 Physical Property Measurement

In order to make a comprehensive interpretation of the geophysical prospecting results, it is first necessary to have a good background knowledge of the electrical properties of rocks found in the area. There are two ways to accomplish this purpose; in-situ determinations of geologically known materials and the measurements of the physical properties of rock samples in laboratory. In this survey, the latter method was applied due to the lack of outcrops in the survey area. Twenty-three comparatively fresh rock samples consiting of 10 limestone samples and 13 intrusive

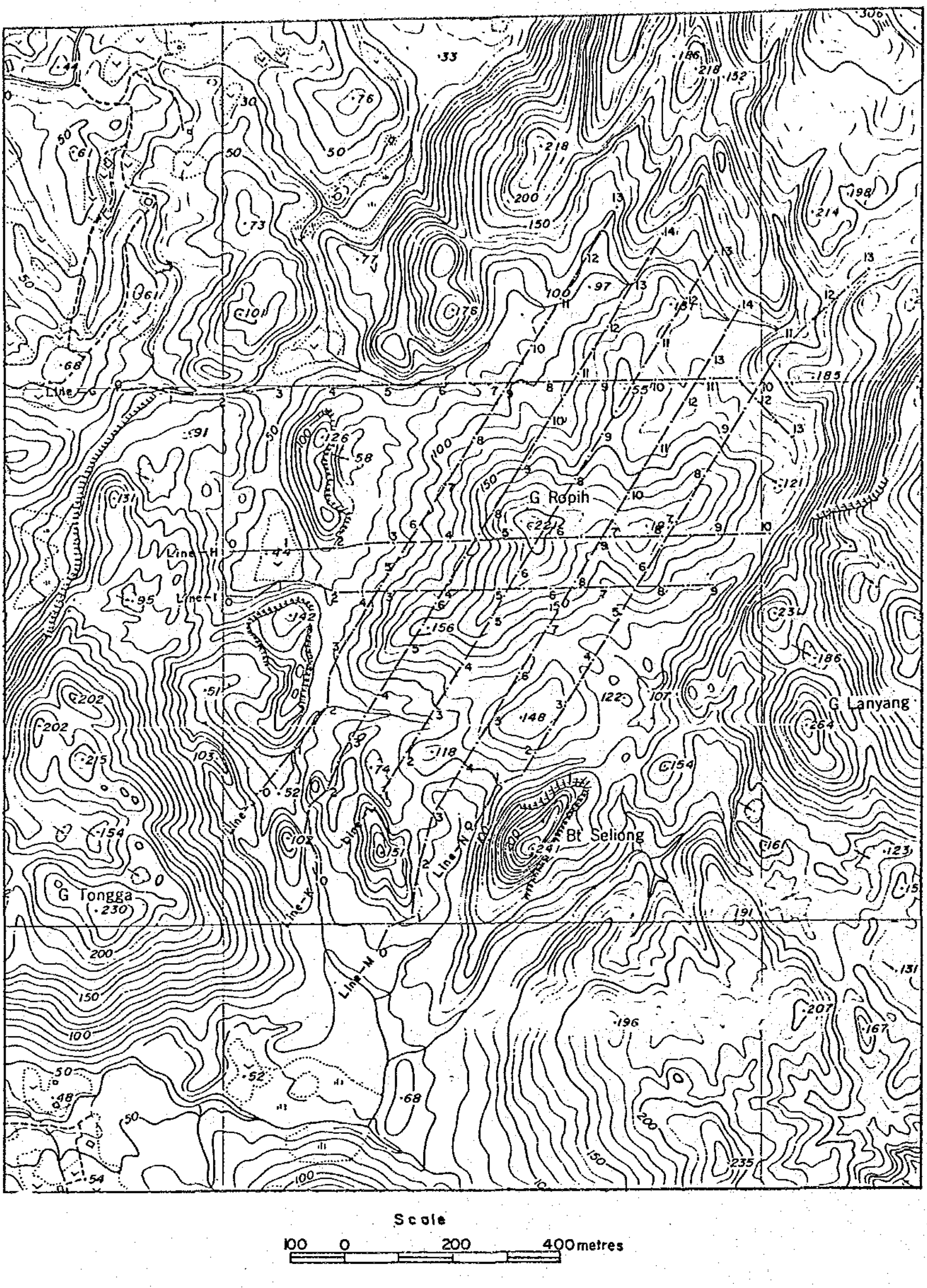


Fig. II-21 Geophysical Survey Lines, Gunung Ropih Area

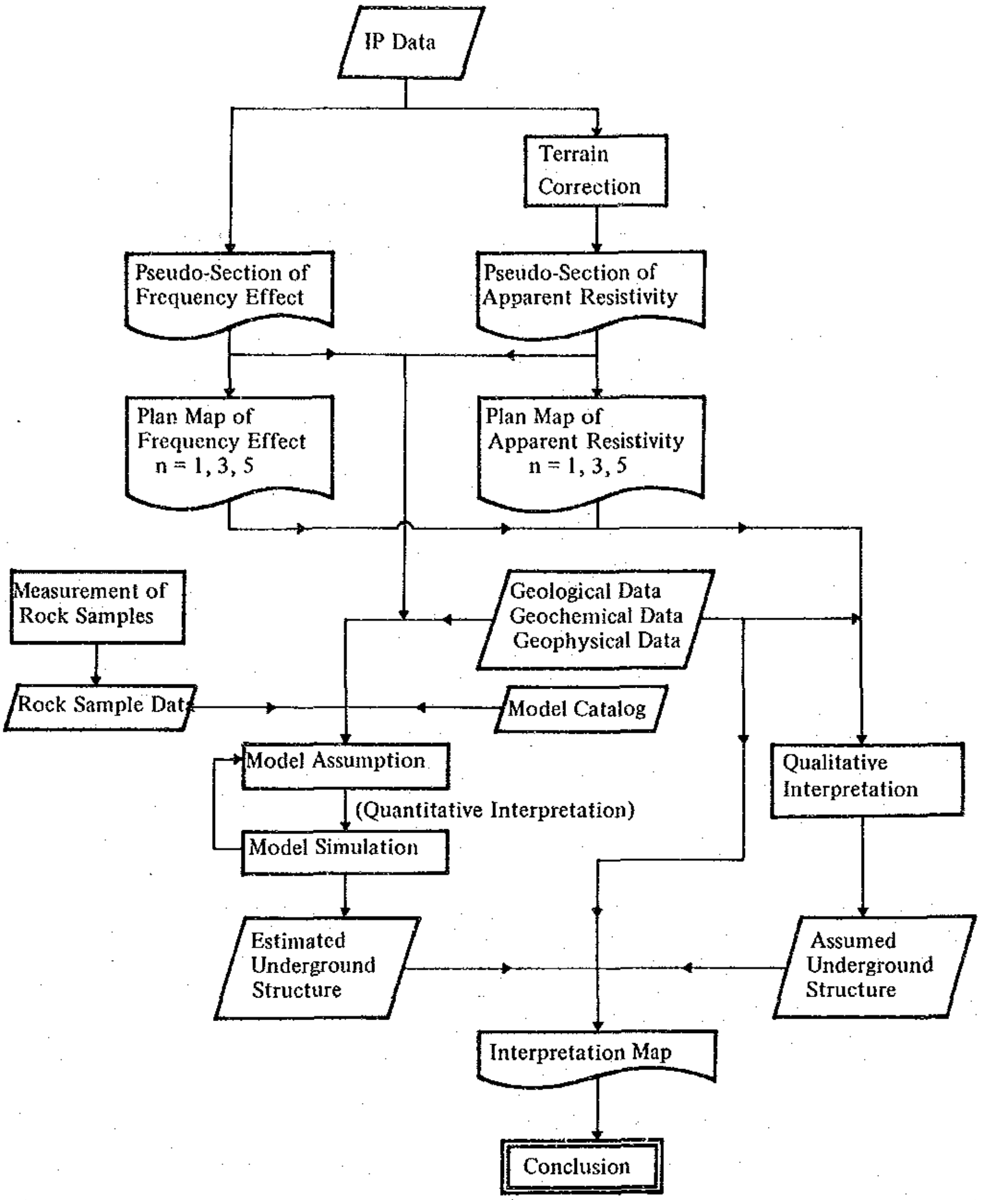
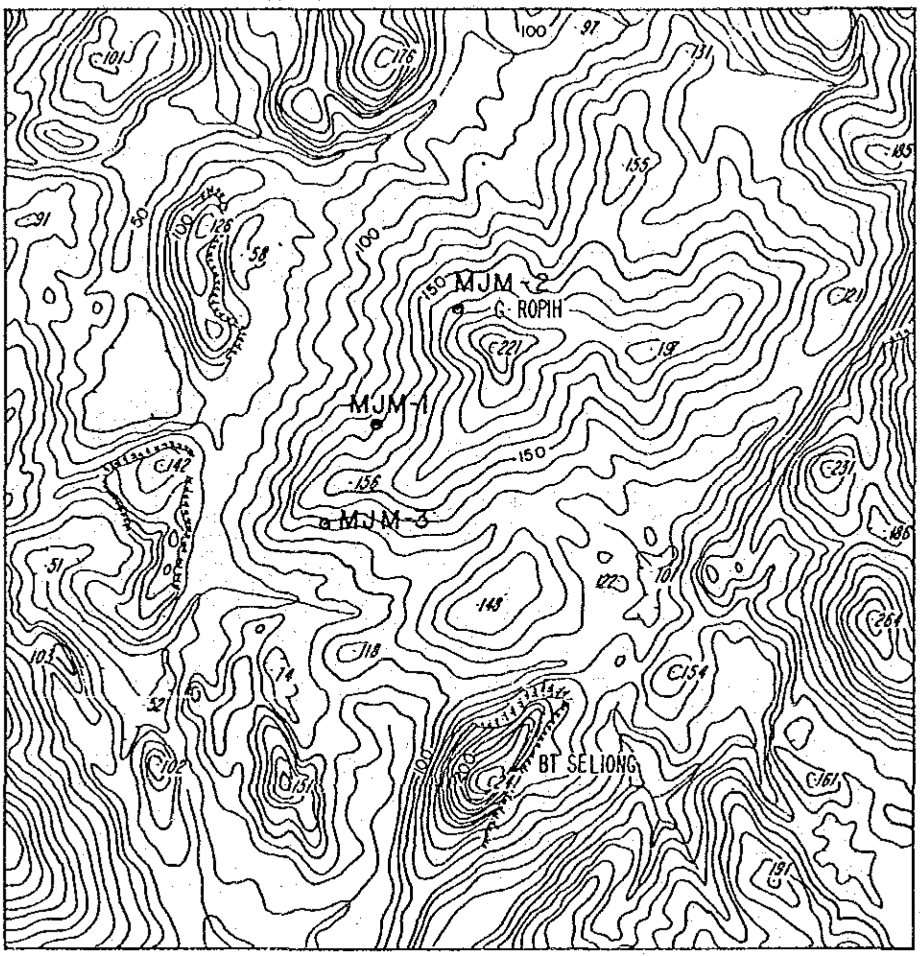


Fig. II-22 Flow Chart of I.P. Data Processing and Interpretation



Scale 1:10,000

MJM-1	total depth :	241·3m	vertical
MJM-2	" "	250·5m	vertical
MJM-3	" "	200·8m	vertical

Fig. II-23 Location of Drill Holes, Gunung Ropih Area

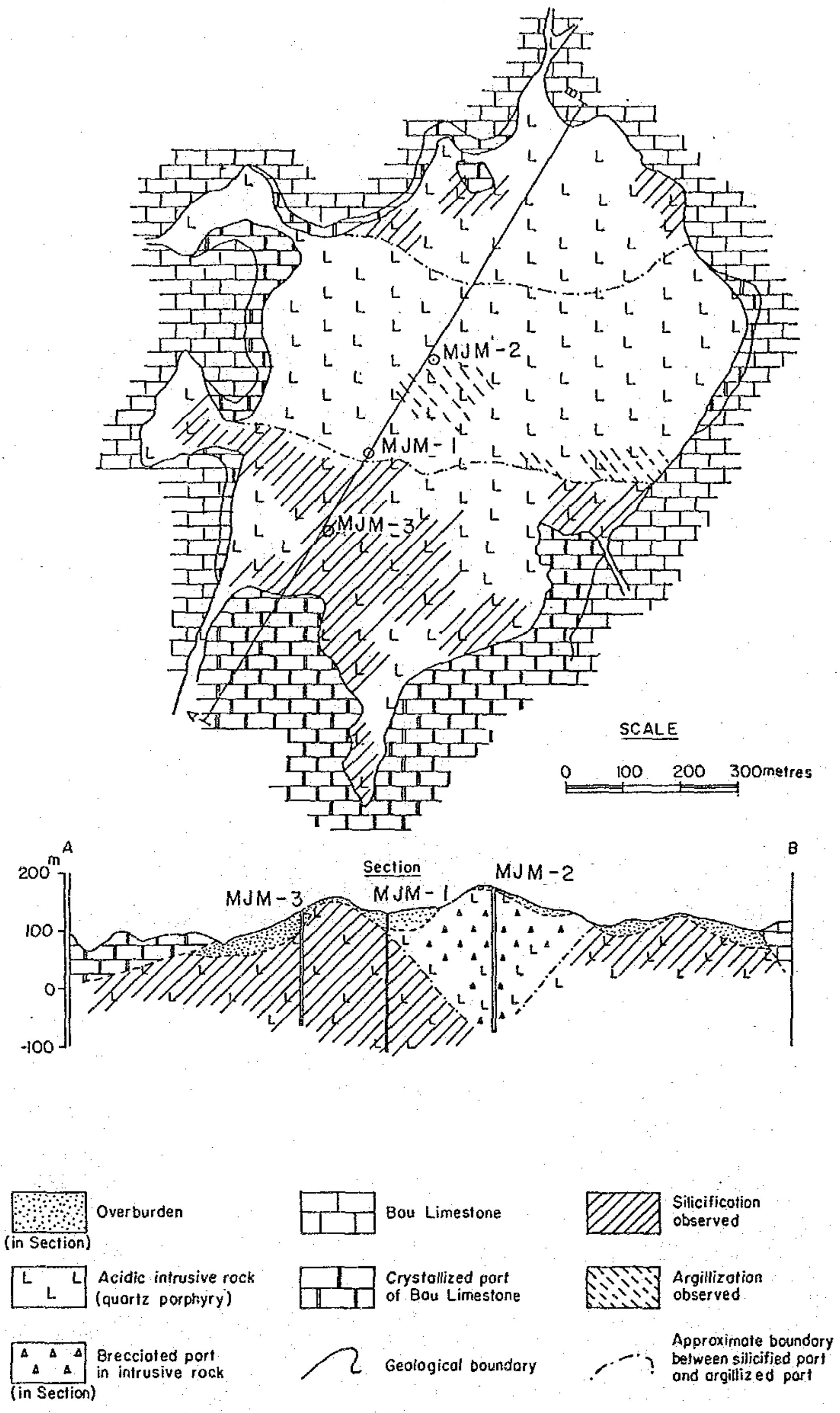


Fig. II-24 Geology of Gunung Ropih Area

rock samples were collected for the resistivity, percentage frequency effect (P.F.E.), specific gravity and magnetic susceptibility measurements.

Figure II–25 was constructed based on the results of the physical property measurements of the 23 samples collected in the field as shown in Table II–3.

From the table and figure, the following could be deduced:

i) Generally, limestone has high resistivity and specific gravity with low magnetic susceptibility and average P.F.E. values. The intrusive rock has low resistivity and specific gravity with high magnetic susceptibility and P.F.E. values.

ii) The resistivity values of the limestone range from 2523 to 150818 ohm-m and its specific gravity has a mean value of 2.7. The resistivity values for the intrusive rocks are about 1000 ohm-m with an exception of the rock sample WR522 which attained a maximum of 4686 ohm-m was attained. The specific gravity of the intrusive rock varies widely from 2.12 to 2.73.

iii) The mean values of the magnetic susceptibility and percentage frequency effect of the limestone are 40.0×10^{-6} e.m.u. per cm^3 and 2.0% respectively. However, those of the intrusive rock are generally variable, ranging from 33.0×10^{-6} to 726.0×10^{-6} e.m.u. per cm^3 in magnetic susceptibility and 1.2 to 5.0% in P.F.E.

4–3–2 Model Simulation

In analyzing the contour pattern of PFE and AR, IP model simulation is frequently used as skillful means. For the calculation, the section was divided into 2,750 elements and the assumed PFE and AR values were assigned to each element. A super computer CRAY–1 was used in the calculation by means of the finite element method (Fig. II–26).

4–3–3 Results of IP Survey

4–3–3–1 Section Analysis

The results are shown in Figures II–27 to II–34. Apparent frequency effect values range from –3.0% to 9.8%. Judging from the distribution pattern, FE values more than 4.0% were roughly defined as high FE anomalies. The apparent resistivity values range from 44 to 24,800 ohm-m are classified roughly into three group:

Low resistivity: less than 250 ohm-m

Moderate resistivity: 250 to 1,000 ohm-m

High resistivity: more than 1,000 ohm-m

Line G

A roof-shaped FE anomaly is detected in depth between stations 3 and 8 with a maximum of 6.0%. This anomaly is caused by a deep-seated body of considerable width. There is another anomaly in depth between station 8 and 10 with a maximum of 5.5% which is probably caused by a localized body.

Resistivity highs are observed to the west of station 3 and in depths between stations 3 and 5, and to the east of station 9. Otherwise, the resistivity values are generally less than 1000 ohm-m. The resistivity high to the west of station 3 corresponds to the limestone distribution on the surface. However, other resistivity highs are assumed to be due to the silicified parts of the intrusive rock.

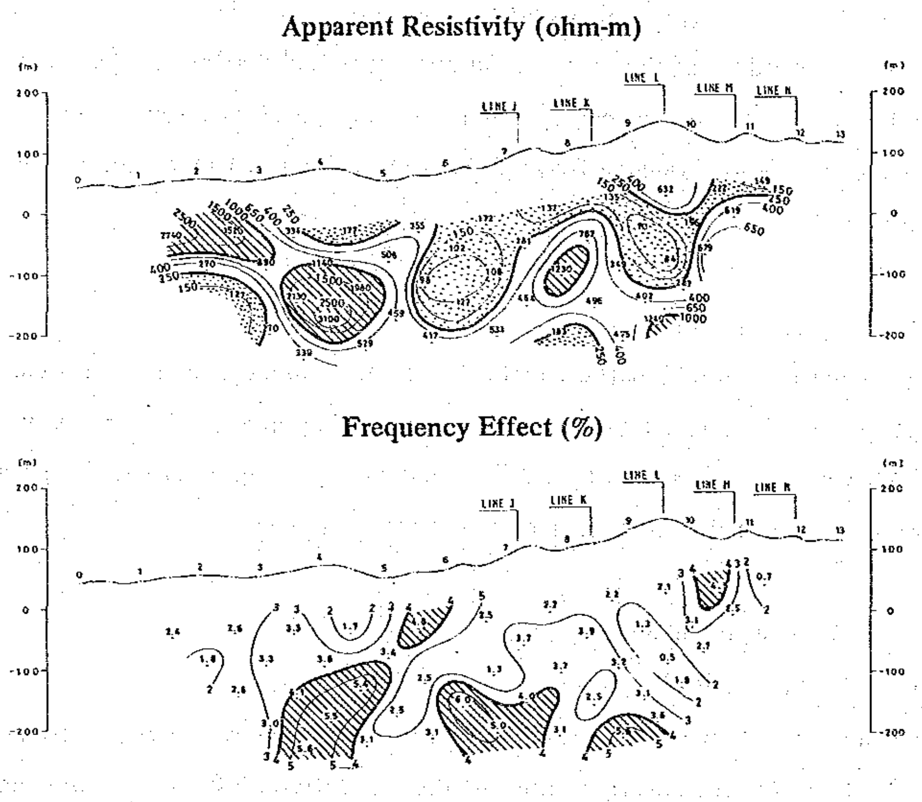


Fig. II-27 Pseudo-Section of Line G

Table II-3 Physical Properties of Rock Samples, Gunung Ropih Area

Sample Number	Location	Percent Frequency Effect (PFE) %	Resistivity e ohm-m	Specific Gravity σ	Magnetic Susceptibility K(x10^{-6}) e.m.u/cm^3	Description
WR501	Line G2.0	2.0	4457	2.70	41.0	Limestone
WR502	Line G5.5	2.5	2523	2.69	36.0	Limestone
WR503	Line G10.0	1.8	3701	2.69	52.0	Limestone
WR504	Line I0.0	1.8	4869	2.69	79.0	Limestone
WR505	Line I1.5	1.8	13633	2.70	47.0	Limestone
WR506	Line J0.0	1.9	91090	2.67	26.0	Limestone
WR507	Line J11.0	1.5	150818	2.70	35.0	Limestone
WR508	Line J13.0	2.3	41583	2.70	36.0	Limestone
WR509	Line K0.0	2.3	2716	2.71	22.0	Limestone
WR510	Line K3.5	3.0	2579	2.70	34.0	Limestone
WR511	Line G1.2	1.2	306	2.58	44.0	Pyritized Quartz Porphyry
WR512	Line G6.5	3.0	697	2.48	96.0	Pyritized Quartz Porphyry
WR513	Line G4.5	2.9	637	2.12	24.0	Altered Quartz Porphyry
WR514	Line M2.5	2.5	682	2.17	33.0	Altered Quartz Porphyry
WR515	Line J9.0	5.0	956	2.48	118.0	Pyritized Quartz Porphyry
WR516	Line M6.0	2.2	1539	2.58	726.0	Pyritized Quartz Porphyry
WR517	Line G5.0	3.0	912	2.56	114.0	Quartz Porphyry
WR518	Line G10.5	2.5	1335	2.53	64.0	Quartz Porphyry
WR519	Line J4.5	2.4	791	2.62	116.0	Quartz Porphyry
WR520	Line I5.5	2.3	1018	2.25	272.0	Quartz Porphyry
WR521	Line K10.5	1.8	939	2.58	280.0	Quartz Porphyry
WR522	Line L9.5	2.0	4686	2.73	118.0	Quartz Porphyry
WR523	Line M10.0	3.7	1701	2.61	104.0	Quartz Porphyry

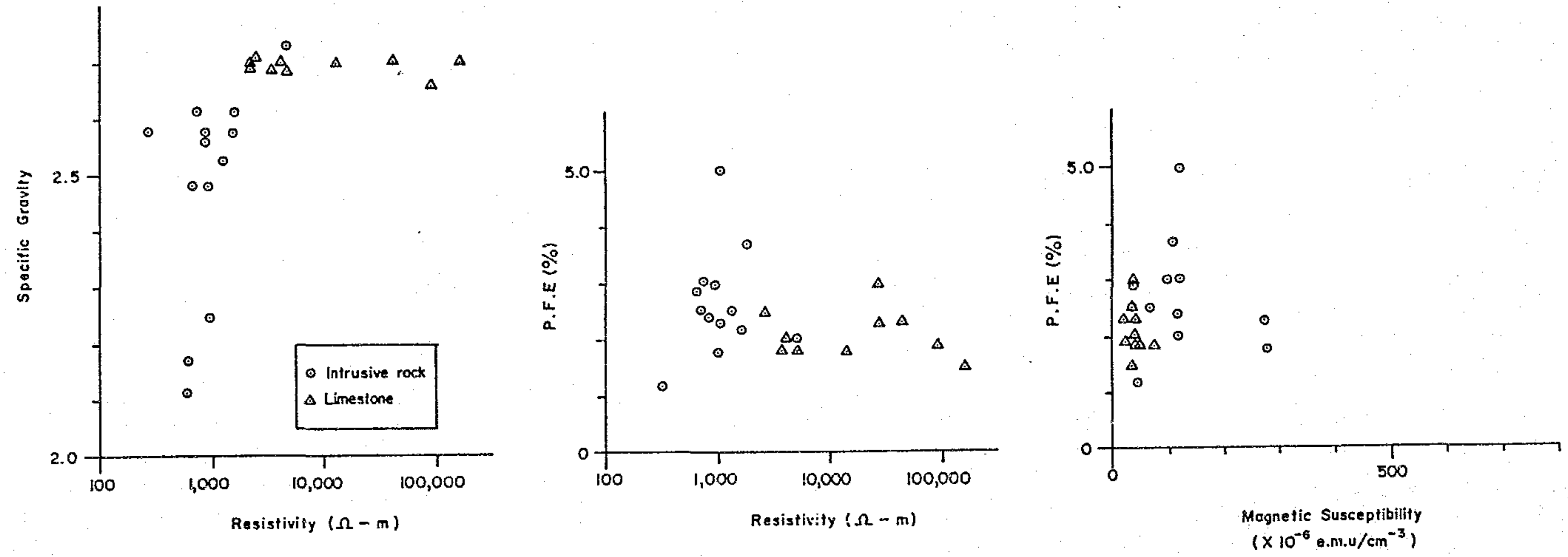


Fig. II-25 Relationships of Physical Properties of Rock Samples, Gunung Ropih Area

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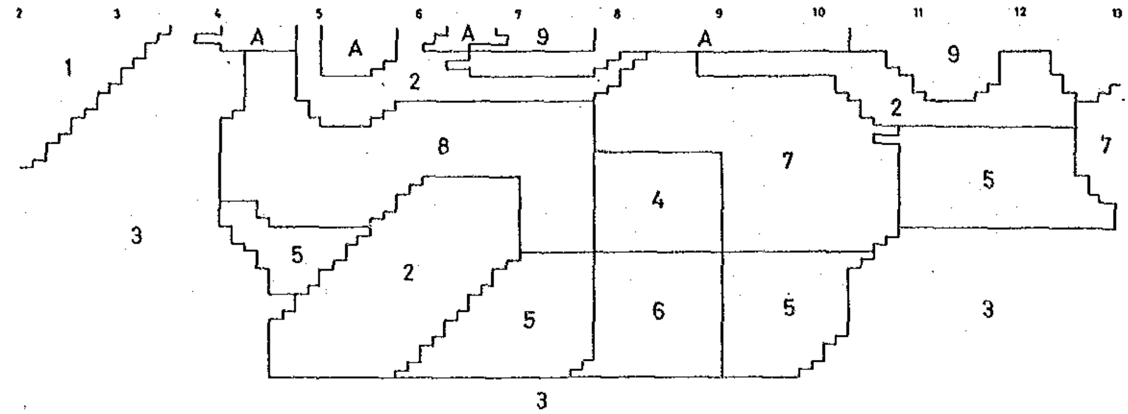
IP MODEL ON CODE

LINE-K MALAYSIA



CODE	1	2	3	4	5	6	7	8	9	A
RESISTIVITY (OHM-M)	6000	3000	3500	2500	2500	2500	300	100	100	100
FE (PERCENT)	6.5	6.0	7.0	5.0	3.0	7.0	3.5	2.0	3.5	5.0

RESULTS OF MODEL CALCULATION LINE-K MALAYSIA

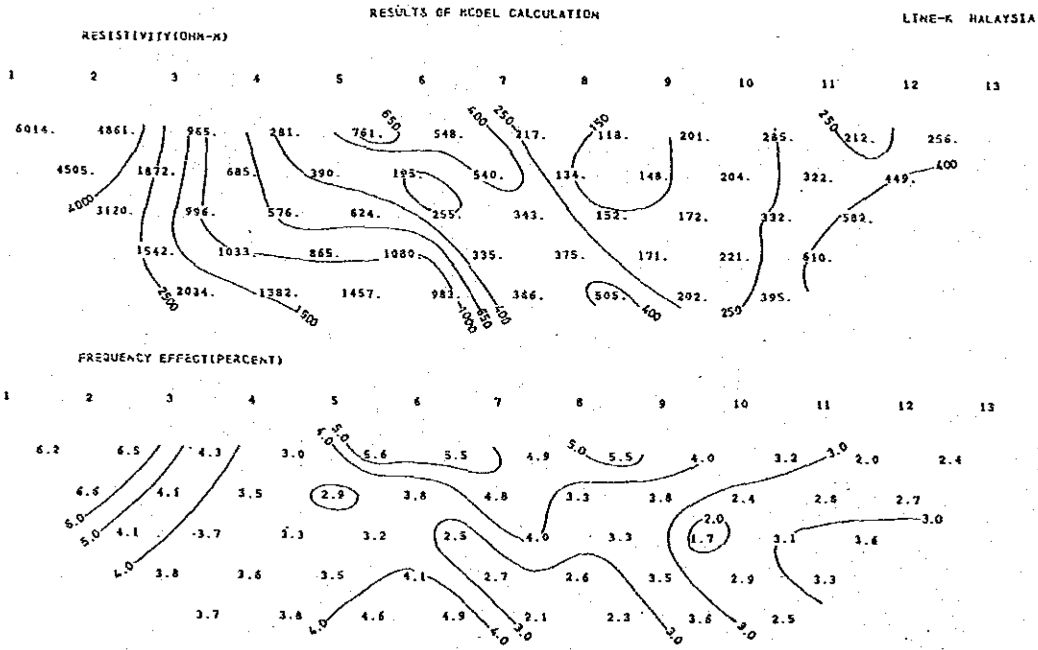


Fig. II-26 Result of I.P. Simulation

Line H

FE anomalies are detected at the surface around stations 4 to 8, at n = 3 around station 5 to 6.5 and in depth between 3 and 6. Judging from the pattern of the anomalies, a west dipping source from the surface at station 8 to depth below 3 and flat sources at n = 3 around station 5 to 6.5 and in depth between stations 5 to 6 are assumed.

Resistivity highs are observed to the west of station 2.5 and in depth between 4 and 6. The resistivity high to the west of station 2.5 has a maximum value of 3700 ohm-m which is caused by limestone distribution on the surface. However, another resistivity high observed at the centre of the line is located just below n = 2, with a maximum value of 2090 ohm-m. This resistivity high is caused by the west-dipping silicified part of the intrusive rock.

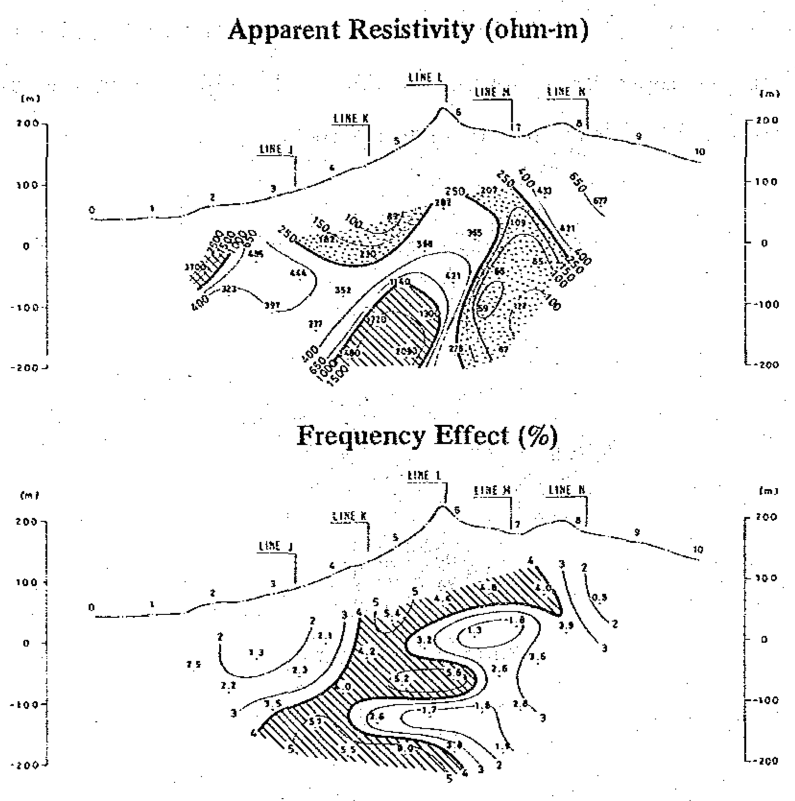


Fig. II-28 Pseudo-Section of Line H

Line I

FE anomalies are observed around the surface between stations 2 and 4.5, at n = 3 below 4 to 6 and in depth below 3 to 5. The surface anomaly attains a maximum value of 7.6%. The FE anomaly observed at n = 3 around stations 4 to 6 is caused by the same source as the one detected at n = 3 on Line H. The FE anomaly in depth between stations 3 and 5 seems to be the continuation of the one on Line H and both are observed to show resistivity highs. The body causing this anomaly is dipping east.

Resistivity highs are detected west of station 2 and in depth between 4 and 5.5. The contact between the resistivity highs and lows is distinctly detected from the surface at station 2 to depth below 5.5, dipping to the east. The resistivity in the eastern side of this contact is in the range of 46 to 520 ohm-m whereas that of the western side is in the range of 456 to 24,800 ohm-m. The resistivity high in depth below station 4 to 5.5 seems to be the continuation of that on Line H which is assumed to be caused by the silicified part of the intrusive rock. In both cases, the resistivity highs seems to be capped by FE highs. In other words, sulphide minerals causing IP effects appear to form a cap for the silicified part of high resistivity.

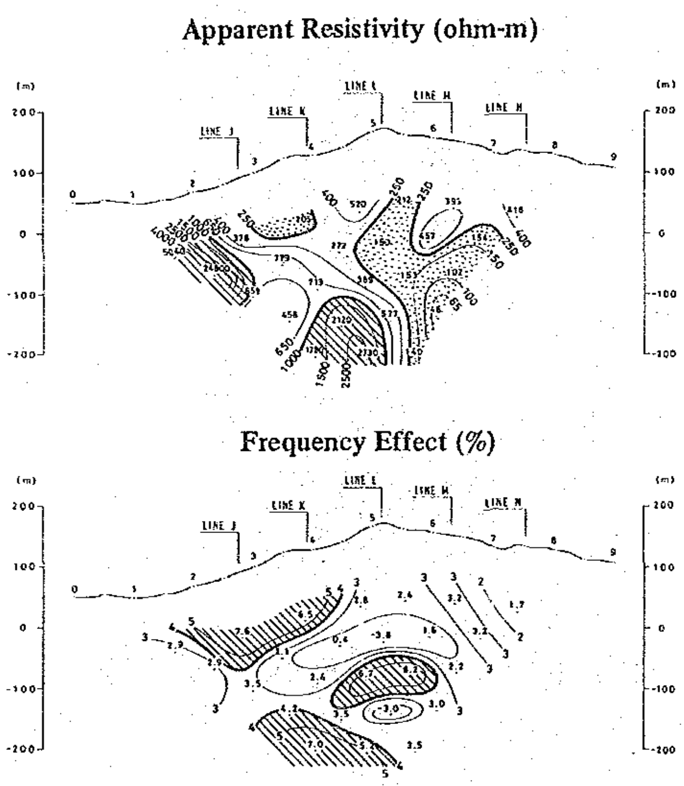


Fig. II-29 Pseudo-Section of Line I

Line J

A roof-shaped FE anomaly is detected at the surface around stations 5 to 10. Other anomalies observed are located to the south of 3.5 and in depth below 4 to 9. The surface roof-shaped anomaly is caused by a small and shallow body and at the southern end of the line it attains a maximum of 8.4%. However there is no attempt to elaborate on this anomaly as there is a lack of geophysical data to determine the cause of it. The deep FE anomaly is apparently caused by a north dipping source, judging from the pattern of the anomaly.

The resistivity values of more than 1000 ohm-m are observed around the surface to the south of station 3 and in depth below 3 to 6. The resistivity high to the south of 3 obviously corresponds to the limestone distribution. The deep resistivity high in this part is probably due to the silicified part in the intrusive rock. On the other hand, the resistivity in the northern side is generally low. The boundary between the resistivity high and low is observed from the surface at station 3 to depth below 6. It appears to be connected with the one on Line H. Judging from the pattern of the boundaries, the contact plane is estimated to be striking northwest and dipping to the northeast.

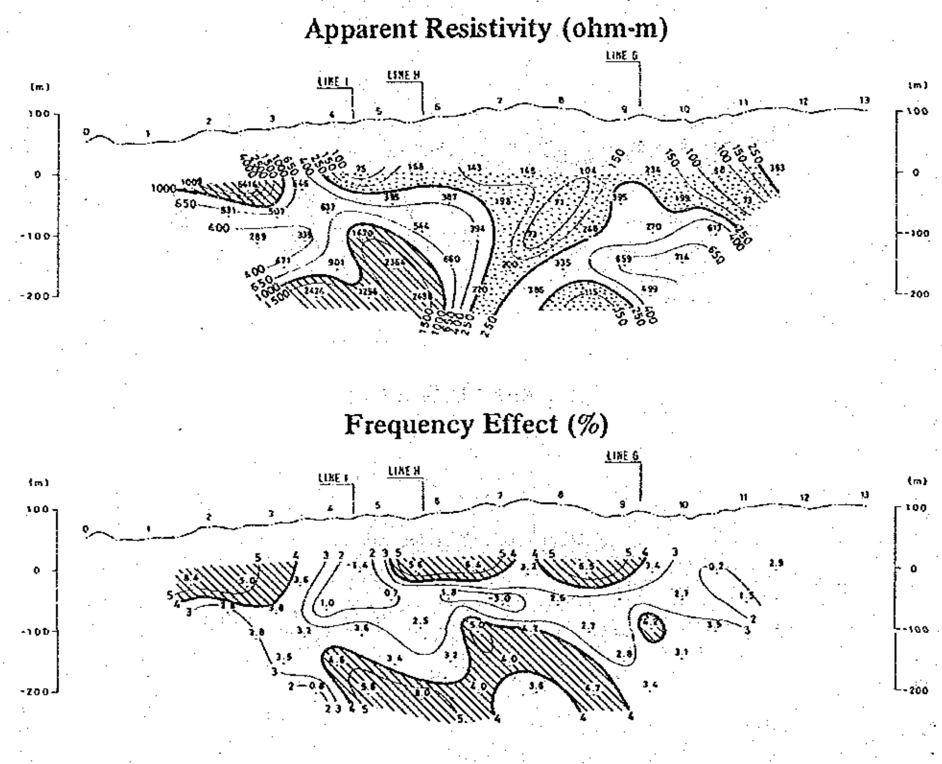


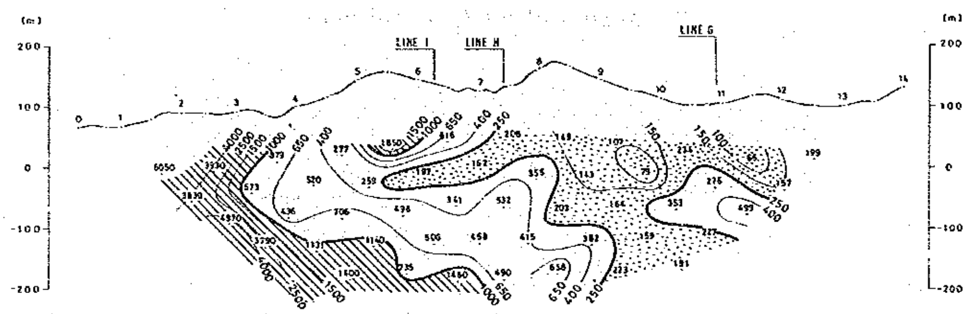
Fig. II-30 Pseudo-Section of Line J

Line K

A broad FE anomaly with a maximum value of 7.0% is detected south of station 4 and appears to extend to depth. It is the continuation of that at the southern end of Line J. The anomaly source is unknown for the same reason as that on Line J. A roof-shaped FE anomaly is also detected around stations 5 to 9 with maximum value of 5.6%. Since the northern half of the roof-shaped anomaly appears to extend in depth until n = 3 whereas the other half is observed only near the surface, the body causing the anomaly is inferred to be dipping to the north. Anomalies caused by horizontal sources are observed at n = 3 below station 7 on the northern side of the line. Other FE anomalies are detected in depths around stations 5 to 10 and they are assumed to be caused by localized bodies.

Generally, the results indicate resistivity highs in the south and resistivity lows in the north. The boundary is observed at the surface at station 4 extending to depth below 8. A localized resistivity high exists at the surface around station 5 to 6.5. At the surface south of station 4, the resistivity high is probably caused by limestone whereas in the intrusive rocks, they correspond to the silicified parts of the intrusive rock.

Apparent Resistivity (ohm-m)



Frequency Effect (%)

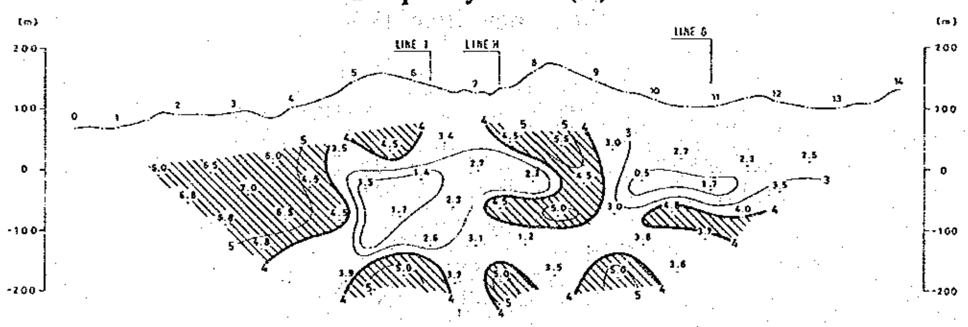


Fig. II-31 Pseudo-Section of Line K

Line L

Roof-shaped FE anomalies are detected at the surface between stations 4 and 9 and in depth between 7 and 10. The surface anomaly is caused by the same source as that detected on Line K, but is more intense, attaining a maximum value of 9.8%. The deep anomaly is assumed to be caused by a north-dipping source as it is observed to be more extensive in the northern half of the line. Two other anomalies are observed at n = 3 below stations 3 to 5 and 7 and are caused by small and localized bodies.

Generally the resistivity of this line is low, in the range of 44 to 679 ohm-m.

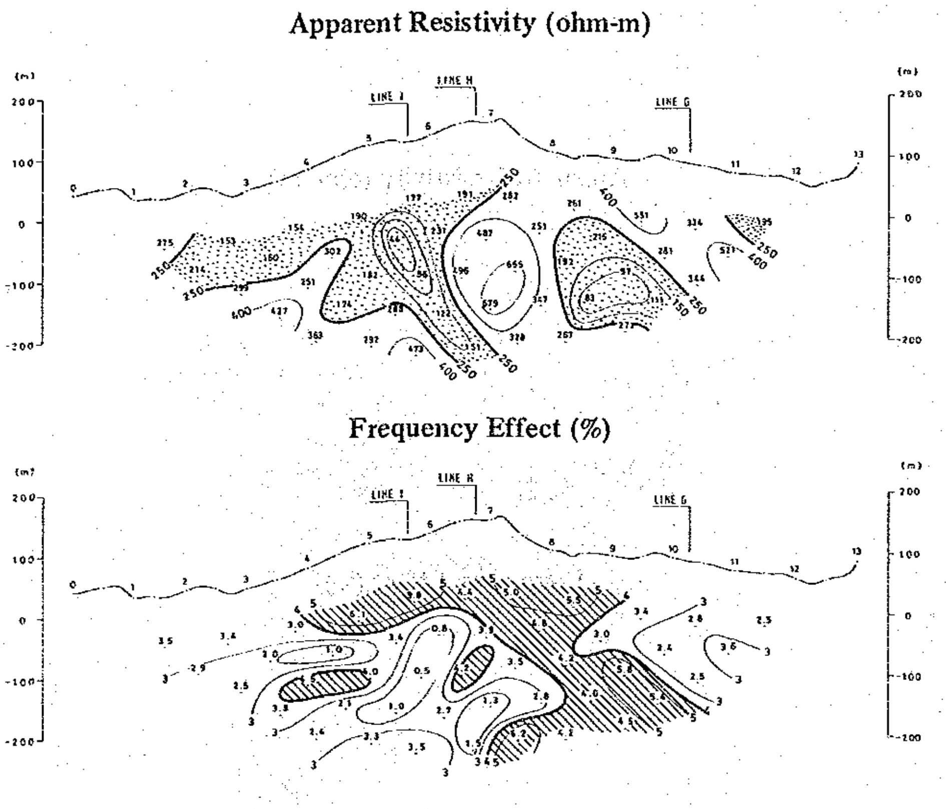


Fig. II-32 Pseudo-Section of Line L

Line M

A strong but small FE anomaly is observed at the surface between stations 8 and 10 with a maximum value of 7.7%. It is the continuation of that on Line L except that its width has decreased. A roof-shaped FE anoamly is detected in depth below station 9 and 11.5 and it is probably the continuation of that on Line L except that it is smaller. A localized FE anoamly is also observed in depth below 6 to 7. Except for the above mentioned, FE values along this line are generally very low.

Resistivity values range from 49 to 5270 ohm-m with highs observed at the surface around stations 10 to 11 and in depth below 3 to 6. The resistivity highs at the surface and in depth are dipping south and north respectively. Other than these resistivity highs, the resistivity along the line is generally low, in the range of 49 to 995 ohm-m.

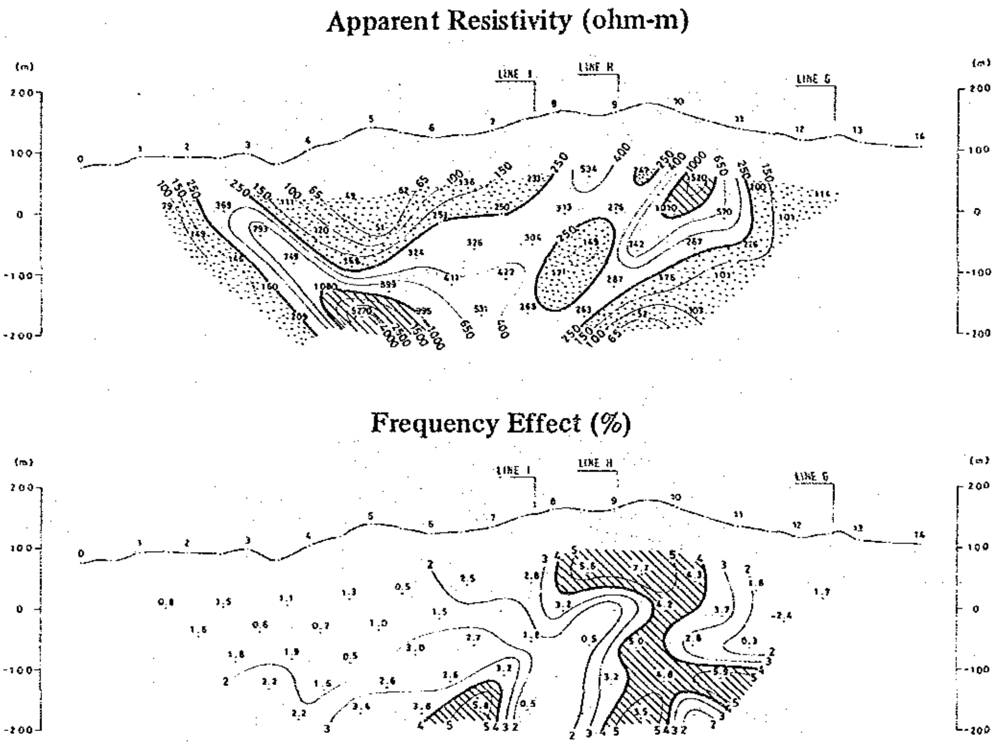


Fig. II-33 Pseudo-Section of Line M

Line N

No high FE anomaly is observed along this line except for weak localized anomalies at depths below stations 3 to 4, 5 to 7 and near the surface at 8.

The resistivity values range from 126 to 4870 ohm-m with an extensive area of high resistivity. Resistivity highs are observed in depth below stations 7 to 11, near the surface between 3 to 7 and at the surface south of 2. The latter is caused by limestone whereas the others are due to the silicified parts of the intrusive rock.

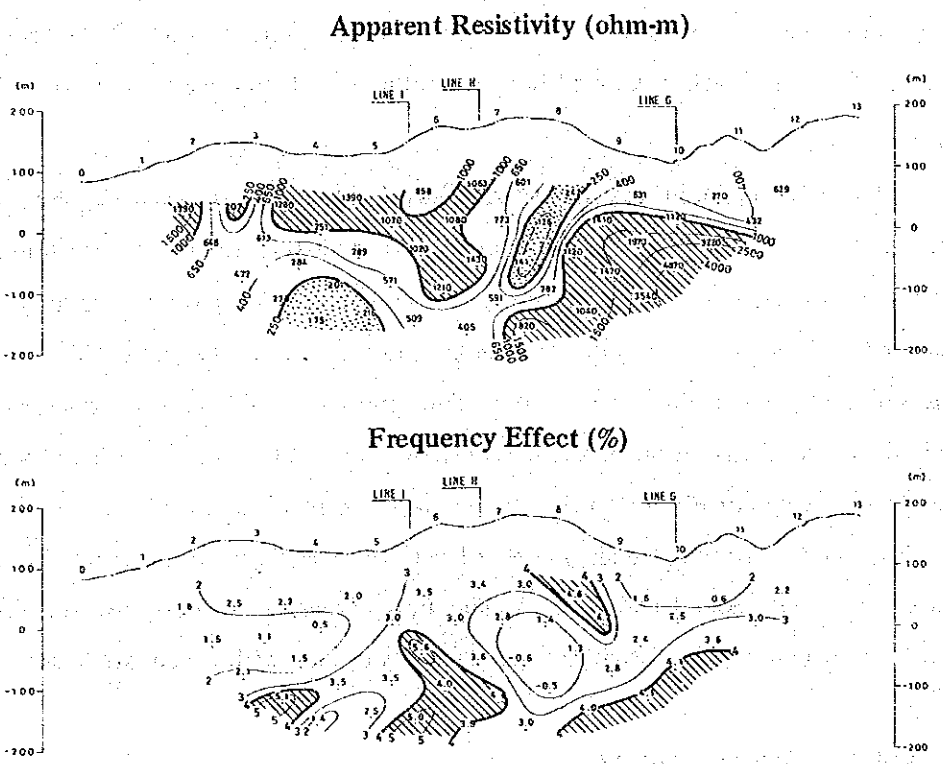


Fig. II-34 Pseudo-Section of Line N

4-3-3-2 Plane Analysis

Three types of plane maps as shown in Figure II-35, were constructed using the frequency effect and apparent resistivity values for the electrode spacing factors $n = 1$, 3 and 5. The maps for $n = 1$, 3 and 5 express the distributions of the FE and apparent resistivity corresponding to levels of approximately 100 m, 200 m and 300 m below the surface. The aim of the analysis is to delineate the horizontal extent of the IP anomalies and to evaluate approximately their vertical configurations.

Percentage Frequency Effect

The main FE anomalous zone obtained covers a wide area northwest of the line joining station 8.5 on Line N to station 1 on Line L. This anomalous zone is actually made up of two anomalies which is separated by a narrow FE low area. The anomaly located at the southwestern part is observed on the n = 1 plot and extends to n = 3, but because of insufficient data, its further extension with depth is not known. The other anomaly covers a wide area in the central part of the area. On the FE plan map for n = 1, it is observed to consist mainly of a pair of ENE trending FE highs separated by FE low 'window'. This anomaly is the horizontal expression of the surface roof-shaped anomalies detected in the sections of Line J, K and L. For n = 3 and n = 5, the northern FE high is well-developed but the southern FE high decreases in size.

Apparent Resistivity

The results of the apparent resistivity area show in general a low resistivity area surrounded by high resistivity, in the same manner as the intrusive rock is surrounded by limestone. There are however some small resistivity highs within the intrusive area. The plots of the apparent resistivity maps for n = 1, 3 and 5 all show some small apparent resistivity highs which are probably due to the silicified parts of the intrusive rock. The extensive resistivity low areas for n = 1, most probably indicate the distribution of the overburden. Those obtained for n = 3 and 5 cover smaller areas and most likely correspond to the altered clayey or brecciated parts of the intrusive rock. Resistivity lows show different trends at every level. The resistivity lows for n = 3 are separated by a moderate resistivity zone trending E–W. The more extensive resistivity low for n = 1 forms a broad NNE zone whereas the resistivity lows for n = 3 are small with no apparent trend.

4–3–4 Results of Magnetic Survey

8 lines with a total length of 9.9 km were surveyed using a portable magnetometer. The magnetic data of the area is shown in Figure II–36.

Magnetic values range from 334 to 827 gammas. Generally, the area can be divided into a magnetic high zone, in the south and magnetic low zone in the north. The small variations in magnetic values in the two zones are due to small local disturbances of the earth's magnetic field which arises from small local changes in magnetization or magnetization contrast. The general magnetization contrast, though small, between the northern and southern zones suggests that the intrusive rock may be composed of two different units.

The magnetic high observed in the southern part of the survey area probably corresponds to the contact between limestone and intrusive rock. There is no similar remarkable change in the

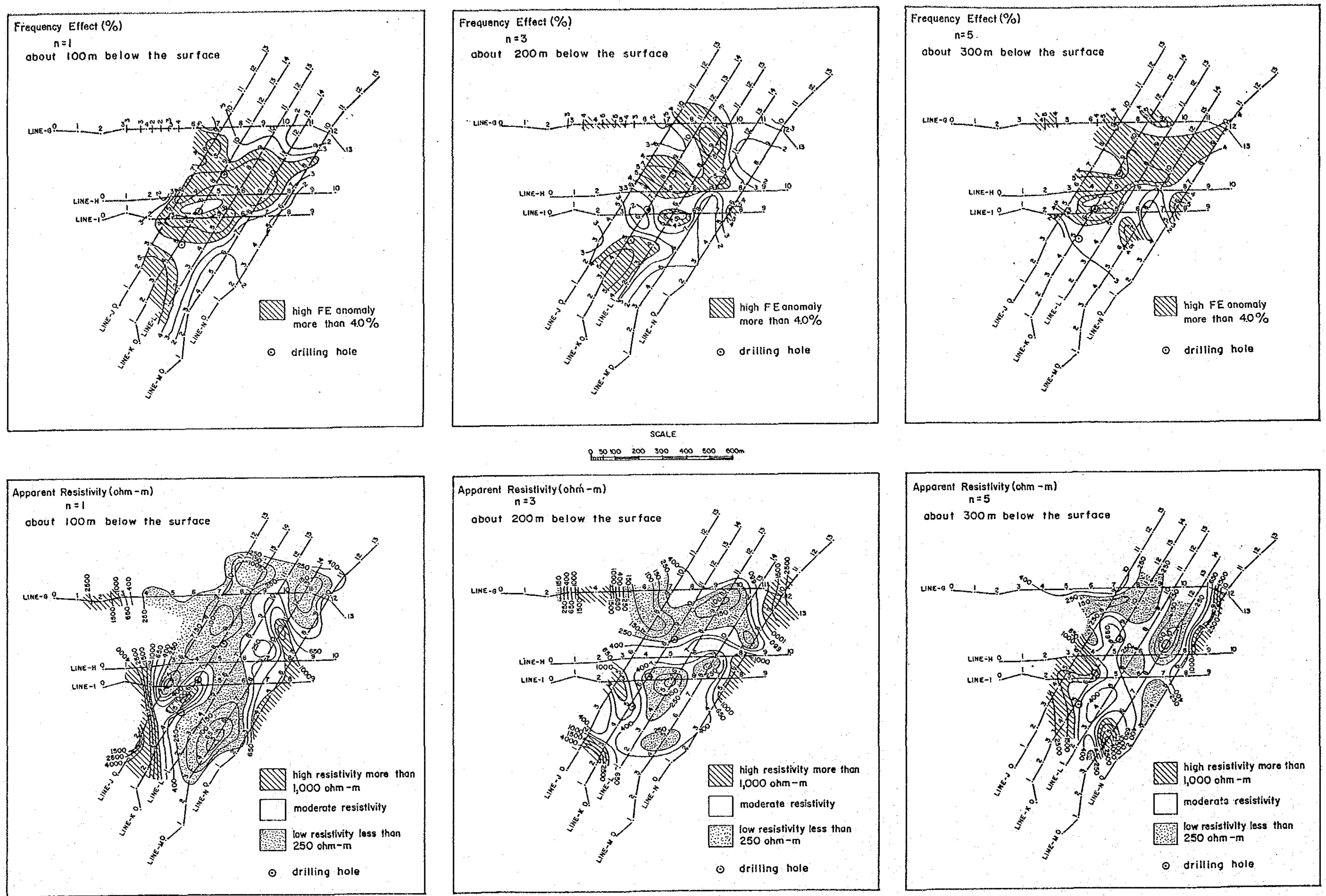


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Fig. II-35 Contour Maps of Freqrency Effect and Apparent Resistivity, Induced Polarization Survey, Gunung Ropih Area

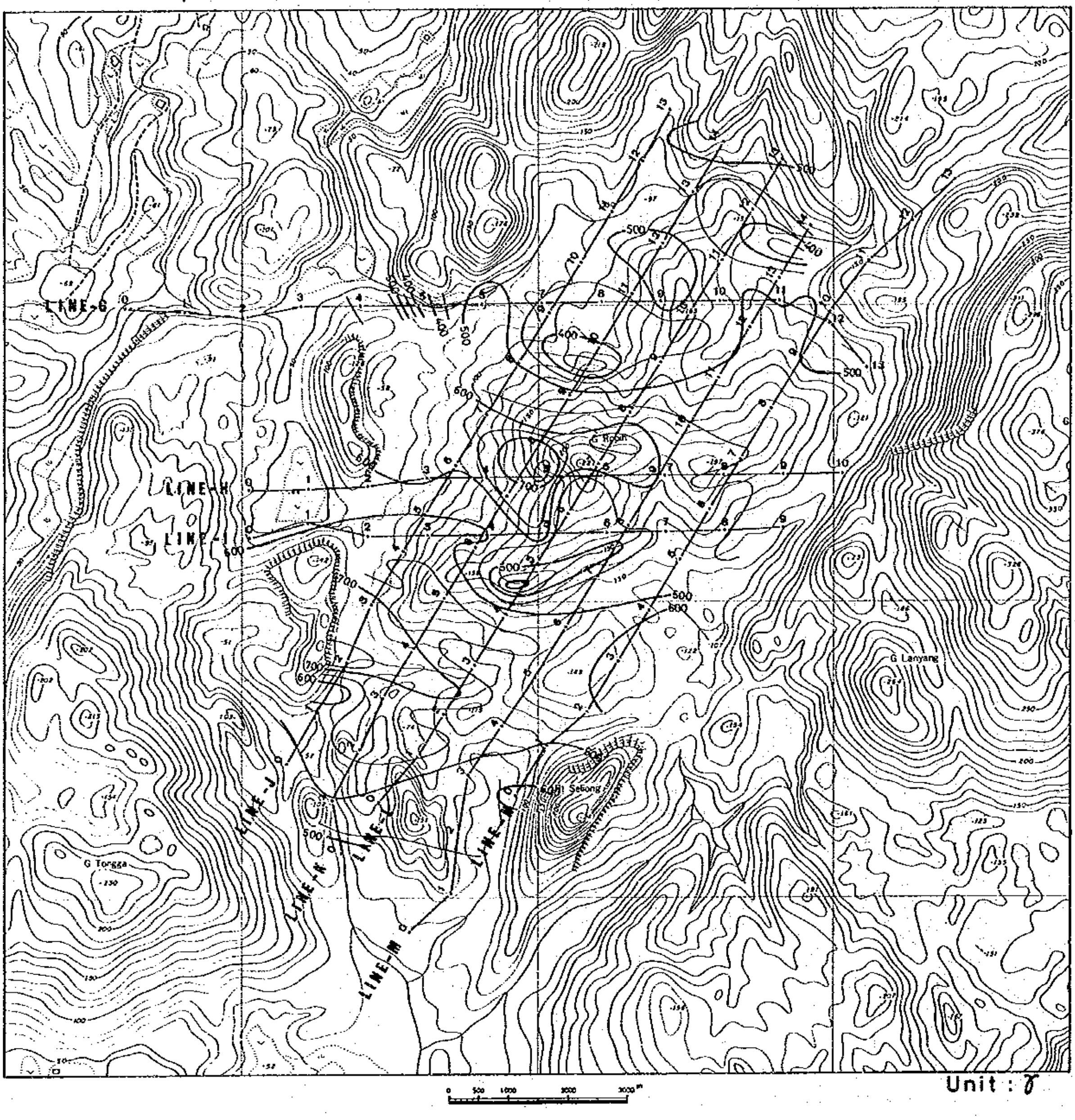

Fig. II-36 Magnetic Survey, Gunung Ropih Area

magnetic values in the northern magnetic low zone. A possible explanation is that the volumetric magnetic susceptibility of limestone and intrusive rock in the northern part is probably in the same range or the distribution of magnetic materials is almost the same in both rock types.

A localized magnetic high occurs at the central part of the survey area and has its centre at station 7.5 on Line K, with a maximum value of 747 gammas. The asymmetrical nature of the total field suggests that the magnetic body dips south. The asymmetry is primarily a resultant of the direction of the field lines of the local source and the earth's field-component of the total field. Based on slope techniques, the depth to the top of the magnetic source at the station is between 20 m to 75 m with a width of about 250 m.

4–3–5 Summary and Recommendations for Exploration Drilling

The results of the geophysical survey are summarized as follows:

1) There are three types of FE anomalies;
   - (i) the surface roof-shaped anomaly slightly elongated along a ENE direction with a maximum FE value of 9.8% which is widely distributed above a depth of about 100 m in the central part of the area.
   - (ii) the deep anomaly with an E–W trend and a maximum FE value of 8.0% which is observed around a depth of 200 m or more in the north-central part of the area, and
   - (iii) the shallow the deep anomaly with a maximum FE value of 8.4% which is observed in the southwestern part of the area.
2) There are two types of resistivity highs:
   - (i) the resistivity high surrounding a low resistivity area corresponding to the limestone distribution, and
   - (ii) the smaller resistivity highs observed in the intrusive rock which are probably due to the silicified parts of the intrusive rock.
3) The area may be generally divided into magnetic high zone in the south and a magnetic low zone in the north. Though the contrast is small, it suggests that the intrusive rock may be composed of two different units. The localized magnetic high which occurs at the central part of the survey area with its centre at station 7.5 on Line K is probably caused by a body with a width of about 250 m dipping south.

Based on the results, the following locations were recommended for exploration drilling:

(i) Between stations 6 and 7 on Line K at the centre of the shallow roof-shaped FE anomaly to investigate this anomaly and a region of low FE and moderate resistivity below.

(ii) Around station 8 on Line K to intersect the northern extension of the shallow, roof-shaped FE anomaly with low resistivity and a horizontal deeper anomalous FE source.

(iii) Between station 8 and 9 on Line L to a depth of at least 250 m to investigate the down dip extension of the roof-shaped fe anomaly in the NE direction.

(iv) At station 6 on Line N to a depth of at least 250 m to investigate the deep FE anomaly with moderate resistivity.

(v) Between station 1 and 2 on Line J to investigate the SW FE anomaly and its continuation with depth.

4–4 Exploration Drilling

Based on the geophysical results and taking into account the results of geochemical soil survey and geological observations including alteration studies, three vertical holes, MJM–1, MJM–2 and MJM–3 with a total depth of 692.8 m, were drilled in the western and south western slopes of the Gunung Ropih (Fig. II–23). Details of the drilling equipment, operation and drill logs are shown in Appendices 11–20. The geology and mineralization of each hole are described below and also summarized in Table II–4 and Figure II–37.

Drill Hole MJM–1 (Depth Drilled: 241.3 m)

Drill hole MJM–1 intersected acidic intrusive rock, probably quartz porphyry, which is highly silicified, brecciated and contains abundant quartz veinlets. The original texture of the intrusive rock has been obliterated by intense silicification in the form of quartz veinlets which appear to occur independent of the cracks produced as a result of brecciation. Silicification is the predominant form of alteration but chloritization and sericitization are also common except for the shallower part, above a depth of 31 m, which is intensely kaolinised and forms the overburden soil.

Quartz veinlets occur abundantly at depths of about 40 m to 110 m and 140 m to 200 m. Below 200 m, however, they gradually decrease in abundance and no quartz veinlets are observed near the bottom of the drill hole.

These quartz veinlets are informally classified into two types, namely micro-veinlets which are thinner than 1 mm and veinlets which are thicker than 1 mm. The former is earlier than the latter.

Veinlets of skarn composed mainly of andradite, chlorite, epidote, wollastonite, quartz and calcite, are also found as irregular streaks throughout the entire core section. They were produced later than the quartz veinlets as they are found filling cracks which cut the quartz veinlets.

Ore minerals observed in this hole are composed mainly of chalcopyrite and pyrite, a small amount of pyrrhotite and rare bornite, chalcocite(?), molybdenite and sphalerite(?). Most of these minerals are very fine-grained, less than 1 mm across, particularly chalcopyrite and molybdenite which are mostly about 0.1 mm across. In general, chalcopyrite associated with pyrite occurs dominantly where quartz veinlets are intensely developed. Microscopically, however, chalcopyrite is disseminated more in micro-cracks than in the quartz veinlets themselves. The larger chalcopyrite grains especially are associated more with andradite filling the cracks.

Pyrrhotite is disseminated in micro-cracks below the depth of 150 m and is frequently accompanied by pyrite and chalcopyrite.

Rare spots of bornite in the intrusive itself is observed at about the 50 m depth. The boundaries of some bornite grains are probably oxidized to dull black chalcocite.

Rare sphalerite is observed at a depth of about 70 m, together with veinlets containing andradite.

Analytical results of core sections where higher Cu grades are expected are as follows:-

(i) Silicified and brecciated intrusive rock accompanied by a small amount of bornite.

Depth (m)	Au (g/t)	Cu (g/t)	Mo (ppm)
43.4 – 45.0	tr.	0.15	27

(ii) Intrusive rock accompanied by patches of skarn minerals with chalcopyrite and pyrite.

Depth (m)	Au (g/t)	Cu (g/t)	Mo (ppm)
65.0 – 73.0	tr.	0.15	79

(iii) Intrusive rock with dissemination of chalcopyrite and pyrite and accompanied by rare quartz veinlets.

Depth (m)	Au (g/t)	Cu (g/t)	Mo (ppm)
121.0 – 125.0	tr.	0.06	68

(iv) Intrusive rock accompanied by quartz veinlets with chalcopyrite and pyrite.

Depth (m)	Au (g/t)	Cu (g/t)	Mo (ppm)
137.0 – 145.0	tr.	0.17	59

(v) Intrusive rock accompanied by quartz veinlets with pyrrhotite, chalcopyrite and pyrite.

Depth (m)	Au (g/t)	Cu (g/t)	Mo (ppm)
160.0 – 190.0	tr.	0.19	57

(vi) Silicified and brecciated intrusive rock with disseminations of chalcopyrite, pyrrhotite and pyrite and accompanied by rare quartz veinlets.

Depth (m)	Au (g/t)	Cu (g/t)	Mo (ppm)
228.0 – 230.0	tr.	0.13	55

The average grades of the main mineralized parts are as follows:

Depth (m)	Au (g/t)	Cu (g/t)	Mo (ppm)
139.0 – 190.0	tr.	0.18	15

Drill Hole MJM–2 (Depth Drilled: 250.5 m)

The section intersected by MJM–2 is also composed of quartz porphyry, which is mostly brecciated. However, this hole differs greatly from MJM–1 even though it is only 200 m away. It is characterized by argillization, mostly kaolinitization, rather weak silicification and the absence of quartz veinlets.

The cracks are generally filled by calcite in place of quartz. However, the distribution of calcite veinlets are rather patchy and discontinuous.

Ore minerals observed consist of abundant pyrrhotite and pyrite, a small amount of galena, sphalerite and malachite and rare chalcopyrite. Pyrrhotite, of about 1 mm across, is equally disseminated in the rock and along the cracks accompanied by calcite. Most of the pyrite occurs with calcite in the cracks and some are also disseminated in the rock itself. It is observed commonly at a depth of about 100 m, rarely around the 150 m depth and commonly near the bottom of the drill hole. Galena and sphalerite grains are about 1 to 5 mm across and are closely associated with calcite in the shallow part to about the 70 m depth and below 200 m. Malachite stains rock fragments which are sub-rounded and fringed with fine-grained pyrrhotite. Such fragments are not so abundant but they are observed in many places.

Rare chalcopyrite occurs as disseminations of very fine grains only around the 40 m and 90 m depths accompanied by pyrite.

The analytical results of the core in which in little chalcopyrite is observed are as follows:

Depth (m)	Au (g/t)	Cu (g/t)	Mo (ppm)
35.0 – 45.0	tr.	tr.	7
85.0 – 95.0	tr.	tr.	10

MJM–3 (Depth Drilled: 201.0 m)

The section of drill hole MJM–3 is composed of a similar acidic intrusive rock, intensely silicified with a considerable amount of quartz veinlets. It is similar to drill hole MJM–1 though brecciation of the rock is not extensive.

Besides intense silicification, sericitization and chloritization are commonly observed. Sericite mainly replaces feldspar phenocrysts. Most of the chlorite occurs as replacement of hornblende phenocrysts though some occur as veinlets filling cracks. Quartz veinlets are dominantly developed above the 130 m depth. They are roughly classified into two types in the same way as those of drill hole MJM−1. Skarn veinlets consisting of andradite, chlorite, epidote, wollastonite, quartz and calcite are also observed filling cracks.

Ore minerals are composed predominantly of chalcopyrite and pyrite, a small amount of pyrrhotite and hematite and rare bornite and malachite. Chalcopyrite and pyrite occur as disseminations of very fine grains in quartz veinlets and in cracks. Chalcopyrite also occurs as rare, irregular streaks of 5 mm width, associated with chlorite filling cracks at a depth of 107.5 m. Pyrrhotite is disseminated along cracks around a depth of 70 m to 90 m and 160 m to 180 m. Hematite forms a banded structure with quartz and chlorite.

Rare bornite occurs as disseminations of very fine grains in the country rock about a depth of 160 m and rare malachite is observed in argillized rock at a depth of 90 m to 95 m.

The average grades of the main mineralized part containing quartz veinlets are as follows:

Depth (m)	Au (g/t)	Cu (g/t)	Mo (ppm)
50.0 − 114.0	tr.	0.23	31

Table II-4 Summary of Drill Logs

		Drill Hole MJM-1 (6.5 of Line K)	Drill Hole MJM−2 (8.3 of Line K)	Drill Hole MJM-3 (5.0 of Line K)
Rock Type		acidic intrusive rock partly brecciated	acidic intrusive rock mostly brecciated	acidic intrusive rock rarely brecciated
Alteration		silicification, sericitization, chloritization	argillization (kaolinitization)	silicification, sericitization chloritization
Minerals forming veinlets	Major	quartz	calcite	quartz
	Minor	andradite, wollastonite, chlorite, epidote, calcite	−	andradite, wollastonite, chlorite, epidote, calcite
Ore minerals	Major	Chalcopyrite, pyrite	pyrrhotite, pyrite	Chalcopyrite, pyrite
	Minor	pyrrhotite, bornite, chalcocite (?) molybdenite, sphalerite (?)	galena, sphalerite, malachite, chalcopyrite	pyrrhotite, hematite, bornite, malachite
Main Cu-mineralized Sections		139 mm − 190 m (0.18% Cu)	−	50 m − 114 m (0.23% Cu)
Sections with relatively high total sulphide content		60 m − 120 m and 150 m − 190 m	above 100 m and below 230 m	50 m − 110 m

4–5 Discussion

4–5–1 Lateral Zoning of Metal Distribution

From the results of the geochemical soil survey conducted during Phase II, a zonation of metal distributions is distinguishable. The zone in the southern and eastern parts of Gunung Ropih, where Cu and Mo are enriched, surrounded and overlapped marginally, especially in the east, by a zone of Pb enrichment. Figure II–38 shows the distributions of Cu, Pb, Zn, Mo, Au and Ag in soil of the Gunung Ropih Area. Cu–Mo and Pb show clear zonation. The zone of Cu–Mo enrichment is also observed to coincide largely with the area of silicification mainly in the form of networks of quartz veinlets (Fig. II–24).

This pattern is supported by the results of the core logs of the 3 drill holes (Fig. II–39). In drill holes MJM–1 and MJM–3 located in the southwestern part, chalcopyrite and intense silicification are commonly observed but gelana is rare whereas in drill hole MJM–2 situated just north of Gunung Ropih in the Pb anomalous area, chalcopyrite and quartz veinlets are rare but galena is common.

4–5–2 Vertical Zoning of Metal Distribution

From Figure II–37 which shows the distribution of Cu and Mo contents in the drill holes, Mo in MJM–3 is seen to be increasing gradually with depth but not in MJM–1. On the other hand, Cu content below a depth of 100 m in MJM–3 is observed to decrease with depth but in MJM–1 is quite constant throughout the hole. In MJM–2, zoning of ore minerals is not observed as can be seen from Figure II–39.

Combining both the lateral and vertical zonations discussed, a three dimensional zonation for Cu and Pb with a centre located just south of MJM–3 may be approximated. It is estimated that the northern boundary between the Cu and Pb enriched zones apparently dips north at a high angle.

4–5–3 Occurrence of Pyrrhotite

Though pyrrhotite occurrence is quite unique in mineralization of the porphyry copper type, it is common in the drill holes of the Gunung Ropih area especially in hole MJM–2. Pyrrhotite is observed below 130 m in the MJM–1, throughout MJM–2 and below 160 m in MJM–3. Connecting the 3 upper limits of the pyrrhotite occurrence, this surface apparently dips south. Though

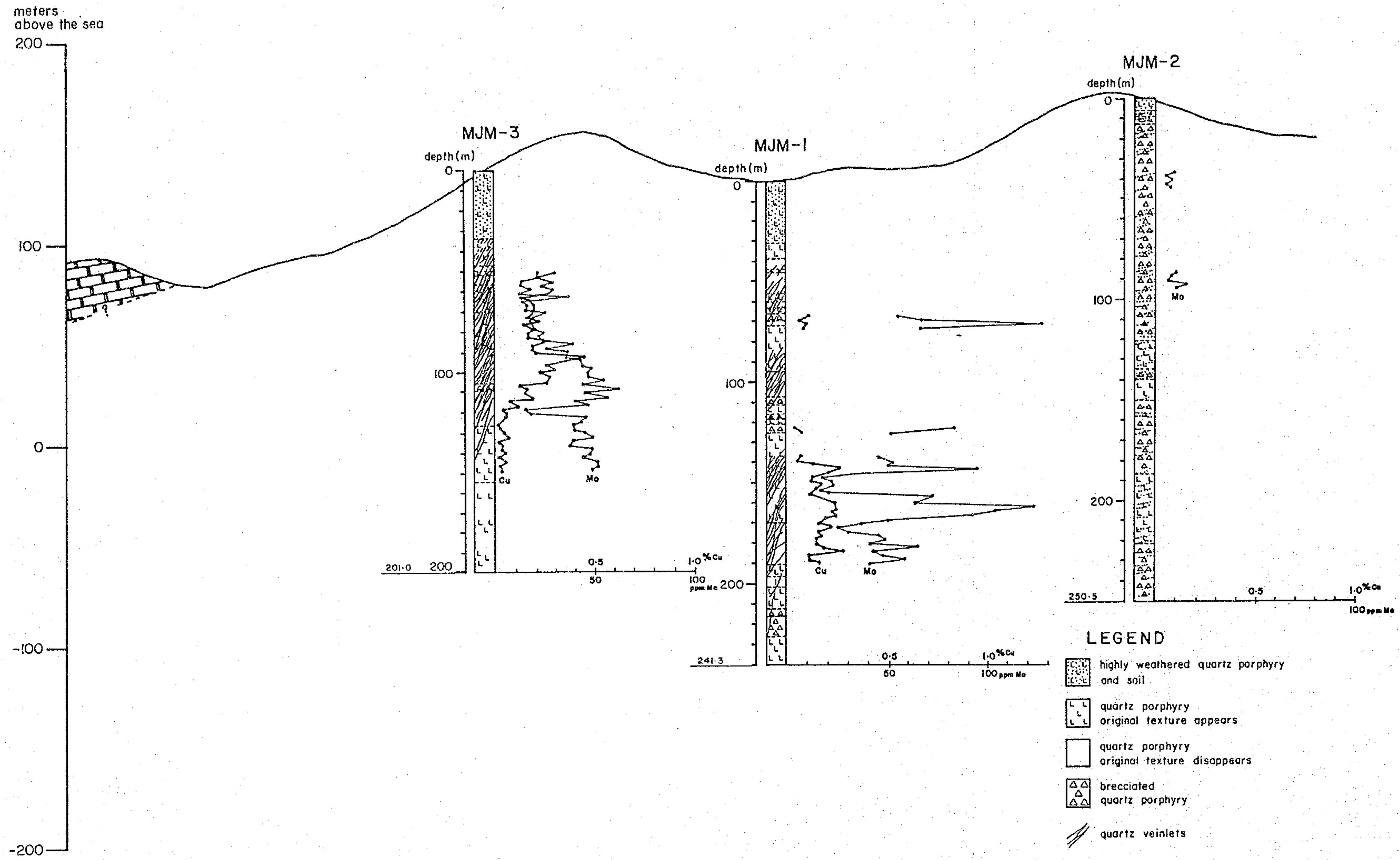

Fig. II-37 Cu and Mo Contents, Drill Holes MJM-1, MJM-2 and MJM-3, Gunung Ropih Area

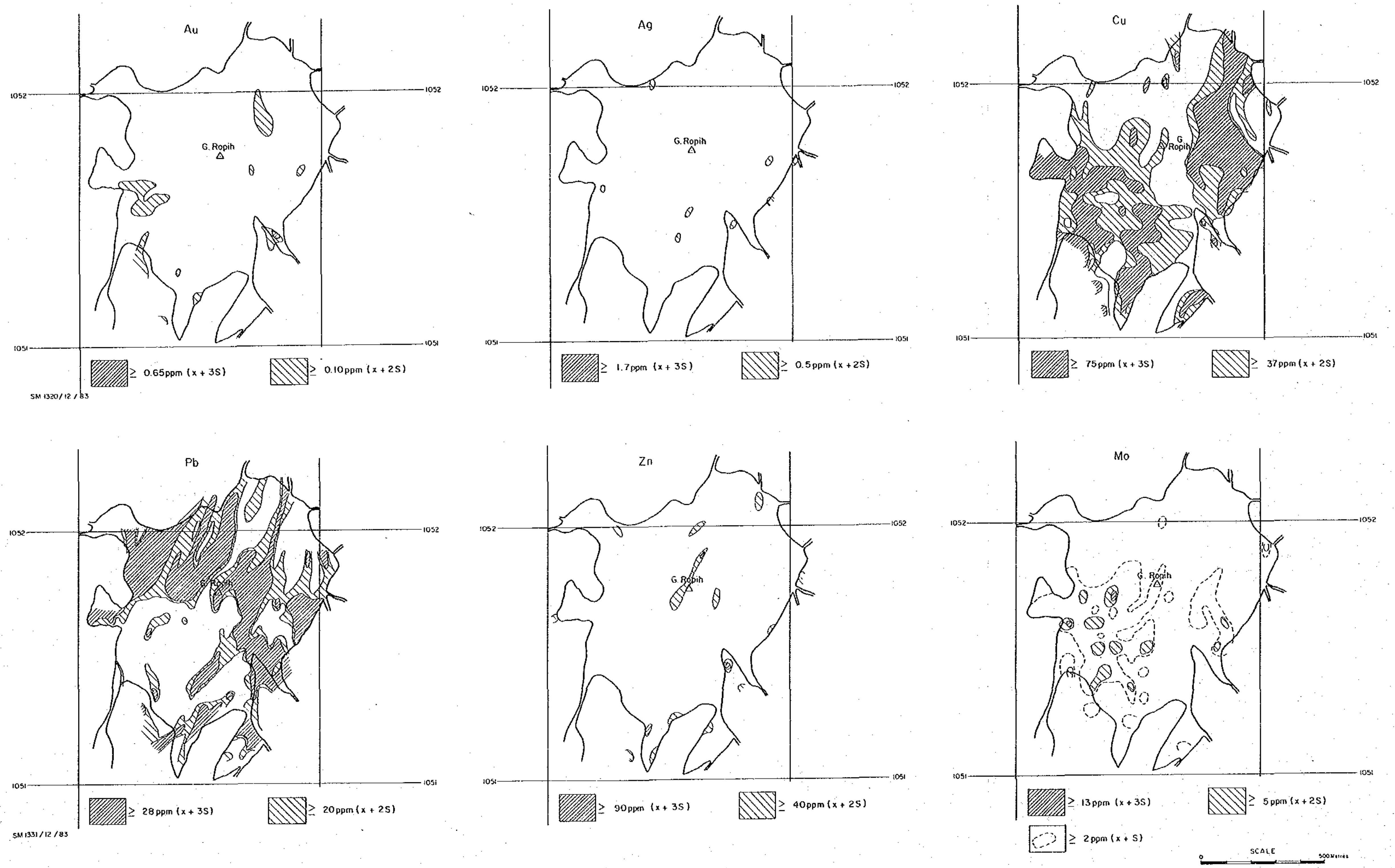

Fig. II-38 Results of Geochemical Soil Survey, Gunung Ropih Area

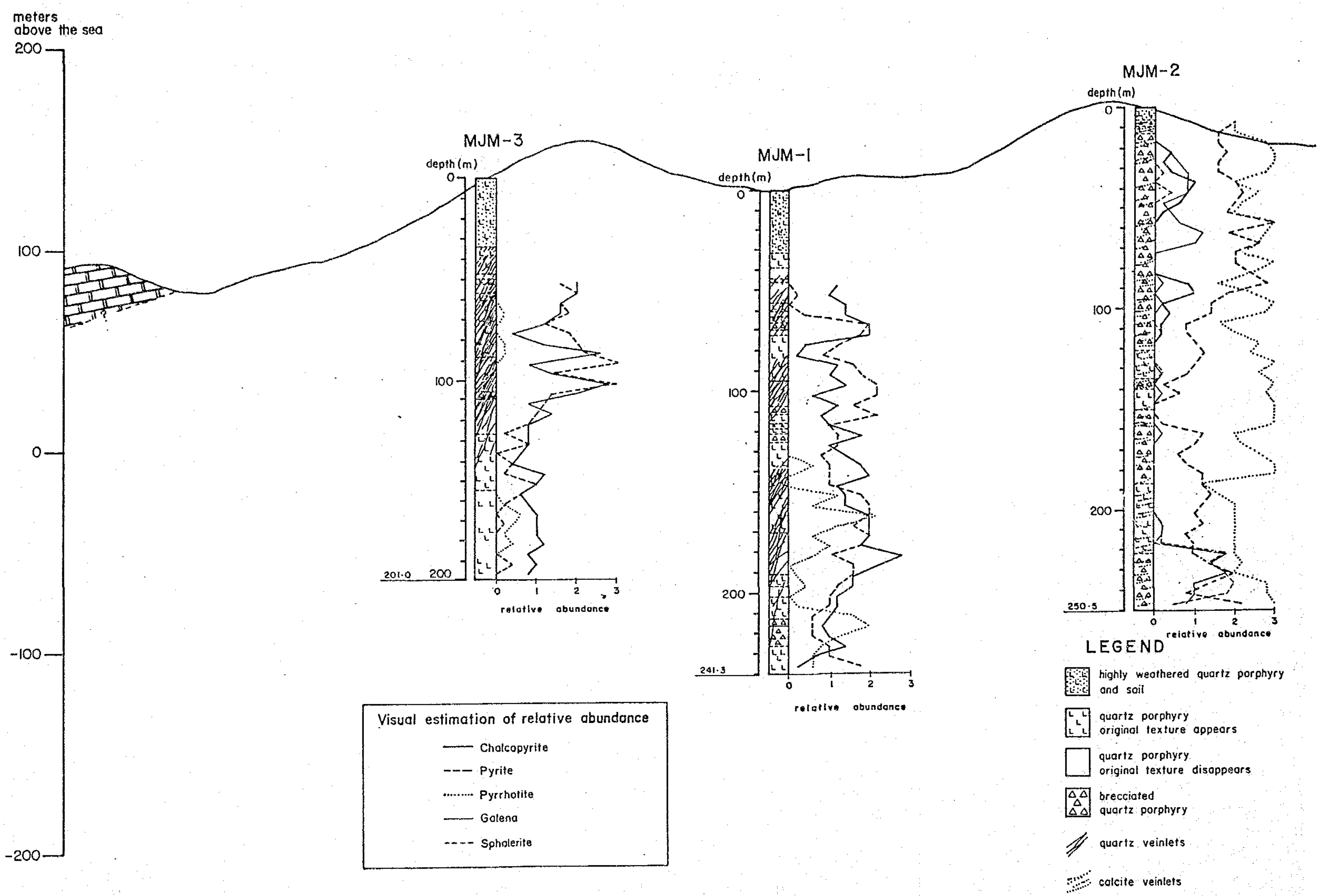

Fig. II-39 Ore Mineral Distribution in Drill Holes

this direction of dip does not fit the zonation of Cu and Pb discussed earlier, it however agrees with the results of the magnetic survey which shows a localized magnetic high, with a width of about 250 m dipping south at MJM–2. It seems therefore pyrrhotite is not directly related to chalcopyrite mineralization which further complicates the interpretation of high PFE anomalies.

Fortunately, as observed in MJM–2 abundant pyrrhotite accompanies quartz porphyry which is mostly argillized and brecciated and gives low resistivity whereas chalcopyrite as in MJM –1 and 3, is associated mainly with silicified quartz porphyry containing quartz veinlets which gives moderate to high resistivity. It may be said therefore that a resistivity low in an FE high area where positive magnetic contrast occurs and silicification is not dominant may be understood to be possibly due to pyrrhotite but not chalcopyrite dissemination.

4–5–4 Relationship among Chalcopyrite, Apparent Resistivity and PFE

As mentioned earlier, chalcopyrite occurs mainly in cracks which cut quartz veinlets, though as a whole it occurs dominantly where quartz veinlets are abundantly developed, the PFE is moderate to high and there is little or negative magnetic contrast. In general, areas with abundant quartz veinlets also give resistivity highs. Where abundant fractures occur in such areas, they should be detected as a lower resistivity area in a high resistivity area. Consequently, a partial lower resistivity area in a wider resistivity high area, if it is accompanied by a FE high anomaly, no magnetic contrast and silicification, is most significant for future exploration for Cu in the area. In general however, low-high resistivity area showing silicification, a moderate to high FE and no magnetic contrast has potential for Cu mineralization (Fig. II–40).

4–5–5 Grade and Extent of Copper Mineralization

As provened by the drilling results, copper mineralization is associated with the highly silicified part of the intrusive in the southwestern part of G. Ropih. The main mineralized sections intersected give an average of 0.18% Cu between a depth of 139 m and 190 m in drill hole MJM–1 and 0.23% Cu between a depth of 50 m and 114 m in drill hole MJM–3. However, the overall grade is subeconomical.

In drill hole MJM–3, Cu content and abundance of quartz veinlets decrease with depth whereas Mo content gradually increases below a depth of 100 m. Under such conditions, the possibility of Cu mineralization is indicated to be very low below 201.0 m, the bottom of the hole though Mo-mineralization may increase. Taking into consideration that common pyrrhotite is observed below the 160 m depth, FE highs detected at depth in this hole are possibly caused by pyrrhotite disseminations. As the boundary between the Cu and Pb enriched zones is estimated to dip at a high angle, the possibility of Cu–Mo mineralization at depth below the bottom of drill hole MJM–2 is poor. If any, it would be at considerable depth. In hole MJM–1, Cu and Mo contents remains generally constant to a depth of about 200 m. Chalcopyrite disseminations is still observed at a depth of 241.3 m, the bottom of the hole but has decreased noticeably. This indicates that below this depth, Cu content would depreciate. Laterally however, the areas just east and southwest at MJM–3, where low to high resistivity occur overlapped by a moderate to high FE and accompanied by intense silification and little or negative magnetic contrast, still hold possibilities for finding disseminated Cu mineralization.

4–5–6 Summary and Recommendation

The drilling results prove that subeconominal disseminated Cu mineralization of the porphyry copper type exists in the southwestern part of the area. Two of the three holes drilled intersected disseminated copper mineralization with an average grade of about 0.18% Cu between a depth of 139 m and 190 m in one hole and 0.23% Cu between a depth of 50 m and 114 m in the other hole. This main mineralized area coincide with the copper-enriched zone detected by the geochemical soil survey and the area of intense silicification in the form of networks of quartz veinlets. By correlating these results with the IP and magnetic surveys, it may inferred that areas with a moderate to high FE and accompanied by silicification and little or negative magnetic contrast, have potential for disseminated copper mineralization. The best area is thought to be an area showing lower resistivity in a wider high resistivity zone, if it is accompanied by high FE, no magnetic contrast and intense silicification. As such, further exploration drilling is recommended in the southern and eastern parts of the intrusive, particularly around stations 5 and 6 on Line L and stations 3 and 4 on Line K.

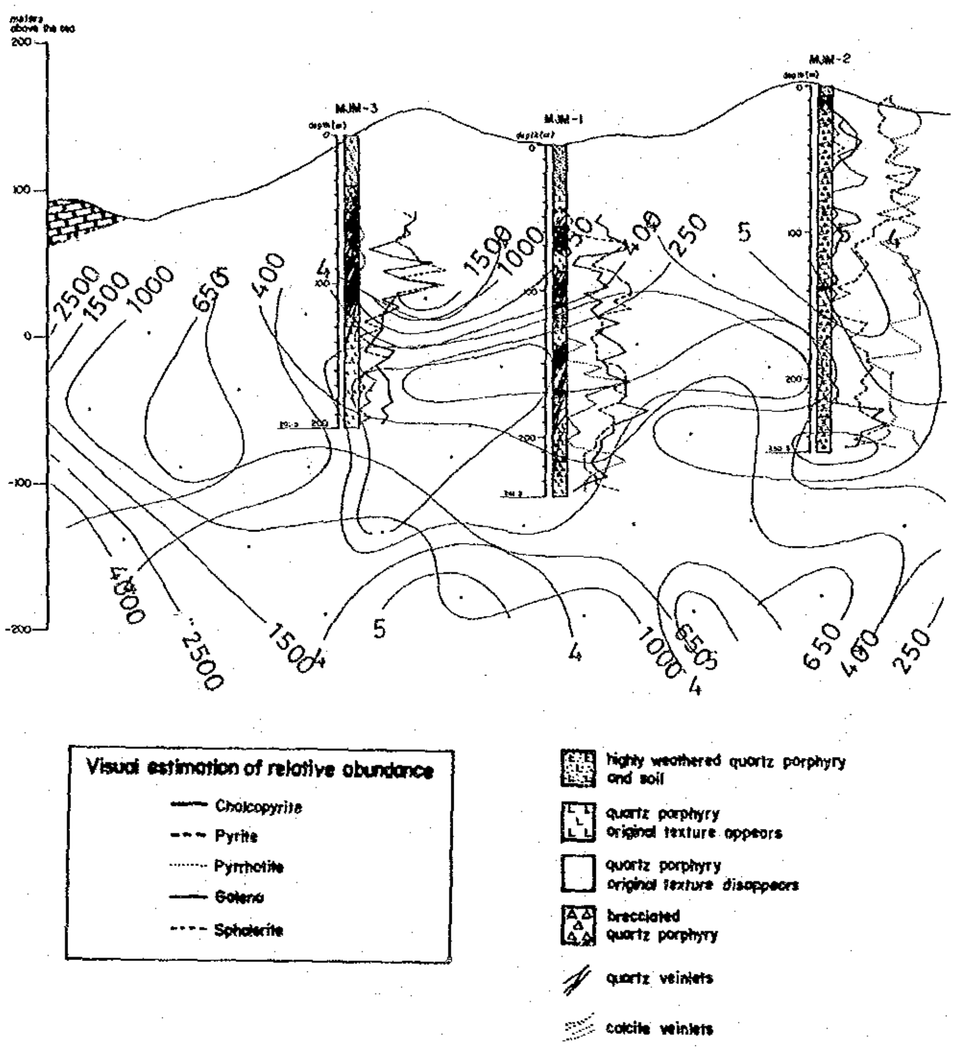

Fig. II-40 Relationship between I.P.Results and Drill Holes

CONCLUSION AND RECOMMENDATION

CHAPTER 1. CONCLUSION

The following conclusions may be drawn from the results of the work undertaken during Phase III:

i) The lithogeochemical survey in the Seromah North area indicate two anomalous zones of metal enrichment, a NE zone in the northwestern part of the area and a minor NW zone just north of the central part. These zones are fault related and holds possibility for Au and Sb mineralizations. In the Gunung Batu area, a ENE trending Zone on the northwestern side of a major ENE fault just north of Gunung Batu is also indicated to have some potentials for Au and Sb mineralizations.

ii) Detailed mapping and sampling in the Arong Bakit Area show that the gold ore vein of the Old Working No. 2 extends along strike for a distance of about 71 m with an average thickness of 4.3 m. The average grade of the ore is calculated to be 6.3 g/t Au and 10.2 g/t Ag. Assuming a down dip extension of equal to and half the strike length, ore reserves available are 55,800 and 27,000 tonnes respectively. Assuming a cut off mineable grade of 10 g/t Au, the high grade section of the vein with a strike length of 26.4 m and an average thickness of 5.1 m may be calculated to contain an average ore grade of 14.7 g/t Au and 21.4 g/t Ag. Based on similar down-dip assumptions, the corresponding reserves are 9,200 and 4,600 tonnes.

iii) In the Sungai Sinyi area, the probable primary source of the placer gold occurring in stream sediments has been traced by panned concentrate and geochemical soil surveys to an anomalous area in the upper reaches of Sungai Sinyi. Similar work in addition to trenching in the Sungai Matung area, indicated that the primary source of the placer gold found in the area may be located in the upper reaches of river. The source however, is indicated to be of very small extent.

iv) Drilling results in the Gunung Ropih area prove that subeconomical disseminated Cu mineralization of the porphyry copper type exists in the southwestern part. Two of the holes drilled intersected disseminated Cu mineralization with an average grade of about 0.18% Cu between a depth of 139 m and 190 m in one hole and 0.23% Cu between a depth of 50 m and 114 m in the other hole. By correlation of the results of the various work undertaken in the area including geological mapping, geochemical soil survey and IP and magnetic surveys, it may be inferred that areas with moderate to high FE, accompanied by silicification and little or negative magnetic contrast, have potential for disseminated Cu mineralization. Areas of low resistivity within a wider high resistivity zone in the intrusive and showing the above characteristics is indicated to be the best areas.

CHAPTER 2. RECOMMENDATION

Further follow-up recommended is as follows:

i) The northwestern part of the Seromah North area should be followed up by very detailed mapping and channel sampling of the extensions of the thick calcite vein found in this area to explore for Au and Sb mineralizations.

ii) The areas underlain by marble immediately west and north of the Gunung Juala intrusive should be further followed up by very detailed mapping and rock sampling in order to explore for gold ore veins similar to that of the Old Working No. 2 of the Gunung Arong Bakit Area.

iii) The anomalous area for Au and As in the upper reaches of Sungai Sinyi should be followed up initially by detailed geochemical soil survey to delineate the extent of the open-ended anomaly. Trenching and exploration drilling should follow to confirm bedrock Au mineralization.

iv) Further exploration drilling is recommended in the southern and eastern parts of the Gunung Ropih area to examine the extent and grade of Cu mineralization.

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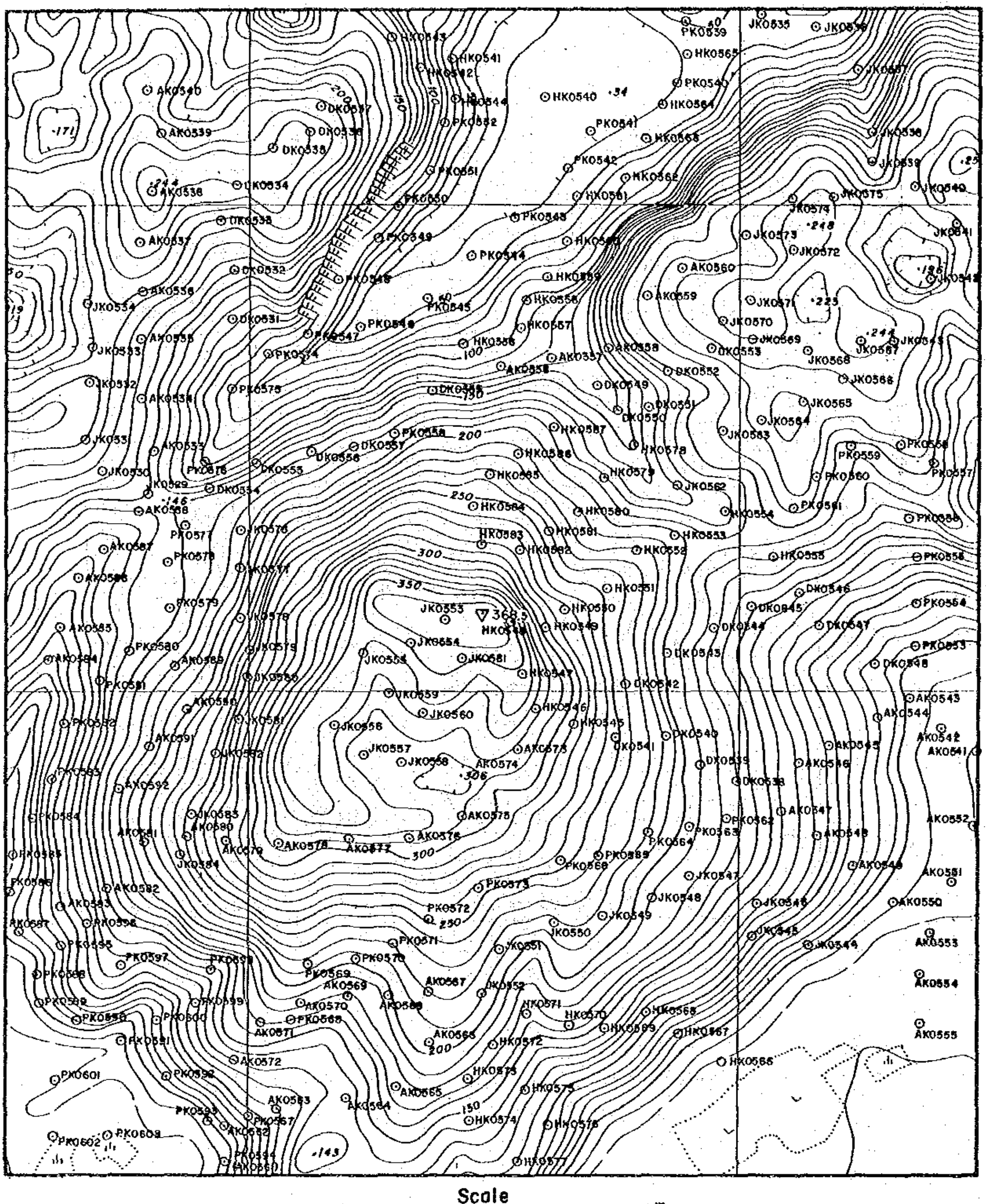
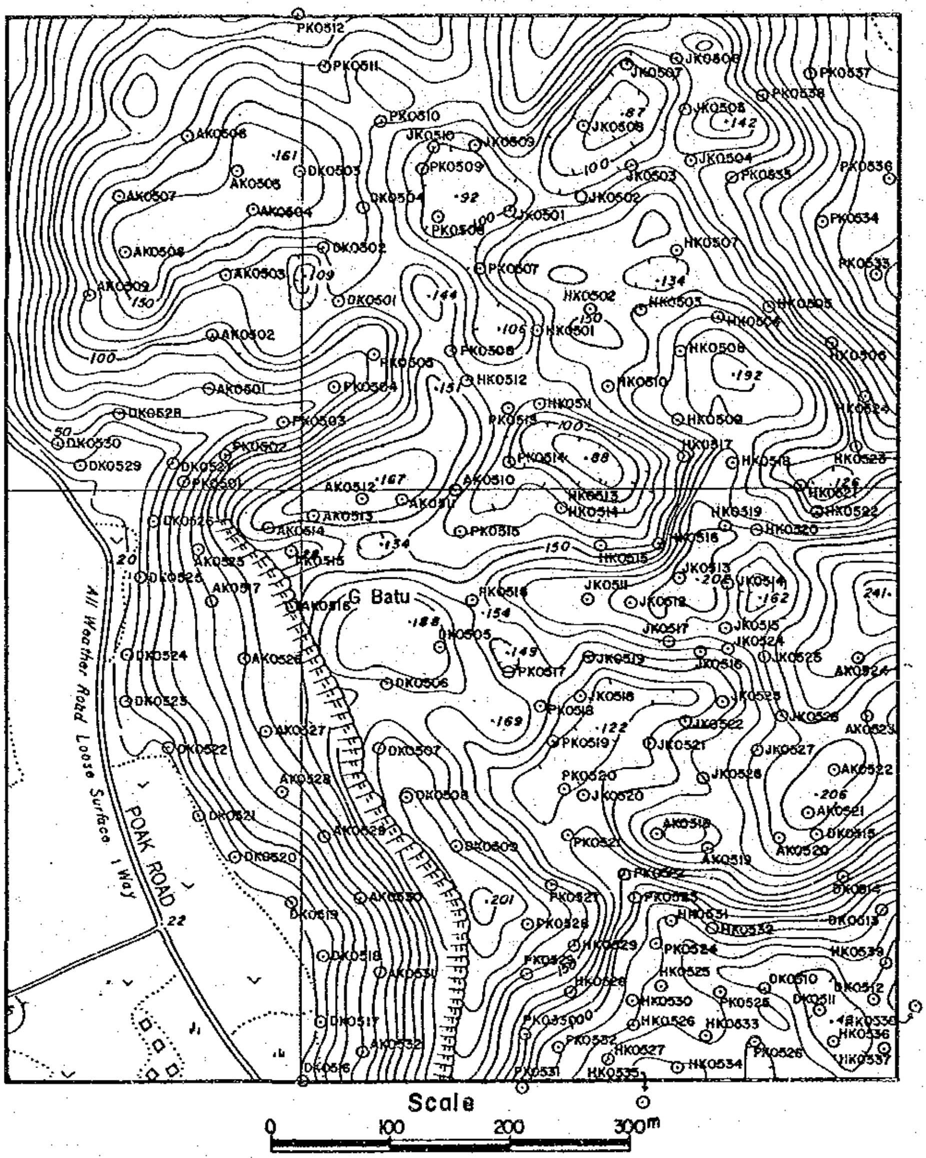
APPENDICES



Appendix 1 Lithogeochemical Sample Locations, Seromah North Area



Appendix 2 Lithogeochemical Sample Locations, Gunung Batu Area

Appendix 3 Analytical Results of Lithogeochemical Samples, Seromah North Area

Ser No	Sample No.	Au (ppm)	Ag (ppm)	As (ppm)	Sb (ppm)	Hg (ppb)	Mn (ppm)
1	AK0533	tr.	tr.	tr.	tr.	40	19
2	AK0534	tr.	tr.	tr.	tr.	44	16
3	AK0535	tr.	tr.	tr.	tr.	32	19
4	AK0536	tr.	tr.	tr.	tr.	68	19
5	AK0537	tr.	tr.	tr.	tr.	tr.	6
6	AK0538	tr.	tr.	tr.	tr.	45	65
7	AK0539	tr.	tr.	tr.	tr.	149	54
8	AK0540	tr.	tr.	tr.	tr.	31	6
9	AK0541	tr.	tr.	tr.	tr.	196	30
10	AK0542	tr.	tr.	tr.	tr.	97	31
11	AK0543	0.1	0.1	tr.	tr.	221	38
12	AK0544	0.1	0.1	tr.	tr.	146	40
13	AK0545	tr.	tr.	tr.	tr.	74	21
14	AK0546	tr.	tr.	tr.	tr.	55	22
15	AK0547	0.1	tr.	tr.	tr.	212	68
16	AK0548	tr.	tr.	4.0	tr.	66	21
17	AK0549	0.1	tr.	0.9	tr.	75	17
18	AK0550	0.1	tr.	11.1	tr.	160	83
19	AK0551	0.1	tr.	3.7	0.9	75	75
20	AK0552	tr.	tr.	3.1	tr.	tr.	23
21	AK0553	tr.	tr.	0.6	tr.	73	58
22	AK0554	0.1	0.2	1.5	tr.	43	76
23	AK0555	tr.	0.3	1.5	tr.	33	72
24	AK0556	0.1	tr.	2.8	tr.	95	87
25	AK0557	tr.	tr.	4.3	tr.	49	108
26	AK0558	tr.	tr.	0.6	tr.	87	34
27	AK0559	tr.	tr.	3.4	tr.	203	36
28	AK0560	0.1	0.4	2.5	tr.	207	42
29	AK0561	0.1	tr.	10.4	tr.	184	51
30	AK0562	0.1	tr.	18.2	tr.	178	137
31	AK0563	0.1	tr.	21.2	tr.	530	111
32	AK0564	0.1	tr.	3.9	tr.	139	33
33	AK0565	0.1	tr.	5.7	tr.	136	38
34	AK0566	tr.	tr.	6.8	tr.	137	27
35	AK0567	0.1	tr.	2.4	tr.	104	22
36	AK0568	tr.	tr.	5.7	tr.	132	38
37	AK0569	tr.	tr.	tr.	1.5	70	13
38	AK0570	tr.	tr.	2.1	2.0	202	23
39	AK0571	0.1	tr.	3.6	4.5	172	21
40	AK0572	tr.	0.1	4.5	1.6	82	21
41	AK0573	0.1	tr.	4.5	0.9	tr.	78
42	AK0574	tr.	tr.	8.1	1.1	185	86
43	AK0575	0.1	tr.	13.0	1.6	73	41
44	AK0576	tr.	22.8	27.7	tr.	76	40
45	AK0577	0.1	tr.	11.9	0.5	194	86
46	AK0578	tr.	tr.	13.0	2.4	123	20
47	AK0579	tr.	tr.	23.1	tr.	161	21
48	AK0580	tr.	tr.	12.6	tr.	130	33
49	AK0581	tr.	tr.	4.9	1.6	212	119
50	AK0582	tr.	0.2	3.5	1.8	84	320
51	AK0583	tr.	0.2	tr.	3.6	tr.	430
52	AK0584	0.2	tr.	18.0	1.0	245	151
53	AK0585	0.1	tr.	12.6	1.2	161	36
54	AK0586	0.2	tr.	3.7	0.7	95	22
55	AK0587	0.2	tr.	5.8	1.2	138	21
56	AK0588	0.1	tr.	14.6	20.9	297	102
57	AK0589	tr.	tr.	4.4	4.0	31	66
58	AK0590	0.2	tr.	21.8	2.0	338	190
59	AK0591	0.1	tr.	19.1	1.3	312	160
60	AK0592	tr.	tr.	13.6	1.7	307	129
61	DK0531	0.1	tr.	12.9	tr.	356	48
62	DK0532	0.1	tr.	6.5	tr.	161	29
63	DK0533	0.1	tr.	31.7	6.1	369	135
64	DK0534	0.1	tr.	28.6	13.1	171	71
65	DK0535	tr.	tr.	4.8	3.7	40	12
66	DK0536	0.1	tr.	4.8	1.9	109	31
67	DK0537	0.1	tr.	2.7	1.5	138	16
68	DK0538	0.1	tr.	tr.	4.9	180	15
69	DK0539	0.1	0.2	1.0	4.6	47	9
70	DK0540	0.1	0.4	3.7	tr.	81	46
71	DK0541	tr.	tr.	10.9	tr.	212	43
72	DK0542	0.1	tr.	1.7	2.2	108	47
73	DK0544	0.1	tr.	2.7	10.0	112	14
74	DK0545	0.1	tr.	3.4	3.5	63	12
75	DK0546	tr.	tr.	5.1	0.9	36	18
76	DK0547	tr.	tr.	8.2	2.2	82	21
77	DK0548	tr.	tr.	12.6	4.8	316	34
78	DK0549	0.1	0.5	5.4	1.9	101	50
79	DK0550	0.1	0.5	9.2	3.4	140	29
80	DK0551	tr.	0.4	4.8	tr.	194	15

Ser No	Sample No.	Au (ppm)	Ag (ppm)	As (ppm)	Sb (ppm)	Hg (ppb)	Mn (ppm)
81	DK0552	tr.	tr.	3.1	tr.	200	16
82	DK0553	tr.	tr.	6.5	tr.	197	15
83	DK0554	0.1	tr.	7.5	1.5	167	93
84	DK0555	tr.	tr.	2.0	2.8	101	64
85	DK0556	tr.	tr.	8.5	tr.	134	272
86	DK0557	tr.	tr.	0.3	tr.	197	63
87	DK0558	tr.	tr.	4.8	1.8	208	108
88	DK0559	tr.	tr.	48.7	tr.	382	120
89	HK0540	0.1	tr.	9.5	5.6	263	52
90	HK0541	0.1	tr.	tr.	5.9	76	21
91	HK0542	0.1	tr.	12.1	tr.	76	96
92	HK0543	0.1	tr.	14.7	7.9	94	108
93	HK0544	0.1	tr.	14.7	1.9	173	64
94	HK0545	tr.	tr.	22.7	4.3	178	67
95	HK0546	tr.	tr.	tr.	1.0	27	53
96	HK0547	tr.	tr.	9.9	4.3	116	55
97	HK0548	0.1	tr.	8.4	1.2	424	61
98	HK0549	tr.	0.4	3.7	1.9	78	47
99	HK0550	tr.	tr.	5.5	2.2	215	14
100	HK0551	0.1	tr.	5.5	4.1	89	12
101	HK0552	tr.	0.1	3.3	1.0	85	11
102	HK0553	tr.	tr.	10.3	9.0	334	39
103	HK0554	tr.	tr.	17.6	2.8	61	14
104	HK0555	tr.	1.5	9.2	tr.	38	17
105	HK0556	tr.	tr.	9.2	1.0	593	99
106	HK0557	tr.	tr.	8.8	6.6	140	148
107	HK0558	tr.	tr.	8.1	tr.	143	124
108	HK0559	tr.	tr.	5.9	2.9	58	99
109	HK0560	tr.	tr.	10.6	1.2	87	229
110	HK0561	0.1	tr.	12.1	26.1	tr.	214
111	HK0562	tr.	0.3	53.9	7.5	380	194
112	HK0563	0.1	tr.	49.5	1.5	237	312
113	HK0564	tr.	tr.	5.5	tr.	89	43
114	HK0565	tr.	tr.	4.0	tr.	76	18
115	HK0566	tr.	tr.	2.8	3.2	38	62
116	HK0567	tr.	tr.	tr.	tr.	66	15
117	HK0568	tr.	tr.	tr.	1.1	132	48
118	HK0569	tr.	tr.	9.1	6.5	85	47
119	HK0570	tr.	tr.	16.8	0.9	73	13
120	HK0571	tr.	tr.	10.2	tr.	124	48

Ser No	Sample No.	Au (ppm)	Ag (ppm)	As (ppm)	Sb (ppm)	Hg (ppb)	Mn (ppm)
121	HK0572	tr.	tr.	10.2	2.2	82	49
122	HK0573	tr.	tr.	0.7	1.4	65	43
123	HK0574	tr.	tr.	26.6	6.5	97	74
124	HK0575	tr.	tr.	3.5	2.7	tr.	36
125	HK0576	tr.	tr.	11.0	6.5	212	54
126	HK0577	tr.	tr.	13.7	9.9	142	28
127	HK0578	tr.	tr.	11.9	7.2	129	27
128	HK0579	tr.	tr.	23.5	4.2	237	33
129	HK0580	tr.	tr.	19.6	6.3	43	11
130	HK0581	tr.	tr.	13.0	3.8	94	34
131	HK0582	tr.	tr.	0.7	3.1	127	29
132	HK0583	tr.	tr.	5.6	4.2	83	16
133	HK0584	tr.	tr.	tr.	5.8	133	25
134	HK0585	tr.	tr.	tr.	19.7	136	23
135	HK0586	tr.	tr.	14.4	4.2	295	28
136	HK0587	tr.	tr.	6.0	30.2	66	26
137	JK0529	0.2	tr.	20.1	tr.	156	50
138	JK0530	tr.	tr.	28.6	tr.	tr.	5
139	JK0531	0.1	0.8	39.5	tr.	142	18
140	JK0532	0.1	tr.	3.4	tr.	73	9
141	JK0533	0.1	tr.	tr.	tr.	79	13
142	JK0534	0.1	tr.	2.4	tr.	62	11
143	JK0535	0.1	tr.	8.2	1.0	92	13
144	JK0536	0.1	tr.	6.5	tr.	111	51
145	JK0537	0.1	tr.	21.2	tr.	45	23
146	JK0538	0.1	tr.	5.4	0.7	52	13
147	JK0539	0.1	tr.	9.9	tr.	115	33
148	JK0540	tr.	tr.	2.0	tr.	104	29
149	JK0541	0.1	tr.	tr.	tr.	75	32
150	JK0542	0.1	tr.	5.8	tr.	61	19
151	JK0543	tr.	tr.	tr.	tr.	101	33
152	JK0544	tr.	tr.	tr.	tr.	43	41
153	JK0545	0.1	tr.	tr.	tr.	81	31
154	JK0546	0.1	tr.	tr.	tr.	48	55
155	JK0547	0.1	tr.	tr.	tr.	103	13
156	JK0548	tr.	tr.	1.7	tr.	52	17
157	JK0549	0.1	tr.	tr.	tr.	76	16
158	JK0550	tr.	tr.	tr.	0.5	67	11
159	JK0551	tr.	tr.	3.7	tr.	120	18
160	JK0552	0.1	tr.	tr.	tr.	135	20

Ser No	Sample No.	Au (ppm)	Ag (ppm)	As (ppm)	Sb (ppm)	Hg (ppb)	Mn (ppm)
161	JK0553	0.1	tr.	tr.	tr.	70	36
162	JK0554	0.1	tr.	tr.	tr.	76	74
163	JK0555	0.1	tr.	tr.	8.2	79	12
164	JK0556	0.1	0.3	tr.	tr.	63	63
165	JK0557	tr.	tr.	tr.	tr.	106	31
166	JK0558	0.1	tr.	tr.	tr.	86	49
167	JK0559	tr.	tr.	1.8	tr.	tr.	40
168	JK0560	tr.	tr.	6.2	tr.	78	78
169	JK0561	0.1	tr.	4.4	1.2	56	41
170	JK0562	0.1	tr.	5.1	1.7	122	19
171	JK0563	0.1	tr.	4.8	tr.	116	23
172	JK0564	0.1	tr.	5.5	tr.	86	23
173	JK0565	0.1	tr.	7.3	tr.	180	42
174	JK0566	0.2	tr.	16.8	tr.	239	51
175	JK0567	0.2	tr.	14.7	tr.	165	45
176	JK0568	0.1	tr.	8.4	7.0	97	30
177	JK0569	tr.	tr.	5.9	tr.	115	24
178	JK0570	0.2	tr.	2.2	0.7	188	30
179	JK0571	0.1	tr.	tr.	3.8	199	27
180	JK0572	0.1	tr.	3.3	8.5	71	33
181	JK0573	0.1	tr.	tr.	23.8	78	27
182	JK0574	0.1	tr.	tr.	tr.	49	23
183	JK0575	tr.	tr.	5.5	tr.	147	33
184	JK0576	0.2	tr.	1.5	tr.	141	91
185	JK0577	0.2	tr.	1.8	10.9	113	57
186	JK0578	0.1	tr.	10.6	6.3	634	150
187	JK0579	0.3	tr.	19.1	tr.	465	84
188	JK0580	0.1	tr.	21.6	tr.	272	145
189	JK0581	0.1	tr.	4.4	5.8	103	51
190	JK0582	0.2	tr.	2.9	0.5	328	39
191	JK0583	0.1	0.3	0.7	tr.	200	54
192	JK0584	0.2	tr.	tr.	tr.	198	46
193	PK0539	0.2	0.9	10.3	14.6	302	34
194	PK0540	0.2	0.5	tr.	13.9	274	7
195	PK0541	0.1	0.4	6.3	9.5	95	320
196	PK0542	0.1	0.1	4.0	9.5	74	176
197	PK0543	0.2	tr.	7.7	21.8	34	144
198	PK0544	0.2	0.2	7.0	9.3	110	208
199	PK0545	0.3	0.1	16.3	19.0	91	295
200	PK0546	0.1	tr.	3.7	16.7	tr.	160
201	PK0547	tr.	tr.	8.7	1.6	130	29
202	PK0548	tr.	tr.	12.3	tr.	176	99
203	PK0549	0.1	tr.	3.3	16.0	101	55
204	PK0550	0.2	0.2	21.3	12.1	361	128
205	PK0551	0.1	0.2	17.3	tr.	220	105
206	PK0552	0.1	0.1	8.7	10.9	35	30
207	PK0553	0.1	0.3	8.0	2.1	97	35
208	PK0554	tr.	tr.	9.7	1.2	41	17
209	PK0555	tr.	tr.	4.0	9.0	26	22
210	PK0556	0.1	tr.	7.7	4.2	51	16
211	PK0557	tr.	tr.	6.0	13.7	59	56
212	PK0558	tr.	tr.	7.0	tr.	50	11
213	PK0559	tr.	tr.	15.6	2.0	118	40
214	PK0560	0.1	0.1	7.7	17.9	80	20
215	PK0561	tr.	tr.	16.2	2.4	195	34
216	PK0562	0.1	0.2	12.0	6.9	56	15
217	PK0563	0.1	tr.	6.0	27.6	40	14
218	PK0564	0.1	tr.	1.3	17.4	tr.	8
219	PK0565	0.1	tr.	3.0	12.5	26	41
220	PK0566	0.1	tr.	3.0	10.0	tr.	85
221	PK0567	tr.	tr.	46.1	4.3	282	344
222	PK0568	tr.	tr.	18.4	3.6	131	97
223	PK0569	tr.	tr.	6.0	27.5	100	12
224	PK0570	tr.	tr.	20.0	0.9	114	25
225	PK0571	tr.	tr.	15.9	tr.	50	10
226	PK0572	0.1	tr.	22.3	tr.	78	21
227	PK0573	tr.	tr.	8.6	tr.	53	18
228	PK0574	0.1	tr.	42.0	3.7	2026	53
229	PK0575	0.1	tr.	13.7	1.4	122	27
230	PK0576	tr.	tr.	22.9	tr.	83	96
231	PK0577	0.1	tr.	1.7	3.0	66	114
232	PK0578	tr.	tr.	8.3	tr.	77	143
233	PK0579	tr.	tr.	8.3	8.9	187	125
234	PK0580	0.1	tr.	19.4	12.1	56	121
235	PK0581	0.1	tr.	20.0	8.3	tr.	93
236	PK0582	tr.	tr.	15.6	14.8	tr.	94
237	PK0583	0.1	tr.	14.3	6.7	69	81
238	PK0584	tr.	tr.	19.1	13.6	47	161
239	PK0585	tr.	tr.	24.5	11.6	tr.	267
240	PK0586	tr.	tr.	15.3	7.8	tr.	137

Ser No	Sample No.	Au (ppm)	Ag (ppm)	As (ppm)	Sb (ppm)	Hg (ppb)	Mn (ppm)
241	PK0587	tr.	tr.	30.2	5.9	34	136
242	PK0588	tr.	tr.	3.2	20.1	tr.	479
243	PK0589	tr.	tr.	15.9	10.5	tr.	234
244	PK0590	0.1	tr.	14.0	9.2	tr.	265
245	PK0591	tr.	tr.	12.7	tr.	37	263
246	PK0592	0.1	tr.	5.4	2.0	37	380
247	PK0593	0.1	tr.	32.7	0.5	133	279
248	PK0594	0.1	tr.	17.2	tr.	524	179
249	PK0595	0.1	tr.	9.3	8.3	tr.	468
250	PK0596	0.1	tr.	5.7	tr.	48	273
251	PK0597	0.2	0.1	16.0	10.4	745	151
252	PK0598	0.1	tr.	5.3	6.3	246	46
253	PK0599	0.1	0.1	93.0	4.4	1863	211
254	PK0600	0.1	tr.	79.0	31.1	343	372
255	PK0601	0.2	0.1	7.7	28.5	26	301
256	PK0602	0.2	0.2	14.3	6.3	26	322
257	PK0603	0.1	tr.	14.0	14.8	69	372

Appendix 4 Analytical Results of Lithogeochemical Samples, Gunung Batu Area

Ser No	Sample No.	Au (ppm)	Ag (ppm)	As (ppm)	Sb (ppm)	Hg (ppb)	Mn (ppm)	Ser No	Sample No.	Au (ppm)	Ag (ppm)	As (ppm)	Sb (ppm)	Hg (ppb)	Mn (ppm)
1	AK0501	18.1	119.5	165.5	7.7	tr.	507	41	DK0509	0.1	0.6	2.7	tr.	tr.	5
2	AK0502	0.1	tr.	49.1	tr.	tr.	48	42	DK0510	tr.	tr.	9.2	1.9	37	36
3	AK0503	tr.	tr.	98.3	tr.	tr.	55	43	DK0511	tr.	tr.	3.7	3.7	37	11
4	AK0504	0.1	tr.	40.5	tr.	tr.	35	44	DK0512	tr.	tr.	2.4	1.5	55	4
5	AK0505	tr.	tr.	24.1	tr.	tr.	41	45	DK0513	tr.	tr.	4.4	tr.	tr.	5
6	AK0506	0.1	tr.	tr.	tr.	tr.	48	46	DK0514	tr.	tr.	4.1	2.0	29	10
7	AK0507	0.1	0.1	tr.	3.1	tr.	47	47	DK0515	tr.	2.8	2.4	1.5	tr.	6
8	AK0508	0.1	tr.	6.9	11.6	tr.	33	48	DK0516	tr.	tr.	8.2	tr.	326	21
9	AK0509	0.1	tr.	2.6	1.3	tr.	50	49	DK0517	tr.	tr.	5.8	tr.	86	6
10	AK0510	0.1	tr.	2.6	3.6	tr.	15	50	DK0518	tr.	tr.	tr.	1.4	50	5
11	AK0511	tr.	0.1	tr.	tr.	25	122	51	DK0519	tr.	4.0	2.0	6.9	132	12
12	AK0512	tr.	tr.	tr.	tr.	tr.	14	52	DK0520	tr.	tr.	3.4	2.0	29	6
13	AK0513	tr.	tr.	94.0	6.1	tr.	27	53	DK0521	tr.	tr.	1.0	3.9	tr.	6
14	AK0514	0.1	tr.	14.4	tr.	tr.	10	54	DK0522	0.1	tr.	1.0	3.9	tr.	10
15	AK0515	tr.	tr.	46.3	tr.	tr.	14	55	DK0523	0.1	tr.	1.0	1.7	tr.	14
16	AK0516	tr.	tr.	tr.	3.9	tr.	9	56	DK0524	tr.	tr.	tr.	1.5	tr.	6
17	AK0517	tr.	tr.	tr.	tr.	tr.	6	57	DK0525	0.1	tr.	4.1	tr.	tr.	11
18	AK0518	tr.	tr.	tr.	tr.	tr.	5	58	DK0526	tr.	tr.	3.7	tr.	tr.	20
19	AK0519	tr.	tr.	tr.	4.7	tr.	9	59	DK0527	tr.	tr.	10.2	8.9	89	39
20	AK0520	0.1	tr.	tr.	tr.	tr.	10	60	DK0528	0.1	tr.	5.8	tr.	64	30
21	AK0521	tr.	tr.	tr.	tr.	35	10	61	DK0529	0.1	tr.	4.1	tr.	65	22
22	AK0522	tr.	0.1	tr.	tr.	tr.	6	62	DK0530	0.1	tr.	4.1	0.7	46	23
23	AK0523	0.1	tr.	tr.	tr.	tr.	4	63	HK0501	tr.	tr.	4.8	tr.	45	11
24	AK0524	tr.	tr.	tr.	3.7	30	12	64	HK0502	tr.	tr.	3.1	2.5	31	14
25	AK0525	tr.	tr.	tr.	tr.	76	17	65	HK0503	tr.	tr.	5.4	5.0	36	11
26	AK0526	0.1	tr.	tr.	tr.	187	32	66	HK0504	tr.	tr.	5.8	3.8	73	11
27	AK0527	tr.	tr.	tr.	tr.	tr.	9	67	HK0505	tr.	tr.	tr.	2.4	61	8
28	AK0528	tr.	tr.	tr.	tr.	58	11	68	HK0506	tr.	tr.	10.9	1.6	32	5
29	AK0529	tr.	tr.	tr.	tr.	tr.	4	69	HK0507	tr.	tr.	2.4	1.2	41	10
30	AK0530	tr.	tr.	tr.	tr.	tr.	5	70	HK0508	0.1	tr.	0.7	tr.	45	10
31	AK0531	tr.	tr.	tr.	tr.	tr.	5	71	HK0509	tr.	tr.	4.4	tr.	tr.	9
32	AK0532	tr.	tr.	tr.	6.4	tr.	5	72	HK0510	tr.	tr.	5.1	4.1	tr.	8
33	DK0501	tr.	tr.	2.4	4.0	tr.	32	73	HK0511	tr.	tr.	1.7	tr.	63	16
34	DK0502	0.1	tr.	1.0	tr.	tr.	33	74	HK0512	tr.	tr.	4.1	2.4	40	17
35	DK0503	tr.	tr.	2.0	1.9	tr.	31	75	HK0513	0.1	tr.	0.7	tr.	tr.	166
36	DK0504	tr.	tr.	0.7	3.2	tr.	48	76	HK0514	tr.	tr.	2.7	1.3	200	8
37	DK0505	tr.	tr.	1.0	tr.	27	6	77	HK0515	tr.	tr.	4.4	1.3	tr.	6
38	DK0506	0.1	tr.	tr.	tr.	tr.	5	78	HK0516	0.1	tr.	1.4	tr.	tr.	5
39	DK0507	0.1	tr.	5.1	tr.	tr.	5	79	HK0517	0.1	tr.	1.7	tr.	tr.	7
40	DK0508	tr.	tr.	1.7	tr.	tr.	5	80	HK0518	0.1	tr.	5.4	tr.	tr.	7

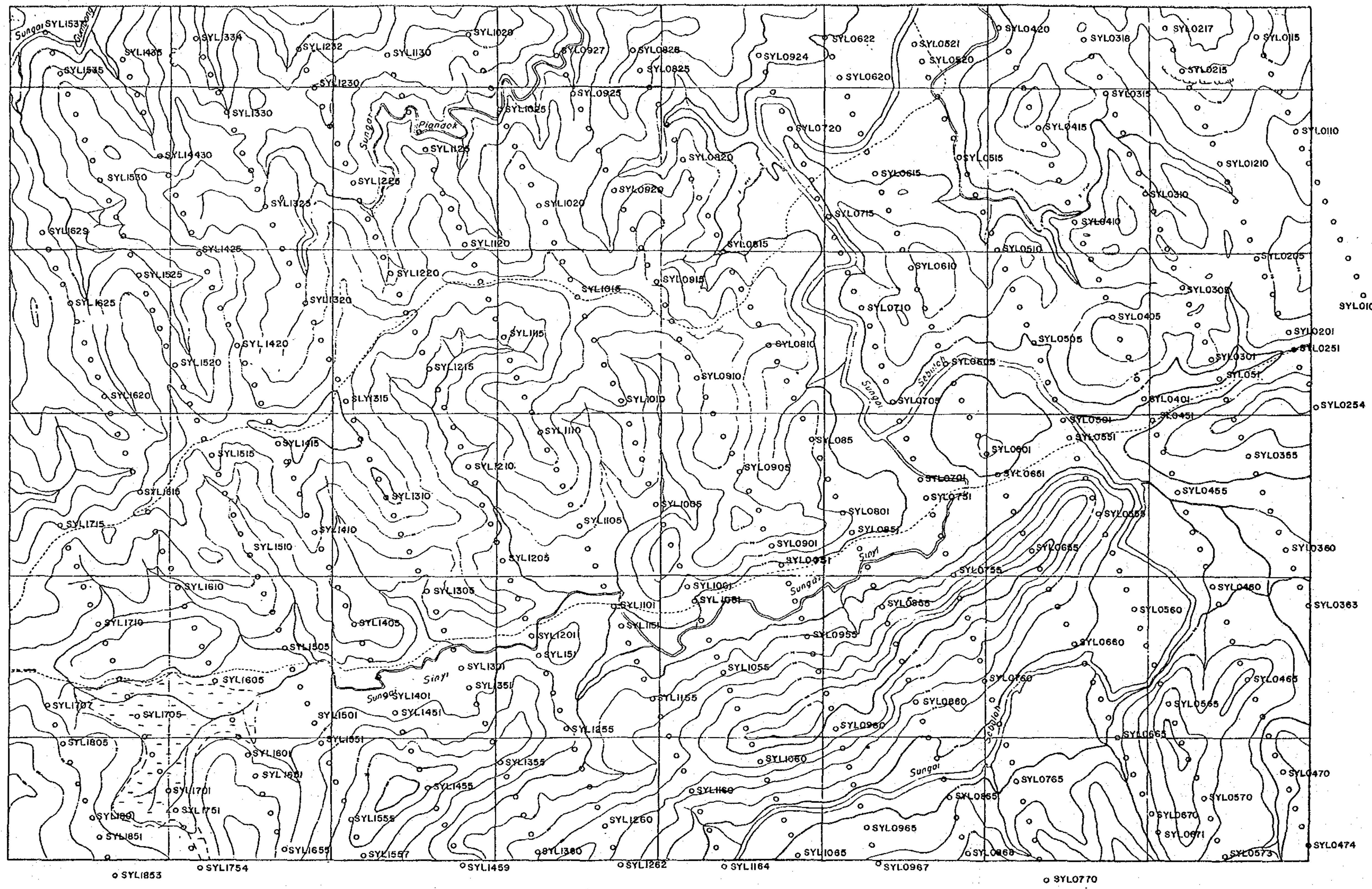
Ser No	Sample No.	Au (ppm)	Ag (ppm)	As (ppm)	Sb (ppm)	Hg (ppb)	Mn (ppm)	Ser No	Sample No.	Au (ppm)	Ag (ppm)	As (ppm)	Sb (ppm)	Hg (ppb)	Mn (ppm)
81	HK0519	tr.	tr.	3.1	3.7	tr.	7	121	JK0520	0.1	tr.	tr.	4.8	tr.	4
82	HK0520	tr.	tr.	4.1	tr.	tr.	9	122	JK0521	tr.	tr.	tr.	5.6	tr.	5
83	HK0521	0.1	tr.	5.9	tr.	49	30	123	JK0522	0.1	tr.	tr.	5.8	tr.	5
84	HK0522	tr.	tr.	4.8	12.0	tr.	10	124	JK0523	tr.	tr.	tr.	tr.	37	5
85	HK0523	0.1	tr.	1.4	tr.	25	10	125	JK0524	tr.	tr.	tr.	4.0	131	7
86	HK0524	tr.	tr.	11.9	tr.	92	4	126	JK0525	0.1	0.9	tr.	tr.	28	9
87	HK0525	tr.	tr.	3.4	tr.	tr.	5	127	JK0526	tr.	tr.	3.7	11.5	38	7
88	HK0526	tr.	tr.	2.0	tr.	tr.	7	128	JK0527	tr.	tr.	9.2	tr.	tr.	4
89	HK0527	tr.	tr.	9.5	tr.	58	6	129	JK0528	0.1	tr.	7.5	tr.	tr.	5
90	HK0528	0.1	tr.	4.8	3.2	tr.	5	130	PK0501	tr.	tr.	tr.	tr.	66	21
91	HK0529	tr.	tr.	4.4	tr.	tr.	6	131	PK0502	tr.	tr.	tr.	14.1	tr.	17
92	HK0530	tr.	tr.	2.3	tr.	25	6	132	PK0503	tr.	0.9	tr.	17.4	tr.	16
93	HK0531	0.1	tr.	3.7	tr.	tr.	101	133	PK0504	0.1	tr.	tr.	2.1	tr.	26
94	HK0532	tr.	tr.	1.7	2.2	312	10	134	PK0505	tr.	tr.	tr.	tr.	32	16
95	HK0533	0.1	tr.	tr.	tr.	tr.	5	135	PK0506	tr.	0.4	8.3	64.9	134	20
96	HK0534	tr.	tr.	12.3	8.8	94	13	136	PK0507	tr.	tr.	3.3	11.8	33	17
97	HK0535	tr.	tr.	4.4	7.5	119	34	137	PK0508	tr.	tr.	12.7	8.6	tr.	20
98	HK0536	0.1	tr.	4.8	0.7	35	5	138	PK0509	tr.	tr.	1.7	2.1	tr.	38
99	HK0537	0.1	tr.	7.5	tr.	84	8	139	PK0510	tr.	tr.	1.3	0.7	tr.	32
100	HK0538	tr.	tr.	tr.	tr.	26	5	140	PK0511	tr.	tr.	12.0	tr.	tr.	50
101	HK0539	tr.	tr.	2.2	0.6	83	23	141	PK0512	tr.	tr.	tr.	5.6	tr.	33
102	JK0501	0.1	tr.	5.8	tr.	tr.	23	142	PK0513	tr.	tr.	1.0	11.4	58	27
103	JK0502	0.1	tr.	9.2	5.3	37	21	143	PK0514	0.3	tr.	tr.	5.6	62	18
104	JK0503	0.1	tr.	3.4	1.0	tr.	11	144	PK0515	tr.	0.5	tr.	7.4	tr.	8
105	JK0504	0.1	tr.	12.3	2.2	54	7	145	PK0516	tr.	tr.	tr.	tr.	tr.	6
106	JK0505	0.1	tr.	8.5	1.7	85	10	146	PK0517	tr.	tr.	tr.	tr.	tr.	4
107	JK0506	0.1	tr.	13.3	0.8	tr.	12	147	PK0518	0.1	tr.	tr.	tr.	tr.	4
108	JK0507	0.1	tr.	3.1	3.0	153	14	148	PK0519	tr.	tr.	1.3	8.6	tr.	3
109	JK0508	0.1	tr.	8.2	8.0	34	18	149	PK0520	tr.	1.2	1.7	3.2	tr.	5
110	JK0509	0.1	tr.	1.7	7.3	tr.	39	150	PK0521	tr.	1.2	tr.	tr.	57	6
111	JK0510	0.1	tr.	tr.	tr.	tr.	29	151	PK0522	0.1	1.4	1.0	1.6	tr.	5
112	JK0511	0.1	tr.	2.0	tr.	tr.	5	152	PK0523	0.1	1.1	5.3	tr.	tr.	5
113	JK0512	0.1	tr.	1.7	tr.	tr.	5	153	PK0524	tr.	0.2	tr.	3.5	tr.	5
114	JK0513	0.1	tr.	10.2	8.0	231	29	154	PK0525	0.1	0.5	1.7	8.1	tr.	8
115	JK0514	tr.	tr.	1.7	0.8	tr.	10	155	PK0526	0.1	0.5	tr.	tr.	69	7
116	JK0515	0.1	tr.	1.4	0.5	87	10	156	PK0527	tr.	0.7	2.7	3.7	110	11
117	JK0516	tr.	tr.	2.4	tr.	45	4	157	PK0528	tr.	0.3	10.3	1.6	tr.	4
118	JK0517	0.1	tr.	2.7	0.7	tr.	17	158	PK0529	0.1	0.3	tr.	5.3	tr.	7
119	JK0518	0.1	tr.	2.7	0.7	49	6	159	PK0530	tr.	0.1	2.3	10.4	tr.	7
120	JK0519	tr.	tr.	1.7	5.3	tr.	4	160	PK0531	tr.	0.4	92.3	7.2	tr.	5

Ser No	Sample No.	Au (ppm)	Ag (ppm)	As (ppm)	Sb (ppm)	Hg (ppb)	Mn (ppm)
161	PK0532	0.1	0.3	tr.	4.4	73	34
162	PK0533	tr.	tr.	tr.	13.9	tr.	4
163	PK0534	0.1	tr.	tr.	6.7	tr.	4
164	PK0536	0.1	0.2	tr.	0.9	tr.	6
165	PK0537	0.1	0.1	1.7	12.8	tr.	4
166	PK0538	0.1	0.2	tr.	12.3	tr.	7

Appendix 5 Analytical Results of Lithogeochemical Samples

(Analysed in Japan)

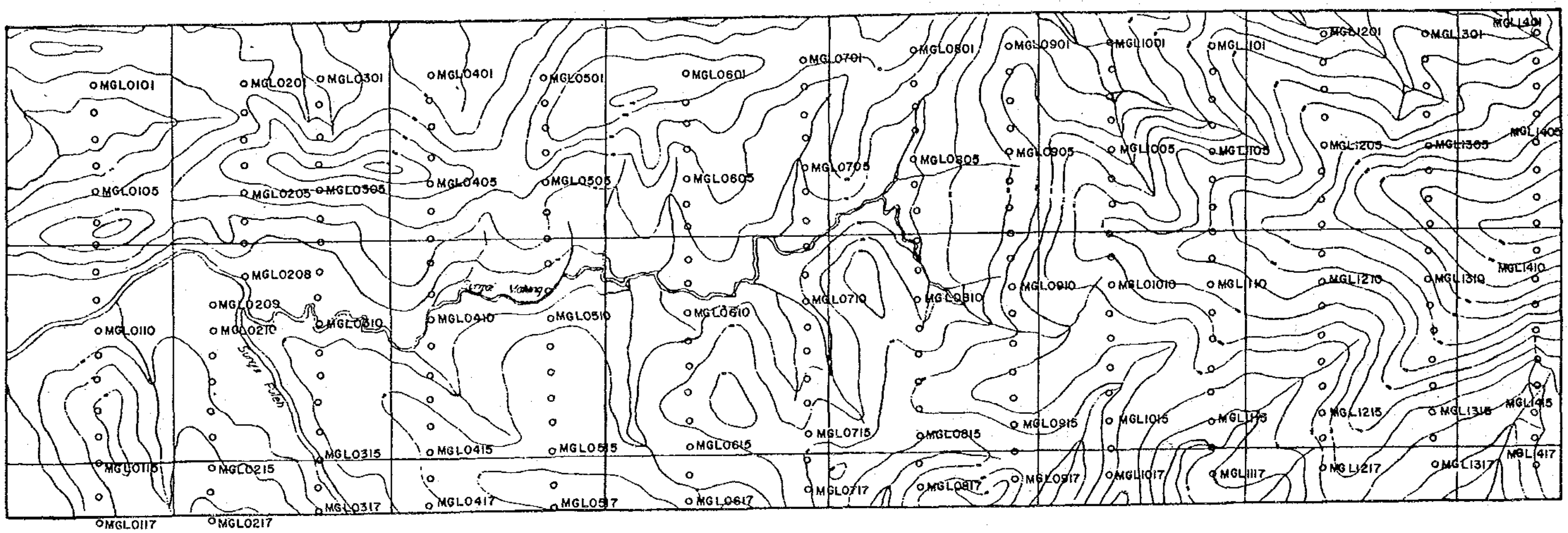
Ser. No.	Sample No.	Au(ppm)	Ag(ppm)	Ser. No.	Sample No.	Au(ppm)	Ag(ppm)
1	AK0502	0.00	0.2	46	PK0503	0.00	0.1
2	AK0503	0.00	0.1	47	PK0514	0.00	0.1
3	AK0504	0.00	0.0	48	PK0539	0.00	0.0
4	AK0505	0.00	0.0	49	PK0540	0.00	0.1
5	AK0512	0.00	0.1	50	PK0541	0.00	0.1
6	AK0514	0.00	0.1	51	PK0542	0.00	0.1
7	AK0515	0.00	0.1	52	PK0543	0.00	0.1
8	AK0579	0.00	0.1	53	PK0544	0.00	0.1
9	AK0580	0.00	0.1	54	PK0545	0.00	0.1
10	AK0581	0.00	0.2	55	PK0546	0.00	0.1
11	AK0582	0.00	0.1	56	PK0547	0.00	0.1
12	AK0583	0.00	0.1	57	PK0548	0.00	0.1
13	AK0584	0.00	0.1	58	PK0549	0.00	0.1
14	AK0585	0.00	0.1	59	PK0550	0.00	0.0
15	AK0586	0.00	0.1	60	PK0551	0.00	0.1
16	AK0587	0.00	0.1	61	PK0552	0.00	0.0
17	AK0588	0.00	0.1	62	PK0569	0.00	0.1
18	AK0589	0.00	0.0	63	PK0574	0.00	0.1
19	AK0590	0.00	0.1	64	PK0575	0.00	0.0
20	AK0591	0.00	0.1	65	PK0576	0.00	0.1
21	AK0592	0.00	0.1	66	PK0577	0.00	0.1
22	DK0515	0.00	0.1	67	PK0578	0.00	0.2
23	DK0519	0.00	0.0	68	PK0579	0.00	0.1
24	DK0527	0.00	0.0	69	PK0580	0.00	0.1
25	DK0554	0.00	0.1	70	PK0581	0.00	0.1
26	HK0540	0.00	0.1	71	PK0582	0.00	0.1
27	HK0544	0.00	0.1	72	PK0583	0.00	0.1
28	HK0556	0.00	0.1	73	PK0584	0.00	0.1
29	HK0560	0.00	0.1	74	PK0585	0.00	0.1
30	HK0561	0.00	0.1	75	PK0586	0l00	0.1
31	HK0562	0.00	0.0	76	PK0587	0.00	0.1
32	HK0563	0.00	0.1	77	PK0588	0.00	0.2
33	HK0564	0.00	0.0	78	PK0589	0.00	0.1
34	HK0565	0.00	0.1	79	PK0590	0.00	0.1
35	JK0518	0.00	0.1	80	PK0591	0.00	0.1
36	JK0529	0.00	0.1	81	PK0595	0.00	0.1
37	JK0576	0.00	0.1	82	PK0596	0.00	0.1
38	JK0577	0.00	0.1	83	PK0597	0.00	0.1
39	JK0578	0.00	0.0	84	PK0598	0.00	0.1
40	JK0579	0.00	0.1	85	PK0599	0.00	0.1
41	JK0580	0.00	0.00	86	PK0600	0.00	0.1
42	JK0582	0.00	0.1	87	PK0601	0.00	0.1
43	JK0583	0.00	0.2	88	PK0602	0.00	0.1
44	JK0584	0.00	0.1	89	PK0603	0.00	0.1
45	PK0502	0.00	0.1				

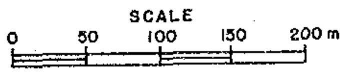


SCALE
0 50 100 150 200m

Appendix 6 Location Map of Soil Samples, Sungai Sinyi Area

SP3058/11/84





Appendix 7 Location Map of Soil Samples, Sungai Matung Area

Appendix 8 Analytical Results of Soil Samples, Sungai Sinyi Area

Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
1	SYL0101	13.7	1.0	6.0	73	0.1	tr.
2	SYL0102	6.5	0.4	7	40	0.1	tr.
3	SYL0103	7.0	0.2	11	161	0.1	tr.
4	SYL0104	10.7	0.5	11	246	0.6	tr.
5	SYL0105	15.0	0.1	27	143	tr.	tr.
6	SYL0106	8.1	0.5	29	117	tr.	tr.
7	SYL0107	18.5	0.2	8	209	tr.	tr.
8	SYL0108	13.7	0.5	5	140	0.1	2.1
9	SYL0109	3.3	0.5	6	129	0.1	1.1
10	SYL0110	2.6	0.9	8	105	0.1	3.8
11	SYL0111	2.3	0.4	8	92	tr.	0.8
12	SYL0112	3.9	0.7	9	105	0.1	0.2
13	SYL0113	2.9	0.6	5	106	0.1	2.6
14	SYL0114	7.8	0.9	6	80	0.1	tr.
15	SYL0115	3.3	0.7	16	91	0.1	tr.
16	SYL0201	13.7	1.3	9	161	0.1	1.4
17	SYL0202	9.4	0.6	8	103	0.1	tr.
18	SYL0203	7.5	0.6	17	119	tr.	0.9
19	SYL0204	16.3	0.2	5	138	0.1	2.0
20	SYL0205	37.1	0.3	8	315	0.1	0.9
21	SYL0206	15.6	0.2	34	246	0.1	tr.
22	SYL0207	3.3	0.2	25	297	0.1	4.2
23	SYL0208	4.9	0.4	3	165	0.1	6.2
24	SYL0209	7.5	1.1	5	135	0.1	tr.
25	SYL0210	6.2	0.9	14	97	0.2	3.2
26	SYL0211	3.9	0.6	5	82	0.1	0.5
27	SYL0212	6.2	1.1	6	121	0.2	4.8
28	SYL0213	6.5	0.6	4	98	0.1	1.7
29	SYL0214	6.5	0.9	8	68	0.1	16.8
30	SYL0215	3.3	0.9	29	59	0.1	5.3
31	SYL0216	tr.	0.7	12	46	0.1	2.4
32	SYL0217	9.8	0.4	20	64	0.2	3.5
33	SYL0251	12.0	0.6	37	114	0.1	0.9
34	SYL0252	4.6	1.7	70	322	0.1	14.4
35	SYL0253	7.5	1.5	12	38	0.1	0.8
36	SYL0254	11.4	1.1	9	57	0.1	0.9
37	SYL0301	27.6	1.0	39	250	0.1	tr.
38	SYL0302	3.9	0.9	31	205	0.1	tr.
39	SYL0303	15.3	1.2	8	247	0.1	0.8
40	SYL0304	28.9	0.9	6	322	0.1	tr.
41	SYL0305	35.1	0.1	16	473	0.1	tr.
42	SYL0306	39.7	0.3	12	503	0.1	tr.
43	SYL0307	31.9	0.1	5	248	0.1	tr.
44	SYL0308	34.8	0.4	7	368	0.1	0.5
45	SYL0309	27.0	0.2	5	273	0.1	0.5
46	SYL0310	8.1	0.4	5	212	0.1	tr.
47	SYL0311	9.8	0.3	3	183	0.1	2.3
48	SYL0312	9.4	0.6	6	104	0.1	2.3
49	SYL0313	2.9	0.5	38	77	0.1	2.4
50	SYL0314	4.9	0.7	7	51	0.1	tr.
51	SYL0315	2.0	0.8	8	44	0.1	5.4
52	SYL0316	3.3	0.7	24	41	0.1	tr.
53	SYL0317	6.2	0.6	9	58	0.2	tr.
54	SYL0318	10.4	0.6	8	52	0.1	tr.
55	SYL0351	12.0	0.9	176	91	0.1	tr.
56	SYL0352	42.8	0.4	17	139	0.1	tr.
57	SYL0353	9.6	1.0	7	63	0.1	tr.
58	SYL0354	13.5	1.5	5	66	0.1	tr.
59	SYL0355	tr.	0.6	5	377	0.1	tr.
60	SYL0356	7.7	0.9	50	72	0.1	tr.
61	SYL0357	tr.	0.7	21	52	0.1	0.2
62	SYL0358	6.6	0.7	7	52	0.1	tr.
63	SYL0359	tr.	0.7	4	37	0.2	8.5
64	SYL0360	tr.	0.5	5	53	0.1	5.7
65	SYL0361	tr.	0.5	4	42	0.1	3.6
66	SYL0362	8.5	0.6	4	30	0.1	3.8
67	SYL0363	10.0	0.6	7	86	0.2	2.4
68	SYL0401	15.0	0.5	10	310	0.1	1.1
69	SYL0402	16.2	0.8	6	449	0.1	3.5
70	SYL0403	17.7	1.6	6	316	0.1	2.6
71	SYL0404	23.9	0.1	4	254	tr.	3.5
72	SYL0405	20.4	0.5	4	382	0.1	3.8
73	SYL0406	25.1	1.0	6	470	0.1	2.1
74	SYL0407	14.7	0.5	5	360	0.1	3.9
75	SYL0408	20.8	0.2	6	248	0.1	3.2
76	SYL0409	22.4	0.2	5	158	tr.	4.4
77	SYL0410	10.8	0.5	4	110	0.1	2.3
78	SYL0411	4.6	0.4	2	55	tr.	2.4
79	SYL0412	tr.	0.8	4	57	0.1	0.5
80	SYL0413	5.4	0.7	5	68	tr.	tr.

Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
81	SYL0414	1.5	1.1	7	88	tr.	1.7
82	SYL0415	1.5	0.5	5	61	0.1	2.1
83	SYL0416	tr.	0.8	7	159	0.1	tr.
84	SYL0417	6.2	0.5	5	57	0.1	1.4
85	SYL0418	0.8	1.2	9	50	tr.	2.1
86	SYL0419	5.8	1.0	13	55	0.2	2.1
87	SYL0420	7.3	1.0	68	175	0.1	0.8
88	SYL0451	11.6	0.3	30	222	0.1	3.5
89	SYL0452	61.3	0.3	19	10189	tr.	2.7
90	SYL0453	44.7	0.7	12	982	tr.	6.7
91	SYL0454	37.0	0.1	78	699	tr.	4.7
92	SYL0455	20.0	0.6	30	423	tr.	1.5
93	SYL0456	5.0	0.6	17	61	tr.	3.5
94	SYL0457	6.2	0.2	11	64	tr.	1.7
95	SYL0458	7.7	0.1	51	69	tr.	3.5
96	SYL0459	8.9	0.6	8	60	tr.	2.3
97	SYL0460	8.1	0.3	5	113	tr.	6.0
98	SYL0461	7.3	1.7	5	161	0.1	4.7
99	SYL0462	4.6	0.6	8	253	tr.	4.2
100	SYL0463	5.0	0.9	7	130	tr.	3.0
101	SYL0464	4.6	1.1	8	126	0.1	3.3
102	SYL0465	1.9	0.8	7	130	0.1	8.8
103	SYL0466	1.5	0.8	6	102	0.1	4.8
104	SYL0467	tr.	0.8	7	102	tr.	4.2
105	SYL0468	4.2	0.7	13	48	0.1	0.3
106	SYL0469	8.0	0.4	8	56	0.1	0.9
107	SYL0470	14.6	0.5	6	45	tr.	5.6
108	SYL0471	4.2	0.2	7	28	tr.	1.7
109	SYL0472	3.5	0.2	6	37	tr.	5.1
110	SYL0473	3.5	0.6	3	54	tr.	3.5
111	SYL0474	7.7	0.5	5	72	tr.	2.7
112	SYL0501	3.8	0.4	239	59	tr.	5.6
113	SYL0502	6.3	1.7	150	66	tr.	5.0
114	SYL0503	5.2	1.0	151	97	tr.	10.0
115	SYL0504	11.5	0.2	3	760	tr.	3.0
116	SYL0505	18.8	0.5	3	325	tr.	4.5
117	SYL0506	8.3	0.3	2	151	tr.	2.4
118	SYL0507	9.7	0.4	5	160	tr.	4.8
119	SYL0508	8.3	0.2	2	113	tr.	0.5
120	SYL0509	24.3	0.1	4	146	tr.	0.9
121	SYL0510	17.7	tr.	9	118	tr.	4.5
122	SYL0511	10.8	0.5	2	85	tr.	2.3
123	SYL0512	8.7	0.2	2	61	tr.	2.0
124	SYL0513	5.9	0.2	7	41	tr.	2.3
125	SYL0514	5.6	0.5	6	56	0.1	5.0
126	SYL0515	5.9	0.2	10	55	0.1	4.2
127	SYL0516	9.4	0.1	14	100	tr.	10.1
128	SYL0517	8.3	1.9	15	86	0.1	5.1
129	SYL0518	7.0	1.4	32	129	0.1	4.2
130	SYL0519	4.2	1.2	5	44	0.1	1.4
131	SYL0520	5.9	1.0	6	45	0.1	5.1
132	SYL0521	2.4	1.0	4	41	0.1	2.4
133	SYL0551	6.7	1.2	122	38	0.1	tr.
134	SYL0552	38.2	0.6	37	118	0.1	5.7
135	SYL0553	105.2	tr.	212	260	tr.	tr.
136	SYL0554	42.9	0.4	29	232	0.1	2.7
137	SYL0555	28.0	0.5	9	155	tr.	tr.
138	SYL0556	7.9	0.4	13	335	0.1	tr.
139	SYL0557	35.5	0.7	179	301	tr.	0.5
140	SYL0558	11.0	0.9	130	80	tr.	tr.
141	SYL0559	9.5	0.8	330	87	tr.	tr.
142	SYL0560	9.1	0.5	106	59	tr.	tr.
143	SYL0561	3.2	0.7	201	65	tr.	tr.
144	SYL0562	4.3	0.4	224	75	tr.	1.2
145	SYL0563	3.5	0.8	31	77	0.1	tr.
146	SYL0564	41.4	0.9	4	74	0.1	0.5
147	SYL0565	8.7	1.6	11	77	tr.	tr.
148	SYL0566	9.8	1.3	8	71	0.1	tr.
149	SYL0567	12.2	1.3	14	70	0.1	tr.
150	SYL0568	8.3	1.3	7	69	0.1	tr.
151	SYL0569	6.7	0.6	5	61	0.1	tr.
152	SYL0570	8.7	0.8	4	51	0.1	tr.
153	SYL0571	7.1	1.0	6	70	0.1	tr.
154	SYL0572	9.8	0.8	6	69	0.1	tr.
155	SYL0573	7.9	0.9	39	49	0.1	tr.
156	SYL0601	9.5	1.9	8	337	0.1	tr.
157	SYL0602	2.8	1.0	4	201	0.1	tr.
158	SYL0603	22.5	1.3	4	112	tr.	4.6
159	SYL0604	tr.	0.5	7	116	0.1	0.5
160	SYL0605	3.2	0.9	28	86	tr.	7.8

Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
161	SYL0606	6.7	0.8	11	232	tr.	tr.
162	SYL0607	3.2	0.9	9	166	0.1	4.1
163	SYL0608	1.2	1.2	5	169	0.1	0.9
164	SYL0609	9.8	1.0	5	185	0.1	tr.
165	SYL0610	tr.	0.9	6	157	tr.	tr.
166	SYL0611	6.7	1.0	5	131	tr.	tr.
167	SYL0612	3.0	0.6	5	88	tr.	tr.
168	SYL0613	8.0	0.8	5	53	0.1	0.7
169	SYL0614	7.3	0.5	4	38	tr.	4.2
170	SYL0615	3.7	2.0	6	35	tr.	2.7
171	SYL0616	9.7	1.3	4	tr.	tr.	4.2
172	SYL0617	6.7	0.9	5	34	0.1	tr.
173	SYL0618	2.0	0.5	11	71	0.1	7.6
174	SYL0619	5.0	0.6	15	74	tr.	tr.
175	SYL0620	5.3	0.5	8	86	tr.	tr.
176	SYL0621	3.0	0.6	6	94	tr.	tr.
177	SYL0622	1.0	0.6	6	59	0.1	3.9
178	SYL0623	2.3	0.9	7	82	0.1	0.9
179	SYL0651	tr.	0.5	3	255	tr.	3.0
180	SYL0652	18.3	0.9	11	593	0.1	12.7
181	SYL0653	72.0	0.5	32	424	tr.	tr.
182	SYL0654	85.0	0.6	199	268	tr.	tr.
183	SYL0655	109.0	0.6	69	598	0.1	1.4
184	SYL0656	56.0	0.8	25	903	0.1	tr.
185	SYL0657	42.3	0.4	33	390	tr.	tr.
186	SYL0658	29.7	0.7	12	235	tr.	tr.
187	SYL0659	25.3	0.4	3	261	tr.	tr.
188	SYL0660	22.3	0.3	7	467	tr.	tr.
189	SYL0661	7.7	0.6	218	49	tr.	tr.
190	SYL0662	4.3	1.5	295	42	tr.	tr.
191	SYL0663	tr.	1.1	248	25	tr.	tr.
192	SYL0664	tr.	0.6	14	54	tr.	tr.
193	SYL0665	4.3	0.9	21	81	0.1	tr.
194	SYL0666	9.3	1.6	10	63	0.1	tr.
195	SYL0667	2.7	0.6	6	48	tr.	1.8
196	SYL0668	tr.	0.9	14	55	tr.	1.8
197	SYL0669	2.3	0.8	9	55	tr.	tr.
198	SYL0670	3.3	0.6	9	55	tr.	tr.
199	SYL0671	4.4	0.7	22	48	tr.	tr.
200	SYL0701	8.8	0.6	126	156	tr.	tr.

Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
201	SYL0702	7.7	0.6	73	89	0.1	tr.
202	SYL0703	5.1	0.7	16	170	0.1	tr.
203	SYL0704	4.7	0.7	44	90	tr.	tr.
204	SYL0705	1.5	1.2	141	44	tr.	tr.
205	SYL0706	5.5	0.9	15	92	tr.	3.1
206	SYL0707	5.1	0.5	9	150	tr.	1.7
207	SYL0708	8.4	0.6	7	139	tr.	tr.
208	SYL0709	1.1	1.4	6	142	tr.	tr.
209	SYL0710	tr.	1.3	4	78	tr.	7.0
210	SYL0711	2.9	0.8	5	71	tr.	0.7
211	SYL0712	5.5	0.5	250	71	tr.	tr.
212	SYL0713	5.5	0.2	70	71	tr.	3.4
213	SYL0714	11.0	0.3	206	113	tr.	tr.
214	SYL0715	6.9	0.7	8	60	0.1	tr.
215	SYL0716	4.0	0.5	5	45	tr.	4.9
216	SYL0717	6.9	0.5	7	56	0.1	7.2
217	SYL0718	4.0	0.7	9	53	0.1	3.1
218	SYL0719	4.0	0.4	7	72	tr.	tr.
219	SYL0720	5.8	0.6	41	47	tr.	2.3
220	SYL0721	7.7	0.6	36	58	tr.	3.3
221	SYL0722	5.5	0.6	14	111	tr.	1.3
222	SYL0723	8.4	0.4	11	83	tr.	1.8
223	SYL0724	1.8	0.8	8	101	0.1	12.1
224	SYL0751	3.7	0.4	50	106	0.1	4.0
225	SYL0752	4.0	0.5	150	138	tr.	tr.
226	SYL0753	tr.	1.6	244	83	tr.	tr.
227	SYL0754	2.6	0.7	58	407	tr.	tr.
228	SYL0755	142.5	0.6	18	550	0.1	2.9
229	SYL0756	8.0	0.9	21	344	0.1	5.1
230	SYL0757	17.5	1.2	8	692	tr.	5.4
231	SYL0758	15.3	0.5	6	259	tr.	4.9
232	SYL0759	50.4	0.8	11	304	0.1	2.7
233	SYL0760	76.4	0.5	21	215	0.1	10.7
234	SYL0761	9.5	1.0	184	114	tr.	2.0
235	SYL0762	5.5	1.1	380	56	tr.	5.8
236	SYL0763	2.6	1.2	12	55	tr.	3.6
237	SYL0764	6.2	1.0	16	78	tr.	tr.
238	SYL0765	2.9	0.9	6	53	tr.	2.7
239	SYL0766	0.7	0.8	4	39	tr.	7.4
240	SYL0767	6.9	0.8	6	75	tr.	10.8

Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
241	SYL0768	6.6	1.8	6	99	tr.	0.9
242	SYL0769	6.5	1.5	6	75	tr.	tr.
243	SYL0770	6.2	1.2	7	46	tr.	tr.
244	SYL0801	tr.	1.4	15	65	tr.	3.6
245	SYL0802	tr.	1.3	4	473	tr.	2.7
246	SYL0803	tr.	1.1	4	122	tr.	2.3
247	SYL0804	0.7	0.7	4	108	tr.	tr.
248	SYL0805	1.1	0.9	5	131	tr.	tr.
249	SYL0806	7.1	1.1	5	160	0.1	tr.
250	SYL0807	4.5	1.1	8	122	tr.	5.8
251	SYL0808	3.2	0.9	11	76	0.1	0.7
252	SYL0809	3.6	1.0	8	86	tr.	1.8
253	SYL0810	3.9	0.7	8	98	tr.	2.0
254	SYL0811	2.3	0.7	5	76	0.1	tr.
255	SYL0812	1.3	1.0	10	60	tr.	1.3
256	SYL0813	tr.	2.0	12	53	tr.	tr.
257	SYL0814	tr.	1.4	18	90	0.1	0.4
258	SYL0815	1.0	1.0	13	34	tr.	3.4
259	SYL0816	1.6	1.1	71	68	tr.	3.1
260	SYL0817	8.4	0.7	14	89	tr.	0.5
261	SYL0818	8.4	0.6	9	77	tr.	0.9
262	SYL0819	9.1	0.5	7	68	0.1	tr.
263	SYL0820	4.9	0.6	5	66	tr.	tr.
264	SYL0821	4.2	0.4	8	63	tr.	4.2
265	SYL0822	8.4	0.2	11	45	tr.	tr.
266	SYL0823	5.8	0.5	5	69	0.1	tr.
267	SYL0824	6.5	0.8	6	56	0.1	tr.
268	SYL0825	5.8	0.8	8	102	tr.	tr.
269	SYL0826	4.9	0.7	9	100	tr.	tr.
270	SYL0851	2.6	1.1	26	73	0.1	tr.
271	SYL0852	10.1	0.5	78	97	tr.	1.1
272	SYL0853	tr.	0.7	201	128	tr.	tr.
273	SYL0854	3.2	0.6	22	91	tr.	tr.
274	SYL0855	11.0	1.3	15	55	tr.	tr.
275	SYL0856	6.2	1.6	26	203	tr.	tr.
276	SYL0857	tr.	0.8	35	268	tr.	tr.
277	SYL0858	19.2	0.7	7	416	tr.	4.2
278	SYL0859	2.9	0.6	12	229	tr.	4.9
279	SYL0860	14.0	0.5	19	152	tr.	6.9
280	SYL0861	9.1	0.7	13	194	tr.	12.5
281	SYL0862	6.2	0.3	3	81	tr.	5.2
282	SYL0863	4.9	0.9	14	65	tr.	4.9
283	SYL0864	13.6	0.5	196	66	tr.	17.9
284	SYL0865	tr.	1.0	245	50	tr.	15.2
285	SYL0866	1.3	0.5	11	56	tr.	5.4
286	SYL0867	5.5	0.9	6	64	tr.	2.5
287	SYL0868	tr.	0.8	5	68	tr.	2.9
288	SYL0901	1.6	1.6	27	67	tr.	9.1
289	SYL0902	8.2	1.1	11	100	tr.	3.3
290	SYL0903	6.1	1.1	10	124	tr.	5.2
291	SYL0904	9.8	0.7	11	115	tr.	2.6
292	SYL0905	7.4	0.8	6	101	tr.	0.7
293	SYL0906	10.2	1.0	5	180	tr.	4.8
294	SYL0907	0.8	0.6	5	322	tr.	7.7
295	SYL0908	4.1	0.5	4	136	tr.	2.5
296	SYL0909	9.4	0.7	8	90	tr.	0.6
297	SYL0910	3.3	0.7	8	130	tr.	0.6
298	SYL0911	4.1	0.8	12	99	tr.	tr.
299	SYL0912	9.8	0.6	10	87	tr.	tr.
300	SYL0913	tr.	0.8	8	149	tr.	4.2
301	SYL0914	10.6	0.8	8	35	tr.	12.7
302	SYL0915	11.0	0.5	9	73	tr.	tr.
303	SYL0916	11.0	1.2	8	71	tr.	1.7
304	SYL0917	11.5	0.8	8	61	tr.	5.9
305	SYL0918	9.4	0.9	7	61	tr.	3.5
306	SYL0919	5.3	0.7	5	59	tr.	3.8
307	SYL0920	14.7	1.0	15	40	0.1	6.8
308	SYL0921	10.2	0.8	7	82	tr.	4.3
309	SYL0922	11.5	0.7	7	66	tr.	4.6
310	SYL0923	11.0	0.8	6	66	tr.	11.7
311	SYL0924	3.7	0.7	15	62	tr.	5.6
312	SYL0925	1.6	0.6	8	70	tr.	16.2
313	SYL0926	4.1	0.6	17	93	tr.	4.9
314	SYL0927	3.3	0.8	7	129	tr.	0.7
315	SYL0951	3.7	1.5	23	48	tr.	1.4
316	SYL0952	0.8	1.3	15	71	tr.	1.6
317	SYL0953	5.3	0.5	57	75	tr.	2.3
318	SYL0954	15.8	0.9	16	389	tr.	1.0
319	SYL0955	13.5	0.8	13	247	tr.	tr.
320	SYL0956	20.3	0.5	20	494	tr.	4.6

Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)	Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
321	SYL0957	21.8	0.6	74	276	tr.	5.6	361	SYL1051	6.6	0.4	18	tr.	tr.	1.4
322	SYL0958	28.1	0.7	22	187	tr.	12.3	362	SYL1052	14.9	0.5	372	85	tr.	1.7
323	SYL0959	tr.	0.5	112	96	tr.	4.6	363	SYL1053	24.0	0.7	282	99	tr.	1.3
324	SYL0960	3.8	0.5	8	217	tr.	4.0	364	SYL1054	16.5	0.5	268	336	tr.	1.3
325	SYL0961	tr.	0.6	16	133	tr.	3.9	365	SYL1055	53.7	0.8	10	463	tr.	2.3
326	SYL0962	3.8	0.5	7	111	tr.	2.5	366	SYL1056	25.2	0.9	20	408	tr.	8.1
327	SYL0963	tr.	0.5	12	73	tr.	1.2	367	SYL1057	3.7	0.8	8	279	tr.	13.1
328	SYL0964	12.0	0.9	372	54	tr.	tr.	368	SYL1058	2.1	0.5	7	152	tr.	0.9
329	SYL0965	7.9	0.6	18	72	tr.	tr.	369	SYL1059	1.2	0.6	32	160	tr.	3.9
330	SYL0966	7.4	0.6	7	60	tr.	0.7	370	SYL1060	1.7	0.9	6	145	tr.	tr.
331	SYL0967	12.4	0.2	5	54	tr.	tr.	371	SYL1061	3.3	0.2	16	139	tr.	5.3
332	SYL1001	17.8	0.4	5	39	tr.	1.4	372	SYL1062	9.7	0.4	20	96	tr.	tr.
333	SYL1002	11.2	0.5	4	47	0.1	1.2	373	SYL1063	14.6	1.4	300	57	tr.	1.3
334	SYL1003	21.9	0.9	4	129	tr.	tr.	374	SYL1064	2.9	0.7	14	44	tr.	2.3
335	SYL1004	6.2	0.6	5	125	0.1	tr.	375	SYL1065	12.6	0.8	8	67	0.1	tr.
336	SYL1005	7.4	0.6	7	98	tr.	10.8	376	SYL1101	69.0	0.6	4	44	0.1	93.6
337	SYL1006	12.0	1.1	7	92	tr.	4.8	377	SYL1102	7.8	0.7	179	63	tr.	1.0
338	SYL1007	9.5	0.8	5	110	tr.	0.7	378	SYL1103	tr.	0.8	511	90	tr.	7.1
339	SYL1008	9.1	0.7	3	84	tr.	1.4	379	SYL1104	tr.	0.6	21	113	tr.	5.3
340	SYL1009	4.5	1.0	6	92	tr.	tr.	380	SYL1105	tr.	0.3	4	67	tr.	11.9
341	SYL1010	1.7	0.6	8	83	tr.	0.6	381	SYL1106	tr.	0.4	3	79	tr.	16.0
342	SYL1011	14.1	0.8	10	79	tr.	3.3	382	SYL1107	1.5	0.4	5	138	tr.	tr.
343	SYL1012	1.1	1.1	12	79	tr.	0.7	383	SYL1108	13.6	0.8	9	141	tr.	tr.
344	SYL1013	5.4	1.3	30	85	tr.	0.9	384	SYL1109	7.8	1.3	7	162	tr.	1.9
345	SYL1014	3.7	0.4	15	78	tr.	5.2	385	SYL1110	12.1	1.1	6	108	tr.	9.1
346	SYL1015	8.7	0.6	9	75	tr.	2.0	386	SYL1111	5.3	1.1	7	88	tr.	tr.
347	SYL1016	8.7	0.8	7	73	tr.	2.0	387	SYL1112	8.3	0.9	11	84	tr.	tr.
348	SYL1017	7.9	0.9	12	70	tr.	4.5	388	SYL1113	9.7	1.4	9	79	tr.	tr.
349	SYL1018	10.3	0.7	6	62	tr.	12.7	389	SYL1114	7.3	1.2	10	67	tr.	tr.
350	SYL1019	12.4	0.9	6	42	tr.	1.0	390	SYL1115	10.2	1.4	14	53	tr.	tr.
351	SYL1020	2.1	1.1	3	36	tr.	0.9	391	SYL1116	9.2	1.0	7	61	tr.	2.3
352	SYL1021	tr.	0.9	7	79	tr.	1.3	392	SYL1117	7.8	1.0	7	69	tr.	tr.
353	SYL1022	tr.	0.9	8	95	tr.	6.9	393	SYL1118	7.8	0.6	7	64	tr.	tr.
354	SYL1023	1.2	1.0	9	84	tr.	0.9	394	SYL1119	6.3	1.6	12	65	tr.	tr.
355	SYL1024	9.9	1.0	8	66	tr.	tr.	395	SYL1120	tr.	1.3	9	46	tr.	0.9
356	SYL1025	12.0	0.9	13	61	tr.	2.9	396	SYL1121	tr.	1.4	38	73	tr.	2.4
357	SYL1026	15.3	0.8	3	86	tr.	1.3	397	SYL1122	1.0	1.2	12	49	tr.	0.6
358	SYL1027	12.0	0.7	4	90	tr.	0.9	398	SYL1123	tr.	1.2	19	49	tr.	1.4
359	SYL1028	3.3	0.8	4	106	tr.	1.2	399	SYL1124	tr.	1.5	12	75	tr.	2.3
360	SYL1029	7.4	0.8	4	132	tr.	0.7	400	SYL1125	16.5	1.2	12	57	tr.	tr.

Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
401	SYL1126	10.2	0.9	9	78	tr.	tr.
402	SYL1127	12.6	0.9	12	76	tr.	tr.
403	SYL1128	4.9	1.0	12	105	tr.	tr.
404	SYL1129	8.7	1.2	5	113	tr.	1.5
405	SYL1130	8.3	0.9	8	91	tr.	tr.
406	SYL1151	9.7	0.9	7	71	tr.	13.1
407	SYL1152	tr.	0.6	2	75	tr.	2.4
408	SYL1153	54.4	1.0	60	133	tr.	tr.
409	SYL1154	19.4	0.9	16	94	tr.	2.5
410	SYL1155	10.7	1.0	9	90	tr.	1.3
411	SYL1156	27.2	0.7	11	299	tr.	1.0
412	SYL1157	1.5	1.0	8	302	0.2	0.5
413	SYL1158	tr.	0.8	76	90	tr.	tr.
414	SYL1159	16.5	1.5	19	95	tr.	tr.
415	SYL1160	2.9	1.5	24	192	tr.	3.5
416	SYL1161	19.7	0.7	11	81	tr.	2.6
417	SYL1162	53.5	0.8	10	57	0.1	2.7
418	SYL1163	16.0	1.3	17	88	tr.	tr.
419	SYL1164	17.8	1.5	253	117	0.1	2.0
420	SYL1201	13.7	1.6	322	79	0.1	tr.
421	SYL1202	10.8	1.9	14	86	tr.	tr.
422	SYL1203	6.7	1.9	20	83	0.1	7.2
423	SYL1204	9.3	1.0	77	78	tr.	4.1
424	SYL1205	6.3	0.9	59	183	0.1	5.4
425	SYL1206	0.7	0.9	11	239	0.1	6.0
426	SYL1207	6.7	1.0	11	97	0.1	2.4
427	SYL1208	11.9	1.2	10	106	0.1	5.8
428	SYL1209	3.0	0.9	14	47	tr.	2.9
429	SYL1210	8.9	1.0	8	77	tr.	4.4
430	SYL1211	17.5	0.6	7	49	0.1	0.6
431	SYL1212	8.2	1.1	14	57	0.1	0.9
432	SYL1213	4.8	1.4	16	62	0.1	3.0
433	SYL1214	3.3	1.6	9	52	0.1	5.6
434	SYL1215	tr.	1.8	5	46	0.1	1.5
435	SYL1216	2.6	1.2	5	59	0.1	1.4
436	SYL1217	3.7	1.1	6	72	0.1	1.4
437	SYL1218	7.8	1.5	8	57	0.1	2.0
438	SYL1219	8.2	1.5	35	34	0.1	tr.
439	SYL1220	13.7	1.1	13	25	0.1	tr.
440	SYL1221	27.1	1.4	14	57	0.1	tr.

Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
441	SYL1222	7.8	1.4	42	46	0.2	1.4
442	SYL1223	9.3	0.8	15	52	0.2	0.6
443	SYL1224	3.3	0.8	17	44	tr.	0.6
444	SYL1225	3.0	0.8	5	63	0.1	2.1
445	SYL1226	8.5	1.2	5	52	tr.	0.9
446	SYL1227	5.9	1.5	7	76	tr.	1.7
447	SYL1228	8.5	0.9	8	86	0.1	3.0
448	SYL1229	12.3	1.4	4	78	tr.	0.6
449	SYL1230	0.7	1.1	6	107	tr.	1.5
450	SYL1231	14.5	0.1	6	87	tr.	tr.
451	SYL1232	1.1	0.7	6	90	tr.	0.9
452	SYL1251	3.7	0.7	12	49	tr.	4.1
453	SYL1252	3.7	0.7	9	99	0.1	2.0
454	SYL1253	3.1	0.9	11	129	tr.	6.7
455	SYL1254	7.9	0.4	9	134	tr.	4.8
456	SYL1255	10.6	1.4	5	132	tr.	tr.
457	SYL1256	5.8	0.9	10	98	0.1	tr.
458	SYL1257	70.0	1.1	53	70	0.1	tr.
459	SYL1258	tr.	0.6	23	57	0.1	0.5
460	SYL1259	tr.	0.9	18	108	0.2	tr.
461	SYL1260	tr.	1.3	15	102	0.1	tr.
462	SYL1261	tr.	1.2	9	152	0.1	tr.
463	SYL1262	6.5	1.0	33	100	tr.	tr.
464	SYL1301	7.2	0.8	586	tr.	0.1	tr.
465	SYL1302	3.8	0.7	17	tr.	tr.	tr.
466	SYL1303	8.9	1.2	202	53	0.1	tr.
467	SYL1304	5.1	0.4	9	57	0.1	tr.
468	SYL1305	5.1	0.4	6	59	0.1	0.5
469	SYL1306	11.6	0.5	6	42	0.1	0.9
470	SYL1307	6.5	1.3	6	65	0.1	8.0
471	SYL1308	5.1	0.7	7	74	0.1	3.8
472	SYL1309	4.8	0.6	6	80	0.2	6.4
473	SYL1310	tr.	0.9	8	63	0.1	6.3
474	SYL1311	tr.	0.4	8	60	0.1	tr.
475	SYL1312	tr.	0.7	10	50	0.1	tr.
476	SYL1313	tr.	0.6	6	93	0.1	tr.
477	SYL1314	tr.	0.7	13	54	0.1	2.6
478	SYL1315	tr.	1.0	7	66	0.1	tr.
479	SYL1316	tr.	1.0	7	75	0.1	7.8
480	SYL1317	tr.	1.1	7	52	0.1	1.0

Appendix 3 RESULTS OF CHEMICAL ANALYSIS OF SOIL SAMPLES, SUNGAI SINYI AREA

Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
481	SYL1318	4.5	2.2	5	48	0.1	7.5
482	SYL1319	7.0	1.8	7	47	0.1	tr.
483	SYL1320	14.0	1.1	9	40	0.1	tr.
484	SYL1321	9.4	1.6	5	61	0.1	13.7
485	SYL1322	7.7	1.4	5	41	0.1	6.1
486	SYL1323	tr.	1.3	7	76	0.1	0.9
487	SYL1324	tr.	1.1	6	64	0.1	2.4
488	SYL1325	tr.	1.1	9	56	0.1	1.0
489	SYL1326	4.2	1.6	5	111	0.1	tr.
490	SYL1327	2.1	1.3	6	96	0.2	tr.
491	SYL1328	11.2	0.8	3	53	0.2	19.1
492	SYL1329	5.9	0.7	3	72	0.2	tr.
493	SYL1330	7.0	1.1	6	72	0.2	1.9
494	SYL1331	11.2	1.2	6	53	0.2	17.2
495	SYL1332	5.6	0.9	27	34	0.3	1.2
496	SYL1333	9.1	1.1	4	56	0.2	18.3
497	SYL1334	8.4	0.6	6	58	0.2	5.2
498	SYL1351	22.7	1.0	5	53	0.2	tr.
499	SYL1352	15.7	0.9	6	101	0.3	4.0
500	SYL1353	17.5	0.3	6	110	0.2	3.0
501	SYL1354	12.6	1.7	5	28	0.1	3.1
502	SYL1355	19.6	1.2	9	92	0.2	2.4
503	SYL1356	tr.	0.8	4	85	0.2	3.3
504	SYL1357	5.2	0.7	16	44	0.2	0.5
505	SYL1358	3.8	0.7	25	35	0.2	1.6
506	SYL1359	5.2	1.2	8	25	0.2	22.3
507	SYL1360	9.4	0.8	8	133	0.3	1.7
508	SYL1401	16.4	0.8	423	123	0.2	3.0
509	SYL1402	19.6	2.4	425	113	0.2	1.6
510	SYL1403	1.7	0.8	10	87	0.2	5.4
511	SYL1404	4.2	0.6	5	49	0.2	tr.
512	SYL1405	5.9	1.2	9	67	0.2	0.5
513	SYL1406	3.8	0.9	6	32	0.1	0.9
514	SYL1407	8.7	1.4	6	55	0.2	0.9
515	SYL1408	2.8	1.0	5	63	0.2	0.7
516	SYL1409	3.8	1.3	6	84	0.2	tr.
517	SYL1410	4.5	1.3	9	106	0.3	3.3
518	SYL1411	7.7	1.0	8	88	0.2	6.4
519	SYL1412	5.2	1.1	10	55	0.2	2.4
520	SYL1413	tr.	0.9	11	78	0.2	4.3
521	SYL1414	tr.	1.3	7	66	0.2	6.2
522	SYL1415	tr.	2.3	9	66	0.2	3.4
523	SYL1416	1.0	1.0	15	50	0.2	4.2
524	SYL1417	tr.	0.7	6	45	0.2	5.9
525	SYL1418	3.7	1.0	5	41	0.2	tr.
526	SYL1419	4.1	0.7	4	35	0.1	tr.
527	SYL1420	2.0	0.8	5	46	0.2	6.5
528	SYL1421	3.1	1.2	4	59	0.1	5.6
529	SYL1422	5.4	0.7	5	55	0.1	4.2
530	SYL1423	5.4	0.7	16	48	0.2	1.7
531	SYL1424	tr.	0.8	6	47	0.2	1.7
532	SYL1425	tr.	0.9	5	48	0.2	2.3
533	SYL1426	tr.	0.8	6	51	0.1	1.2
534	SYL1427	tr.	1.1	7	97	0.2	tr.
535	SYL1428	tr.	1.4	8	61	0.2	1.9
536	SYL1429	6.1	1.0	9	44	0.1	1.0
537	SYL1430	3.4	1.3	12	56	0.2	1.4
538	SYL1431	6.8	0.8	7	45	0.2	2.9
539	SYL1432	5.4	1.5	6	54	0.2	tr.
540	SYL1433	5.4	1.3	21	50	0.2	tr.
541	SYL1434	7.8	0.9	8	48	0.1	2.2
542	SYL1435	8.2	1.0	9	40	0.2	tr.
543	SYL1451	46.9	1.1	50	144	0.3	5.8
544	SYL1452	36.0	0.8	12	168	0.3	9.3
545	SYL1453	16.3	0.9	7	139	0.2	tr.
546	SYL1454	32.0	0.9	8	82	0.2	2.0
547	SYL1455	27.5	1.0	46	99	0.3	4.1
548	SYL1456	21.8	1.4	5	85	0.2	2.7
549	SYL1457	tr.	0.8	3	32	0.2	0.7
550	SYL1458	tr.	0.6	5	270	0.2	2.4
551	SYL1459	35.0	0.6	4	tr.	0.5	1.3
552	SYL1501	4.1	0.7	43	123	0.1	tr.
553	SYL1502	14.3	0.6	529	63	0.2	tr.
554	SYL1503	7.5	0.8	276	45	0.2	1.4
555	SYL1504	tr.	0.9	16	54	0.1	1.7
556	SYL1505	3.4	0.6	25	58	0.2	tr.
557	SYL1506	3.4	0.3	4	tr.	0.1	7.3
558	SYL1507	3.7	1.3	5	26	0.2	5.5
559	SYL1508	3.4	0.6	4	45	0.2	tr.
560	SYL1509	4.8	0.8	5	95	0.2	tr.

Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)	Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
561	SYL1510	1.0	0.9	5	98	0.2	1.6	601	SYL1606	7.2	0.3	3	47	0.1	2.0
562	SYL1511	6.5	1.1	8	106	0.1	tr.	602	SYL1607	39.9	0.6	5	41	0.1	4.7
563	SYL1512	tr.	1.1	24	69	0.2	4.7	603	SYL1608	17.6	0.6	9	43	0.1	5.9
564	SYL1513	tr.	1.2	5	36	0.1	2.2	604	SYL1609	10.4	0.5	18	142	tr.	2.4
565	SYL1514	tr.	0.9	10	tr.	0.1	tr.	605	SYL1610	10.8	0.8	11	35	0.1	4.6
566	SYL1515	tr.	0.9	7	38	0.1	4.5	606	SYL1611	tr.	0.9	18	55	0.1	3.6
567	SYL1516	tr.	0.9	9	31	0.1	5.2	607	SYL1612	5.4	0.7	9	55	0.2	1.7
568	SYL1517	5.4	1.3	43	29	0.1	5.0	608	SYL1613	2.2	0.5	5	49	0.1	3.7
569	SYL1518	4.3	0.9	14	63	0.1	4.2	609	SYL1614	2.5	0.8	9	51	0.2	5.5
570	SYL1519	5.0	1.0	7	39	0.1	5.5	610	SYL1615	4.0	1.1	7	37	0.2	4.2
571	SYL1520	4.0	0.7	6	41	0.1	2.3	611	SYL1616	4.9	0.7	14	tr.	tr.	5.7
572	SYL1521	4.0	1.4	7	80	0.1	2.7	612	SYL1617	8.9	1.0	5	36	0.2	50.9
573	SYL1522	6.5	0.8	7	49	0.2	4.4	613	SYL1618	3.9	0.8	3	41	0.1	3.4
574	SYL1523	2.2	1.4	5	81	0.2	3.3	614	SYL1619	7.9	1.1	5	74	0.2	2.0
575	SYL1524	tr.	1.3	5	72	0.2	3.6	615	SYL1620	tr.	0.9	7	46	0.2	2.3
576	SYL1525	tr.	1.3	3	53	0.2	5.2	616	SYL1621	2.5	0.8	9	38	0.2	2.7
577	SYL1526	5.0	0.9	4	37	0.1	10.1	617	SYL1622	tr.	0.8	19	43	0.2	4.3
578	SYL1527	10.1	0.9	6	50	0.1	4.9	618	SYL1623	tr.	0.6	3	49	0.1	15.2
579	SYL1528	10.1	1.0	8	41	0.1	4.3	619	SYL1624	tr.	0.8	3	39	0.1	3.0
580	SYL1529	7.5	0.9	7	55	0.2	1.1	620	SYL1625	1.0	0.7	14	39	0.1	2.9
581	SYL1530	2.5	0.9	4	62	0.1	2.7	621	SYL1626	9.4	0.8	4	41	0.2	3.0
582	SYL1531	9.0	0.6	9	86	0.2	3.2	622	SYL1627	8.4	0.8	5	31	0.1	3.0
583	SYL1532	8.3	0.6	5	49	0.2	2.2	623	SYL1628	20.2	0.8	4	36	0.2	3.3
584	SYL1533	6.5	0.6	5	68	0.1	4.9	624	SYL1629	3.0	0.8	4	36	0.1	4.9
585	SYL1534	5.8	0.9	7	46	0.1	4.3	625	SYL1651	15.3	0.3	11	57	0.1	4.6
586	SYL1535	5.8	0.6	9	40	tr.	4.7	626	SYL1652	7.4	0.3	4	81	0.1	4.9
587	SYL1536	1.8	0.7	198	tr.	tr.	6.0	627	SYL1653	tr.	0.5	5	48	0.1	4.3
588	SYL1537	2.2	0.8	306	27	0.1	2.4	628	SYL1654	228.0	0.4	11	81	0.6	5.9
589	SYL1551	3.6	0.7	13	38	0.1	4.2	629	SYL1655	531.2	0.5	7	458	1.6	5.0
590	SYL1552	0.7	0.5	2	tr.	tr.	4.2	630	SYL1701	3.4	0.1	17	36	0.5	2.3
591	SYL1553	12.9	0.5	5	42	0.1	6.2	631	SYL1702	18.2	1.0	613	131	0.2	2.7
592	SYL1554	5.8	0.4	4	70	0.1	0.9	632	SYL1703	13.8	1.0	85	81	0.1	4.6
593	SYL1555	67.6	1.1	14	62	0.3	3.3	633	SYL1704	tr.	0.9	79	48	0.1	5.6
594	SYL1556	238.6	0.7	6	77	0.8	4.9	634	SYL1705	tr.	1.0	173	44	0.1	3.6
595	SYL1557	192.6	0.8	16	90	0.6	4.7	635	SYL1706	2.5	0.5	612	54	0.2	5.9
596	SYL1601	15.1	0.6	9	87	0.1	5.0	636	SYL1707	0.5	0.2	23	35	tr.	5.3
597	SYL1602	5.8	0.7	12	97	0.1	5.5	637	SYL1708	3.0	0.8	40	27	0.1	4.6
598	SYL1603	15.8	0.6	33	167	0.2	2.3	638	SYL1709	1.5	0.4	5	73	0.1	4.9
599	SYL1604	14.0	0.9	134	42	0.1	5.5	639	SYL1710	4.4	0.3	11	76	0.1	3.2
600	SYL1605	7.5	0.4	14	79	0.1	6.7	640	SYL1711	9.4	0.9	6	64	0.1	2.0

Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
641	SYL1712	3.9	0.8	14	42	0.1	2.6
642	SYL1713	6.4	0.7	5	40	0.1	5.2
643	SYL1714	4.9	1.2	6	38	0.2	3.6
644	SYL1715	1.0	1.1	17	40	0.2	2.6
645	SYL1716	4.4	0.9	9	33	0.1	2.7
646	SYL1717	3.4	0.8	10	41	0.1	4.7
647	SYL1751	3.0	0.5	13	66	0.1	6.0
648	SYL1752	7.4	0.3	3	66	tr.	4.3
649	SYL1753	13.8	0.8	5	64	0.1	3.3
650	SYL1754	tr.	0.8	3	82	0.1	4.0
651	SYL1801	tr.	0.8	5	62	0.1	8.5
652	SYL1802	tr.	3.6	7	140	0.1	8.8
653	SYL1803	tr.	1.2	20	98	0.1	2.4
654	SYL1804	tr.	1.2	24	167	0.1	1.4
655	SYL1805	4.2	1.5	13	46	0.1	2.3
656	SYL1806	1.8	0.9	8	134	0.1	5.6
657	SYL1807	2.8	0.7	11	48	0.1	4.9
658	SYL1851	1.4	0.5	4	63	0.1	4.7
659	SYL1852	3.7	0.7	76	51	0.1	6.2
660	SYL1853	tr.	0.7	18	25	0.1	4.9

Appendix 9 Analytical Results of Soil Samples, Sungai Matung Area

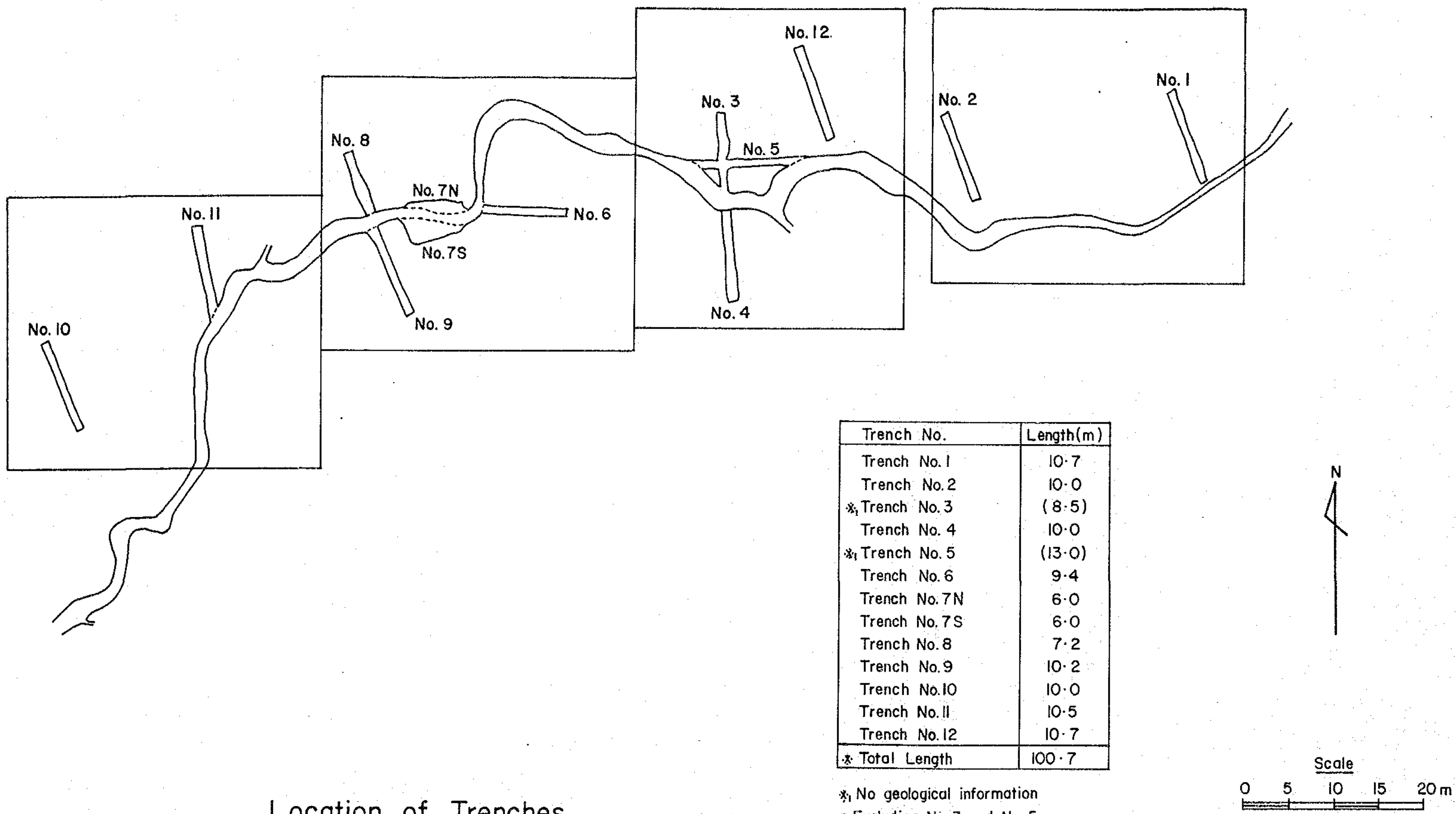
Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
1	MGL0101	tr.	1.2	23	94	0.1	7.3
2	MGL0102	tr.	1.0	14	62	0.1	3.8
3	MGL0103	tr.	0.8	37	85	0.1	12.7
4	MGL0104	tr.	0.8	13	72	0.1	4.2
5	MGL0105	4.6	0.6	39	83	0.1	11.1
6	MGL0106	13.8	0.7	12	264	0.1	7.3
7	MGL0107	36.9	0.5	9	377	0.1	4.4
8	MGL0108	29.5	1.0	219	84	0.1	5.1
9	MGL0110	22.2	1.5	60	42	0.1	6.7
10	MGL0111	5.5	1.1	9	75	0.2	9.3
11	MGL0112	4.6	0.9	8	74	0.2	5.1
12	MGL0113	3.7	1.0	7	70	0.2	17.5
13	MGL0114	6.0	0.8	9	92	0.2	2.1
14	MGL0115	3.2	1.2	9	79	0.2	3.6
15	MGL0116	3.7	0.9	6	70	0.1	9.3
16	MGL0117	5.1	0.8	8	56	0.1	3.9
17	MGL0201	tr.	0.7	21	189	0.1	1.6
18	MGL0202	tr.	0.5	10	224	0.1	7.3
19	MGL0203	tr.	0.7	10	186	0.1	11.8
20	MGL0204	8.3	0.9	9	277	0.1	tr.
21	MGL0205	11.1	0.9	9	768	0.1	10.0
22	MGL0206	26.2	0.7	26	492	0.1	2.4
23	MGL0207	24.9	1.1	178	112	0.1	3.3
24	MGL0208	21.3	0.5	233	144	0.1	7.3
25	MGL0209	15.1	0.8	362	86	0.1	0.8
26	MGL0210	20.0	0.4	193	48	0.2	1.8
27	MGL0211	tr.	0.4	18	57	0.1	4.1
28	MGL0212	tr.	0.8	8	67	0.1	10.6
29	MGL0213	tr.	0.8	13	51	0.1	4.2
30	MGL0214	tr.	0.5	4	52	tr.	2.3
31	MGL0215	tr.	0.6	7	44	0.1	3.1
32	MGL0216	6.1	0.9	6	50	0.1	19.8
33	MGL0217	5.7	0.7	5	46	0.1	5.6
34	MGL0301	8.6	0.6	7	182	0.1	12.6
35	MGL0302	12.7	0.5	18	216	0.1	11.6
36	MGL0303	11.9	0.5	66	133	0.1	3.1
37	MGL0304	23.3	0.4	41	278	0.1	9.0
38	MGL0305	10.2	0.5	14	846	0.2	9.0
39	MGL0306	5.3	0.2	6	422	tr.	10.9
40	MGL0307	4.1	0.6	14	140	0.1	9.0
41	MGL0308	2.0	0.3	25	441	0.1	8.7
42	MGL0309	10.6	0.5	62	252	0.1	7.8
43	MGL0310	22.5	0.5	114	183	0.1	9.5
44	MGL0311	24.1	0.3	258	57	0.1	16.0
45	MGL0312	23.3	0.3	232	47	0.1	7.0
46	MGL0313	22.5	0.4	151	57	0.1	7.5
47	MGL0314	6.9	0.9	334	78	0.1	10.5
48	MGL0315	18.4	0.8	262	57	0.1	16.8
49	MGL0316	29.0	0.6	303	76	0.1	26.1
50	MGL0317	31.2	0.5	332	86	0.1	7.2
51	MGL0401	4.1	0.6	9	120	0.1	6.0
52	MGL0402	5.1	0.7	38	104	0.1	7.5
53	MGL0403	17.9	0.7	8	187	0.1	7.2
54	MGL0404	12.2	0.7	8	261	0.1	6.2
55	MGL0405	18.4	0.4	11	690	0.2	5.6
56	MGL0406	17.4	0.4	4	683	0.1	4.2
57	MGL0407	3.6	1.1	3	164	0.1	6.2
58	MGL0408	tr.	0.6	3.0	67	0.1	5.9
59	MGL0409	25.1	0.3	21	93	0.1	5.2
60	MGL0410	31.2	0.7	49	95	0.1	4.6
61	MGL0411	10.2	0.5	6	68	0.2	3.1
62	MGL0412	10.2	1.0	7	78	0.2	3.8
63	MGL0413	15.4	0.7	14	91	0.2	3.9
64	MGL0414	9.2	0.6	32	42	0.1	5.7
65	MGL0415	9.7	0.6	6	50	0.1	6.9
66	MGL0416	18.4	0.8	8	86	0.2	4.6
67	MGL0417	15.4	0.7	8	72	0.1	3.9
68	MGL0501	26.1	0.5	5	335	0.1	3.9
69	MGL0502	37.4	0.5	9	484	0.1	7.0
70	MGL0503	37.4	0.8	11	540	0.2	5.9
71	MGL0504	16.4	1.0	16	535	0.1	7.0
72	MGL0505	17.4	0.7	24	896	0.2	6.9
73	MGL0506	24.6	0.6	31	268	0.1	14.0
74	MGL0507	9.2	0.5	16	114	0.1	35.6
75	MGL0508	tr.	0.4	9	73	0.1	3.4
76	MGL0509	8.2	0.8	3	107	0.1	4.7
77	MGL0510	29.2	0.6	6	134	0.1	22.6
78	MGL0511	3.1	0.3	5	24	0.1	19.4
79	MGL0512	15.4	0.5	11	62	0.2	9.6
80	MGL0513	7.2	0.3	10	70	0.1	9.1

Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
81	MGL0514	5.6	0.4	7	50	0.2	10.1
82	MGL0515	7.2	0.5	9	74	0.2	9.1
83	MGL0516	6.6	0.4	7	245	0.1	9.3
84	MGL0517	4.1	0.5	6	280	0.1	10.3
85	MGL0601	87.1	0.7	12	551	0.2	43.6
86	MGL0602	63.0	0.6	14	839	0.2	7.6
87	MGL0603	18.4	0.3	5	478	0.1	12.9
88	MGL0604	9.2	0.3	5	401	0.1	11.8
89	MGL0605	tr.	0.1	6	385	0.1	1.5
90	MGL0606	tr.	0.1	3	214	0.1	tr.
91	MGL0607	7.2	0.1	13	322	0.2	tr.
92	MGL0608	4.6	0.2	5	287	0.1	tr.
93	MGL0609	4.1	0.1	3	149	0.1	tr.
94	MGL0610	26.6	0.1	7	164	0.2	tr.
95	MGL0611	27.1	0.7	40	160	0.1	tr.
96	MGL0612	17.4	0.5	5	155	2.4	tr.
97	MGL0613	22.0	0.3	2	154	0.1	tr.
98	MGL0614	4.6	0.6	4	319	0.1	1.9
99	MGL0615	12.3	0.5	7	326	0.1	2.2
100	MGL0616	4.1	0.5	3	674	0.1	1.0
101	MGL0617	19.9	0.5	8	179	0.2	13.8
102	MGL0701	48.1	0.6	18	473	0.2	1.0
103	MGL0702	30.7	0.5	15	293	0.1	1.7
104	MGL0703	15.4	0.6	12	298	0.1	1.3
105	MGL0704	tr.	0.3	4	171	0.1	tr.
106	MGL0705	tr.	0.6	14	340	0.1	tr.
107	MGL0706	6.1	0.4	3	226	0.1	7.4
108	MGL0707	6.1	0.2	3	248	0.1	3.2
109	MGL0708	15.9	0.3	42	276	0.1	tr.
110	MGL0709	16.6	0.3	3	131	0.1	9.9
111	MGL0710	27.2	0.4	8	166	0.1	tr.
112	MGL0711	4.2	0.3	7	135	0.1	3.4
113	MGL0712	13.4	0.4	22	122	0.1	tr.
114	MGL0713	18.0	0.6	5	139	0.1	tr.
115	MGL0714	5.1	0.4	6	125	0.3	tr.
116	MGL0715	0.9	0.4	4	200	0.1	tr.
117	MGL0716	10.2	0.6	11	104	0.2	tr.
118	MGL0717	2.8	0.6	3	90	0.1	0.7
119	MGL0801	tr.	0.4	7	331	0.2	0.5
120	MGL0802	37.8	0.4	9	271	0.1	tr.
121	MGL0803	35.5	0.5	5	223	0.1	tr.
122	MGL0804	23.1	0.3	6	143	0.1	13.6
123	MGL0805	24.5	0.7	4	115	0.2	1.0
124	MGL0806	29.5	0.6	13	339	0.4	15.2
125	MGL0807	25.4	0.2	5	194	0.1	6.9
126	MGL0808	16.2	0.4	5	160	0.1	7.6
127	MGL0809	18.9	0.2	4	138	0.1	2.9
128	MGL0810	16.6	0.2	3	112	0.3	45.3
129	MGL0811	21.2	0.3	5	101	0.1	tr.
130	MGL0812	37.4	0.2	6	193	0.3	tr.
131	MGL0813	42.9	0.2	3	182	0.1	tr.
132	MGL0814	tr.	0.3	5	149	0.2	4.5
133	MGL0815	42.5	0.7	5	137	0.3	8.3
134	MGL0816	0.5	0.5	7	82	0.1	7.7
135	MGL0817	0.9	0.5	12	124	0.2	2.5
136	MGL0901	4.2	0.4	10	202	0.1	2.0
137	MGL0902	29.5	0.5	10	201	0.1	2.5
138	MGL0903	27.7	0.6	6	187	0.1	1.7
139	MGL0904	24.9	0.5	8	155	0.3	11.1
140	MGL0905	45.2	0.4	15	174	0.2	2.5
141	MGL0906	36.0	0.3	9	185	0.1	22.1
142	MGL0907	33.7	0.5	9	142	0.1	tr.
143	MGL0908	55.4	0.5	9	127	0.3	4.2
144	MGL0909	75.2	0.6	26	140	0.1	3.1
145	MGL0910	62.8	0.6	4	157	0.2	6.8
146	MGL0911	61.4	0.8	4	126	0.3	1.6
147	MGL0912	55.8	0.5	6	132	0.2	2.6
148	MGL0913	50.8	0.5	11	176	0.2	2.1
149	MGL0914	2.8	0.6	8	122	0.1	2.8
150	MGL0915	2.3	0.4	6	106	0.1	0.5
151	MGL0916	tr.	0.3	11	125	0.1	0.8
152	MGL0917	2.8	0.4	8	110	0.2	1.0
153	MGL1001	0.5	0.7	6	51	0.3	1.0
154	MGL1002	31.4	0.6	11	96	0.2	1.0
155	MGL1003	37.4	0.2	196	105	1.3	0.8
156	MGL1004	44.8	0.4	11	181	0.2	0.8
157	MGL1005	26.8	0.3	9	241	0.2	tr.
158	MGL1006	43.4	0.3	15	131	0.1	1.8
159	MGL1007	56.8	0.3	17	110	0.3	3.9
160	MGL1008	75.7	0.7	15	189	0.2	5.4

Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
161	MGL1009	76.1	0.7	14	151	tr.	2.6
162	MGL1010	58.2	0.5	8	84	0.1	tr.
163	MGL1011	6.9	0.6	25	96	0.1	tr.
164	MGL1012	35.5	0.4	11	68	0.1	4.2
165	MGL1013	35.5	0.3	7	82	0.3	3.1
166	MGL1014	7.4	0.4	31	67	0.1	5.0
167	MGL1015	7.4	0.6	50	117	0.2	5.2
168	MGL1016	7.8	0.6	115	209	0.1	3.1
169	MGL1017	2.3	0.5	9	151	tr.	2.6
170	MGL1101	0.5	0.5	13	257	0.1	15.1
171	MGL1102	6.9	0.5	15	188	0.1	3.1
172	MGL1103	6.5	0.5	39	128	0.2	3.4
173	MGL1104	39.2	0.5	50	60	0.1	1.6
174	MGL1105	35.5	0.6	87	272	0.2	3.1
175	MGL1106	19.4	0.6	34	228	0.3	5.9
176	MGL1107	0.5	0.6	38	236	0.1	2.9
177	MGL1108	tr.	0.4	19	118	0.1	4.4
178	MGL1109	5.1	0.6	17	245	0.2	5.2
179	MGL1110	1.8	0.5	19	58	tr.	4.1
180	MGL1111	tr.	0.6	12	38	0.1	tr.
181	MGL1112	4.6	0.5	231	tr.	0.1	1.5
182	MGL1113	tr.	0.6	54	122	0.1	3.1
183	MGL1114	tr.	0.6	111	72	0.1	6.7
184	MGL1115	12.0	0.4	13	139	0.1	8.8
185	MGL1116	7.4	0.5	6	68	tr.	4.4
186	MGL1117	0.5	0.4	2	4.2	0.2	4.4
187	MGL1201	9.2	0.7	508	162	0.1	2.4
188	MGL1202	11.1	0.5	36	198	tr.	1.6
189	MGL1203	12.0	0.8	90	140	0.1	4.1
190	MGL1204	19.4	0.9	20	200	tr.	2.0
191	MGL1205	13.4	0.5	27	156	0.1	1.6
192	MGL1206	22.6	0.6	151	99	0.1	2.0
193	MGL1207	tr.	0.7	26	140	0.1	1.0
194	MGL1208	3.7	0.8	13	249	tr.	5.7
195	MGL1209	tr.	0.8	26	215	tr.	tr.
196	MGL1210	tr.	0.5	12	154	0.1	1.8
197	MGL1211	tr.	0.6	28	225	0.1	2.1
198	MGL1212	7.4	0.6	29	90	tr.	1.6
199	MGL1213	23.1	1.0	76	44	tr.	3.8
200	MGL1214	11.1	0.9	21	218	0.2	8.0

Ser No	Sample No.	As (ppm)	Ag (ppm)	Mn (ppm)	Hg (ppb)	Au (ppm)	Sb (ppm)
201	MGL1215	9.7	0.6	8	215	tr.	4.7
202	MGL1216	27.2	0.6	7	135	0.1	5.1
203	MGL1217	49.8	0.7	7	328	tr.	6.2
204	MGL1301	14.8	0.6	11	257	tr.	4.2
205	MGL1302	17.1	0.4	10	201	0.1	11.1
206	MGL1303	19.4	0.5	27	129	0.1	4.7
207	MGL1304	9.2	0.6	302	101	0.1	9.3
208	MGL1305	9.7	0.3	137	208	0.3	4.6
209	MGL1306	2.3	0.2	23	114	tr.	6.2
210	MGL1307	tr.	0.5	52	113	0.1	4.1
211	MGL1308	tr.	0.4	41	116	0.1	8.7
212	MGL1309	tr.	0.6	94	155	tr.	11.8
213	MGL1310	tr.	0.4	313	164	0.1	3.9
214	MGL1311	tr.	0.3	54	142	0.1	9.0
215	MGL1312	141.2	0.4	37	88	0.2	7.7
216	MGL1313	82.6	0.3	18	102	0.1	10.6
217	MGL1314	23.1	0.6	28	174	tr.	5.4
218	MGL1315	6.5	0.5	26	70	0.1	6.4
219	MGL1316	26.3	0.8	148	120	0.1	12.2
220	MGL1317	33.7	0.5	16	96	0.1	8.5
221	MGL1401	31.4	0.6	338	98	tr.	7.0
222	MGL1402	19.4	0.6	187	251	tr.	1.8
223	MGL1403	1.8	0.7	92	255	tr.	2.4
224	MGL1404	6.5	0.5	231	196	tr.	3.8
225	MGL1405	45.2	0.6	100	208	tr.	1.8
226	MGL1406	37.4	0.4	67	225	0.1	8.7
227	MGL1407	tr.	0.4	145	176	tr.	3.1
228	MGL1408	tr.	0.6	13	167	0.1	3.6
229	MGL1409	tr.	0.7	48	150	0.1	6.0
230	MGL1410	tr.	0.5	52	131	0.1	4.9
231	MGL1411	tr.	0.4	115	454	tr.	4.6
232	MGL1412	65.5	0.5	647	186	tr.	9.5
233	MGL1413	69.2	0.7	198	88	tr.	3.3
234	MGL1414	62.8	0.5	559	129	0.1	3.5
235	MGL1415	55.8	0.5	467	108	0.1	4.6
236	MGL1416	18.0	0.5	458	91	0.1	6.0
237	MGL1417	51.7	0.4	43	64	0.1	5.6

Appendix 10 Geology of Trenches, Sungai Matung Area

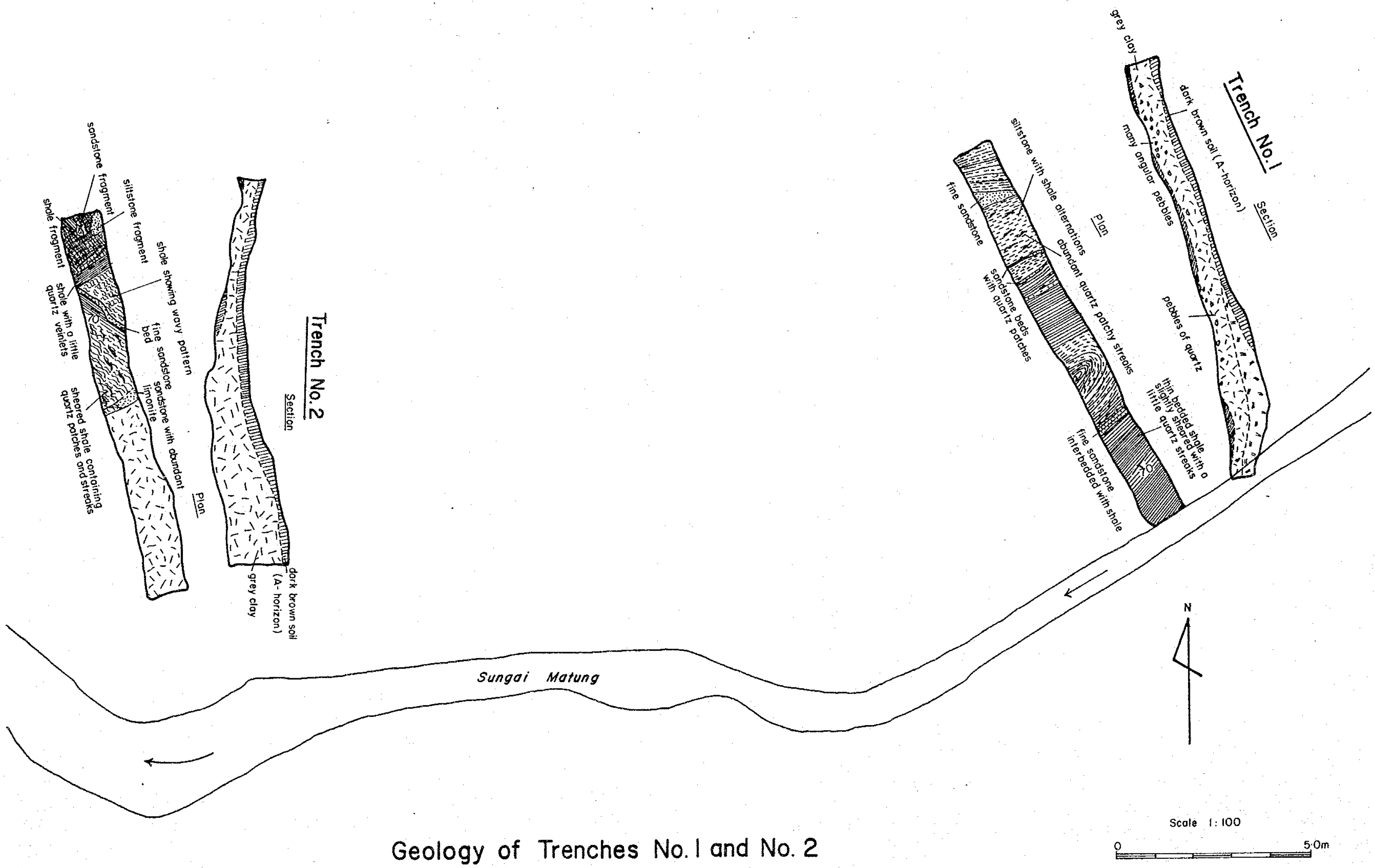


Trench No.	Length (m)
Trench No. 1	10·7
Trench No. 2	10·0
※1 Trench No. 3	(8·5)
Trench No. 4	10·0
※1 Trench No. 5	(13·0)
Trench No. 6	9·4
Trench No. 7N	6·0
Trench No. 7S	6·0
Trench No. 8	7·2
Trench No. 9	10·2
Trench No. 10	10·0
Trench No. 11	10·5
Trench No. 12	10·7
※ Total Length	100·7

※1 No geological information
※ Excluding No. 3 and No. 5

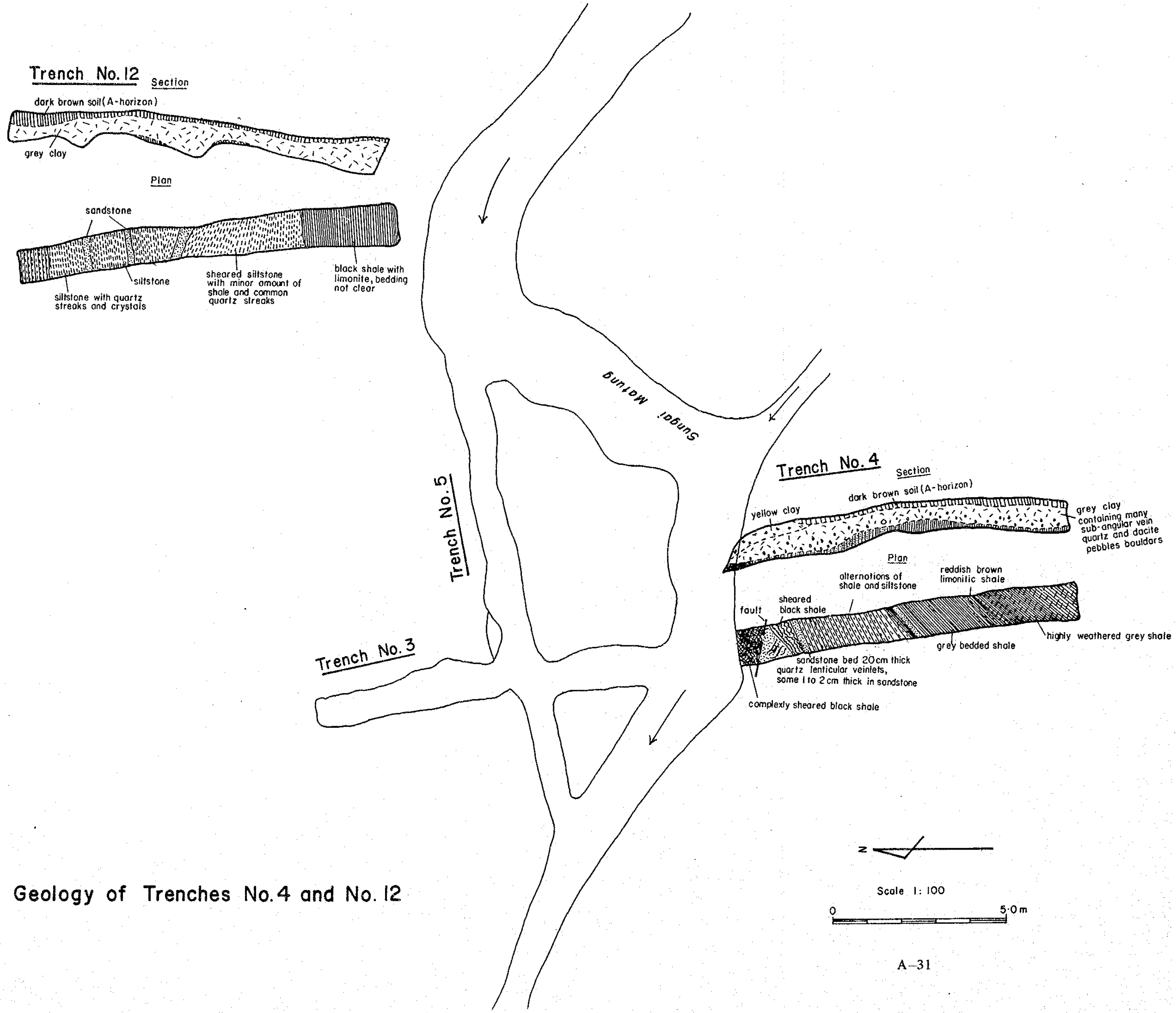
Location of Trenches

SP 3063/11/84

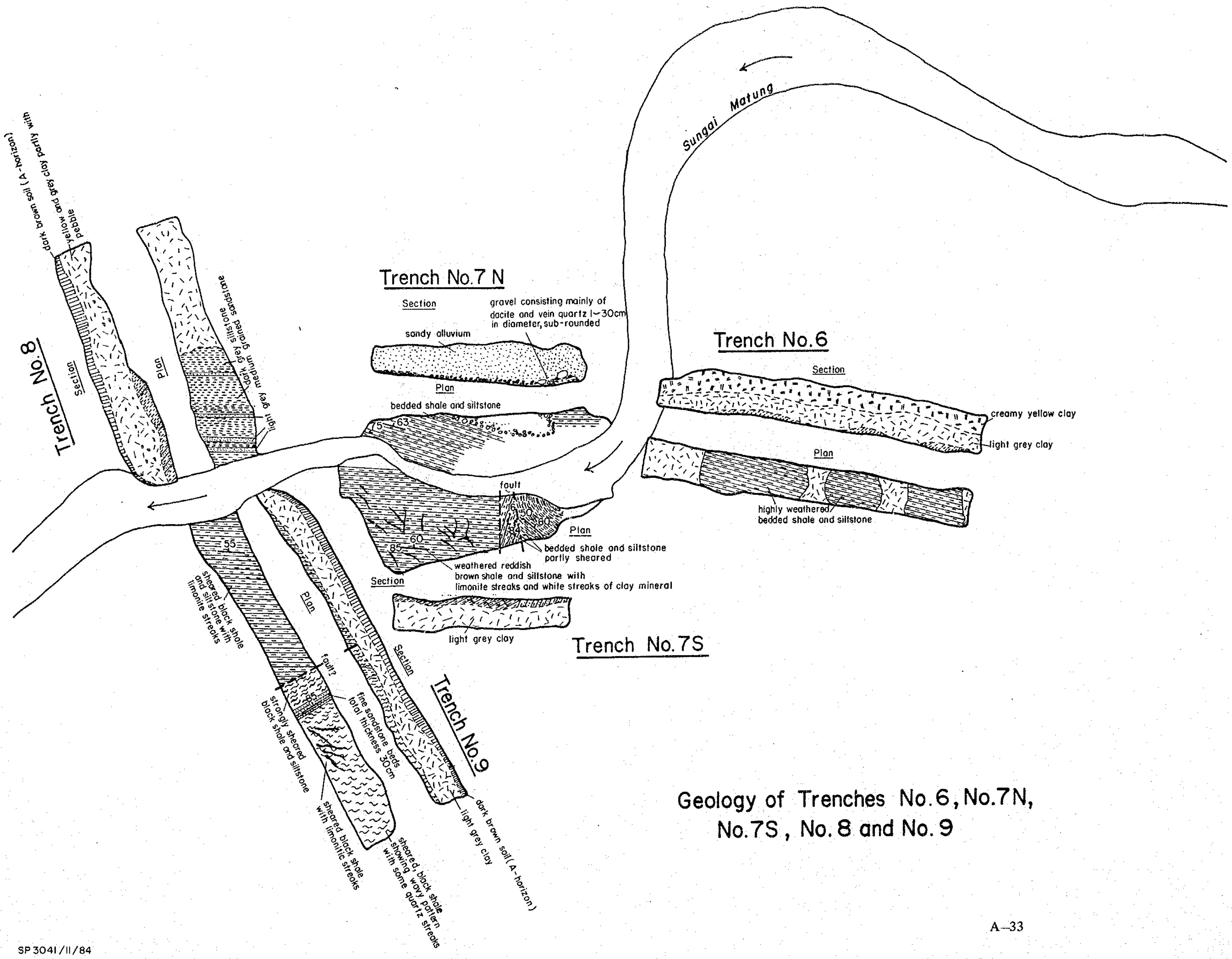


Geology of Trenches No.1 and No.2

SP 3059/II/84



Geology of Trenches No. 4 and No. 12



Geology of Trenches No.6, No.7N, No.7S, No.8 and No.9

SP 3041/11/84