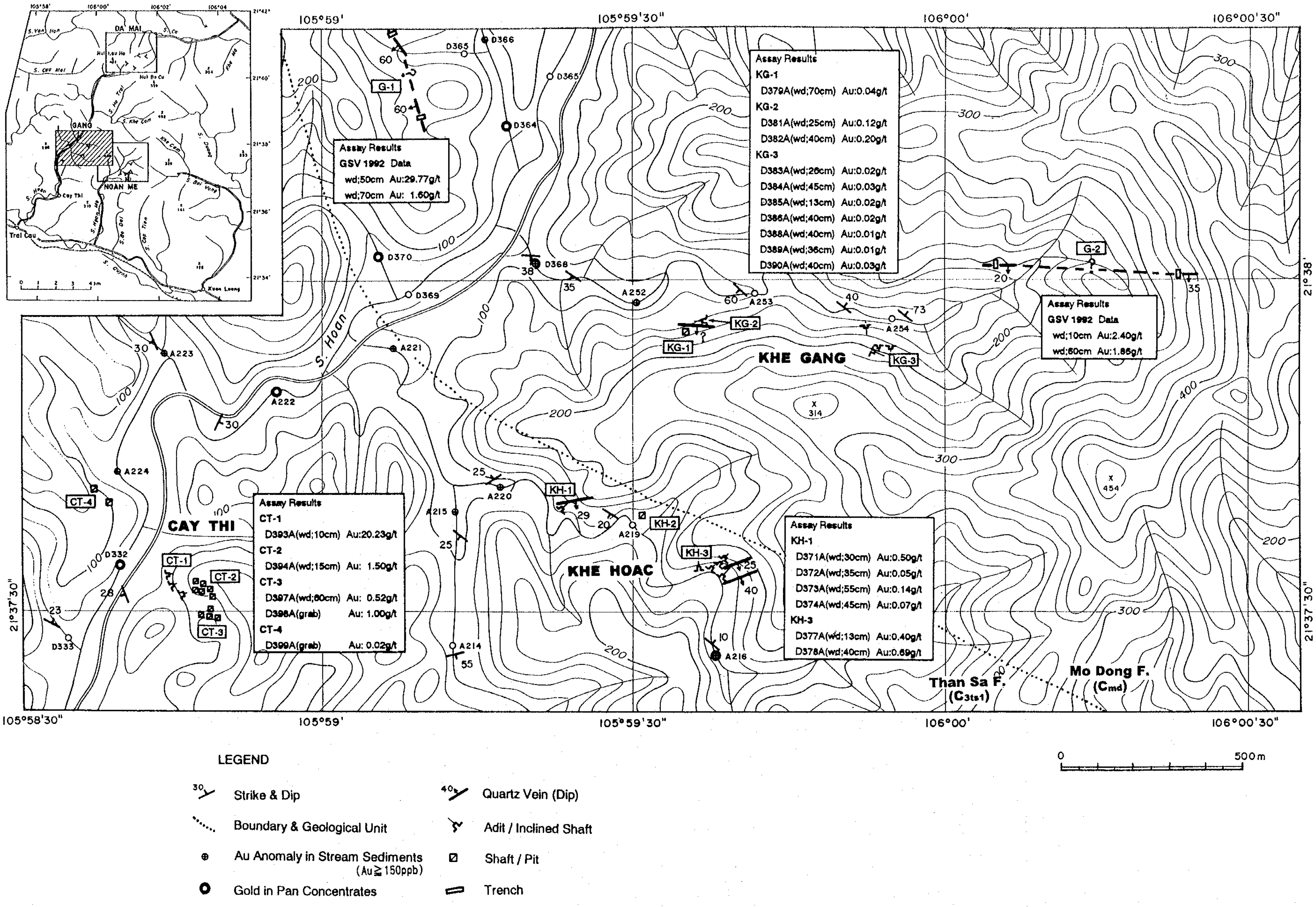


**Fig. 2-4-1 Distribution of Gold-Bearing Quartz Veins in the Gang Area**

arsenopyrite, pyrrhotite, chalcopyrite, covelline, bornite and galena was observed under the microscope. The activity of local miners is almost at the waning stage now.

Khe Hoac: The Khe Hoac prospect is located at the northern side of Khe Hoac which is the next creek south of Khe Gang. There are more than 10 shafts and adits spreading from WNW to ESE for about 500 m. Quartz veins are hosted by sandstone and shale of either the Mo Dong or Than Sa Formation. This prospect is located along the boundary of these two formations. The widths of veins are 10 to 55 cm. Some quartz samples contain visible gold grains. The vein quartz has a chalcedonic to transparent clear appearance, partly showing rose or pearl color. A trace of sulfide, mainly pyrite, was observed in this part. The gold shows an aggregate of tiny particles, some big one exhibits a shrunken foliage-like shape.

Cay Thi: The Cay Thi prospect is located approximately 1 km WSW of the Khe Hoac prospect. About 50 shafts and pits are distributed from the creek to the top of hills in this area. They are arranged in an area of 500 m long by 100 to 200 m wide. The zone is stretching WNW to ESE. They are hosted by black slate, shale, siltstone and schist of the Than Sa Formation. Two zones of quartz veins were found; both are dipping gently to S (at 20° to 30°). The upper zone, consisting of several quartz veins, is hosted by shale and siltstone. The lower zone, comprising a few quartz veins, occurs within gray to black slate. These two zones run parallel at 40 m apart. Some significant assay results were obtained from quartz veins in the Cay Thi prospect. The best result is 20.23 g/t Au at 10 cm in width (D393A). This is from the quartz vein of 5 cm in width + shear zones of a few cm at both sides. The vein shows N70°W, 20°S. It is hosted by light brown schist.

### 4-2-3 Fluid Inclusion Studies

#### (1) Methodology

Quartz chips were collected, and provided for fluid inclusion studies. Eleven quartz chips were sampled in the first phase in the semi-detailed survey area. The breakdown is: four from the Da Mai area, three from the Gang area, and four from the Ngan Me area. All samples were taken from quartz veins. Homogenization temperature was measured.

Thirty quartz chips were collected, and provided for fluid inclusion studies in total in the second phase. The breakdown is: nineteen from the Da Mai area, and eleven from the Ngan Me area. All samples were taken from quartz veins. Homogenization temperature and salinity were measured.

The same method of fluid inclusion studies as in the Da Mai area was taken in the Ngan Me area.

### 2) Results of Studies

The results of the fluid inclusion studies (morphology, homogenization temperature and salinity) were already explained altogether in the section of the Da Mai area.

## 4-3 Geophysical Survey (CSAMT Method)

### 4-3-1 Outline of Survey

Geophysical survey using CSAMT method was carried out in the Da Mai, Gang and Ngan Me areas in the first phase. The objectives of the survey were to investigate the relationship between resistivity and geologic structure and to extract resistivity anomalies related to mineralization. The Array CSAMT method was employed in this survey.

Amounts of the survey were as follows.

| | |
|---|---|
| •Total length of survey lines: | 30 km |
| •Survey points: | 330 points |
| •Laboratory test samples: | 20 pcs |

### 4-3-2 Survey Method

#### (1) Methodology

The same method as in the Da Mai area was taken in the Ngan Me area.

#### (2) Field Survey

Two sets of transmitting dipole were laid out as shown in a figure in the first phase report. The transmitting dipole No. 1 located approximately 6 km west of the Da Mai area was applied to the measurement of this area. The current electrode No. 2 located approximately 5 km west of the Gang area was applied to the measurement of the Gang and Ngan Me areas. Both dipoles are N-E in direction and about 1.6 km in spacing.

The survey lines (1 km in length, N-E in direction and 200 m in interval) were laid out as shown in figures in the first phase report.

The spacing of measuring points and potential electrodes are 100 m. Ten frequencies of 4, 8, 16, 32, 64, 128, 256, 512, 1,024, and 2,048 Hz were measured. Maximum 6 points were simultaneously measured.

The equipment used in this survey is shown in a table in the first phase report.

### (3) Laboratory Test

Resistivity and chargeability of rock samples in the survey areas were measured in laboratory. The same method as in the field measurement was applied. More than twenty samples were measured in laboratory for three areas in total.

### (4) Analytical Method

The same analytical method for the following items as in the Da Mai area was applied in the Ngan Me area:

- Pseudosection of Apparent Resistivity
- Contour Map of Apparent Resistivity
- 1-D Inverse Analysis
- Resistivity Structure Section (1-D Inverse Analysis)
- 2-D Inverse Analysis
- Resistivity Structure Section (2-D Inverse Analysis)
- Resistivity Structure Map (2-D Inverse Analysis)
- Integrated Interpretation Map

## 4-3-3 Results of Field Survey

### (1) Apparent Resistivity

The pseudosections of the apparent resistivity of every line are shown in figures in the first phase report and the contour maps of the apparent resistivity of 3 frequencies (1,024, 128 and 16 Hz) are shown in figures in the first phase report. The apparent resistivity in the Gang area tend to become high (more than 1,000 ohm-m) in the high frequencies and to decrease as frequency decreases. However, the resistivity turns high in the low frequencies less than 32 Hz. The horizontal change of the apparent resistivity is relatively small in the pseudosections.

In the map of 1,024 Hz, high resistivity more than 2,000 ohm-m is predominantly distributed in the west half of this area. The apparent resistivity of 1,024 and 128 Hz show the similar distribution. In these maps, low resistivity less than 500 ohm-m is predominantly distributed in the east half of this area. The apparent resistivity shows a tendency to be low in the ridge parts and high in the valley parts, similarly to the Da Mai area. The direction of the resistivity distribution is E-W according to the topography, on the whole. In the map of 1,024 Hz, the high resistivity zones more than 5,000 ohm-m were detected in the stream part (No. 8) of lines G-5 to G-7.

### (2) Resistivity Structure (1-D Analysis)

The resistivity structure sections drawn with the 1-D analysis are shown in figures in the first phase report. The analysis gave the three layered structure composed of high resistivity layer in the shallow zone, low in the middle zone, and medium in the deep zone.

### (3) Resistivity Structure (2-D Analysis)

The resistivity structure sections drawn with the 2-D analysis are shown in figures in the first phase report. The resistivity structure maps of 3 levels (SL 100m, SL 0m, and SL -200m) are shown in figures in the first phase report. Removing the topographic effect (low resistivity in the ridge parts and high resistivity in the valley part were reduced) made the resistivity distribution more smooth than the apparent resistivity distribution. On the whole, the resistivity structure is layer. The high resistivity areas more than 2,000 ohm-m are distributed in the shallow zone and the low resistivity areas (minimum less than 50 ohm-m) are distributed in the deep zone.

As can be seen from the maps, the low resistivity areas less than 500 ohm-m are distributed from the surface in the eastern part and extend to the direction of SW in the deeper zone. Therefore, the resistivity structure has the direction of NW-SE and inclines to the south. Judging from the maps, the dip is relatively gentle 20 to 30 degree.

In the shallow zone, the high resistivity zones more than 5,000 ohm-m were detected in the southern part of lines G-5 to G-7, the middle part of lines G-3 to G-4, and the northern part of lines G-4 to G-7. These high resistivity zones do not extend to the deeper zone.

## 4-3-4 Laboratory Test

The results of the laboratory test were already explained in the section of the Da Mai area.

### 4-3-5 Integrated Interpretation

(1) Resistivity Features

The laboratory test results and geologic information led to the following resistivity features about the rocks and geologic structure in the survey areas.

1) High Resistivity

In the survey areas, the group of quartz veins and the granite are assumed to form higher resistivity than the host rock.

The quartz vein containing few fissures is extremely high (more than 10,000 ohm-m) in resistivity. However, it is very difficult to extract narrow high resistivity zone in width by this measurement system. In the case of the zone where many quartz veins are concentrated (the group of quartz veins), it is sufficiently possible to extract a high resistivity zone related to quartz veins. MT method is not much sensitive to high resistivity. Thus, the width of the group of quartz veins is expected to be more than 100 m if a high resistivity zone related to quartz veins is extracted by this measurement system. When fractures develop in the group of quartz veins, it is possible that the resistivity of the group is lowered and a high resistivity zone related to quartz veins is not extracted.

When the samples of granite were weathered and cataclastic, they had the same resistivity (1,734 ohm-m) as the host rock. When the granite is fresh in deep zone, it seems that granite is several times higher in resistivity and a high resistivity area related to granite is extracted.

The laboratory test shows that the existence of the other rocks might not form higher resistivity.

2) Low Resistivity

In the survey areas, claystone and siltstone, fracture zone and the layer containing graphite are assumed to form lower resistivity than the host rock.

The laboratory test showed that claystone, siltstone and one of the shale had the lowest resistivity (about 600 ohm-m). When fractures exist in these rocks, they lower further their resistivity..

In fracture zones, low resistivity zones are generally extracted, because they are high permeable (high conductible) . Many of fracture zones have a figure lower resistivity less than host rock.

Graphite has extremely low resistivity less than several ohm-m. The resistivity of the layer containing graphite is lowered depending on its content.

(2) Relations to Geologic Structure

The figure arranged the resistivity structure sections (2-D analysis) in the sequence of the lines is shown in a figure in the first phase report to grasp three dimensional resistivity structure. The followings are the geological interpretation to resistivity structure in the Gang area on the basis of the above resistivity features.

Resistivity structure :It is layered structure - NW-SE strike with 20 to 30 degree S dip. The high resistivity layer is distributed in the shallow zone and the low resistivity layer is distributed in the deep zone. In the shallow zone, the high resistivity zones more than 5,000 ohm-m were detected in the southern part of lines G-5 to G-7, the middle part of lines G-3 to G-4, and the northern part of lines G-4 to G-7. These high resistivity zones do not extend to the deeper zone.

Interpretation: The strike and dip of the resistivity structure matches with those of the geologic structure. The high resistivity zones in the shallow zone seems to result from the group of quartz veins. They will have gentle dip, since they are distributed rather broadly in the shallow zone. The low resistivity layer is considered the layer composed of claystone, siltstone, shale or the layer containing graphite. In the case of the former, fractures will develop in the layer because of the existence of the low resistivity zones less than 50 ohm-m. In the case of the latter, a considerable amount of graphite will be involved.

(3) IP Method

The laboratory test results gave the obvious contrast between the quartz vein containing pyrite and the other rocks in the survey areas. When the IP method is applied to this areas, it is graphite that adversely affects the data. The laboratory test showed that the IP effect is small, in the case of containing few amounts of graphite. If a layer contains a considerable amount of graphite, the CSAMT method sensitive to low resistivity should extract a low resistivity area because of the extremely low resistivity (less than several ohm-m) of graphite.

Consequently, it is considered that the high resistivity zones extracted by this survey contain few amounts of graphite and IP response is little affected in these zones. Thus, the IP method is available for these high resistivity zones in order to delineate prospective parts.

Since the CSAMT method is not much sensitive to high resistivity and this measurement was carried out with the potential electrode spacing of 100 m, the resistivity distribution related to the mineralization was not able to determine with sufficient accuracy. From this standpoint also, it is significant to carry out the IP method sensitive to high resistivity with high density.

The result of the integrated interpretation is shown in Fig. 2-4-2.

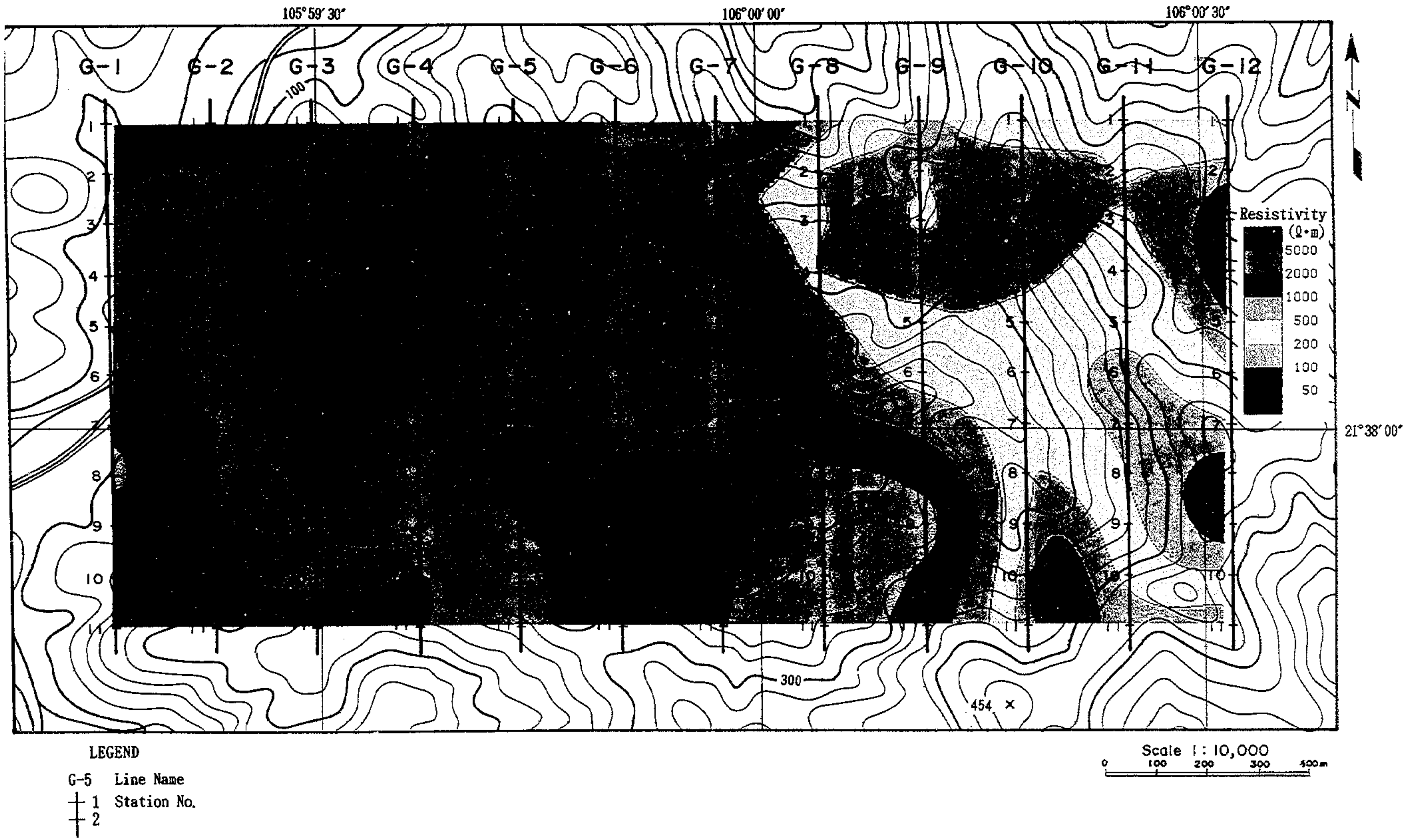


Fig. 2-4-2 Distribution of Geophysical Anomalies (CSAMT Method) in the Gang Area

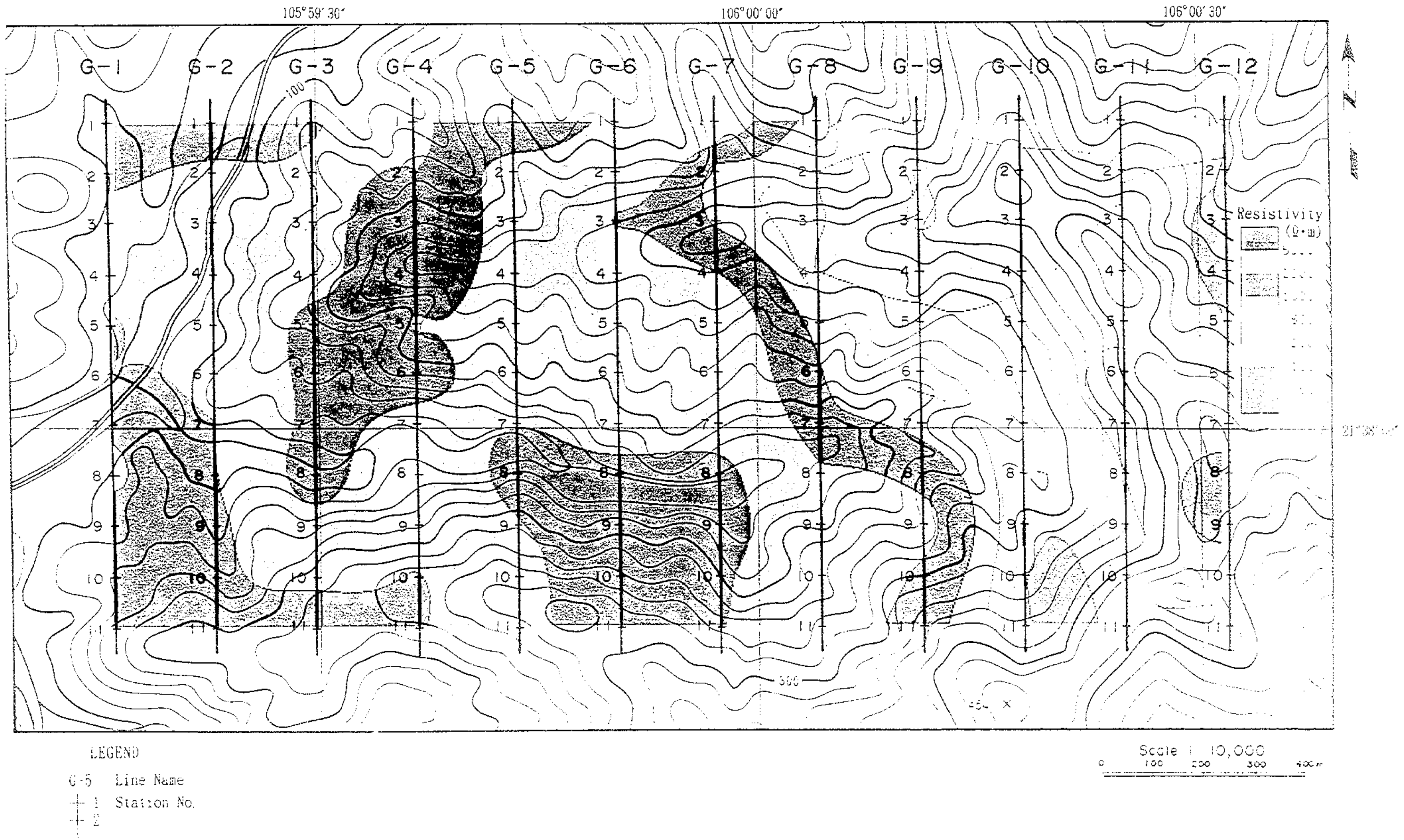


Fig. 2-4-2 Distribution of Geophysical Anomalies (CSAMT Method) in the Gang Area

## 4-4 Discussion

### 4-4-1 Geology, Geologic Structure and Mineralization

General geological features in the Da Mai, Ngan Me and Gang areas were already discussed altogether in the section of the Da Mai area.

### 4-4-2 Geochemistry

General geochemical features in the Da Mai, Ngan Me and Gang areas were already discussed altogether in the section of the Da Mai area.

### 4-4-3 Geophysics

General geophysical features in the Da Mai, Ngan Me and Gang areas were already discussed altogether in the section of the Da Mai area.

### 4-4-4 Potential of Mineral Resources

As for the potential of gold, three mining areas and several geochemical anomalous zones have been defined in the western part of the survey area through the first phase survey. The promising areas for gold-bearing quartz veins extracted through the detailed survey were: Da Mai, Gang, and Ngan Me areas. The interesting extensions of these promising areas delineated by the geochemical survey were: Northeast of N. Bo Cu and Khe Ma both located to the east of the Da Mai area, Khe Can located to the northeast of the Gang area, Bai Vang located to the east of the Ngan Me area, and Khe Cam located to the northeast of the Ngan Me area.

Among three promising areas together with their extensions, the Da Mai and Ngan Me areas were regarded as the prior target for the next stage exploration. The Cay Thi and its surrounding zone in the Gang area were thought to have a potential for gold resources. Two zones of veins both are gently dipping S occur in this prospect. These two zones run parallel each other at 40 m apart vertically. Several significant assay results were obtained during the survey. The other gold prospects in the Gang area are Khe Gang and Khe Hoac. Gold-bearing quartz veins in these prospects show similar trend and nature as in the Cay Thi prospect. However, gold potentials in the Gang area were estimated to be not large, probably ranked next to those of the Da Mai and Ngan Me areas. The integrated interpretation of the survey results in the Gang area is shown in Fig. 2-4-3.

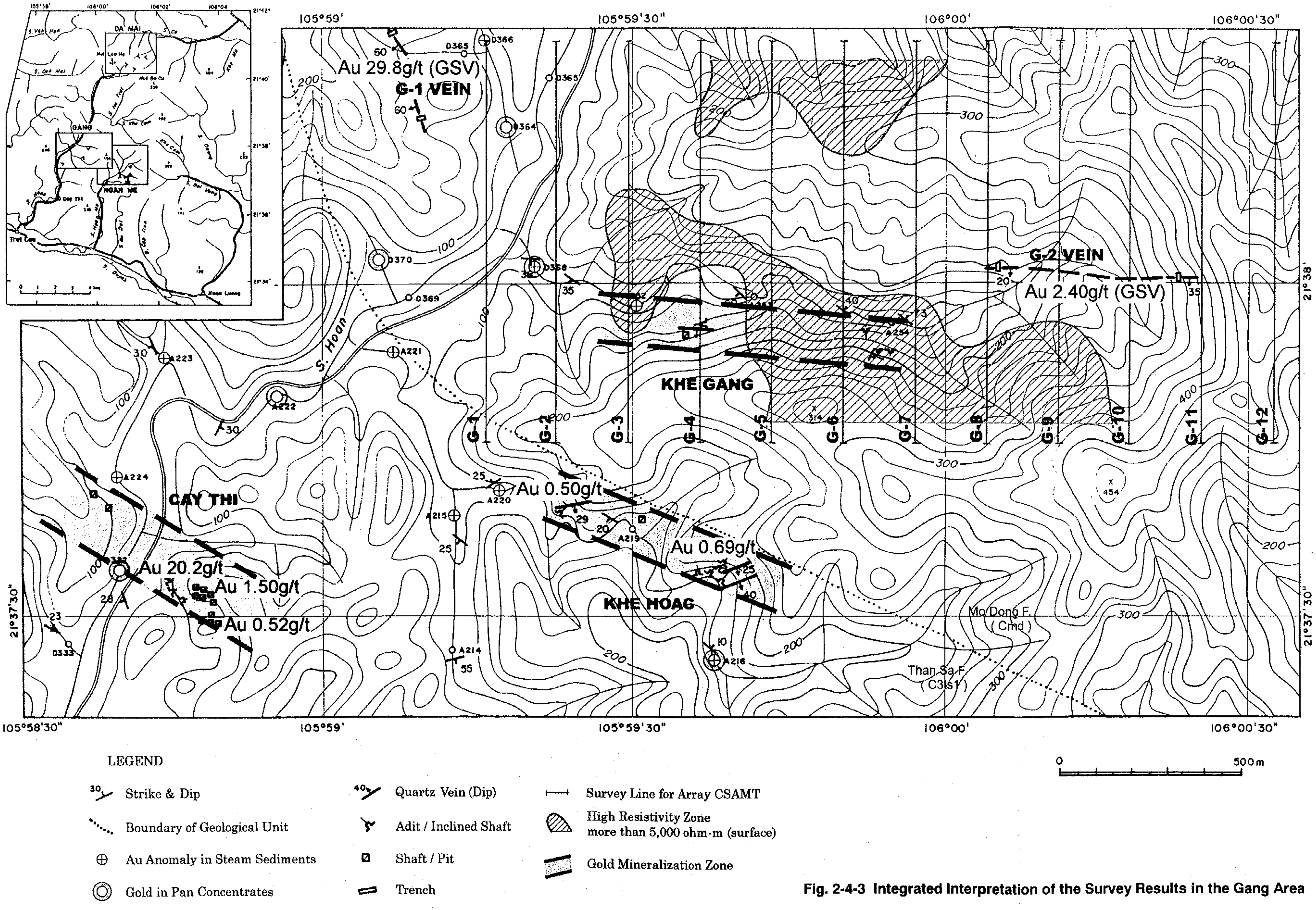


**Fig. 2-4-3 Integrated Interpretation of the Survey Results in the Gang Area**

# PART III CONCLUSIONS AND RECOMMENDATIONS

# PART III CONCLUSIONS AND RECOMMENDATIONS

## Chapter 1 Conclusions

On the basis of the results of the surveys for three years, the following conclusions are obtained.

### 1-1 Da Mai Area

(1) As a result of exploration for three years, significant gold mineralization which is represented by the distribution of extensive outcrops of quartz veins/networks and was outlined by the distribution of distinctive geochemical and geophysical anomalies has been surveyed in the Da Mai area. The type and conditions of gold mineralization in this area were discussed on the basis of petrology, mineralogy, hydrothermal alteration and fluid inclusion studies. It was interpreted that the gold mineralization was formed under mesothermal conditions. The gold-bearing quartz veins are hosted by sandstone and schist of the Cambrian Mo Dong Formation. The prospects are located near the crest of the Bo Cu anticline. This geological setting is probably a crucial factor for the formation of gold-bearing quartz veins.

(2) In the second and third phases, four holes totaling 1,200 m were drilled in the Da Mai-Khe Dui prospect in the Da Mai area. Several intersections of gold-bearing quartz veins were caught in these drill holes.

In MJVB-1, thirteen major groups of quartz veins were caught in total. Although native gold was observed in drill cores and slime of drilling at several depths in the field, no significant assay result was obtained.

In MJVB-2, thirteen major groups of quartz veins were intersected, and several significant intersections up to 56.640 g/t Au at 28 cm in width (51.24 – 51.52 m) were returned.

In MJVB-3, eight major groups of quartz veins were caught in total, and a few significant intersections up to 75.600 g/t Au at 35 cm in width (79.85 – 80.20 m) were obtained.

In MJVB-4, eight major groups of quartz veins were intersected. Although native gold was observed in drill cores and slime of drilling at some depths in the field, only one significant assay result (12.400 g/t Au at 45 cm in width, 60.15 – 60.60 m) was obtained.

Although ore bodies of something like a dimension of several hundred meters by several hundred meters in the length and in the depth with width of 1 to 2 meters, and several tens g/t Au in ore grade have been targeted in this area, the results of drilling was disappointing. The ore potentials were presumed to be less than what were expected.

### 1-2 Ngan Me Area

(1) As a result of exploration for three years, gold mineralization has been surveyed in the Ngan Me area. The type and conditions of gold mineralization in this area were discussed on the basis of petrology, mineralogy, hydrothermal alteration and fluid inclusion studies. It was interpreted that the gold mineralization was formed under mesothermal conditions similar in the Da Mai area. The gold-bearing quartz veins are hosted by sandstone and schist of the Cambrian Mo Dong and Tan Sa Formations. The prospects are located on the southwestern wing of the Bo Cu anticline. This geological setting is probably an essential factor for the formation of gold-bearing quartz veins.

(2) In the Ba Khe prospect in the Ngan Me area, two holes totaling 600 m were drilled in the third phase. The results were disappointing. No significant intersection of gold-bearing quartz veins was found in these drill holes, although the development of quartz veins was significant.

### 1-3 Gang Area

(1) As a result of exploration carried out in the first phase, gold mineralization which is represented by the distribution of extensive outcrops of quartz veins/networks and was outlined by the distribution of distinctive geochemical anomalies was surveyed in the Gang area. The type and conditions of gold mineralization in this area were discussed on the basis of petrology, mineralogy, hydrothermal alteration and fluid inclusion studies. It was interpreted that the gold mineralization was formed under mesothermal conditions similar in the Da Mai and Ngan Me areas. The gold-bearing quartz veins are hosted by sandstone and schist of the Cambrian Mo Dong and Tan Sa Formations. The prospects are located near the crest to the southwestern wing of the Bo Cu anticline. This geological setting is probably an important factor for the formation of gold-bearing quartz veins.

(2) Although no drilling exploration has been tried, the gold potential in the Gang area was estimated to be not large from the evidence of the surface showing of mineralization. It counted to be next to those of the Da Mai and Ngan Me areas.

## Chapter 2 Recommendations for the Future Exploration

### Da Mai Area

Exploration for gold ores of a certain size and of high grade has been carried out for three years in the Da Mai area. Despite the occurrences of high-grade gold ores in some part of the quartz veins, the dimension seems to be small for our exploration target. Therefore, no further work is recommended in the Da Mai area.

### Ngan Me Area

The results of exploration in the Ngan Me area were similar to those in the Da Mai area. Therefore, no further work is recommended in the Ngan Me area.

### Gang Area

Judging from the surface showing of gold mineralization in the Gang area, the potential for gold looks to be smaller than those in the Da Mai and Ngan Me areas. Therefore, no further work is recommended in the Gang area.

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