The trends of dykes and quartz-epidote veins intruded along the fractures of the third order are dominant in the directions such as NW-SE and NE-SW. It is therefore likely that these were stemmed from the faulting of the first order as well as the second order. Thus it is inferred that the area had been under the influence of the tectonic movement of the first order at least until paleocene.

3–2 Mineralization

The survey of this time resulted in to discover the mineralized zones at 21 places. (Fig. 21).

The mineralized zones are distributed in abundance in the southeastern part of the area, and scattered only at several places in the northwestern part. Especially in the southeastern part, they show a trend of NW–SE system and are distributed in the central part of the granodiorite stock. This trend is consistent with the direction of intrusion of the stock.

The mineralized zones are found within the stock with one exception. The exception is a copper bearing epidote quartz vein.

1. P–1 Mineralized Zone

The largest mineralized zone in the area (P–1) is distributed along a ridge extending northwesterly in the southeastern part of the area with an extent of 450 m x 250 m. The top and the slope of the ridge are covered by the boulders, showing a form of "rubbly terrain" with no vegetation.

The mineralized zone is composed of disseminated ore in white-altered granodiorite. The ore minerals consist of chalcopyrite, bornite, molybdenite, and secondary minerals such as chalcocite, malachite and limonite. Silicification is the notable alteration of the country rock, which is accompanied by sericitization and chloritization. Thus the mineralized part has generally been white-altered, and it is obviously distinguished from unaltered granodiorite in the surroundings showing the color index of 10 to 20 per cent. The distribution of alteration zone coincides with that of the mineralized zone, and its extent is narrow. Although some barren quartz veins 1 to 3 centimeters wide are partly found in the mineralized zone, brecciated structure is not so conspicuous in general.

Weathering is advanced at the outcrop, which resulted in limonitization around the copper minerals. Therefore, the outcrop of the mineralized zone displays an appearance that brown spots are scattered in white and pale green granodiorite mass. However, since chalcopyrite is present in abundance at the outcrop, it is thought that leached oxidation zone and the secondary enrichment zone are not so deep that the primary sulfide zone would be encountered in a relatively shallow part. The mineralized zone is divided into high-grade zone, middle-grade zone and low-grade zone according to the grade of copper.

(1) **High-Grade Zone**

The zone is situated along a narrow ridge put between the scars of landslides on both sides, extending N70°W with an extent of 30 m x 150 m. The northwestern extension can not be made clear because of surface soil cover, though it seems to continue further.

The zone consists of disseminated ore composed of oxidized chalcopyrite two to three millimeters in diameter scattered in highly silicified country rock. Leached copper was deposited as malachite in a form of film in cracks of the country rock. The country rock is generally pale green.

The assay result of ores of the zone is as follows.

	Au g/T	Ag g/T	Cu %
PK009	0.67	11.6	1.52
PM055	0.50	11.2	0.97
PN056	0.40	7.1	0.61
Average	0.52	10.0	1.03

The microscopic observation of PK009 resulted in to identify the minerals mentioned in the above. Bornite is present in abundance, in which a small amount of chalcopyrite is found in a irregular form. Chalcocite is found surrounding bornite along the periphery, and filling the cracks. The periphery of chalcocite has been altered to limonite.

(2) **Middle-Grade Zone**

The zone occupies the most part of the P–1 mineralized zone, and the average grade is 0.3 % Cu.

Granodiorite, the country rock, is white, being subjected to silicification and sericitization. Chalcopyrite has been limonitized by weathering. Although the ore is characterized by brown spot in white groundmass, brown-spotted ore in green groundmass is locally found. Molybdenite is often observed filling the cavity. Molybdenite- chalcopyrite quartz vein which is not observed in the high-grade zone, was found in the middle-grade zone, and the copper dissemination is found in the wall rock of the vein in a width of 50 centimeters, which becomes poor in ore minerals outward grading into barren quartz vein.

Aplite dyke intruded in the zone, and copper mineralization is observed in the dyke and in the country rock in the vicinity. Thus it is likely that the quartz vein and aplite dyke are in close association with the mineralization.

The assay result of the ores of the zone is as follows.

	Au g/T	Ag g/T	Cu %
PK002	tr	tr	0.16
PK003	tr	2.1	0.30
PK005	tr	tr	0.17
PK006	tr.	tr.	0.22
PK007	tr.	tr.	0.14
PK008	tr.	tr.	0.22
M028–1	tr.	tr.	0.23
M029–1	tr.	tr.	1.29
M082	tr.	tr.	0.17
Average	tr.	tr.	0.32

(3) Low-Grade Zone

The zone is distributed in a form to surround the high-grade and middle-grade zones. The country rock has become white by sericitization, and brown spot is observed. The density of the spot is lower as compared with that of the middle-grade zone.

2. P–2 MIneralized Zone

The zone is situated to the southeast of the P–1 mineralized zone on the opposite bank of Rio Yaque del Sur. The zone consists of altogether four mineralized zones and showings large and small lumped together, which are found in a range of 400 meters along a ridge. The extension of 60 meters was confirmed for the largest one. Although the detail has not been made clear because of thick vegetation and steep topography, the scarps caused by hydrothermal slteration are often observed similar to those of the P–1 zone.

Hydrothermal alteration represented by silicification and sericitization is observed in the mineralized zone and in the surroundings. Although the type of ore is the dissemination similar to that of the middle-grade zone of the P–1 mineralized zone, pyrite dissemination which is hardly fround in other zones is observed in this zone. In the second mineralized zone from the downstream upward, strong silicification and dissemination of chalcopyrite and pyrite are observed in the vicinity of barren quartz vein of NE system.

The assay result of the ore of the zone is as follows.

	Au g/T	Ag g/T	Cu %
PM038	tr.	tr.	0.04

3. Other Mineralized Zone

Many showings including P–3 to P–11 and P–15 are distributed along the trend of NW–SE system which corresponds to the direction connecting the P–1 mineralized zone and the P–2 mineralized zone, and the size of them confirmed is 10 to 20 meters in extension.

Mineralized zones are also found along the peripheral part of the granodiorite stocks at four points, among which the two points of P–12 and P–13 are distributed on the southern side (footwall side) and P–16 on the northern side (hanging wall side). In the mineralized zones such as P–3, P–5, P–6, P–8, P–9, P–11 and P–15, the country rocks have become white by sericitization, in which disseminated mineralization of limonitized chalcopyrite is observed. The P–4 mineralized zone consists of disseminated mineralization emplaced close to the wall of a quartz vein striking N10°W and dipping 80° northward. Since the sulfide minerals in the quartz vein has been limonitized, no copper mineral was confirmed. The dissemination is brown spotted ore in green groundmass, being more than 10 centimeters in width.

The mineralized zones such as P–7, P–10 and P–12 are the disseminated ones in aplite dykes and the country rocks close to them.

The mineralized zones such as P–13 and P–16 in the peripheral part of the stock are not the disseminated type, but the vein type. The veins are copper bearing epidote-quartz vein about ten centimeters wide. At P–13, the quartz vein is found at the boundary between andesite dyke of NW system and the country rock. At P–16, the strike and dip of the vein are indistinct, because the rock containing the vein has been broken and moved.

The P–14 mineralized zone is the only copper bearing epidote-quartz vein in the area emplaced in the country rock of andesite which belongs to the lower Tireo member. The vein trends northwesterly having the width of about ten centimeters. The ore minerals are chalcopyrite, bornite, malachite, chalcocite and limonite. Under the microscope, exsolution structure of chalcopyrite and bornite is observed, and bornite is considered to be of primary. Although chalcopyrite has not been weathered, the secondary minerals such as chalcocite, malachite and limonite have been formed along the periphery of bornite in a small amount.

Four mineralized zones such as P–18 to P–21 were discovered in the northwestern part of the area. These are inferior in number and scale to those in the southeastern part. These mineralized zones are scattered along the peripheral part on the northwestern side (footwall side) of the stock.

The mineralization of P–18, P–19 and P–20 is of the dissemination type in which brown spots are observed in the sericitized white country rock, as generally seen in the southeastern part.

The P–21 mineralized zone is located in the stock (hanging wall side), which is the alteration zone associated with andesite dyke trending northwesterly, and "gossan" can be observed in every place along the fissures of NW system running in Parallel to the dyke.

The assay result of the ores from the mineralization zones such as P–4 and P–20 is as follows.

	Au g/T	Ag g/T	Cu %
PM020 (P–4)	tr.	tr.	0.23
PM091 (P–20)	tr.	tr.	0.19

3–3 Alteration

65 samples for X-ray diffraction were obtained at the measuring points of magnetic susceptibility mentioned later in order to investigate the characters of alteration, distribution of alteration zones, and the relationship between these and the mineralization. Since almost all the mineralized zones in the area except for one occurred in the granodiorite stock, 63 samples out of 65 were those of granodiorite. Two samples of andesite of the Tireo formation were obtained to investigate into the contact metamorphism given to the surrounding rocks of the stock. Alteration of the mineralized zone is characterized by silicification and sericilization. In order to make it clear, alteration zoning was classified by mineral assemblage based on the result of X-ray diffraction (Table A–4). The results are shown in the alteration map (Fig. 22, PL. 11).

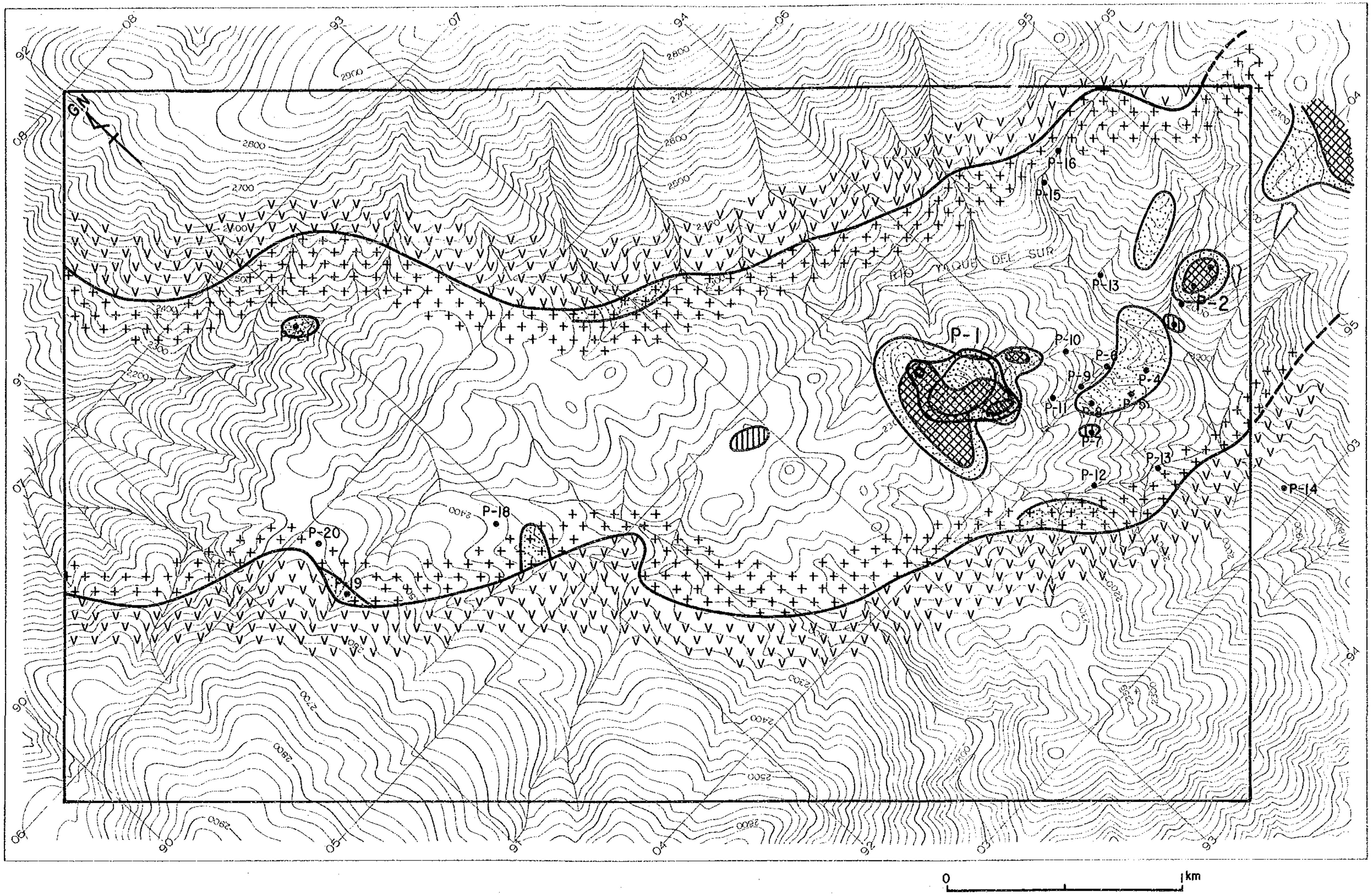
The mineral assemblage of each alteration zone is as follows.

A Zone : quartz-sericite-chlorite

A' Zone : quartz-sericite-chlorite-horblende

B Zone : chlorite-quartz-(epidote)

'A zone' is a zone generally found in the central part of the porphyry copper-type mineralized zone, in which the rock has become white, megascopically, by marked silicification. The distribution of this is consistent with the mineralized zones such as P–1 and P–2. This zone is distributed on the southwest of the P–1 mineralized zone and on the east of the P–2 mineralized zone. Although no mineralized zone has yet been discovered in these areas, these are the areas distributed by copper geochemical anomalies as mentioned later.



LEGEND

Tireo lower mem. Andesite lava (Tla)
Granodiorite (Gd)
High grade zone
Medium grade zone
Low grade zone
Small mineralized zone
A zone ; Q - Ser - Chl
B zone ; Q - Ser - Chl - Hb
C zone ; Chl - Q - (Ep)

Fig. 22 Alteration Map of the Pico Duarte Sub-Area

While 'A' zone' is similar megascopically with 'A zone' in lithology and mineral assemblage, it is a characteristic of this zone that primary hornblende has survived having been released from complete replacement.

The zone is consistent with the western end of the P–2 mineralized zone and the P–7 mineralized zone. These mineralized zone and showing are small in scale as compared with the P–1 mineralized zone. The reason of the survivition of common hornblende would be considered that it was not replaced completely by chlorite as 'A zone' because mineralization at this zone was weak.

'B zone' is a propylite zone characterized by chlorite and epidote. Megascopically, the mafic minerals have become green, showing distinct green spots.

The zone includes two kinds in the following: the one surrounding 'A zone' at the mineralized zones such as P–1 and P–2 and in their vicinities, and the other distributed independently. The main zone of the former shows a good consistency with the copper geochemical anomalies in the mineralized zones and their surroundings. The independent ones are distributed at the showings and in their vicinities such as P–4, P–5, P–7 and P–19.

The outer part of 'B zone' is granodiorite which had not been affected by the mineralized alteration.

The relationship between alterations in the above and mineralized zones is generalized as the follows. In the relatively large mineralized zone, 'A zone' is situated in the central part of it and 'B zone' surrounds 'A zone'. This fact suggests that quartz, sericite and a part of chlorite of alteration minerals were related to mineralization. Concerning chlorite, it is also observed partly in the outer part of common hornblende in fresh granodiorite which had not been mineralized. Chlorite in it is considered to be the product mineral due to diagenesis. Therefore, there are two kinds of chlorite: the one related to mineralization and the other related to diagenesis, though it can not be classified clearly.

In spite of the same mineral assemblage with 'A zone', the reason of existence of common hornblende in 'B zone' is considered to originate in that all part of common hornblende had not been replaced by chlorite because mineralization was weak.

3–4 Measurement of Magnetic Susceptibility

Magnetic susceptibility was measured in order to grasp quantitatively the alteration. Portable magnetic susceptibility meter was used for the measurement, which was conducted at the outcrops in the vicinity of the sampling points for geochemical survey mentioned later mainly within within the granodiorite stock.

The magnetic susceptibility meter used is KAPPA METER KF 5 Type made of Zechoslovakia. The unit of measurement was 1 x 10^3 SI unit.

At the time of measurement, efforts were made to prevent generation of errors such as errors of measurement by weathering and that caused by crevices on the surface of the object to be measured. For this purpose, attention was given to scrape out the weathered part on the outcrop and to make smooth the surface.

The measurement was done five times for each point. Two values of the highest and the lowest were excluded, and mean of the three was obtained, which was corrected for unevenness to obtain the measured value (Table A–7).

The values measured showed a notable variation such as from 0.00 up to the maximum of 40.2 x 10 SI unit.

Since the measured values of unweathered fresh granodiorite showed more than 10.0, the values less than 10.0 were classified as the low anomalies as in the following four ranks.

0.00 – 1.00	(strong low anomaly)
1.01 – 5.00	(middle low anomaly)
5.01 – 10.0	(weak low anomaly)
10.0 +	(background)

An analysis map showing the distribution of anomalies was produced on the basis of these four ranks (Fig. 23, PL. 12).

The anomalous zones are well consistent with the alteration zones worked out based on the result of X-ray diffraction mentioned in the previous section.

The low anomalous zones are widely distributed in the southeastern part of the area, and narrow in the northwestern part. They coinside in the southeastern part with the distribution of the mineralized zones such as P–1 and P–2, and they are megascopically distributed in a trend of NW system.

In the P–1 mineralized zone, the strong low anomalous zones are consistent with the distribution of the high and the middle-grade zones, and the middle low anomalous zone includes the whole area of the P–1 mineralized zone. The extent of these low anomalous zones also coincide with the distribution of copper geochemically anomalous zones.

The strong and middle low anomalous zones are distributed in a considerable scale in the P–2 mineralized zone and in its vicinity.

While there are many showings in the direction of northwest connecting the two mineralized zones of P–1 and P–2, these showings correspond to the middle and low anomalous zones.

The showings also correspond to the low anomalous zones in the northeastern part, but the

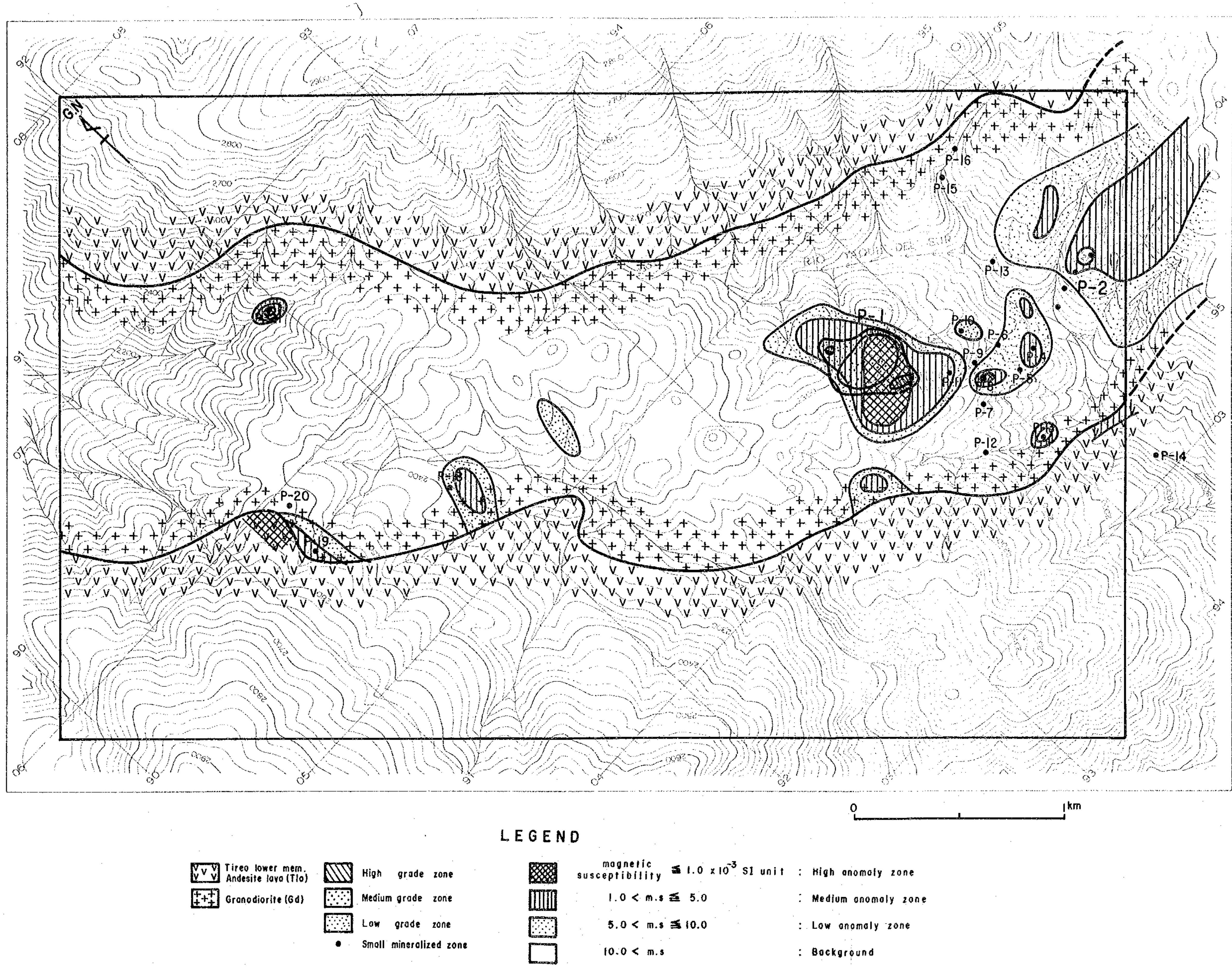
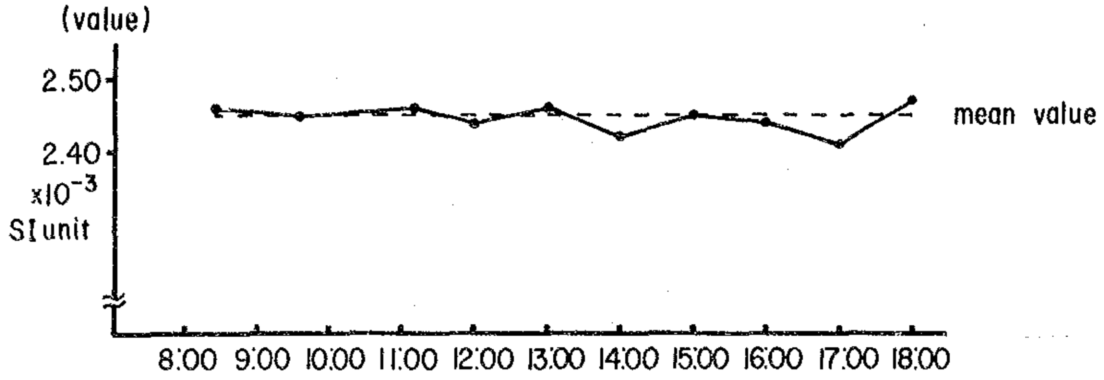
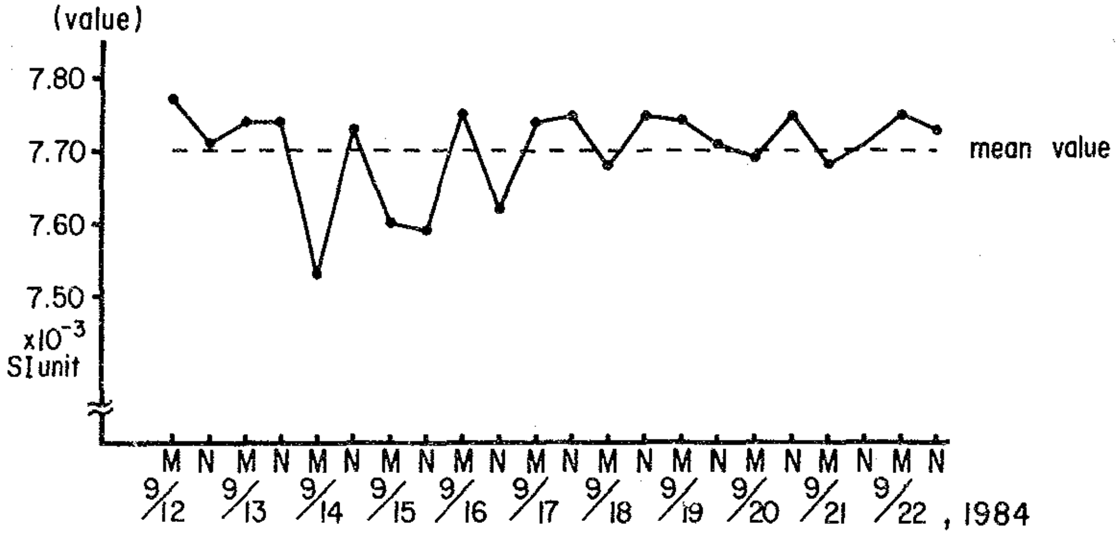


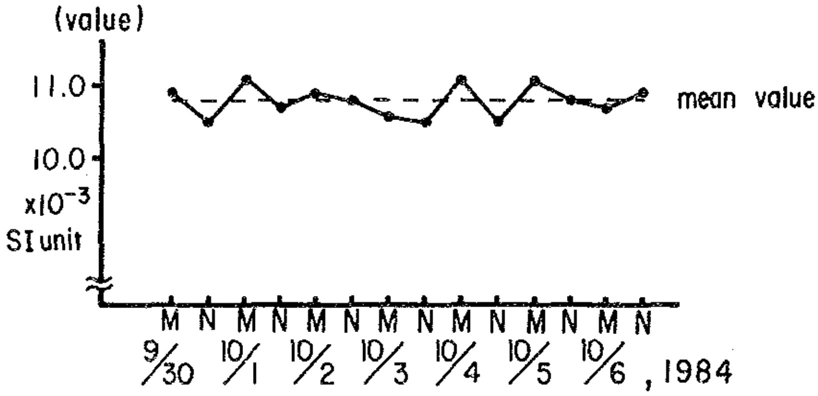
Fig. 23 Analysis Map of Magnetic Susceptibility of the Pico Duarte Sub-Area



Hourly Dript (Sep, 27. 1984 at the Constanza)



Diurnal Dript - 1 (at first camp)



Diurnal Dript - 2 (at second camp)

Fig. 24 Graph of Hourly and Diurnal Dripts of Magnetic Susceptibility Meter in the Pico Duarte

strong low anomalous zone is narrow in the extent of distribution or entirely absent.

As mentioned in the above, the areas of distribution of the low anomalous zones are consistent with the distribution of the mineralized zones, and are present in a form to cover them. Expecially, the strong and middle low anomalous zones reflect the mineralized zone. The cause of this seems to be attributable to demagnetization of magnetite which is a magnetic mineral in granodiorite, the country rock, as the result of pyritization by hydrothermal alteration associated with mineralization. As a result, it was proved that the measurement of magnetic susceptibility is highly effective in the area to grasp the characters of mineralization and alteration and the scale of them.

While andesite of the lower Tireo member shows the value of around forty in magnetic susceptibility, demagnetization is recognized in the rock at the contact with the stock. This seems to be caused by demagnetization of magnetite in andesite by heating at the time of intrusion of the stock, which is thought to have rised nearly to the Curie point.

It is not so common that magnetic susceptibility meter is utilized as in this time for the survey of ore deposit. For preparation of the works of this time, the variation per hour and variation per day were measured to check whether the correction of the measured value would be needed or not.

The variation per hour was measured at the office in Constanza on September 27, 1984.

The variation per day was measured twice every day at 7.00 a.m. and at 6.00 p.m. during the period of survey. As the result, the rate of variation of the variation per hour was two per cent (difference between maximum and the minimum mean value x 100). The rate of variation of the variation per day was six per cent at the station 1 and three per cent at the station 2. Thus it was made clear that each variation is small (Fig. 24). Therefore, it was known that it was not necessary to corect the variation per hour as well as the variation per day in such a case of the works of this time.

3–5 Geochemical Survey

Geochemical survey by soil was conducted in the survey of this phase.

The samples obtained were chemically analyzed for six components such as Au, Ag, Cu, Pb, Zn and Mo. The assay result of these were statistically processed by computer, and single component analysis and multivariate analysis by factor analysis were made.

3–5–1 Method of Sampling and Analysis

The sampling was preponderantly made in the area distributed by granodiorite, the host rock of the porphyry copper mineralized zone.

The density of sampling was raised for the mineralized zones newly discovered so as to take hold of the scale (PL.11).

The samples were obtained from the B layer as in other areas, and 105 samples were obtained.

The method of processing and analysis of samples obtained are similar to those in the case of Constanza mentioned previously.

3–5–2 Data Processing

The result of analysis of 105 samples for six components is as shown in Table A–6. The result of these analyses was input into the computer together with the rock type (parent material at the sampling point).

3–5–3 Single Component Analysis

The histogram for each component (Fig. 25) and the cumulative frequency curve for determination of threshold value were produced for analysis as in the case of Constanza mentioned previously (Fig. 26). The result of simple statistics is shown in Table 5.

In the analysis graph, geochemically anomalous zone is expressed by equidensity line. Regarding gold and molybdenum, statistical processing could not be made because most of assay values of these were below detection limit.

1. Gold (Au)

Analysis could not be made because all the assay values of gold were below the detection limit.

2. Silver (Ag) (PL. 14)

The assay values of silver showed the minimum of less than 0.1 ppm and the maximum of 0.8 ppm. 0.3 ppm was obtained as the threshold value (t) from the skew point of the cumulative frequency curve by making comparison of the histogram. "t' " is determined to be 0.7 ppm which is the mean value of the anomalous population.

The equidensity lines in the analysis graph are at 0.1 ppm, 0.2 ppm, 0.3 pp. (t) and 0.7 ppm (t'), and cumulative frequencies for each are about 50 %, 20 %, 6 % and 3 %.

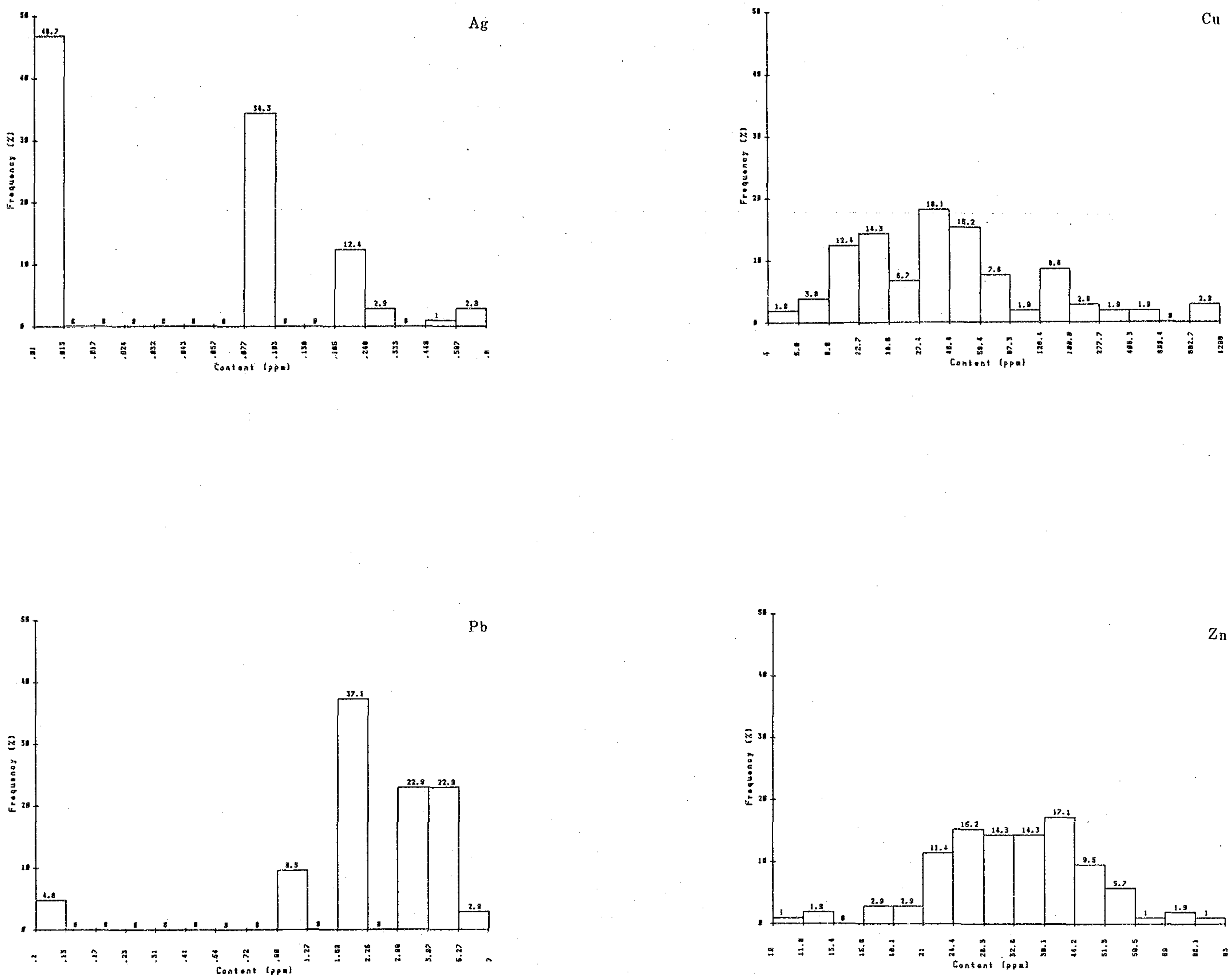


Fig. 25 Histograms of Geochemical Data from the Pico Duarte Sub-Area

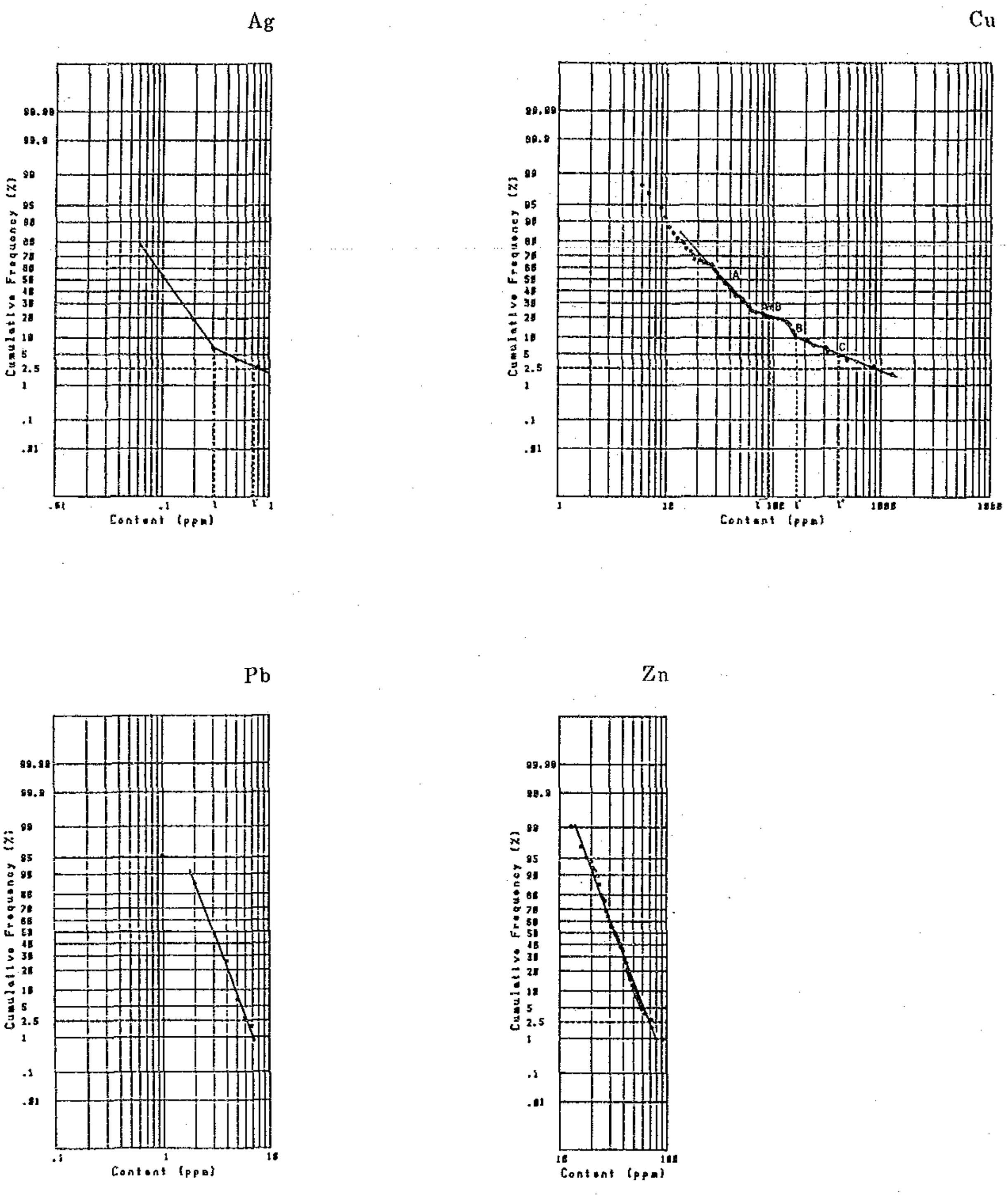


Fig. 26 Cumulative Frequency Distributions of Geochemical Data from Pico Duarte Sub-Area

Table 5 Result of Simplified Stratistical Treatment of Geochemical Data from the Pico Duarte Sub-Area

Element	Max. (ppm)	Min. (ppm)	Mean (ppm)	t (ppm)	t' (ppm)	t'' (ppm)
Au	< 0.01	–	–	–	–	–
Ag	0.8	<0.1	0.04	0.3 (6%)	0.7 (3%)	–
Cu	1298	4	38.3	90 (20%)	160 (10%)	400 (5%)
Pb	7	<1	2.2	–	–	–
Zn	85	10	33.0	–	–	–
Mo	0.8	–	–	–	–	–

Table 6 Result of Factor Analysis of Geochemical Data from the Pico Duarte Sub-Area

	Factor loading (varimax rotation)			Communality
Element \ Factor No.	Factor 1	Factor 2	Factor 3	
Ag	0.332	0.226	0.381	0.307
Cu	0.110	–0.005	–0.512	0.274
Pb	–0.026	0.377	–0.020	0.143
Zn	0.464	–0.062	–0.116	0.233
Factor contributions	0.339	0.192	0.422	

The anomalous zone higher than t is distributed in the copper anomalous zone mentioned later which is consistent with the P–1 mineralized zone in the northeastern part of the zrea, but they are scatteringly distributed in the western part, not being consistent with the copper anomalies.

3. **Copper (Cu) (Fig. 27, PL. 15)**

The assay values of copper show the minimum of 4 ppm up to 1298 ppm, showing a marked variation. These assay values are composed of three populations. When they are named as A, B and C from the lower in value toward the higher, A is that of background, while B and C are anomalous populations. Because the two populations of A and B are partly overlapped, 90 ppm was determined to be the threshold value (t) of the population B, 160 ppm as the threshold value (t') of population C and 300 ppm as the mean value of this population (t'') by using Lepeltier method.

The equidensity lines of the analysis graph are at 20 ppm, 40 ppm, 90 ppm (t), 160 ppm (t') and 400 ppm (t''), and the cumulative frequencies for each are about 70 %, 40 %, 20 %, 10 % and 5 %.

While the anomalous zones higher than t are consistent with many locations of mineralized zones, they especially covers the whole area of the P–1 mineralized zone, and further extend northwestward to the part covered by the soil, indicating that the mineralized zone would expand toward the west.

4. **Lead (Pb) (PL. 16)**

The assay values of lead show the minimum of less than 1 ppm to the maximum of 7 ppm, being generally low in value. Since the cumulative frequency curve is nearly straight, distinct threshold value could not be determined. The equidensity lines are at 3 ppm, 4 ppm, 5 ppm and 6 ppm, and the cumulative frequencies for each are 50 %, 25 %, 7 % and 2.5 %.

Most of the lead anomalies are not consistent with the distribution of the mineralized zones, although a point showing the high value more than 5 ppm is found in the P–1 mineralized zone.

5. **Zinc (Zn) (PL. 17)**

The assay values of zinc show the minimum of 10 ppm and the maximum of 85 ppm, showing low values in general as in the case of lead. The cumulative frequency curve is nearly straight similar to lead, and the assay values are composed of a single population. The equidensity lines in the analysis graph are at 30 ppm, 50 ppm, 70 ppm and 90 ppm, and their cumulative fre-

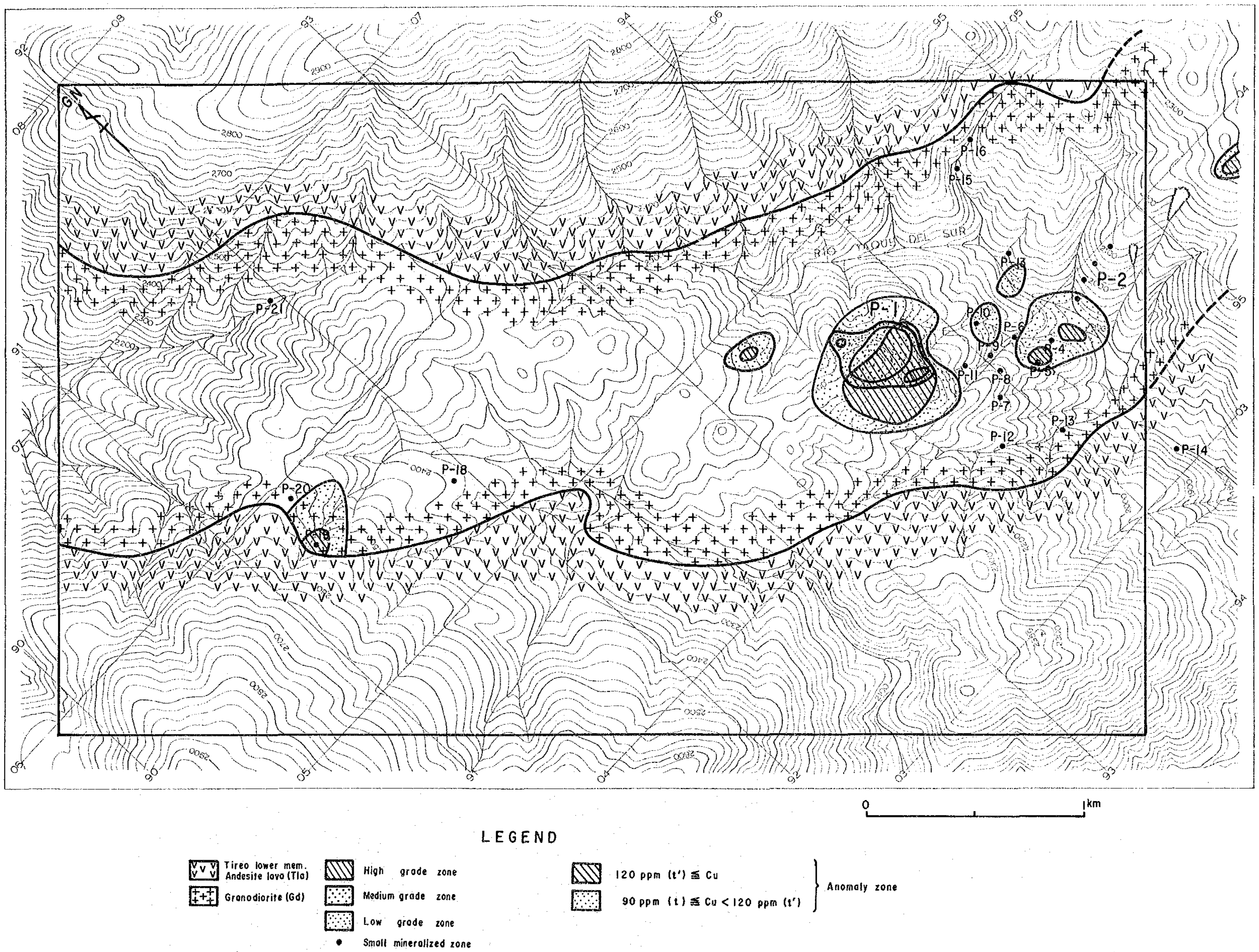


Fig. 27 Geochemical Analysis Map (Cu) of the Pico Duarte Sub-Area

quencies for each are 60 %, 30 %, 10 % and 2.5 %. The points showing high values more than 50 ppm is distributed in a form to surround the P–1 mineralized zone. The zinc anomaly is recognized in the P–2 mineralized zone in which no copper anomaly was detected.

6. Molybdenum (Mo) (PL. 17)

Molybdenum was detected only at 12 points out of 105. These points are mostly found on the northern side of the copper anomalous zone which extensively covers the P–1 mineralized zone.

3–5–4 Multivariate Analysis

Factor analysis of geochemical data by varimax method was conducted in the area as was in the Constanza area. The elements used for the factor analysis are the four elements such as Ag, Cu, Pb and Zn. As to Au and Mo, they were excluded because most of the assay values showed below the detection limit. As the result, three factors including Cu–Zn as the first factor and Pb as the second factor were obtained. The factor loadings, community and contributions of each factor are shown in Table 6.

Investigation of the high factor marks score of each factor, the copper mineralized zone and the single component analysis graph of copper, leads to the assumption that the third factor (Cu) would be the mineralization factor.

The high factor score zones of the third factor are well consistent with the mineralized zones including the P–1 zone (PL. 18).

Other factors which characterize the zones are Cu–Zn–Ag of the first factor and Pb of the second factor. At the P–1 mineralized zone and in its surroundings, the third factor is found at the center surrounded by the first factor, which is further surroundded by the second factor. These facts suggest a zonal arrangement of elements, such as Cu at the center, Cu–Zn and Pb toward outside.

3–6 Discussion and the Promising Area

3–6–1 Discussion

The porphyry copper mineralized zone discovered in the survey is a disseminated mineralized zone occurred in the granodiorite body which intruded into andesite of the lower member of the Tireo formation, striking northwesterly and dipping northward. The ore minerals are mainly composed of chalcopyrite, bornite, and secondary minerals of these. Pyrite is very small in amount as compared with the common copper porphyry deposit. The country rock has been highly silicified and sericitized. It is a characteristic that brecciated structure is scanty in the mineralized zone.

Only a vein is found in andesite of the lower member of the Tireo formation, while other mineralized zones are all distributed in granodiorite. The mineralized zones are megascopically distributed in a northwesterly trend. This trend is consistent with that of intrusion of granodiorite body.

These facts suggest that the mineralized zones were formed by the ascent of hydrothermal solution through the weak zone formed in association with the intrusion of granodiorite. Regarding the character of hydrothermal solution, it is suggested that it was relatively low in partial pressure of sulfur because of the presence of primary bornite in the mineralized zone as in the case of the mineralization such as Constanza and Mata Grande.

In the P–1 mineralized zone, silicification is a dominant alteration of the country rock as mentioned in the above, and the alteration zone is narrow. The brecciated structure is generally scanty, though it is partly observed. The concentrated zone of ore minerals is separated into three parts. These facts suggest that the erosion has advanced in the neighborhood of the P–1 mineralized zone.

3–6–2 Promising Area

1. P–1 Mineralized Zone

Although the extent of mineralized zone exposed on the surface is 450 m x 250 m, the geochemical anomaly of copper, the low magnetic susceptibility zone and the alteration zone extend further to the southern part covered by surface soil. (Fig. 23, 24, 28). If the latent mineralized zone is included, the whole extent would be 500 m x 500 m.

The high grade zone exposed on the surface (0.5 g/t Au, 10 g/t Ag, 15 Cu in average) is 30 meters in width and 150 meters in length. This part is expected to expand to the southern part covered by the soil. Although there is a possibility that erosion has advanced in this area, the mineralized zone is expected to continue to the deeper part.

2. P–2 Mineralized Zone

Low magnetic susceptibility zone is widely distributed over the P–2 mineralized zone, and individual mineralized zones and alteration zones are scattered in this extent. Therefore, the area is expected for the existence of latent mineralized zones.

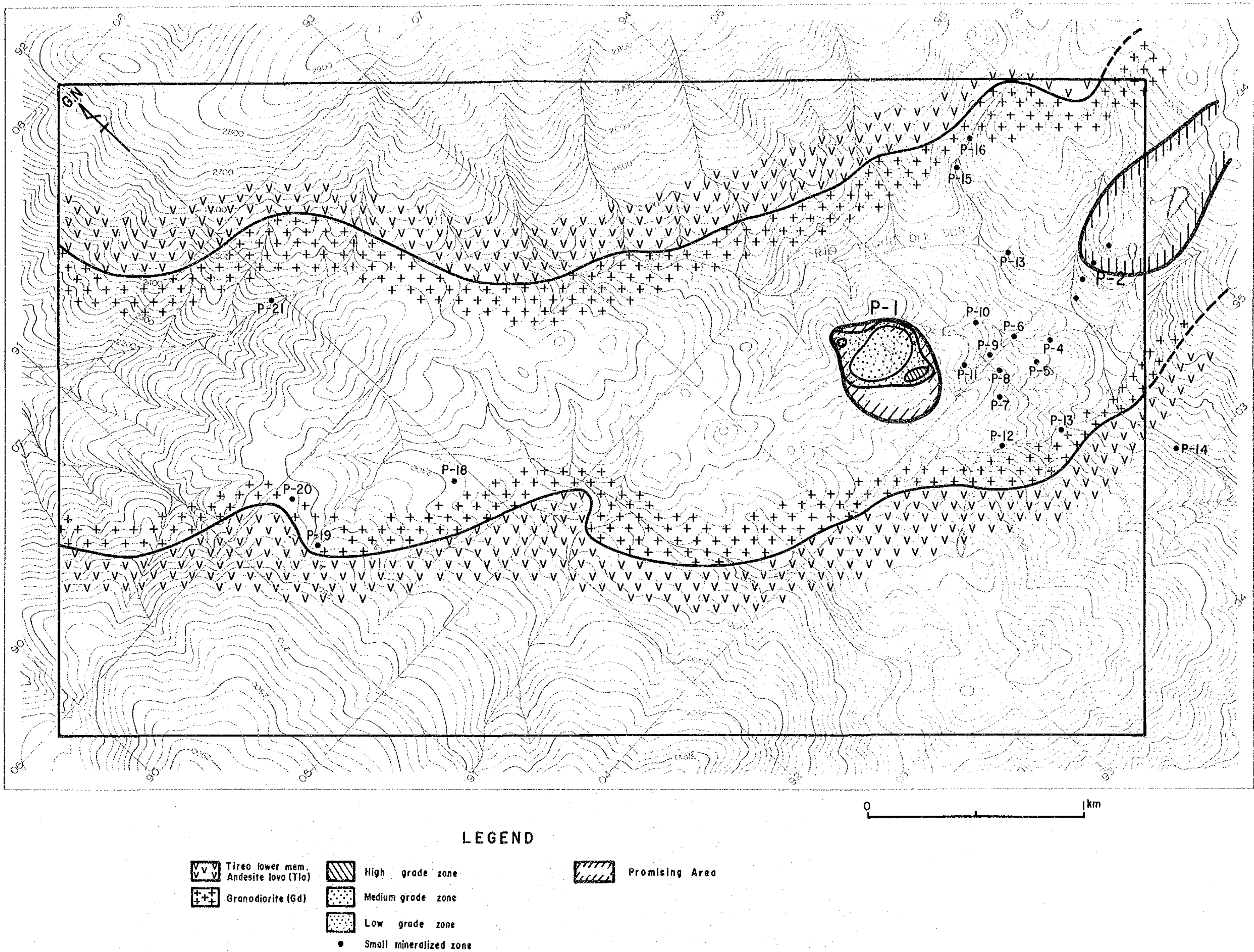


Fig. 28 Promising Areas in the Pico Duarte Sub-Area

CHAPTER 4 MATA GRANDE SUB-AREA

4–1 Geology and Geologic Structure (Fig. 29, PL. 18)

The area extending northwesterly includes the Mata Grande mine in which the operation is suspended at present.

The access is better than the other two areas, and a driveway leads to the Mata Grande mine.

1. Geology

The area is composed of the pre-Cretaceous Duarte formation and the tonalitic rocks.

The Duarte formation is divided into the lower member and the upper member according to the rock facies, and the area is situated at the boundary between these two members.

The lower member is distributed in the northern part of the area, and consists of green meta basalt (Dlb). The rock is generally massive, schistose structure is often observed.

Under the microscope, the rock displays schistose texture, and metamorphic minerals such as chlorite and epidote have been formed. Partly subophitic texture, the original texture remains in same parts, in which the primary minerals such as plagioclase and two pyroxenes have been survived.

The upper member is extensively distributed in the southern part of the area, and composed of green schist (Dubt). Green shcist is green to pale green, showing a distinct schistosity. The main constituent minerals are actinolite, epidote, chlorite and plagioclase, and pumpellyite is rarely observed.

The lower and the upper members of the Duarte formation belong to the green schist facies represented by chlorite and epidote. These metamorphic rocks have been suffered to contact metamorphism in the vicinity of the contact with the tonalite mass intruded into the formation, which led to form porphyroblasts such as biotite and hornblende oriented oblique to the schistosity.

The tonalitic intrusive rocks are composed of the El Bao tonalite batholith (Tnb) and tonalite dykes (Tns).

The El Bao batholith is widely distributed in the eastern part of the area. The batholith has nearly straight boundaries trending westnorthwesterly, which is divided into several sheets in a form of dyke in the vicinity of the Mata Grande mine.

The rock facies is homogeneous, medium to coarse-grained common hornblede tonalite, and weak schistosity is rarely observed at the contact with the metamorphic rocks of the Duarte

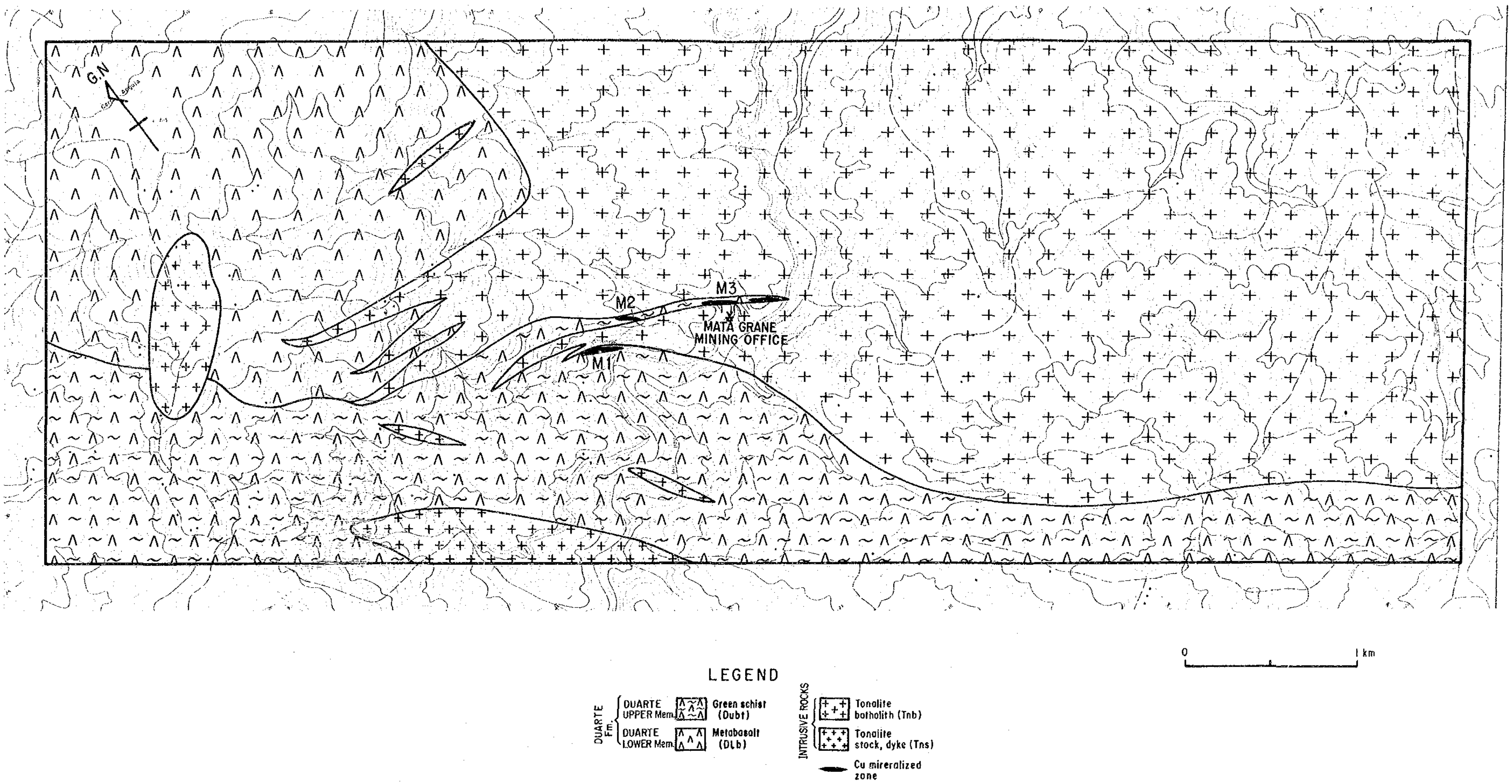


Fig. 29 Geological Map of the Mata Grande Sub-Area

formation.

The tonalite dykes show the trends such as NW–SE system and NE–SW system, among which the former is dominant. The rock facies is fine to medium-grained common hornblende tonalite, in which harmonious schistosity with that of the metamorphic rocks of the Duarte formation is often observed.

2. Geologic Structure

A synclinal structure trending northwesterly to west-northwesterly is assumed in the central part of the Mata Grande area from the survey of the first phase. The area is situated on the northern limb of the syncline. It is estimated that the bedding of the lower member and the upper member of the Duarte formation distributed in the area strikes west-northwesterly and dips southward from the distribution of rock facies of these two members. The schistosity of these metamorphic rocks strikes north-northwesterly and dips northward, which is consistent with those of the main tectonic lines of the Hispaniola Island.

The intrusion of the tonalitic rocks has been controlled by the main tectonic movement as shown in the form of intrusion of the El Bao batholith which was controlled by the main tectonic line. Especially the projection of the Batholith and the tonalite dykes in the vicinity of the Mata Grande mine have intruded in consistent with the schistosity.

As a summarization of the above, it can be said that the whole neighborhood of the area have been undergone regional metamorphism in the stage of orogeneic movement which was accompanied by generation of the main tectonic lines, which provided the field for the intrusion of batholiths and dykes along the weak lines of the same system as the main tectonic lines. Especially it is suggested that the area in the vicinity of the Mata Grande mine was a part of weak lines, since the projection of batholith and many dykes have been intruded in this part.

4–2 Mineralization and Alteration

The survey of the first phase resulted in to make clear that the mineralization of the area was in close relation with the tonalite intrusive bodies and the tectonic line of NW system, which led to contribute to obtain the guidance of mineral exploration in the area.

The survey of the second phase was conducted effectively on the basis of the data obtained by the geological survey and geochemical prospecting of the first year. The copper vein-type deposits of Mata Grande were traced and the analysis of the ore deposits was made scientifically.

The deposit is situated on the northern bank of the Rio Bao about 15 kilometers to the formation and tonalite, and the ore deposit is composed of copper veins occurred in these rocks.

In connection with the search for the source of geochemical anomalies of gold, no gold was detected, although many quartz veins were discovered and typical samples of them were chemically analyzed.

1. Mata Grande Deposit

The deposit is situated on the northern bank of the Rio Bao about 15 kilometers to the southwest of San Jose de Las Matas.

The access to the site from San Jose de Las Matas is to drive jeep for about two hours, being fairly good accessibility.

The geology in the vicinity of the Mata Grande deposit consists of green schist of the Duarte formation and tonalite, and the ore deposit is composed of copper veins occurred in these rocks. Megascopically, the ore deposit is situated at the southwestern end of the El Bao tonalite batholith. Although it had been thought that the vein in the vicinity of the mine was one vein, it was made clear by the survey of this year that the Mata Grande deposit was composed of three veins of NW system which were arranged in echelon within an extent of 1.2 kilometers in the direction of northwest (Fig. 29). The veins strike N40° to 70°W and dip 60° to 70° northward. The extension of the outcrops can be traced for about 200 meters in the northern part (M–I) which are being explored by pitting or being mind for about 150 meters in the central part (M–II) on the top of ridge, and about 500 meters in the southern part (M–III) which continue from the creek to the hilltop (PL. 9). The veins in the southern part show the longest extension and are stable in scale and grade, being 0.1 to 1.5 meters wide. The outcrops are 1 to 6 meters long in extension, trending N50° to 70°W. The veins include network and disseminated ones and the single veins, which show lenticular in the whole. The ore minerals are composed of chalcopyrite, bornite, chalcocite, covelline, malachite, pyrite and limonite, and the gangue minerals are quartz, epidote and chlorite. Variation of mineral assemblage in the vein is recognized on the outcrop. The ore minerals decrease at the tail end, grading to quartz vein or quartz epidote vein.

Geology in the pit in the northern part (M–1) is composed of tonalite in the upper part and green schist in the lower part. Mineralized zone is found at a boundary between the two rocks, being occurred in green siliceous rock derived from green schist and tonalite. The mineralized zone strikes N60° to 70°W and dips 60° northward. Two types of ore are found. The one is network and disseminated malachite and covelline in quartz vein, and the other is that plenty of chalcopyrite, bornite and chalcocite coexist with quartz. The latter is high grade, and the assay value of a massive ore in the survey of first year showed 21.6 % Cu. In this part, the mineralized zone in the pit can be traced further northward for about 50 meters.

The outcrops in the central part (M–II) occur in the tonalite, and green schist which is the intercalated layers in tonalite. The outcrops of the veins on the hilltop are 0.1 to 0..4 meter wide and 30 meters long. The trenches were excavated at four places (Fig. 30). The northwestern extension of the vein grades into barren quartz vein several tens centimeters wide. The country rock is green schist, which is silicified and chloritized.

Fig. 30 shows the position of the outcrops and the trenches.

The description on the trenches is shown in the followng.

Trench No.	Size w(m) x l(m) x d(m)	Note
1	1 x 9 x 1.5	A trench was excavated in weatered, red agrillized green schist, in which no mineralization is observed. Quartz vein is partly present in a form of banding, striking N50°W and dipping 40° westward.
2	1.2 x 9 x 0.5 ~ 1.5	Two chalcopyrite-bornite-chalcocite-covelline-malachite-quartz veins each 10 centimeters wide are present in the pit within a width of one meter, striking N50°W and dipping 75° northward. The country rock consists of green schist. In the footwall portion, quartz veins which has undergone later deformation and red clay derived from green schist form a banding structure. The rock on the hanging wall side consists of green schist weathered and altered to red clay. The assay result of the ore vein is as follows:

	Sampling width (m)	Au g/T	Ag g/T	Cu %
MK002	0.10	1.0	14.0	6.71

Trench No.	Size w(m) x l(m) x d(m)	Note
3	1.5 x 8.3 x 1.5	A malachite-chalcocite-limonite-quartz vein 0.4 meter wide is found in the pit. The country rock consists of weathered green schist displaying red to reddish brown color.

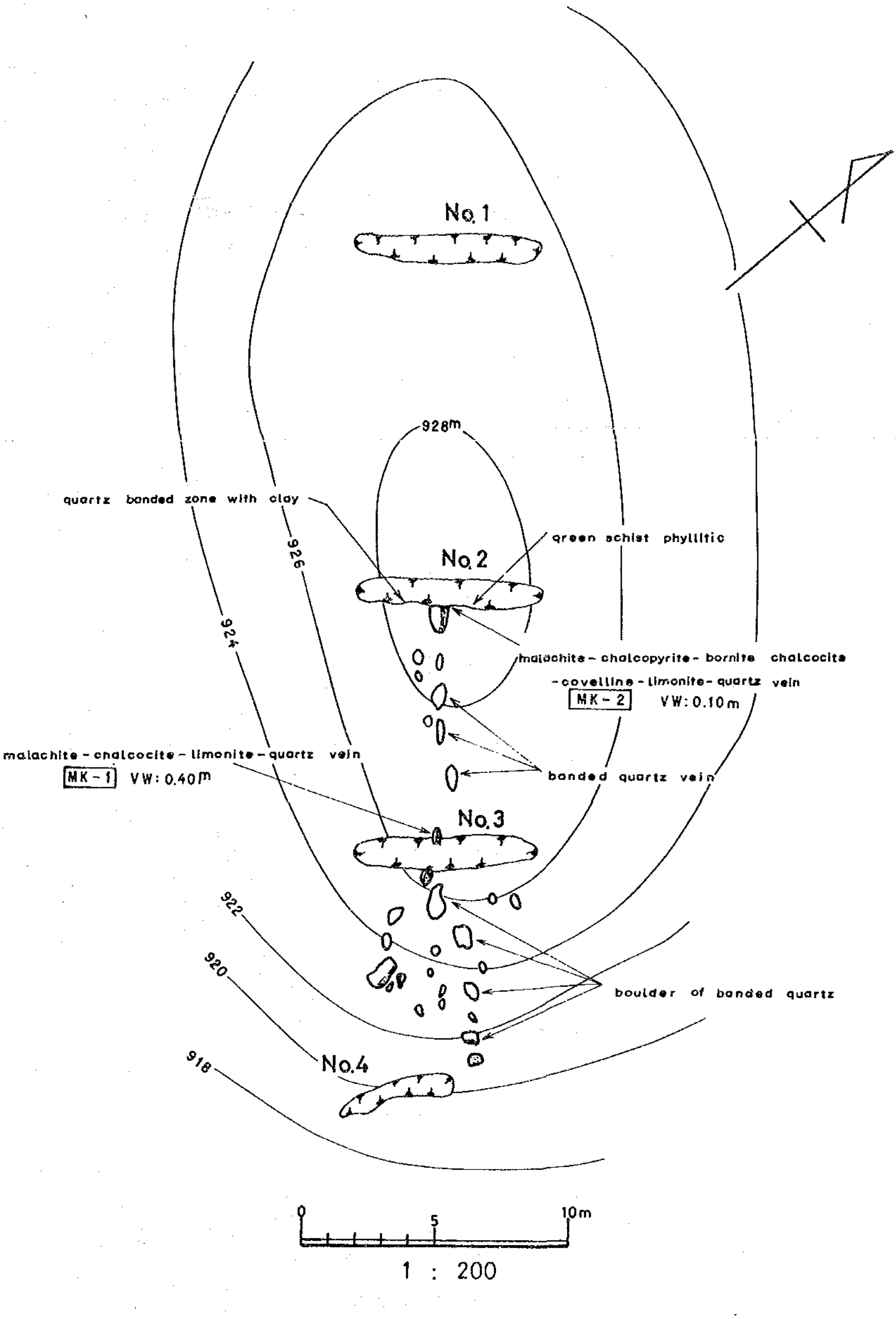


Fig. 30 Location Map of the Outcrops and Trenches at the M-II

The assay result of the ore vein is as follows:

	Sampling width (m)	Au g/T	Ag g/T	Cu %
MK001	0.40	tr.	tr.	1.71

4	1 ~ 1.5 x 10 x 0.5	A trench excavated in red, weathered soil. No mineralization is observed. The pit bottom is filled up with red clay.

Under the microscope, it is well observed that the network veins consisting of chalcopyrite and bornite are present in quartz and that these have been altered to chalcocite → covelline → limonite by weathering. Malachite is found as a form of vein in gangue minerals in the outside of limonite.

Although bornite is in contact with chalcopyrite in a form of ameba similar to those in the Constanza area, no relation including replacement can not be observed, which leads to a strong possibility that bornite would be primary mineral.

It was confirmed that the outcrops in the southern part (M–III) have an extension of about 500 meters in the whole. The veins are megascopically present in tonalite zone, which is composed of the banding of green schist and tonalite each of which is 1 to 10 meters wide. The size of the outcrops is 0.2 to 1.5 meters wide and 0.5 to 6 meters long, and they strike N40° to 70°W and dip 60° northward to 80° southward. The veins somewhat vary in occurrence from place to place.

The outcrops in a small vein on the northern side show two modes of occurrence: the one includes the mineralized lenses mainly composed of sulfide and quartz, occurred in green schist, and the other includes the vein in tonalite. The former occurs in green schist layer 5 meters wide intercalated in tonalite, and the mineralized lens is emplaced along the schistosity of green schist which is striking N50°W and dipping 60° northward. The scale of the lenses is 0.3 x 0.7 to 0.1 x 0.2 meter. The constituent minerals consist mainly of chalcopyrite and quartz, accompanied by a small amount of malachite, bornite and chalcocite. The ore minerals in these lenses are fine-grained, and show a peculiar appearance seemingly to be of massive ore.

The veins in tonalite are the copper quartz vein containing malachite, chalcopyrite, bornite, chalcocite and covelline. The courtry rock surrounding the veins is chloritized fine-grained, pale green altered rock showing the schistosity. These are 5 to 30 centimeters wide and 70 centimeters long. The northeastern extension of these veins grade into the barren quartz veins several tens centimeters to 2 meters wide.

The assay result of these mineralized zones is as follows:

	Sampling width (m)	Au g/T	Ag g/T	Cu %
Lens in green schist (MK008)	0.30	0.20	8.0	8.39
Vein in tonalite (MK006)	0.20	0.50	12.8	7.22

Under the microscope, chalcopyrite is present in abundance containing a small amount of bornite of irregular shape. Covelline and chalcocite have replaced chalcopyrite and bornite. Covelline is abundant in quantity. Although covelline and chalcocite are the secondary minerals produced by weathering, bornite is likely to be a primary mineral from its occurrence. Limonite is absent; that is, iron has been leached out, and only copper survived.

The outcrops on the hilltop in the sourthern part are composed of single or network veins consisting of malachite, chalcopyrite, chalcocite, covelline, limonite and quartz. The country rock is green schist intercalated in tonalite.

The outcrops are 0.4 to 1.5 meters wide and 1 to 6 meters long, striking N40° to 50°W and dipping 60° northward to 80° southward. In the southern extension of the vein, ore minerals decrease gradually, grading into quartz vein. Chlorite is a remarkable alteration mineral. The assay result of the typical ores obtained from the outcrops is as follows:

	Sampling width (m)	Au g/T	Ag g/T	Cu %
MK015	0.50	0.30	8.9	1.37
MK016	1.50	0.50	4.7	4.47
MK017	0.40	0.25	0.8	0.88
MK018	0.50	0.20	2.5	1.71

2. Quartz Vein

The survey to purpose the origin of gold was conducted in this year, because the gold deposit of alluvial type is distributed in the Mata Grande area and because the geochemical anomaly of gold was detected in the geochemical survey of the first phase.

The survey was preponderantly directed to the investigation of quartz vein since it is said that the middling of alluvial gold consists of quartz. Many quartz samples were obtained, and typical ones were chemically analyzed, but no gold was detected.

The quartz veins are classified into two kinds as in the following.

(1) Quartz Vein Associated with Copper Vein:

It is distributed at the tail end of the copper veins of the Mata Grande mine and in the vicinity of them mentioned in the above, and it is related to the mineralization of copper.

Some variation of mineral assemblage is observed according to the locality, such as quartz vein, quartz-epidote vein and quartz-chlorite vein. Quartz of low crystallinity and milk white in color is dominant. The veins are 10 centimeters to 2 meters wide, striking northwesterly and dipping northward.

Chemical analysis of the quartz vein at the tail end of the northern vein of the Mata Grande copper vein (MK005) and the quartz vein at the northern end of the southern vein (MK013) revealed no content of gold.

Gold is ubiquitously contained in the Mata Grande copper vein where copper mineral is present in such grade as 0.1 to 0.5 g/t. The facts in the above mean that gold exists in close association with copper.

(2) Independent Quartz Vein

Many quartz veins and quartz-epidote veins several centimeters to 2 meters wide are found in tonalite and green schistose rocks. A alrge number of quartz veins and epidote-quartz veins several centimeters to several tens centimeters wide were discovered in tonalite batholith in the basin of Rio Jamamun in the southeastern part of the survey area where gold geochemical anomalies were detected. Most of them strike northwesterly and dip northward. The quartz is generally of high crystallinity and white in color. Although the alteration of the country rock is weak, silicification and montmorillonitization are observed. Chemical analysis of the typical vein among these (MK034) led to detect no gold.

Many quartz veins are also found in tonalite and green schistose rocks to the west of the Mata Grande mine, and the typical veins (MS011, MS012, MT006, MT011) were analyzed but no gold was detected.

4–3 Geochemical Survey

Geochemical survey by soil was conducted in the survey.

The samples obtained were chemically analyzed for six components such as Au, Ag, Cu, Pb, Zn and Mo. The assay result of these were statistically processed by computer, and single component analysis and multivariate analysis by factor analysis were made.

4–3–1 Method of Sampling and Analysis

Sampling of soil was conducted by the grid sampling method in order to grasp the lateral extension of the Mata Grande deposit and to find out the origin of placer gold being mined in the area. The survey lines for sampling were set up almost at right angles to the strike of the Mata Grande deposit. The length of survey line was determined to be 1.5 to 2.0 kilometers putting the deposit at the center. The line-spacing was 200 meters in the vicinity of the ore deposit, which was windened to 500 meters, and then to 700 meters as going away from the center. Samples were taken at an interval of 100 meters in the vicinity of the ore deposit, and 200 meters along the lines far apart from the deposit. 291 samples were obtained, and their locations are shown in PL. 20. Samples were taken from 'B' layer. The method of processing and analysis of samples obtained are similar to those in the case of Constanza mentioned previously.

4–3–2 Data Processing

The result of analysis of 291 samples for sic components is as shown in Table A–6. The result of these analyses was input into the computer together with the rock type (parent material at the sampling point).

4–3–3 Single Component Analysis

The method of analysis is similar to that in the case of Constanza previously mentioned. The histogram for each component and the cumulative frequency curve were produced for determination of threshold value (Fig. 32). The result of the simple statistics is shown in Table 7. Since most of the assay values of gold and molybdenum were below the detection limit, they could not be statistically processed.

Geochemically anomalous zones were expressed in the equidensity graph for analytical use.

1. Gold (Au)

Since assay values of gold were all below the detection limit, the analysis could not be made.

2. Silver (Ag) (PL. 21)

The assay values of silver showed the minimum of less than 0.1 ppm and the maximum of 0.8 ppm. Although the values below the detection limit of 0.1 ppm occupied 40.9 per cent of the whole, distinct threshold value could not be determined because the cumulative frequency curve was nearly straight. The equidensity lines are at 0.1 ppm, 0.2 ppm, 0.3 ppm and 0.4 ppm, and the cumulative frequencies for each are about 60 %, 30 %, 10 % and 3 %. The anomalies higher than 0.4 ppm are found in the areas distributed by tonalite batholith and tonalite intrusive rocks.

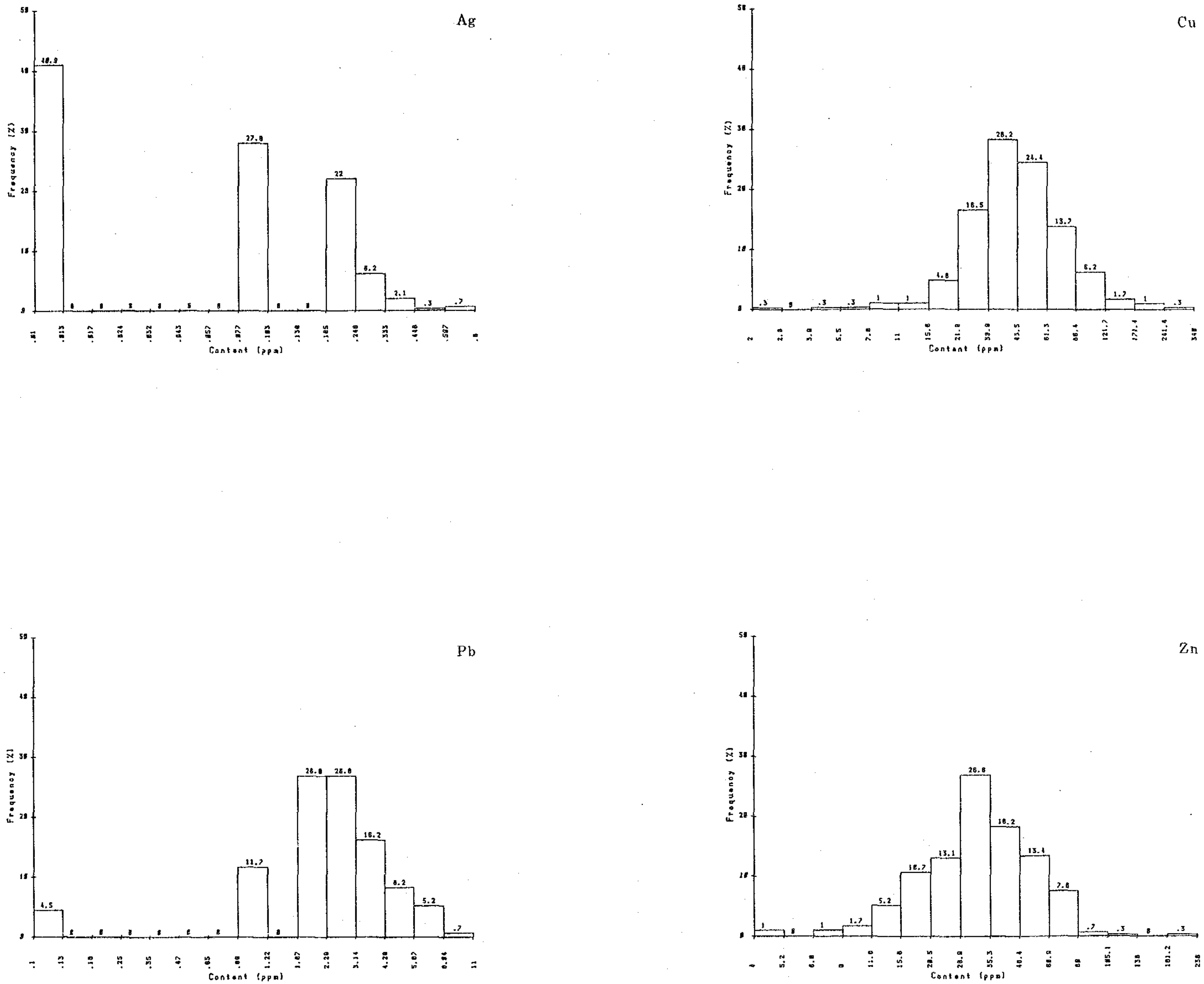


Fig. 31 Histograms of Geochemical Data of the Mata Grande Sub-Area

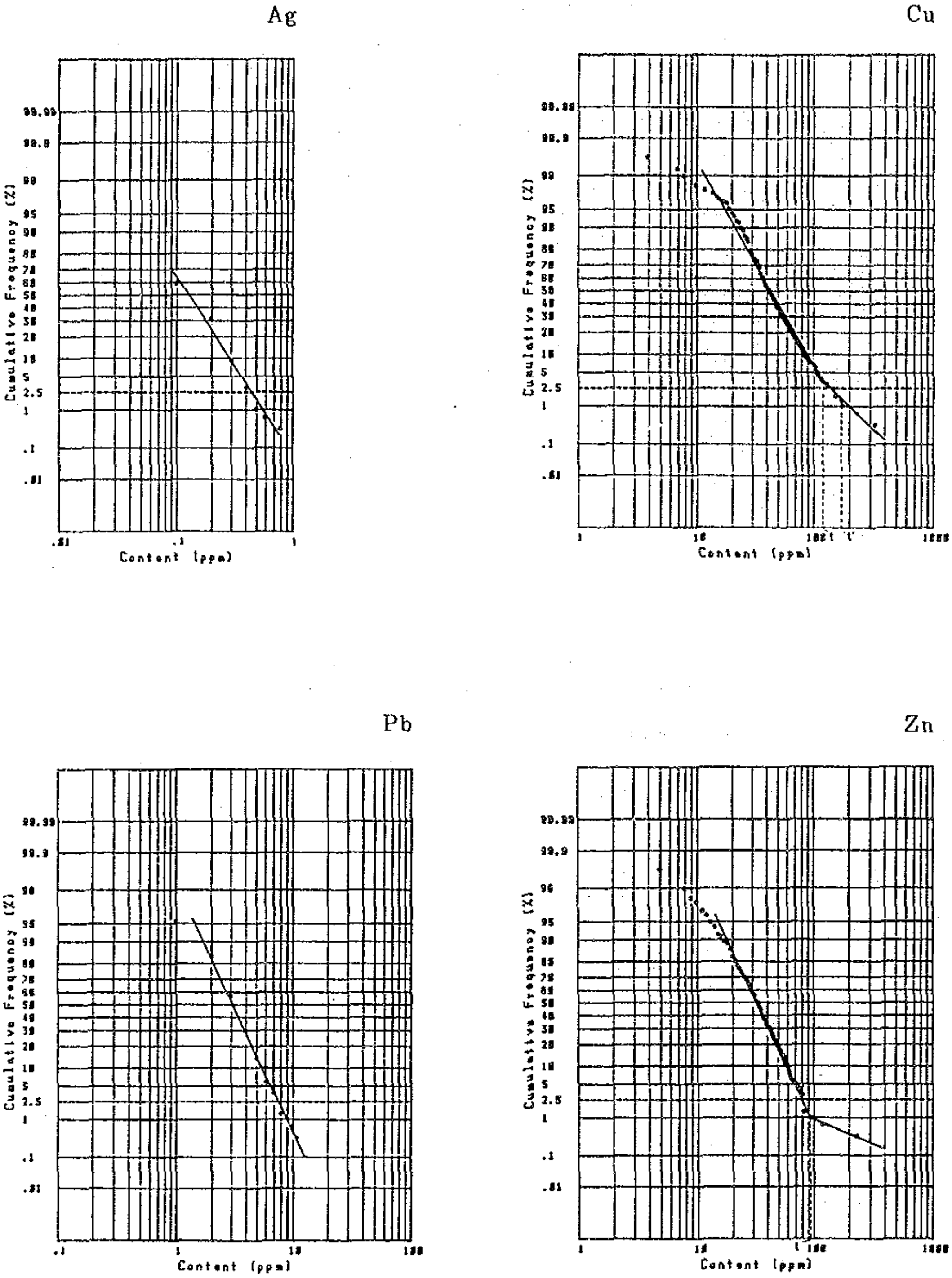


Fig. 32 Cumulative Frequency Distributions of Geochemical Data from the Mata Grande Sub-Area

Table 7 Result of Simplified Stratical Treatment of Geochemical Data from the Mata Grande Sub-Area

Element	Max. (ppm)	Min. (ppm)	Mean (ppm)	t (ppm)	t' (ppm)
Au	<0.01	–	–	–	–
Ag	0.8	<0.1	0.05	–	–
Cu	340	2	42.8	120 (3%)	170 (1.5%)
Pb	11	1	2.3	–	–
Zn	238	4	31.4	90 (1%)	–
Mo	0.2	<0.1	–	–	–

Table 8 Result of Factor Analysis of Geochemecial Data from the Mata Gande Sub-Area

Factor loading (varimax rotation)			Communality
Element \ Factor No.	Factor 1	Factor 2	
Ag	0.086	0.417	0.181
Cu	0.720	–0.230	0.572
Pb	–0.068	0.120	0.019
Zn	0.746	0.143	0.577
Factor contributions	1.088	0.261	

3. **Copper (Cu) (Fig. 33, PL. 22)**

The assay values of copper showed the minimum of 2 ppm and the maximum of 340 ppm.

These assay values are composed of two populations, and the value of skew point 120 ppm was obtained from the cumulative frequency curve as the threshold value (t). The values more than 130 ppm occupies three per cent of the whole, and the mean value of anomalous population 170 ppm was determined to be t'.

The equidensity lines in the analysis graph are at 30 ppm, 70 ppm, 120 ppm and 170 ppm, and the cumulative frequencies are 75 %, 20 %, 3 % and 1.5 %.

The anomalous zones higher than t caught the northwesterly trending vein of the Mata Grande deposit as a trend 100 meters to 200 meters wide.

As the result, it was known that the deposit extends for about one kilometers northwestward from the mine and about two kilometers southeastward. It was also made clear that another trend of anomalous zone was distributed to the south, suggesting the existence of potential parallel veins which would correspond to the Mata Grande copper vein.

4. **Lead (Pb) (PL. 23)**

The assay values of lead showed the minimum of less than 1 ppm and the maximum of 11 ppm. The histogram shows the bell-shaped logarithmic normal distribution. The cumulative frequency curve is nearly straight, and these assay values is composed of single population. Since distinct skew point is not present, the threshold value could not be determined. The equidensity lines in the analysis graph are at 3 ppm, 4 ppm, 6 ppm and 8 ppm, and cumulative frequencies are 55 %, 30 %, 6 % and 1.5 %.

The anomalies higher than 6 ppm are dominant in the northwestern part of the area, being almost consistent with the distribution of tonalite intrusives.

5. **Zinc (Zn) (PL. 25)**

The assay values of zinc showed the minimum of 4 ppm and the maximum of 238 ppm. Although the histogram shows bell-shaped logarithmic normal distribution as in the case of lead, the skew point is present on the cumulative frequency curve, and 70 ppm, the value of it was determined to be the threshold value. Since the values higher than 70 ppm are very small in number, being one per cent of the whole, the supplementary threshold value (t') was not obtained. The equidensity lines in the analysis graph are at 30 ppm, 40 ppm, 70 ppm and 90 ppm, and the cumulative frequencies are 60 %, 30 %, 5 % and 1 %.

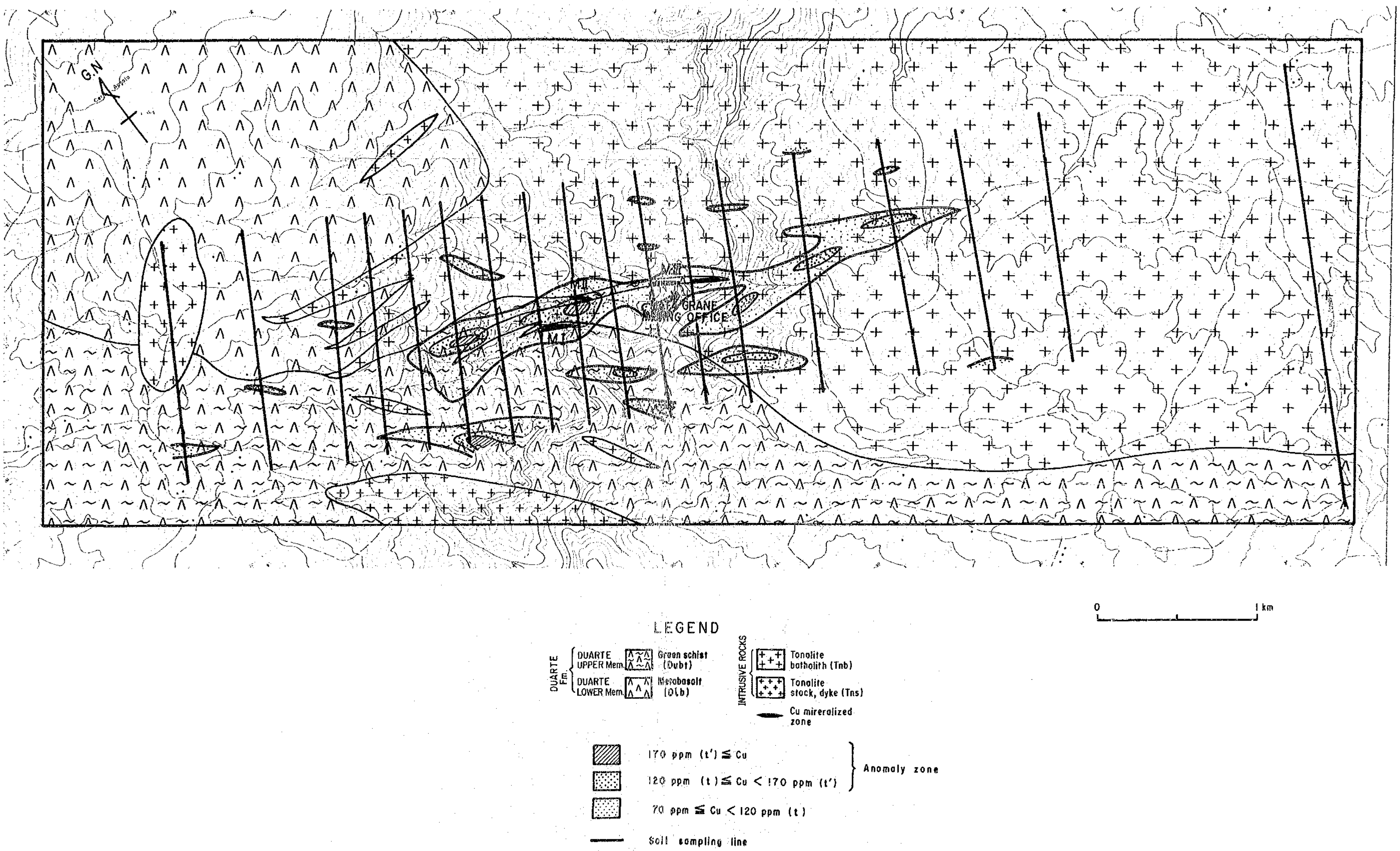


Fig. 33 Geochemical Analysis Map (Cu) of the Mata Grande Sub-Area

Although the zinc anomalous zone higher than t caught the Mata Grande deposit similarly to the copper anomalous zone, and it shows a marked southeastward extension as compared with the copper anomalous zone, no notable northwestward extension can not be observed.

6. Molybdenum (Mo) (PL. 24)

About 93 per cent of the assay values of molybdenum showed the values below the detection limit of 0.1 ppm. All the points detected are present in the area distributed by tonalite intrusive rocks.

4–3–4 Multivariate Analysis

Factor analysis of geochemical data by varimax method was conducted in the area as was in the Constanza area. The elements used for the factor analysis are the four elements such as Ag, Cu, Pb and Zn. As to Au and Mo, they were excluded because most of the assay values showed below the detection limit. As the result, the factors such as Cu–Zn as the first factor and Ag as the second factor were obtained. The factor loadings, community and contributions of each factor are shown in Table 8.

The investigation of the high factor marks, the copper mineralized zone and the single component analysis graph of copper, leads to the assumption that the first factor (Cu–Zn) would be the mineralization factor.

The high marks zones of the first factor (Cu–Zn) include a northwesterly trending zone which caught the Mata Grande deposit, and another one to the south of it.

The other factor, the second factor is the one characterized by silver. Although the high marks are present in the area distributed by tonalite batholith, it has not been made clear whether it reflects the character of the country rock or it is related to gold of which the analysis was of the country rock or it is related to gold of which the analysis was impossible.

4–4 Discussion and the Promising Area

4–4–1 Discussion

The Mata Grande deposit consists of copper veins occurred in the country rokcs such as green schistose rocks of the Duarte formation and tonalite. The deposit is composed of three veins arranged in echelon trending northwesterly.

The outcrops of the veins are approximately 150 meters, 200 meters and 500 meters in extension respectively from northwest to southwest, being distributed in an extent of 1.2 kilometers.

The result of geochemical survey shows that the copper anomalies continue to both sides of northwest and southeast, reaching 3 kilometers in total extension. Some copper anomalies extending northwesterly were detected to the south of the above, which suggests the potential existence of the parallel veins.

It is thought that these veins were formed by mineralization associated with the potential tectonic lines of NW–SE system of the first and the second orders.

The assemblage of the ore minerals and the alteration of sulfide minerals by oxidation show the same type as in those of the Constanza sub-area. The difference is that although the outer periphery of chalcopyrite at Constanza has been limonitized, the Mata Grande deposit is deficient in limonite, which leads to the assumption that in the latter, leaching of iron has been advanced as compared with that of copper.

4–4–2 **Promising Area** (Fig. 34)

Among the veins of the Mata Grande deposit, those in the zone in the vicinity of the outcrop which is extending for 500 meters in the southwestern part are steady in scale and grade. Since, in this place, the scale and the grade of the vein at the outcrop is relatively stable, the extent from the creek on the east of the mine to the southern slope of the top of mountain seems to be most promising.

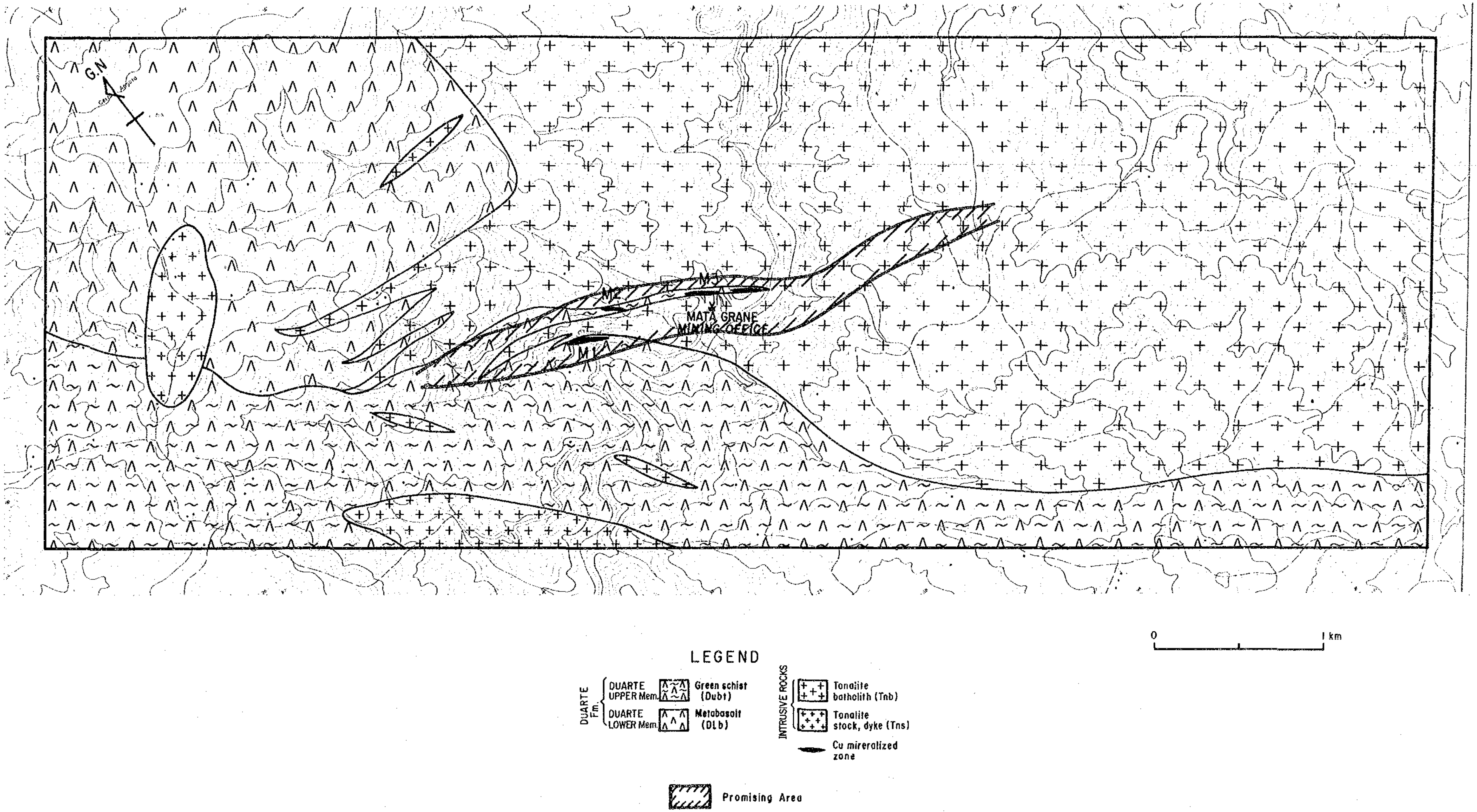


Fig. 34 Promising Area in the Mata Grande Sub-Area

CHAPTER 5 RADIOMETRIC AGE DETERMINATION OF IGNEOUS ROCKS

For the purpose of making clear the relationship between the igneous activity and the mineralization, radiometric dating by K–Ar method was conducted on the tonalite intrusive rocks and the batholith which have relation to the mineralization.

The samples provided for the determination are the six samples obtained from tonalite batholith (Tnb), tonalite stock (Tns), porphyritic tonalite stock and dyke (Tnp), and granodiorite stock (Gd). Fig. 2 shows the location of the sampling point, and Table 9 the result of determination. The geologic time table of W.B. Harland and others (1982) was used for determination.

The age dating of the El Bao batholith provided ages of 41 ± 3 m.y. and that of the El Rio batholith 98 ± 3 m.y.

According to S.E. Kesler and others (1977), the age determination by Bowen (1975) indicated 86 ± 3 m.y. for the intrusion of El Rio batholith.

The ages obtained this time, however, showed the time a little older than that in the above, corresponding to middle Cretaceous.

The ages for the El Bao batholith are very young as compared with that of the El Rio batholith. It seems to be caused by the effect of regional metamorphism and hydrothermal alteration continued until after Cretaceous.

The ages of the intrusive rocks which are related to the mineralization such as tonalite stock, porphyritic tonalite and granodiorite are approximately 60 – 70 m.y. except for those of the Mata Grande area, which correspond to late Cretaceous to early Palaeocene.

The rocks in the Mata Grande area is likely to have been affected by regional metamorphism and hydrothermal alteration.

Generalization of the results in the above leads to the following discussion, although the number of the sample is scarce.

The tonalite batholith intruded in the middle to late Cretaceous as a link of the Laramide Orogeny. After that followed the intrusion of tonalitic rocks of the form of stock and dyke in the vicinity of the batholith from late Cretaceous to early Palaeocene. The regional metamorphism associated with the orogeny continued at least to late Palaeocene.

The copper mineralization in the survey area is closely related to the tonalite intrusive rocks which show the form of stock and dyke, and it is assumed that the time of copper mineralization took place in and after Paleocene contemporaneously to the intrusion of tonalite intrusives and after that.

The fact that the pebbles which have undergone mineralization are contained in the Oligo-

Table 9 Potassium-Argon Dating of Igenous Rocks

Sample No.	Rock Name	Location	Mineral	K(%)	Radiogenic ^{40}Arcc STP/g	Radiogenic ^{40}Ar/total ^{40}Ar (%)	Appar. age (m.y. $\pm\sigma$)	Remarks
D–1	Tonalite (Tnb)	Mata Grande (El Bao)	Whole rock	0.985	1.578×10^{-6}	37.28	40.76 ± 1.41	Altered, meta mor-phosed
D–2	Tonalite (Tns)	Mata Grande	Whole rock	0.340	7.427×10^{-7}	37.73	55.34 ± 1.92	do.
D–3	Tonalite (Tnb)	Manabao (El Rio)	Whole rock	0.225	8.776×10^{-7}	38.98	97.66 ± 3.43	
D–4	Granodiorite (Gd)	Pico Duarte	Whole rock	0.640	1.606×10^{-6}	20.31	63.42 ± 1.99	
D–5	Pl-Q-Porphyry (Tnp)	Sabana	Whole rock	0.815	2.009×10^{-6}	31.03	62.33 ± 2.06	
D–6	Tonalite (Tns)	South of Constanza	Whole rock	0.750	2.086×10^{-6}	41.88	70.16 ± 2.53	

* Analized by CENTRAL RESEARCH INSTITUTE MITSUBISHI METAL CORPORATION.

$$\text{Age (m.y)} = \frac{1}{\lambda_e + \lambda_\beta} \ln \left[\frac{\lambda_e + \lambda_\beta}{\lambda_e} \times \frac{\text{Radiogenic}^{40}\text{Ar}}{K^{40}} + 1 \right]$$

$\lambda_\beta = 4.962 \times 10^{-10}/Y$

$\lambda_e = 0.581 \times 10^{-10}/Y$

$K^{40}/K = 0.01167$ atom %

cene formation is not contradictory to the result obtained.

CHAPTER 6 CONCLUSION AND RECOMMENDATION FOR THE SURVEY OF PHASE III

6–1 Conclusion

By the geological survey and the geochemical survey carried out in the survey of the second phase, the following facts were made clear.

1. The mineralization of the area would be formed in association with the tectonic movement and the igneous activity in the latest stage of the Laramide Orogeny in the period between Paleocene and before the Oligocene, which include the vein-type and the porphyry copper-type minerali zed zones.

2. Vein-type mineralized zones are present in the Constanza sub-area, and they are classified into the following two groups.

(1) Those associated with the tectonic line of NW–SE system:

the vein-type copper mineralized zones found in the areas such as El Gramoso, Hato de Los Rodriguez and Sabana.

It is considered that the veins at El Gramoso and Hato de Los Rodriguez were formed in the shearing fissures associated with the tectonic lines of NW–SE system, and the those at the Sabana were formed in the fracturing fissures associated with those of NW–SE system.

(2) Those associated with the tonalite intrusive body:

the vein-type copper mineralized zones and copper, lead and zinc mineralized zones as well as the pyrite-dissemination mineralized zones in the southern part of Constanza.

The veins of the former are higher in grade and larger in scale than those of the latter.

3. The promising areas in the Constanza sub-area include the following two areas in which many outcrops of veins were discovered.

(1) Loma Sito Grande Area:

the occurrence area of copper veins 12 square kilometers in extent.

The area is the Mt. Loma Sito Grande and its surrounding place, and includes El Gramoso where 45 outcrops were discovered. The veins in El Gramoso are gold bearing copper ones which is are relatively large in scale. The largest one among them is 1.5 meters in average width extending for 70 meters. The average grades are 0.3 g/T Au, 17 g/T Ag and 3.2 % Cu.

Most of these veins show the structure striking northwesterly and dipping northward, and the shape of distribution extends northwesterly with similar structure which is the direction of the main geological structure of this region.

The continuity of the veins and the existence of the latent ones can be expected in this area. Because the geochemical anomalies of copper and the high marks of factor–1 (Cu–Zn) are present on the northeastern slope of Mt. Loma Sito Grande, it can be expected that the group of veins as the same system as that of the El Gramoso area might occur in the northeastern slope.

(2) Hato de Los Rodriguez Area:

the occurrence area of copper veins 1.5 square kilometers in extent.

The area is the place where 14 gold bearing copper veins striking NW direction similar to those of El Gramoso were discovered. The continuity of the veins and the existence of the latent ones can be expected in this area.

4. A porphyry copper mineralized outcrops having an extent of 450 m x 250 m was discovered in granodiorite body in the Pico Duarte sub-area. Among the mineralized zone, an extent of 30 m x 150 m shows the grade of 0.5 g/T Au, 10 g/T Ag and 1 % Cu, and that of 300 m x 200 m shows 0.3 % Cu.

This part is expected to expand to the southern part covered by soil because geochemical anomaly of copper, low magnetic susceptibility and alteration extend from this part to the southern part. Therefore, if the latent mineralized zone is included, the whole extent would be 500 m x 500 m in total.

At 1 kilometer south from here, there is the another low magnetic susceptibility zone which spread whidely (Fig. 13). The small zones of mineralizations, alterations and geochemical anomalies of copper are spottedly distributed in it.

5. It is suggested that the Mata Grande copper vein deposit in the Mata Grande sub-area extend about 3 kilometers in the direction of NW–SE by the geological survey and geochemical survey. The extension confirmed as the outcrops is about 1.2 kilometers in it. The deposit in the vicinity of the mine is composed of three veins arranged in echelon. The largest vein is the one in the southern part which has 500 meters in the extension, 0.7 meters in average width and 0.3 g/T Au, 42 g/T Ag and 2.1 % Cu in average grade.

6–2 Recommendations

On the basis of the conclusion in the above, the following surveys were selected for the surveys in the third phase (Fig. 35).

1. El Gramoso area (5 kilometers in extent)

Many gold bearing copper vein-outcrops of NW system which is the same direction with the main geological structure in this region were discovered in the areas. They are distributed northwesternly with an extent of about 3 kilometers, though the whole aspect has not yet been made clear. Since the scale of the mineralization and the grade of outcrops are relatively stable, the continuity of the veins are expected.

Detailed geological survey and exploration drilling are desirable as the survey of the third phase to make clear the relation of these outcrops and the occurrence of the deeper part of the main outcrops.

2. Pico Duarte area (0.3 kilometers in extent) (Fig. 36)

It is suggested that porphyry copper mineralized zone discovered in this area extends probably to the place covered by soil. It is expected also that it continues to the deeper part because its mineralization is relatively stable.

Induced polarization survey and exploration drilling are desirable to make clear the extent and occurrence of the deeper part of the mineralized zone as the survey of the third phase.

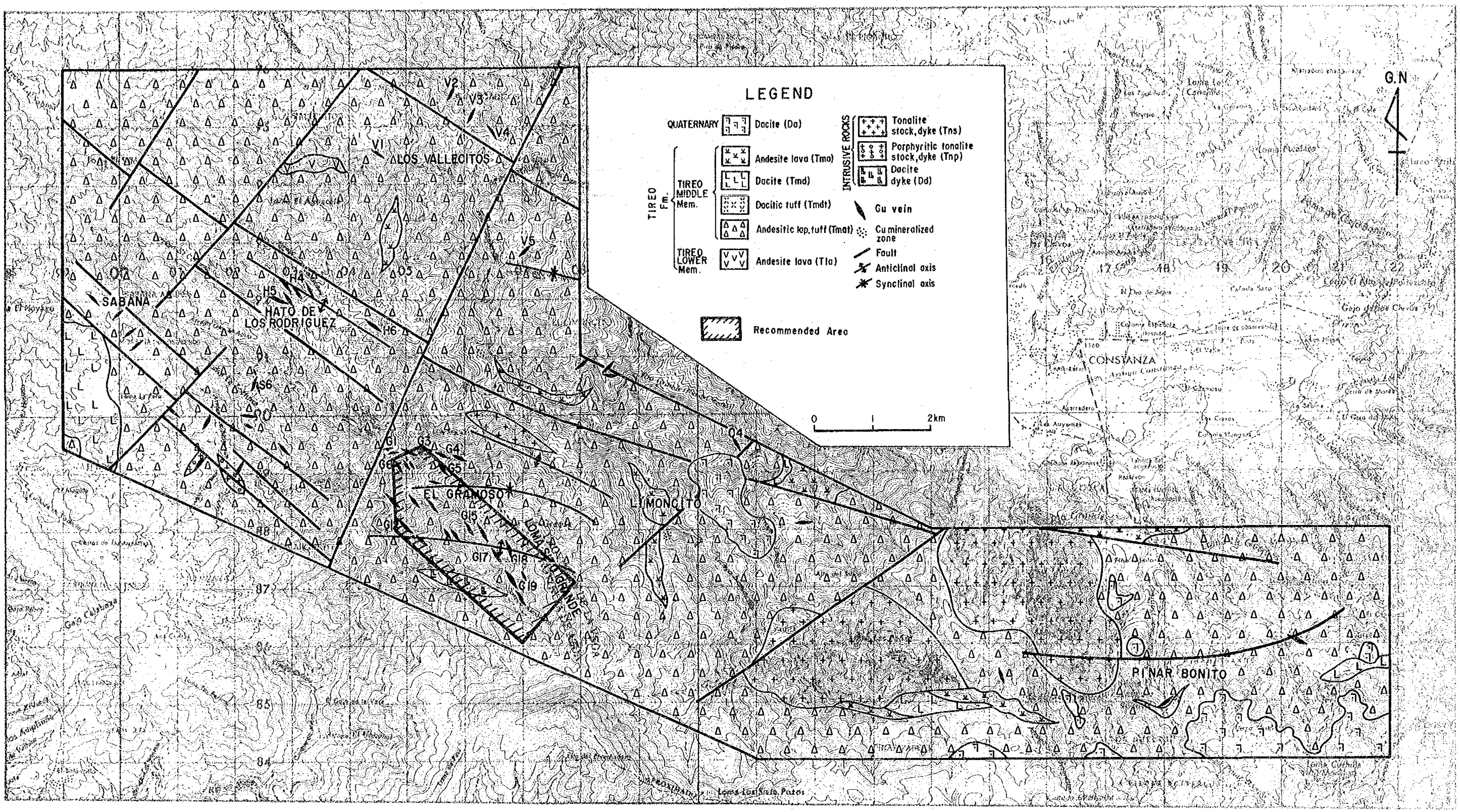


Fig. 35 Recommended Area for Phase Ⅲ Follow-up Work in the Constanza Sub-Area

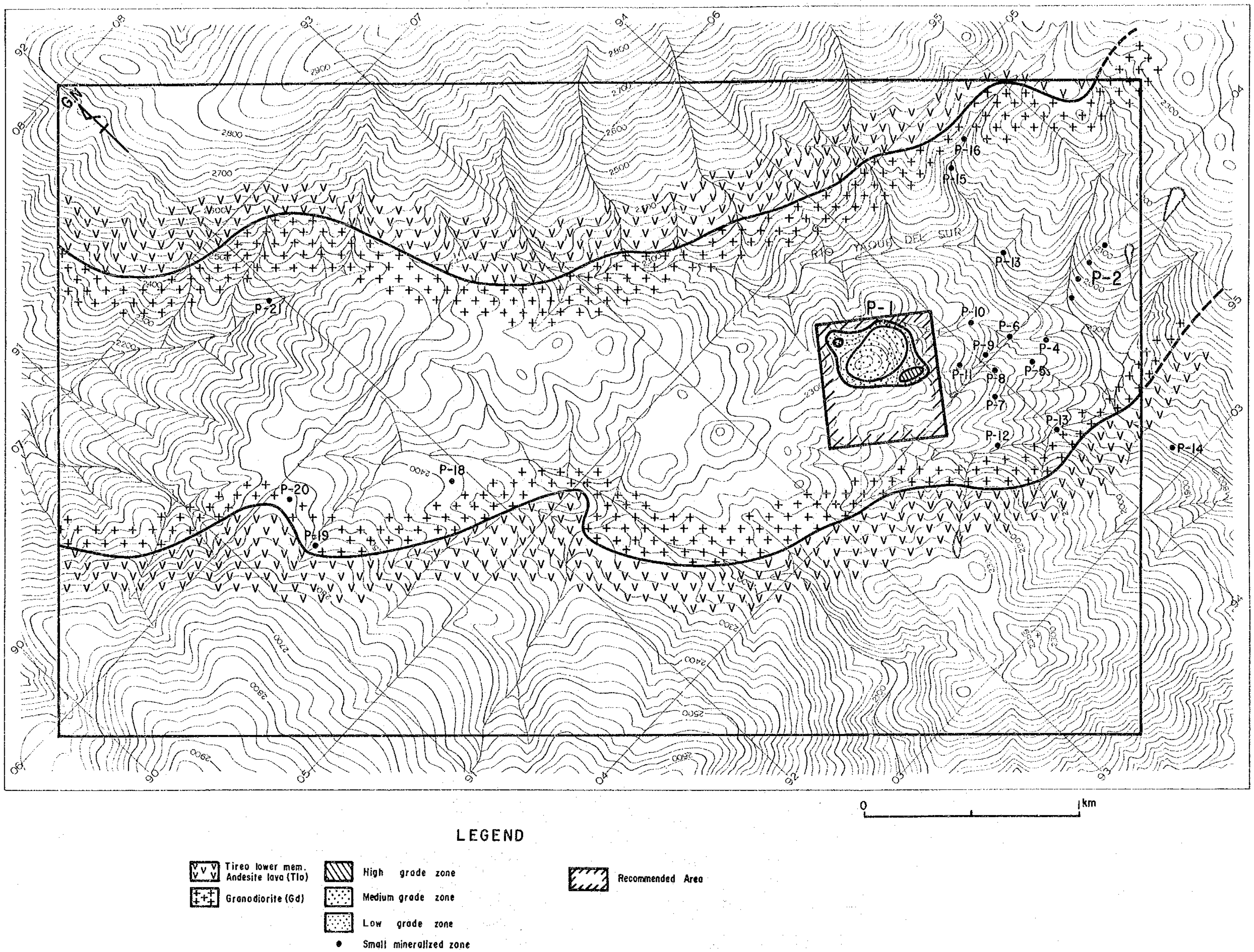


Fig. 36 Recommended Area for Phase III Follow-up Work in the Pico Duarte Sub-Area

REFERENCE

Barabas, A.H. (1982): Potassium-argon dating of magmatic events and hydrothermal activity associated with porphyry mineralization in west central Puerto Rico. Econ. Geol, 77, p109–126.

Bowin, C.O. (1960): Geology of Central Dominican Republic. Princeton Univ. Ph. D. Thesis, 211.

Bowin, C.O. and Nagle (1980): Igneous and metamorphic rocks of northern Dominican Republic: an uplifted subduction zone complex. 9th Caribbean Geological Conference, Santo Domingo, Dominican Republic, p39–50.

B.R.G.M. (1980): Exploracion minera del area Las Canitas. D.G.M., Santo Domingo, Republica Dominicana.

D.G.M. (1983): Estudio de Pre-factibilidad del Area Geotermica Yayas-Constanza. Santo Domingo, Republica Dominicana.

D.G.M. (1984): Resultados preliminares de los recientes trabajos de exploracion geotermica en la Republica Dominicana. Analysis de la demande Futura de expertos en esta area. Santo Domingo, Republica Dominicana.

Espaillat-Lamarche, J.E. (1981): The Mata Grande deposit. University College, Cardiff.

Harland, W.B. et. al. (1982): A geological time scale. Cambridge University Press.

Kesler, S.E. et. al. (1977): Early Island-Arc Intrusive Activity, Cordillera Central, Dominican Republic. Cantrib. Mineral, Petrol. 65. p91–99.

Khudoley, K.M. and Meyerhoff, A.A. (1971): Palaeogeography and geological history of Greater Antilles. Geol. Soc. America, Mem. 129, 199.

Kurodo, H. (1973): Vein outcrops and their developments. Mining Journal of the Mitsubishi Metal Company, 112, p21–28 in Japanese.

Lewis, J.F. (1980): Cenozoic tectonic evolution and sedimentation in Hispaniola. 9th Caribbean Geological Conference, Santo Domingo, Dominican Republic, p65–73.

Lipeltier, C. (1964) : A Simplified Statistical Treatment of Geochemical Data by Graphical Representation. Econ. Geol., 64

Palmer, H.C. (1963): Geology of portion of North-Central Dominican Republic. Princeton Univ. Ph. D. Thesis, 256.

Walper, J.L. (1980): Geologic evolution of the Greater Antilles. 9th Caribbean Geological Conference, Santo Domingo, Dominican Republic, p11–21.

Watanabe, W. et al. (1972): Geochemical investigation in the Cordillera Central Dominican Republic. Min. Geol. Japan, 22, p177–190 in Japanese.

Watanabe, W. (1974): Geology and Copper Mineralization of the Island of Hispaniola, Greater Antilles, West Indies. Min. Geol. Japan, 24, p323–333 in Japanese.

Woodring, W.P. (1954): Caribbean land and sea through the ages. Geol. Soc. America, Bull. 65, p719–732.

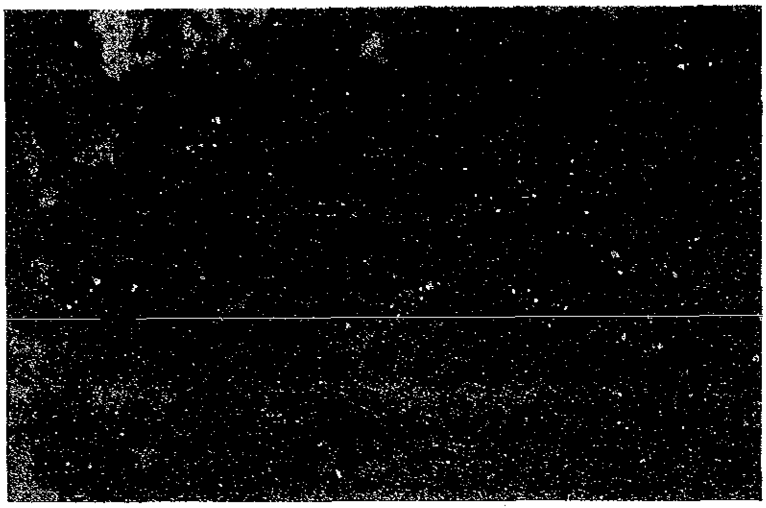
APPENDICES

Photo. 1 Microphotograph of Thin Section

Abbreviation

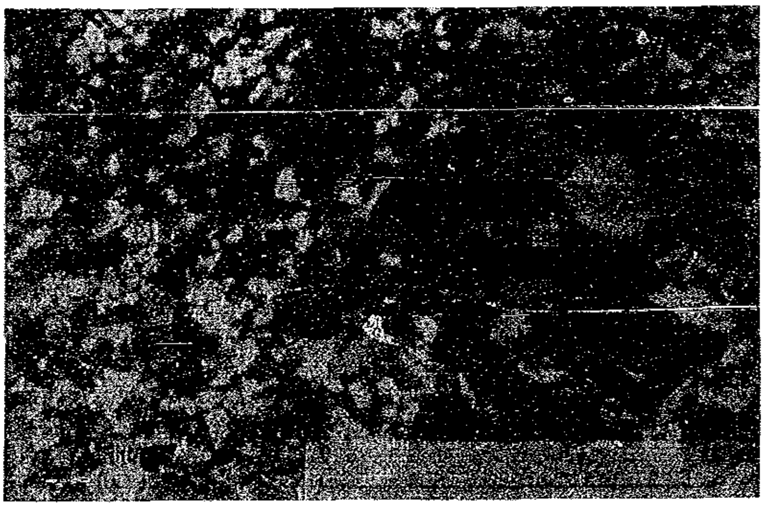
Q	:	quartz
pl	:	plagioclase
kf	:	potash feldspar
Au	:	augite
Hb	:	hornblende
Bi	:	biotite
chl	:	chlorite
Im	:	iron mineral

(1)



(crossed polars)

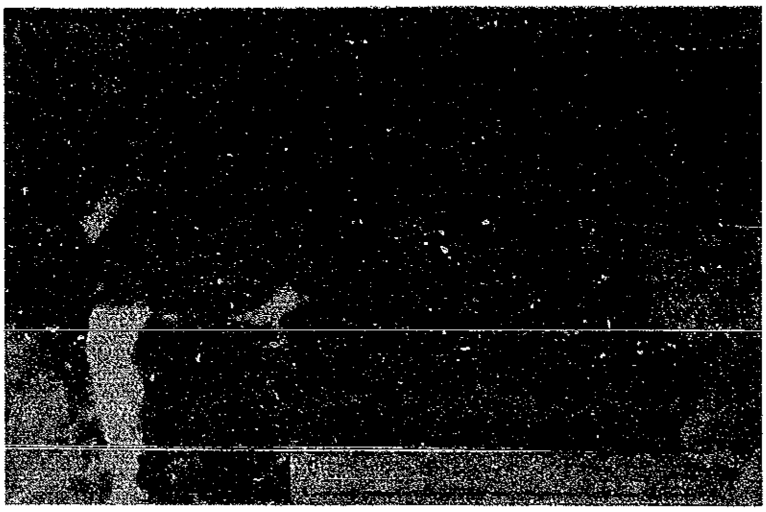
Sample No. : SG021
Location : South of Constanza
Rock Name : Hb-tonalite (Tns)
Texture : Halocrystalline, myrmekite



(crossed polars)

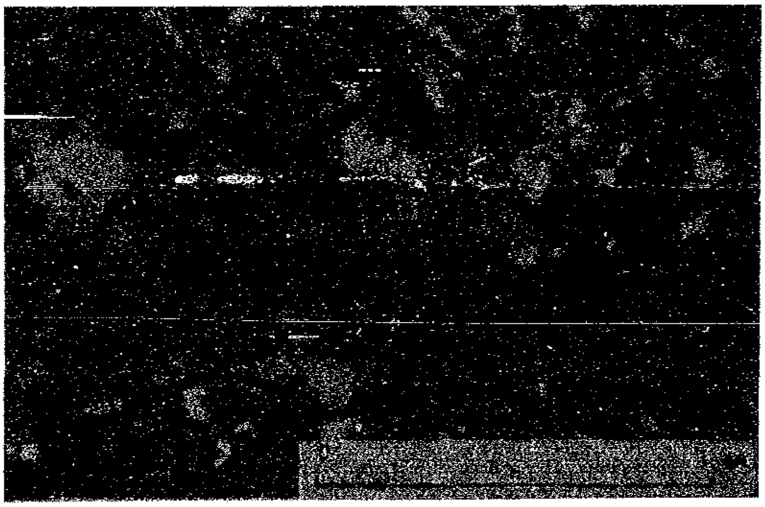
Sample No. : PM094
Location : Pico Duarte
Rock Name : Amphibolite (Tla)
Texture : Granoblastic

(1)



(crossed polars)

Sample No. : PM024
Location : Pico Duarte
Rock Name : Bi-aplite
Texture : Halocrystalline, equiglanular



(crossed polars)

Sample No. : PT002
Location : Pico Duarte
Rock Name : Au-andesite
Texture : Halocrystalline, porphyritic

Photo. 2 Microphotograph of Polished Section

Abbreviation

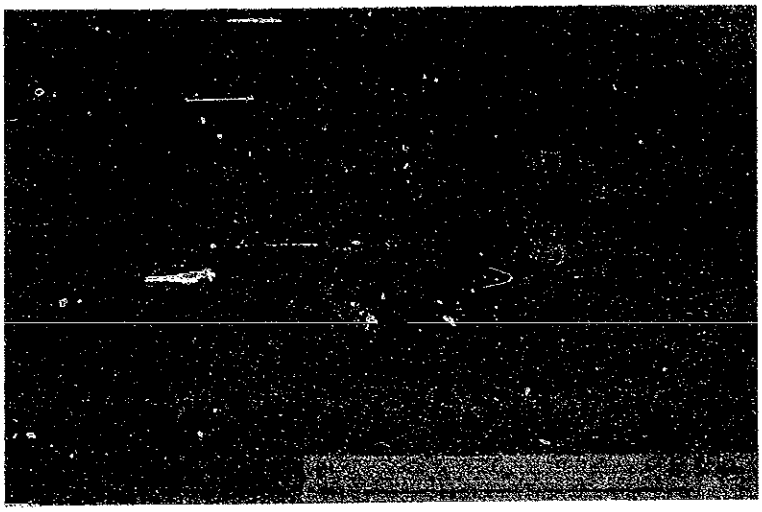
Cp : chalcopyrite

Bo : bornite

Cc : chalcocite

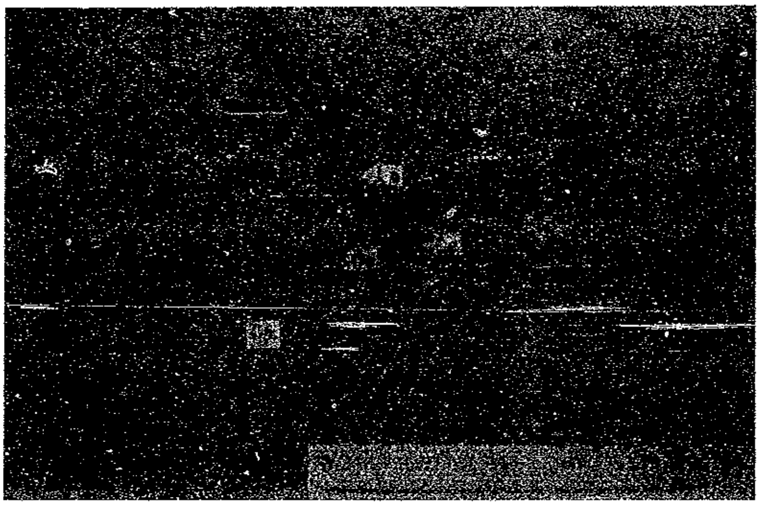
Cv : covelline

Lm : limonite



Sample No. : SK020
Location : Hato de Los Rodriguez (H–6)
Ore Name : Cv-Lm-Bo-Cp-Ore

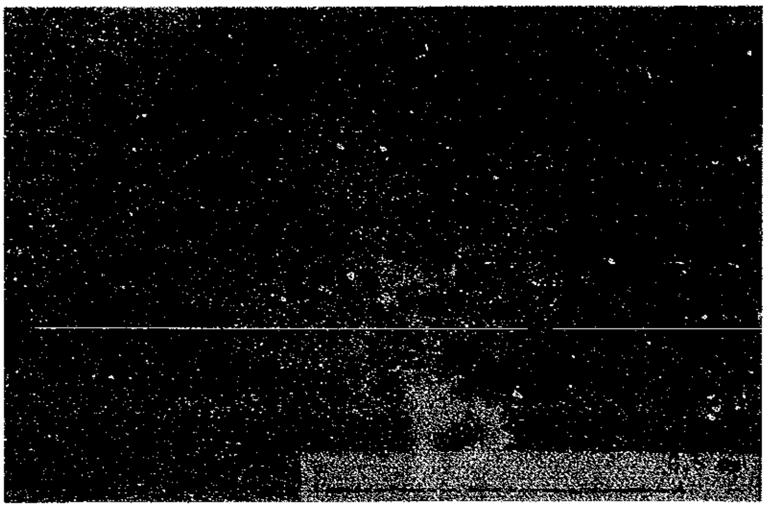
(only lower polar)



Sample No. : SK073
Location : El Gramoso (G–5)
Ore Name : Cp-Lm-Ore

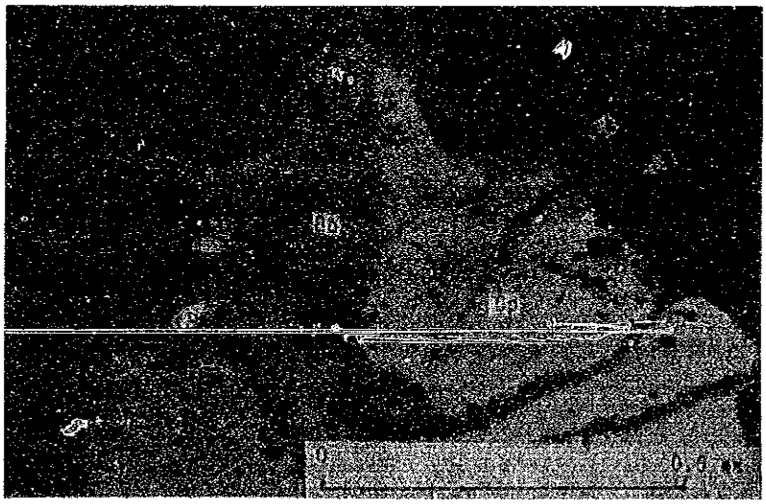
(only lower polar)

(2)



Sample No. : PK009
Location : Pico Duarte (P-1)
Ore Name : Lm-Cc-Cp-Bo-Ore

(only lower polar)



Sample No. : MK002
Location : Mata Grande (M-2)
Ore Name : Cc-Cp-Bo-Ore

(only lower polar)

Table A–1 Result of Thin Section Examination

Metamorphic rocks (1)

No.	Sample No.	Location	Rock Name	Texture	Constituent Mineral: Quartz	Plagioclase	Actinolite (Ac)	Epidote	Chlorite (Chl)	Pumpellyite	Hornblende	Iron Mineral	Remarks
1.	MT-15	Mata Grande	Chl-Ac-green schist (Dubt)	Lepidblastic chistose			A	L	C			L	
2	MT016	do.	do. (Dubt)	do.			A	L	C			L	
3	MG003	do.	do. (Dubt)	do.			A	L	C	L		L	
4	MG001	do.	Amphibolite (Dlb)	Granoblastic	C	L		L			A	L	Contact of tonalite
5	MP094	Pico Duarte	do. (Tla)	do.	L	L					A	L	do.

Pyroclastic rocks (2)

No.	Sample No.	Location	Rock Name	Texture	Fragment: Andesite	Andesitic tuff	Dacite	Volcanic glass	Quartz	Plagioclase	Augite	Matrix: Volcanic glass	Hematite	Secondary Mineral: Quartz and silica mineral	Epidote	Chlorite	Calcite	Sericite	Remarks
6	CY021	Limoncito	Andestic fine tuff (Tmat)	Pyloclastic	L			?				L	L	C	C	L			Hematization
7	SS002	Los Vallecitos	Andestic coarse tuff (Tmat)	do.		L		L			L	L	L	L		L	C		do.
8	SY019	Sabana	Andestic lapilli tuff (Tmat)	do.	C	L	L	L			L	L	C	C		L	L		do.
9	SB013	El Gramoso	do. (Tmat)	do.	C	L		L	L			L		C		L	C	?	

Igneous rocks

(3)

No.	Sample No.	Location	Rock Name		Texture	Phenocryst							Groundmass					Secondary Mineral					Remarks
						Quartz (Q)	Plagioclase	Potash feldspar	Hornblende (Hb)	Biotite (Bi)	Augite (Au)	Iron Mineral	Quartz	Plagioclase	Augite	Volcanic galss	Iron Minerale	Epidote	Chlorite	Sericite	Calcite	Quartz and silica mineral	
10	MG009	Mata Grande	Hb-tonalite	(Tns)	Halocrystalline, equigranular	A	A		L			L						L	L				Dyke
11	MS008	do.	do.	(Tns)	do.	A	A		L			L						L	L				do.
12	CY010	El Gramoso	do.	(Tns)	Halocrystalline, mylmekite	A	A		L			L						C	L	?			Stock
13	CY015	do.	do.	(Tns)	do.	A	A		L			L						L	L	?			do.
14	CY033	do.	do.	(Tns)	do.	A	A		L			L						L	L				do.
15	SK089	do.	Hb-dacite	(Tns)	Halocrystalline, porphyritic		L		C				A	C			L		L		L	L	Margine of stock
16	SG032	do.	Hb-dacite	(Dd)	do.	C	C		L				C	C			L		L			L	Dyke, altered
17	SB012	do.	do.	(Dd)	do.	L	C		L				A	L			L	L	L			L	Dyke
18	PK009	Pico Duarte	Hb-Bi granodiorite	(Gd)	Halocrystalline, equigranular	A	A	?	?	?									L			L	Stock, altered
19	PM085	do.	Bi-granodiorite	(Gd)	do.	C	C	C	L	L		L						L	L	L		L	Stock
20	PM090	do.	Hb-Bi-granodiorite	(Gd)	do.	A	C	C	L	L		L						L	L	L	L		do.
21	PT002	do.	Hb-andesite		Halocrystalline, porphyritic						L	L		C	A		L						Dyke
22	PM024	do.	Bi-aplite		Halocrystalline, amygdaloidal	C	C	A				L						L	L	?			do.
23	SK019	Hato de Los Rodriguez	Au-andesite	(Tma)	Porphyritic, intergranular		?			?		L						C	L		C	L	Lava, altered
24	CG001	Limoncito	Hb-dacite	(Da)	Hyalline, porphyritic	L	L		C	L		L	A	C		L	L		?				Lava
25	CB001	Pinar Bonito	do.	(Da)	do.	L	L		C			L	C	A		L	L		?				do.

Abundant : A Common : C Little : L

Table A–2 Result of Polished Section Examination

No.	Sample No.	Location (Mineralized Zone No.)		Ore Name	Pyrite (Py)	Sphalerite (Sph)	Chalcopyrite (Cp)	Bornite (Bo)	Chalcocite (Cc)	Covelline (Cv)	Malachite (Mal)	Specularite (Spc)	Magnetite (Mt)	Limonite (Lm)	Molybdenite (Mo)
1	SK004	Sabana	(S–6)	Mal-Lm-Ore							C			A	
2	SK020	Hato de Los Rodoriguez	(H–6)	Cv-Lm-Mal-Bo-Cp-Ore			A	L	L?	L	C			C	
3	SK023	do.	(H–6)	Cc-Mal-Lm-Ore				A	L		L			C	
4	SK034	do.	(H–1)	Cv-Bo-Cc-Ore				L	C	L					
5	SK039	do.	(H–4)	Lm-Cc-Cp-Bo-Ore			C	C	L					L	
6	SK043	do.	(H–4)	Cc-Bo-Cp-Ore			A	L	L						
7	SK073	El Gramoso	(G–6)	Lm-Py-Cc-Mal-Cp-Ore	L		C		L		L			L	
8	SK079	do.	(G–2)	Lm-Mal-Cv-Cp-Ore			C			L	L			L	
9	SK082	do.	(G–3)	Lm-Spc-Cv-Cc-Mal-Cp-Ore			C		L	L	L	L		L	
10	SK083	do.	(G–3)	Spc-Cv-Bo-Cp-Ore			C	L		L		L			
11	SK084	do.	(G–5)	Mal-Lm-Ore							C			A	
12	SK104	do.	(G–19)	Sph-Lm-Cv-Mal-Cp-Bo-Ore		L	C	C		L	L			L	
13	SK107	do.	(G–19)	Mal-Lm-Ore							C			C	
14	ST012	do.	(G–18)	Cp-Mal-Lm-Ore			L				C			A	
15	SG035	do.	(G–19)	Lm-Mal-Cv-Cp-Ore	?		L			L	L			L	
16	MK002	Mata Grande	(M–II)	Mo-Mal-Bo-Cp-Ore			C	C			L				L
17	MG006	do.	(M–III)	Mal-Cv-Cc-Bo-Cp-Ore			A	L	L	C	L				
18	MS011	Rio Bao		Lm-Mal-Cv-Py-Cc-Cp-Ore	L		C		C	L	L			L	
19	PK009	Pico Duarte	(P–1)	Lm-Cc-Cp-Bo-Ore			L	C	L					L	
20	PT001	do.	(P–1)	Lm-Spc-Cc-Cp-Bo-Ore			C	C		L		L		L	
21	PM028–2	do	(P–1)	Mo-Lm-Mal-Cc-Bo-Cp-Ore			C	C	L		L			L	L
22	PM029–1	do.	(P–1)	Lm-Cp-Ore			L							C	
23	PM039	do.	(P–2)	Cc-Lm-Ore					L				L	C	

Abundant : A Common : C Little : L

Table. A-3 List of Main Mineralized Zones in the Survey Area

(1)

Ser. No.		Name and/or Number of Mineralized Zone	Kind of Ore	Type	Location	Host Rock	Structure and Scale of Mineralized Zone			Grade						Description of Samples	Ore Minerals	Sample No.
							Strike and Dip	Lateral Extension	Average Width	Au (g/T)	Ag (g/T)	Cu (%)	Pb (%)	Zn (%)	Mo (%)			
1	Constanza Sub-Area	El Gramoso (G–1)	Cu	Vein	El Gramoso	Andesitic lap. tuff (Tmat)	N50°〜70°W	0.5 m	0.5 m	0.90	17.7	4.18	0.15	0.02		Sampling width: 0.50 m	Bo, Mal, Spc	SK076
2		do. (G–2)	do.	do.	do.	do.	N70°E 55°N	4	0.1 〜0.3	0.20	5.9	1.89	0.91	0.02		Sampling width: 0.20 m	Mal, Cp, Cv, Py, Lim	SK079
							N70°W 50°N	1	0.1	0.20	6.5	2.65	0.12	0.04		Sampling width: 0.10 m	Mal, Cp, Bo, Lim	SK080
3		do. (G–3)	do.	do.	do.	Andesite (Tma)	N70°E 65°N	1.5	0.3	0.10	2.8	0.99	0.05	0.10		Sampling width: 0.30 m	Mal, Cp, Lim	SK081
						Andesitic lap. tuff (Tmat)	N80°E	3.5	0.3 〜0.4	0.33	16.5	6.15	0.14	0.10		Sampling width: 0.40 m	Mal, Cp, Cc, Cv, Lim	SK082
4		do. (G–4)	do.	do.	do.	Andesitic tuff (Tmat)	N70°W 70°N		0.5	0.22	9.7	1.90	0.07	0.02		Sampling width: 0.50 m	do.	SY005
5		do. (G–5)	do.	do.	do.	Andesitic lap. tuff	NW	1.3	0.5	1.00	43.1	29.83	0.12	0.06		Sampling width: 0.50 m	Mal, Cc, Lim	SK084
						Shale (Tms)	N10°W 50°N	3.5	1.5	0.10	3.9	1.97	0.07	0.02		Sampling width: 0.10 m	Mal, Cp, Bo, Cc, Lim	SK086
6		do. (G–6)	do.	do.	do.	Andesitic lap. tuff (Tmat)	N20°W	20	3	tr.	1.7	0.68	0.08	0.02		Sampling width: 3.00 m	Mal, Cp, Bo, Spc, Lim	SK072
7		do. (G–9)	do.	do.	do.	do.	N50°W	0.3	0.1	0.33	8.1	7.56	0.27	0.10		Sampling width: 0.10 m	mal, Cp, Bo, Cc, Lim	SK057
8		do. (G–12)	do.	do.	do.	do.	N50°W 50°N	70	1.5	tr.	2.5	0.97	0.07	0.04		Sampling width: 0.90 m	Mal, Cp, Bo, Cc, Lim	SK060
										0.50	16.3	2.01	0.08	0.04		Sampling width: 0.40 m	do.	SK061
										0.50	9.8	1.38	0.04	0.02		Sampling width: 0.30 m	do.	SK063
										0.33	24.5	5.43	0.12	0.10		Sampling width: 1.00 m	do.	SK064
										0.30	24.3	3.97	0.09	0.02		Sampling width: 0.80 m	do.	SK065
										0.40	28.6	4.33	0.16	0.06		Sampling width: 1.20 m	do.	SK066
										0.40	15.3	4.43	0.09	0.05		Sampling width: 0.70 m	do.	SK067
9		do. (G–17)	do.	do.	do.	do.	N30°W,50°N	3	0.1〜0.3	0.10	2.8	1.73	0.08	0.04		Sampling width: 0.30 m	Mal, Cp, Bo, Cc, Spc, Lim	ST001
							N25°W,60°N	10	2	0.20	25.4	2.63	0.08	0.02		Sampling width: 1.00 m	do.	ST008
							N30°W	5	1.5	0.20	4.8	0.44	0.17	0.40		Sampling width: 1.50 m	do.	ST007
10		do. (G–18)	do.	do.	do.	do.	N50°W,30°N	3	2	tr.	2.1	0.17	0.07	0.02		Sampling width: 0.50 m	Mal, Cp, Lim	ST010
							N30°W,60°N	2	1.5	tr.	2.5	2.39	0.07	0.02		Sampling width: 0.50 m	do.	ST011
							N30°W,60°N	5	0.5	0.20	14.9	2.83	0.02	0.04		Sampling width: 0.70 m	do.	ST012
11		do. (G–19)	do.	do.	do.	do.		3	1	1.50	123.4	11.72	0.12	0.02		Sampling width: 1.00 m	Mal, Cp, Cc, Lim	SK104
							N25°W,40°N	8	1〜1.5	0.30	82.6	7.04	0.12	0.02		Sampling width: 0.70 m	do.	SK106
12		Hato de Los Rodriguez (H–1)	do.	do.	Hato de Los Rodriguez	do.	N25°W,35°N	32	0.7	0.20	11.8	2.10	0.14	0.04		Sampling width: 0.70 m	Mal, Cp, Bo, Cc, Lim	SK034
13		do. (H–4)	do.	do.	do.	do.	N30°W,40°N	2.5	0.25	0.20	13.0	2.61	0.02	0.04		Sampling width: 0.25 m	Mal, Cp, Bo, Cc, Lim	SK039
14		do. (H–5)	do.	do.	do.	do.	N20°W	12	1.10	tr.	1.3	1.53	0.03	0.10		Sampling width: 1.10 m	Mal, Cp, Bo, Cc, Lim	SK046
									2.70	0.10	1.4	1.23	0.15	0.15		Sampling width: 2.70 m	do.	SK047
15		do. (H–6)	do.	do.	do.	do.	N45°W	3	0.5	1.10	11.7	2.64	0.09	0.05		Sampling width: 0.50 m	Mal, Bo, Cc, Lim	SK027
16		Limoncito (C–4)	do.	do.	Limoncito	do.	N20°W	100	3	tr.	7.1	1.85	0.02	1.10		Sampling width: 2.00 m	Mal, Cp, Py, Lim	CT002
17		Los Vallecitos (V–2)	do.	do.	Los Vallecitos	do.	N5°E,65°N	5	1.5	0.33	21.0	4.77	0.16	0.10		Sampling width: 0.04 m	Mal, Cp, Bo, Cc, Lim	SY023–1
18		do. (V–4)	do.	do.	do.	do.	N25°W,60°S	15	0.5	1.50	193.7	18.31	0.16	0.20		Sampling width: 0.25 m	Mal, Cp, Bo, Cc, Py, Spc, Lim	SY024–3
19		Cana de Gallo (S–6)	do.	do.	North of Sabana	do.		1.2	0.8	tr.	tr.	9.36	0.22	0.04		Sampling width: 0.40 m	Mal, Spc, Lim	SK04

(2)

Ser. No.		Name and/or Number of Mineralized Zone	Kind of Ore	Type	Location	Host Rock	Structure and Scale of Mineralized Zone			Grade						Description of Samples	Ore Minerals	Sample No.
							Strike and Dip	Lateral Extension	Average Width	Au (g/T)	Ag (g/T)	Cu (%)	Pb (%)	Zn (%)	Mo (%)			
20	Pico Duarte Sub-Area	Pico Duarte (P–1)	Cu	Porphyry Copper	Pico Duarte	Granodiorite (Gd)		150 m	30 m	0.67	11.6	1.52			tr.	Ore	Cp, Bo, Cc, Mal, Lim	PK009
										0.50	11.2	0.97			tr.	do.	do.	PM055
										0.40	7.1	0.61			tr.	do.	do.	PM056
21	Mata Grande Sub-Area	Mata Grande (M–III)	do.	Vein	Mata Grande	Green schist (Dubt)	N40°W	0.5	0.5	0.30	8.9	1.37				Sampling width: 0.50 m	Mal, Cp, Bo, Cc, Az, Lim	MK015
							N10°W,80°S	6	1.50	0.50	4.7	4.47				Sampling width: 1.50 m	do.	MK016
							N50°W,90°	1.5	0.4	0.25	0.8	0.88				Sampling width: 0.40 m	do.	MK017
							N50°W,90°	0.5	0.5	0.20	2.5	1.71				Sampling width: 0.50 m	do.	MK018

Abbreviation

Py : Pyrite
Cp : Chalcopyrite
Bo : Bornite
Cc : Chalcocite
Cv : Covelline
Mal : Malachite
Spc : Specularite
Lm : Limonite
Q : Quartz
Ep : Epidote
v : Vein

Table A–4 Result of X-ray Diffractive Analysis

(1)

No.	Sample No.	Location	Plagioclase	Hornblende	Quartz	K-Feldspar	Sericite	Chlorite	Montmorillonite	Epidote	Calcite	Prehnite	Laumontite	Kaolinite	Hematite	Diopside	Remarks
1	Cy015	Limoncito	C		A			L		C							Silicified dacite (Dd)
2	Cy017	do.	A		A			L									Silicified tonalite
3	Cy018	do.			C			A		L							Chloritezed andesitic lap. tuff (Tmat)
4	Cy019	do.	C		A			C		L							Silicified andesitic tuff (Tmat)
5	Cy020	do.			A			C							L		Hematitized andesitic tuff (Tmat)
6	Cy021	do.			A			L						L?	L		do.
7	Sy021	Los Vallecitos			L			L	L			C			L		do.
8	Sy026	do.			A			A		L							Chloritezed andesitic tuff (Tmat)
9	SK007	Sabana, North of S–6										A					White clay vein
10	SK011	do., South of S–6			L						A						do.
11	SK013	Sabana (S–6)	L		C			L				C					Altered andesitic lap. tuff (Tmat)
12	SK015	Sabana (S–9)	C	C						C							Epidotized andesitic lap. tuff (Tmat)
13	SK018	Hato de Los Rodriguez		L	A					A							Silicified, epidotized andesite (Tma)
14	SK019	do.			A			L		A	C						Altered andesite (Tma)
15	SK024	do. (H–6)			C			A			A						Altered andesitic fine tuff (Tmat)
16	SK025	do.			A			A	L		A						do.
17	SK026	do.			A			C	L		L						do.
18	SK031	Sabana North of S–4	C		A				L								Argillized Q-Pl porphyry
19	SK032	Sabana (S–2)	A	A													Altered andesitic lap. tuff (Tmat)
20	SK033	do.						A									Chloritized rock
21	SK036	Hato de Los Rodriguez (H–1)			A					A					L		Silicified, epidotized andesitic lap. tuff (Tmat)
22	SK038	do.			C			L		L					L	L	Altered andesitic lap. tuff (Tmat)
23	SK041	do. (H–4)	C	L	L			L									Altered siliceous rock
24	SK051	Ar. El Corbano	A		L								A				Altered tuff (Tmat)
25	SK052	do.	A		C												White silicified rock
26	SK056	El Gramoso (G–6)			A			C		A							Altered andesitic lap. tuff (Tmat)
27	SK092	Rio En Medio			A			A			L						Altered andesite (Tma)
28	SK093	do	L		A		L	A			L						Altered andesitic lap. tuff (Tmat)
29	SK105	El Gramoso (G–19)			A			A									do.
30	MK003	Mata Grande (M–II)	L		A			A		L							Altered green schist (Dubt)
31	MK007	Mata Grande (M–III)	L	L	A			L		L							Altered tonalite (Tnb)
32	MK009	do.			A			A		L							Altered green schist (Dubt)
33	MK023	Rio Janamu			A					A							Altered tonalite (Tnb)
34	MK037	do.			C				L	A							Pale green clay
35	MK038	do.	A	C	A			L									Altered tonalite (Tnb)
36	MK039	Mata Grande (M–I)		A				C									Altered green schist (Dubt)
37	MK040	do.		A				C									do.
38	PK001	Pico Duarte (P–1)	L		L		A			A							A zone
39	PK010	do. (do.)	C	L	A	L		A									
40	PK011	do. (do.)	A		A	A	L	C									A zone
41	PK013	do. (do.)	A		A	L		A									B zone
42	PM001	do.	C		A	L		L									do.
43	PM006	do.	C	C	A			C									
44	PM013	do.	A	L	A	C		L									
45	PM014	do.	A		A	C		L									B zone
46	PM016	do.	C		A	C		A									do.
47	PM019	do.	C		A			C		L							do.
48	PM020	do.	A		A		L	C									A' zone
49	PM021	do.	A	L	A	C		L									B zone
50	PM027	do.	A		A		L	L									A zone
51	PM028	do.	A		A			C									B zone
52	PM029	do.	A		A		C	C									A zone
53	PM030	do.	L	A													Contact metamorphised
54	PM034	do.	A	C	A	C		C									
55	PM036	do.	A		A		L	L									A zone

No.	Sample No.	Location	Plagioclase	Hornblende	Quartz	K-Feldspar	Sericite	Chlorite	Montmorillonite	Epidote	Calcite	Prehnite	Laumontite	Kaolinite	Hematite	Diopside	Remarks
56	PM037	Pico Duarte (P–1)	C	L	A			C									A' zone
57	PM038	do.	C		A	L	L	A									A zone
58	PM039	do.	A		A	L	L	L									do.
59	PM040	do.	A		A	C											do.
60	PM041	do.	C		A	C		L									B zone
61	PM043	do.	A		A	L	L	L									A zone
62	PM047	do.	A	C	A	C	L	C									A' zone
63	PM049	do.	A		A	L		L		L							B zone
64	PM050	do.	C		A	L		L									do.
65	PM051	do.	C	L	A	C		C									
66	PM052	do.	C	L	A	C		C									
67	PM054	do.	C	L	A	L		L									
68	PM055	do.	A		A		L	L									A zone
69	PM056	do.	A		A		L	C									do.
70	PM057	do.	A		A		L			L							do.
71	PM058	do.	A		A		L	A									do.
72	PM061	do.	C	L	A	L		C									
73	PM062	do.	C	L	A	L		C									
74	PM064	do.	A		A	L		L									B zone
75	PM066	do.	C	L	A	L		C									
76	PM067	do.	A		A	L		L									B zone
77	PM072	do.	A	C	A	C	L	C									A' zone
78	PM076	do.	A	C	A	L		A									
79	PM078	do.	C	L	A	L		A									
80	PM081	do.	C		A			L									B zone
81	PM082	do.	C		A	L		A									do.
82	PM083	do.	L	L	A	L		C									
83	PM084	do.	C	L	A	L		C									
84	PM085	do.	C		A	C		L									B zone
85	PM090	do.	A		A	L		L									Contact metamorphised
86	PM091	do.	C	C	A			L									
87	PM094	do.	L	C	L			L									
88	PM096	do.	C	L	A			C									
89	PM098	do.	C	L	A	L		C									
90	PM099	do.	C		A	L		L		C							B zone
91	PM101	do.	C	L	C			L									
92	PM108	do.	C	L	A			L									
93	PM109	do.	C	C	C												
94	PM111	do.	C	C	A			C									
95	PM113	do.	C	L	A	L		C	L								
96	PM117	do.	C		A	L		A									B zone
97	PM118	do.	C	L	C			L									
98	PM120	do.	C	L	A			C									
99	PM123	do.	L		A			C									B zone
100	PM124	do.	A	L	A			A									
101	PM128	do.	C	L	A	L		A									

Abundant : A Common : C Little : L Rare : R

Table A–5 Result of Chemical Analysis of Ore Samples

(1)

No.	Sample No.	Location (Mineralized Zone No.)		Description	Au (g/T)	Ag (g/T)	Cu (%)	Pb (%)	Zn (%)	Mo (%)
1	SG038	Ar, La Sabina		Mal, Lim, Qv	tr.	0.4	0.25	0.08	0.10	
2	Sy023–1	Los Vallecitos	(V–2)	Mal, Cp, Bo, Cc, Lim, Qv	0.33	21.0	4.77	0.16	0.10	
3	Sy024–3	do.	(V–4)	Mal, Cp, Bo, Cc, Py, Spc, Lim, Qv	1.50	193.7	18.31	0.16	0.20	
4	SK022	Hato de Los Rodriguez	(H–6)	Mal, Cp, Bo, Cc, Lim, Qv	0.67	21.3	8.02	0.08	0.10	
5	SK023	do.	(do.)	do.	1.50	247.3	30.26	0.44	0.04	
6	SK034	do.	(H–1)	Mal, Cp, Bo, Cc, Lim, Qv	0.20	11.8	2.10	0.14	0.04	
7	SK039	do.	(H–4)	Mal, Cp, Bo, Cc, Lim, Qv	0.20	13.0	2.61	0.02	0.04	
8	SK040	do.	(do.)	do.	0.20	5.7	1.14	0.14	0.04	
9	SK043	do.	(do.)	do.	tr.	1.1	3.35	0.09	0.02	
10	SK044	do.	(H–5)	Mal, Cp, Bo, Cc, Lim, Qv	tr.	tr.	0.54	0.08	0.10	
11	SK046	do.	(do.)	do.	tr.	1.3	1.53	0.03	0.10	tr.
12	SK049	do.	(do.)	do.	tr.	tr.	4.93	0.22	0.10	
13	SK04	Sabana	(S–6)	Mal, Spc, Lim	tr.	tr.	9.36	0.22	0.04	
14	Sy001–3	do.	(S–13)	Mal, Lim, Qv	0.50	8.9	7.65	0.20	0.04	
15	Sy002	Ar, El Corbano		Mal,	0.20	0.9	1.87	0.09	0.04	
16	SK054	El Gramoso	(G–6)	Mal, Cp, Bo, Cc, Lim, Qv	0.30	7.0	1.27	0.16	0.04	
17	SK057	do.	(G–9)	Mal, Cp, Bo, Cc, Lim, Qv	0.33	8.1	7.56	0.27	0.10	
18	SK060	do.	(G–12)	Mal, Cp, Bo, Cc, Lim, Qv	tr.	2.5	0.97	0.07	0.04	
19	SK061	do.	(do.)	do.	0.50	16.3	2.01	0.08	0.04	
20	SK063	do.	(do.)	do.	0.50	9.8	1.38	0.04	0.02	
21	SK064	do.	(do.)	do.	0.33	24.5	5.43	0.12	0.10	tr.
22	SK065	do.	(do.)	do.	0.30	24.3	3.97	0.09	0.02	
23	SK066	do.	(do.)	do.	0.40	28.6	4.33	0.16	0.06	
24	SK072	do.	(G–6)	Mal, Cp, Bo, Spc, Lim, Qv	tr.	1.7	0.68	0.08	0.02	
25	SK073	do.	(do.)	Mal, Cp, Bo, Co, Lim, Qv	0.30	11.2	2.58	0.17	0.06	
26	SK076	do.	(G–1)	Bo, Mal, Spc, Q, Epv	0.90	17.7	4.18	0.15	0.02	
27	SK079	do.	(G–2)	Mal, Cp, Cv, Py, Lim, Qv	0.20	5.9	1.89	0.91	0.02	
28	SK080	do.	(do.)	Mal, Cp, Bo, Lim, Qv	0.20	6.5	2.65	0.12	0.04	
29	SK081	do.	(G–3)	Mal, Cp, Lim, Qv	0.10	2.8	0.99	0.05	0.10	
30	SK082	do.	(do.)	Mal, Cp, Cc, Cv, Lim, Qv	0.33	16.5	6.15	0.14	0.10	tr.
31	SK084	do.	(G–5)	Mal, Cc, Lim, Qv, Qv	1.00	43.1	29.83	0.12	0.06	
32	SK086	do.	(G–5)	Mal, Cp, Bo, Cc, Lim, Qv	0.10	3.9	1.97	0.07	0.02	
33	SK 104	do.	(G–19)	Mal, Cp, Cc, Lim, Q, Epv	1.50	123.4	11.72	0.12	0.02	
34	SK 106	do.	(do.)	do.	0.30	82.6	7.04	0.12	0.02	
35	ST001	do.	(G–17)	Mal, Cp, Bo, Co, Spc, Lim, Q, Epv	0.10	2.8	1.73	0.08	0.04	
36	ST007	do.	(do.)	do.	0.20	4.8	0.44	0.17	0.40	
37	ST008	do.	(do.)	do.	0.20	25.4	2.63	0.08	0.02	
38	ST010	do.	(G–18)	Mal, Cp, Lim, Q, Epv	tr.	2.1	0.17	0.07	0.02	

(2)

No.	Sample No.	Location (Mineralized Zone No.)		Description	Au (g/T)	Ag (g/T)	Cu (%)	Pb (%)	Zn (%)	Mo (%)
39	ST011	El Gramoso	(G-18)	Mal, Cp, Lim, Q, Epv	tr.	2.5	2.39	0.07	0.02	
40	ST012	do.	(do.)	do.	0.20	14.9	2.83	0.02	0.04	
41	SG033	do.	(G-19)	Mal, Cp, Cc, Qv	0.20	7.4	0.97	0.19	0.04	
42	SG034	do.	(do.)	do.	0.33	25.5	4.82	0.05	0.02	
43	Sy003-1	do.	(G-6)	Mal, Cp, Bo, Co, Qv	0.30	18.6	2.95	0.08	0.02	
44	Sy003-2	do.	(do.)	do.	tr.	3.5	0.64	0.07	0.10	
45	Sy003-3	do.	(do.)	do.	0.20	10.1	1.18	0.07	0.10	
46	Sy004	do.	(G-2)	do	tr.	7.1	1.85	0.02	0.02	
47	Sy005	do.	(G-4)	Mal, Cp, Cc, Cv, Lim, Qv	0.20	9.7	1.90	0.07	0.02	
48	CT002	Rio Grande	(C-4)	Mal, Cp, Py, Lim, Qv	tr.	1.1	0.93	0.18	1.10	
49	SK028	Hato de Los Rodriguez	(H-6)	Mal, Bo, Cc, Lim, Qv	1.10	11.7	2.64	0.09	0.05	
50	SK047	do	(H-5)	Mal, Cp, Bo, Cc, Lim, Qv	0.10	1.4	1.23	0.15	0.15	
51	SK067	El Gramoso	(G-12)	Mal, Cp, Bo, Cc, Lim, Qv	0.40	15.3	4.43	0.09	0.05	
52	SK085	do.	(G-5)	do.	0.20	5.0	1.97	0.08	0.02	
53	PM020	Pico Duarte	(P-4)	Mal, Cp, Bo, Cc, Lim, diss.	tr.	tr.	0.23			tr.
54	PM028-1	do	(P-1)	do.	tr.	tr.	0.23			tr.
55	PM029-1	do.	(do.)	do.	tr.	tr.	1.29			tr.
56	PM038	do.	(P-2)	do.	tr.	tr.	0.04			tr.
57	PM055	do.	(P-1)	do.	0.50	11.2	0.97			tr.
58	PM056	do.	(do.)	do.	0.40	7.1	0.61			tr.
59	PM082	do.	(do.)	do.	tr.	tr.	0.17			tr.
60	PM091	do.	(P-20)	do.	tr.	tr.	0.19			tr.
61	PK002	do.	(P-1)	do.	tr.	tr.	0.16			tr.
62	PK003	do.	(do.)	do.	tr.	tr.	0.30			tr.
63	PK005	do.	(do.)	do.	tr.	2.1	0.17			tr.
64	PK006	do.	(do.)	do.	tr.	tr.	0.22			tr.
65	PK007	do.	(do.)	do.	tr.	tr.	0.14			tr.
66	PK008	do.	(do.)	do.	tr.	tr.	0.22			tr.
67	PK009	do.	(do.)	do.	0.20	5.3	0.76			tr.
68	MK001	Mata Grande	(M-II)	Mal, Cp, Bo, Cc, Lim, Qv	tr.	tr.	1.71			0.01
69	MK002	do.	(do.)	do.	1.00	14.0	6.71			0.08
70	MK006	do.	(M-III)	do.	0.50	12.8	7.22			0.07
71	MK008	do.	(do.)	Cp, Bo, Cc, Mal, lens	0.20	8.0	8.39			0.02
72	MK011	do.	(do.)	Mal, Cp, Bo, Cc, Az, Lim, Qv	0.10	3.9	1.67			tr.
73	MK015	do.	(M-III)	do.	0.30	8.9	1.37			tr.
74	MK016	do.	(do.)	do.	0.50	4.7	4.47			0.03
75	MK017	do.	(do.)	do.	0.25	0.8	0.88			tr.
76	MK018	do.	(do.)	do.	0.20	2.5	1.71			0.01
77	MS004	do.	North of M-III	do.	0.10	1.2	1.20			0.02
78	MG006	do.	(M-III)	do.	1.00	12.6	13.86			0.07

(3)

No.	Sample No.	Location (Mineralized Zone No.)		Description	Au (g/T)	Ag (g/T)	Cu (%)	Pb (%)	Zn (%)	Mo (%)
79	MT010	Mata Grande	Branch of Rio Jamamu		tr.	tr.	0.56			0.01
80	MK005	do.	(M–II)	Qv	tr.	tr.				
81	MK013	do.	(M–III)	Qv	tr.	tr.				
82	MK034	do.	Rio Jamamu	Qv	tr.	tr.				
83	MT006	do.	Branch of Rio Jamamu	Qv	tr.	tr.				
84	MT011	do.	do.	Qv	tr.	tr.				
85	MS012	do.	Rio Bao	Qv	tr.	tr.	0.06	0.32	0.01	
86	MS011	do.	do.	Qv	tr.	tr.				

Abbreviation

- Py : Pyrite
- Cp : Chalcopyrite
- Bo : Bornite
- Cc : Chalcocite
- Cv : Covelline
- Mal : Malachite
- Spc : Specularite
- Lm : Limonite
- Q : Quartz
- Ep : Epidote
- v : Vein

Table A-6 Result of Chemical Analysis of Soil Samples

(1)

Constanza Sub-Area

-- DPCS --

***** METAL CONTENTS IN GEOCHEMICAL SAMPLES ****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
1	C001	TF	0.00	0.50	79	2.0	61	0.01
2	C002	TF	0.00	0.01	86	3.0	71	0.01
3	C003	TF	0.00	0.01	47	4.0	27	0.01
4	C004	TF	0.00	0.10	77	1.0	45	0.01
5	C005	TF	0.00	0.01	84	3.0	67	0.01
6	C006	TF	0.00	0.80	155	5.0	63	0.01
7	C007	TF	0.00	0.10	122	5.0	84	0.01
8	C008	TF	0.00	0.50	92	3.0	58	0.01
9	C009	TF	0.00	0.30	127	4.0	53	0.01
10	C010	TF	0.00	0.30	74	4.0	60	0.01
11	C011	TF	0.00	0.01	108	1.0	82	0.01
12	C012	TF	0.00	0.01	96	4.0	64	0.01
13	C013	TF	0.00	0.60	102	5.0	72	0.01
14	C014	TF	0.00	0.50	106	5.0	85	0.01
15	C015	TF	0.00	0.01	52	3.0	69	0.01
16	C016	TF	0.00	0.01	103	4.0	67	0.01
17	C017	TF	0.00	0.50	120	4.0	70	0.01
18	C018	TF	0.00	0.40	88	5.0	73	0.01
19	C019	TF	0.00	0.20	34	8.0	74	0.01
20	C020	TF	0.00	0.01	65	2.0	72	0.01
21	C021	TF	0.00	0.30	43	9.0	40	0.01
22	C022	TF	0.00	0.30	25	4.0	15	0.01
23	C023	TF	0.00	0.40	28	4.0	62	0.01
24	C024	TF	0.00	0.40	77	5.0	79	0.01
25	C025	TF	0.00	0.60	137	5.0	69	0.01
26	C026	TF	0.00	0.20	67	5.0	74	0.01
27	C027	TF	0.00	0.01	3	2.0	17	0.01
28	C028	TF	0.00	0.01	3	2.0	5	0.01
29	C029	TF	0.00	0.20	15	6.0	37	0.01
30	C030	TF	0.00	0.01	1	1.0	7	0.01
31	C031	TF	0.00	0.30	87	3.0	76	0.01
32	C032	TF	0.00	0.40	64	6.0	79	0.01
33	C033	TF	0.00	0.20	98	3.0	64	0.01
34	C034	TF	0.00	0.01	99	3.0	82	0.01
35	C035	TF	0.00	0.01	69	5.0	76	0.01
36	C036	TF	0.00	0.20	88	6.0	87	0.01
37	C037	TF	0.00	0.30	83	2.0	64	0.01
38	C038	TF	0.00	0.30	103	4.0	86	0.01
39	C039	TF	0.00	0.01	61	3.0	78	0.01
40	C040	TF	0.00	0.20	128	4.0	79	0.01
41	C041	TF	0.00	0.50	89	5.0	56	0.01
42	C042	TF	0.00	0.01	201	3.0	82	0.01
43	C043	TF	0.00	0.01	192	4.0	88	0.01
44	C044	TF	0.00	0.01	123	4.0	122	0.01
45	C045	TF	0.00	0.01	194	6.0	72	0.01
46	C046	TF	0.00	0.10	244	6.0	72	0.01
47	C047	TF	0.00	0.60	54	4.0	71	0.01
48	C048	TF	0.00	0.20	131	5.0	98	0.01
49	C049	TF	0.04	0.01	95	6.0	74	0.01
50	C050	TF	0.06	0.70	125	8.0	81	0.01
51	C051	TF	0.00	0.01	73	4.0	60	0.01
52	C052	TF	0.00	0.01	53	3.9	57	0.01
53	C053	TF	0.00	0.20	66	3.0	63	0.01
54	C054	TF	0.00	0.01	90	0.1	55	0.01
55	C055	TF	0.00	0.50	78	4.0	63	0.01
56	C056	TF	0.00	0.40	110	3.0	51	0.01
57	C057	TF	0.00	0.01	74	4.0	71	0.01
58	C058	TF	0.00	0.10	16	4.0	39	0.01
59	C059	TF	0.09	0.20	26	23.0	78	0.01
60	C060	TF	0.00	0.01	6	3.0	23	0.01
61	C061	TF	0.00	0.20	95	4.0	72	0.01
62	C062	TF	0.00	0.10	103	3.0	78	0.01
63	C063	TF	0.00	0.40	63	4.0	80	0.01
64	C064	TF	0.00	0.10	7	3.0	29	0.01
65	C065	TF	0.00	0.01	120	2.0	33	0.01
66	C066	TF	0.00	0.20	21	3.0	50	0.01
67	C067	TF	0.00	0.01	260	3.0	37	0.01
68	C068	TF	0.01	0.01	101	3.0	27	0.01
69	C069	TF	0.00	0.40	1256	9.0	73	0.01
70	C070	TF	0.00	0.01	76	1.0	89	0.01
71	C071	TF	0.00	0.01	49	4.0	47	0.01
72	C072	TF	0.00	0.01	112	2.0	142	0.01
73	C073	TF	0.00	0.30	86	4.0	89	0.01
74	C074	TF	0.00	0.40	97	4.0	78	0.01
75	C075	TF	0.00	0.01	168	1.0	78	0.01
76	C076	TF	0.00	0.01	742	6.0	70	0.01
77	C077	TF	0.00	0.40	480	8.0	100	0.01
78	C078	TF	0.00	0.30	71	3.0	55	0.01
79	C079	TF	0.00	0.50	110	4.0	84	0.01
80	C080	TF	0.00	0.01	110	3.0	69	0.01
81	C081	TF	0.00	0.01	108	0.1	66	0.01
82	C082	TF	0.00	0.01	96	0.1	66	0.01
83	C083	TF	0.00	0.20	71	1.0	66	0.01
84	C084	TF	0.00	0.40	128	3.0	95	0.01
85	C085	TF	0.00	0.30	128	0.1	82	0.01
86	C086	TF	0.00	0.01	129	4.0	77	0.01
87	C087	TF	0.00	0.01	123	0.1	105	0.01
88	C088	TF	0.00	0.50	77	1.0	69	0.01
89	C089	TF	0.00	0.20	115	4.0	71	0.01
90	C090	TF	0.00	0.40	59	0.1	62	0.01
91	C091	TF	0.00	0.10	99	1.0	77	0.01
92	C092	TF	0.00	0.01	177	1.0	71	0.01
93	C093	TF	0.00	0.50	183	4.0	89	0.01
94	C094	TF	0.00	0.30	136	4.0	57	0.01
95	C095	TF	0.00	0.40	141	8.0	63	0.01
96	C096	TF	0.00	0.01	51	4.0	85	0.01
97	C097	TF	0.00	0.20	106	2.0	78	0.01
98	C098	TF	0.00	0.01	27	24.0	91	0.01
99	C099	TF	0.00	0.20	41	7.0	73	0.01
100	C100	TF	0.00	0.01	188	2.0	53	0.01
101	C101	TF	0.00	0.01	65	4.0	66	0.01
102	C102	TF	0.00	0.01	72	2.0	33	0.01
103	C103	TF	0.00	0.40	39	11.0	60	0.01
104	C104	TF	0.00	0.01	91	4.0	50	0.01
105	C105	TF	0.00	0.20	6	7.0	21	0.01
106	C106	TF	0.00	0.40	96	3.0	70	0.01
107	C107	TF	0.00	0.10	69	3.0	83	0.01
108	C108	TF	0.00	0.40	72	3.0	68	0.01
109	C109	TF	0.00	0.01	74	3.0	37	0.01
110	C110	TF	0.00	0.01	91	4.0	80	0.01
111	C111	TF	0.00	0.50	122	4.0	77	0.01
112	C112	TF	0.00	0.01	215	0.1	39	0.20
113	C113	TF	0.00	0.01	159	2.0	35	0.01
114	C114	TF	0.00	0.01	82	3.0	62	0.01
115	C115	TF	0.00	0.01	119	5.0	95	0.01
116	C116	TF	0.00	0.30	606	3.0	57	0.01
117	C117	TS	0.00	0.01	283	3.0	36	0.01
118	C118	TF	0.00	0.01	56	2.0	25	0.01
119	C119	TS	0.00	0.40	192	4.0	78	0.01
120	C120	TF	0.00	0.20	127	7.0	152	0.01
121	C121	TS	0.00	0.50	926	13.0	97	0.01
122	C122	TF	0.00	0.40	166	5.0	65	0.01
123	C123	TS	0.00	0.10	181	3.0	75	0.01
124	C124	TF	0.00	0.01	32	6.0	72	0.01
125	C125	TF	0.00	0.30	28	6.0	107	0.70
126	C126	TF	0.00	0.01	152	8.0	134	0.20
127	C127	TF	0.00	0.40	73	5.0	110	0.10
128	C128	TF	0.00	0.30	77	4.0	75	0.10
129	C129	TF	0.00	0.01	83	4.0	81	0.01
130	C130	TF	0.00	0.01	71	3.0	66	0.01
131	C131	TF	0.00	0.10	80	0.1	83	0.01
132	C132	TF	0.00	0.50	23	4.0	38	0.01
133	C133	TF	0.00	0.40	81	0.1	77	0.01
134	C134	TF	0.00	0.01	112	5.0	95	0.01
135	C135	TF	0.00	0.60	100	0.1	79	0.01
136	C136	TF	0.00	0.01	94	3.0	87	0.01
137	C137	TF	0.00	0.60	131	6.0	92	0.01
138	C138	TF	0.00	0.01	90	5.0	72	0.01
139	C139	TF	0.00	0.50	135	1.0	90	0.01
140	C140	TF	0.00	0.30	106	4.0	112	0.10
141	C141	TF	0.00	0.30	61	0.1	61	0.10
142	C142	TF	0.00	0.20	144	3.0	77	0.01
143	C143	TF	0.00	0.40	56	5.0	65	0.01
144	C144	TF	0.00	0.30	94	5.0	92	0.01
145	C145	TF	0.00	0.40	52	2.0	53	0.10
146	C146	TF	0.00	0.01	68	4.0	68	0.01
147	C147	TF	0.00	0.01	108	4.0	77	0.10
148	C148	TF	0.00	0.20	76	3.0	66	0.01
149	C149	TF	0.00	0.10	74	4.0	98	0.01
150	C150	TF	0.00	0.20	27	4.0	28	0.01
151	C151	TF	0.00	0.20	65	4.0	66	0.20
152	C152	TF	0.00	0.20	145	2.0	65	0.01
153	C153	TF	0.00	0.30	81	4.0	51	0.01
154	C154	TF	0.00	0.30	345	4.0	67	0.01
155	C155	TF	0.00	0.01	59	6.0	55	0.01
156	C156	TF	0.00	0.40	106	1.0	78	0.01
157	C157	TF	0.00	0.01	57	3.0	65	0.01
158	C158	TF	0.00	0.01	82	3.0	67	0.01
159	C159	TF	0.00	0.01	129	0.1	46	0.01
160	C160	TF	0.00	0.01	151	0.1	54	0.01
161	C161	TF	0.00	0.40	106	1.0	37	0.01
162	C162	TF	0.00	0.20	322	3.0	41	0.01
163	C163	TF	0.00	0.01	80	4.0	65	0.01
164	C164	TF	0.00	0.10	105	4.0	79	0.01
165	C165	TF	0.00	0.01	84	0.1	80	0.01
166	C166	TF	0.00	0.01	93	2.0	43	0.01
167	C167	TF	0.00	0.30	86	4.0	80	0.10
168	C168	TF	0.00	0.30	106	0.1	58	0.01
169	C169	TF	0.00	0.50	100	5.0	88	0.50
170	C170	TF	0.00	0.50	105	6.0	104	0.01
171	C171	TF	0.00	0.01	208	5.0	69	0.01
172	C172	TF	0.00	0.01	152	7.0	115	0.01
173	C173	TF	0.00	0.40	102	2.0	80	0.01
174	C174	TF	0.00	0.01	36	7.0	142	0.10
175	C175	TF	0.00	0.40	63	3.0	33	0.01
176	C176	TF	0.50	0.01	52	11.0	67	0.01
177	C177	TF	0.00	0.40	46	13.0	74	0.50
178	C178	TF	0.00	0.20	111	0.1	31	0.01
179	C179	TF	0.00	0.01	507	2.0	62	0.01
180	C180	TF	0.00	0.20	12	6.0	73	0.10
181	C181	TF	0.00	0.01	101	4.0	80	0.01
182	C182	TF	0.00	0.40	99	0.1	75	0.01
183	C183	TF	0.00	0.50	130	3.0	83	0.01
184	C184	TF	0.00	0.30	82	2.0	71	0.01
185	C185	TF	0.00	0.50	101	4.0	77	6.01
186	C186	TF	0.00	0.30	88	4.0	78	0.01
187	C187	TF	0.00	0.30	426	2.0	51	0.01
188	C188	TF	0.00	0.40	89	1.0	68	0.01
189	C189	TF	0.00	0.30	67	0.1	40	0.01
190	C190	TF	0.00	0.50	111	1.0	52	0.01
191	C191	TF	0.00	0.20	74	4.0	53	0.01
192	C192	OO	0.00	0.20	19	3.0	38	0.01
193	C193	TF	0.00	0.01	81	4.0	73	0.01
194	C194	OO	0.00	0.01	36	3.0	26	0.01
195	C195	TF	0.00	0.30	66	0.1	68	0.10
196	C196	TF	0.00	0.10	178	3.0	76	0.01
197	C197	TF	0.00	0.01	44	4.0	53	0.01
198	C198	TF	0.00	0.01	56	3.0	50	0.01
199	C199	TF	0.00	0.40	100	3.0	76	0.01
200	C200	TF	0.00	0.40	106	2.0	80	0.01

-- DMCS --

***** METAL CONTENTS IN GEOCHEMICAL SAMPLES ****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
201	C201	TF	0.00	0.30	111	3.0	51	0.01
202	C202	TF	0.00	0.10	72	4.0	50	0.01
203	C203	TF	0.00	0.01	79	3.0	60	0.01
204	C204	TF	0.00	0.01	58	3.0	53	0.01
205	C205	TF	0.00	0.01	46	3.0	49	0.10
206	C206	TF	0.00	0.30	81	3.0	65	0.01
207	C207	TF	0.00	0.01	49	3.0	48	0.01
208	C208	TF	0.00	0.20	59	3.0	47	0.01
209	C209	TF	0.00	0.20	42	1.0	36	0.10
210	C210	TF	0.00	0.30	94	3.0	64	0.01
211	C211	TF	0.00	0.01	95	3.0	70	0.01
212	C212	TF	0.00	0.20	88	0.1	62	0.01
213	C213	TF	0.00	0.30	197	9.0	140	0.01
214	C214	TF	0.00	0.40	156	4.0	49	0.01
215	C215	TF	0.00	0.01	86	4.0	21	0.01
216	C216	TF	0.00	0.20	83	3.0	34	0.01
217	C217	TF	0.00	0.01	115	4.0	75	0.01
218	C218	TF	0.00	0.01	157	46.0	265	0.01
219	C219	TF	0.00	0.01	105	4.0	57	0.01
220	C220	TF	0.00	0.01	81	3.0	71	0.01
221	C221	TF	0.00	0.01	102	4.0	50	0.01
222	C222	TF	0.00	0.40	78	16.0	156	0.10
223	C223	TF	0.00	0.01	85	4.0	60	0.01
224	C224	TF	0.00	0.30	66	5.0	133	0.01
225	C225	TF	0.00	0.01	70	4.0	81	0.01
226	C226	TF	0.00	0.30	22	9.0	61	0.01
227	C227	TF	0.00	0.01	128	4.0	54	0.01
228	C228	TF	0.00	0.20	63	19.0	79	0.01
229	C229	TF	0.00	0.40	80	15.0	309	0.01
230	C230	TF	0.00	0.20	84	3.0	65	0.01
231	C231	TF	0.00	0.40	103	0.1	63	0.01
232	C232	TF	0.00	0.50	95	3.0	64	0.01
233	C233	TF	0.00	0.01	87	3.0	65	0.01
234	C234	TF	0.00	0.20	68	2.0	57	0.01
235	C235	TF	0.00	0.01	75	2.0	42	0.01
236	C236	TF	0.00	0.40	70	3.0	63	0.01
237	C237	TF	0.00	0.40	75	5.0	130	0.01
238	C238	TF	0.00	0.01	106	4.0	78	0.01
239	C239	TF	0.00	0.01	23	2.0	40	0.01
240	C240	TF	0.00	0.20	96	1.0	60	0.01
241	C241	TF	0.00	0.40	74	1.0	64	0.01
242	C242	TF	0.00	0.60	120	1.0	80	0.01
243	C243	TF	0.00	0.01	25	3.0	33	0.01
244	C244	TF	0.00	0.01	26	3.0	45	0.01
245	C245	TF	0.00	0.30	67	2.0	72	0.01
246	C246	TF	0.00	0.10	48	3.0	63	0.01
247	C247	TF	0.00	0.30	89	2.0	41	0.01
248	C248	TF	0.00	0.01	36	3.0	43	0.01
249	C249	TF	0.00	0.10	45	2.0	45	0.01
250	C250	TF	0.00	0.01	66	4.0	62	0.01

-- DMCS --

***** METAL CONTENTS IN GEOCHEMICAL SAMPLES ****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
251	C251	TF	0.00	0.40	73	4.0	59	0.01
252	C252	TF	0.00	0.20	27	3.0	52	0.01
253	C253	TF	0.00	0.20	50	2.0	58	0.01
254	C254	TF	0.00	0.20	30	2.0	64	0.01
255	C255	TF	0.00	0.50	117	2.0	69	0.01
256	C256	TF	0.00	0.20	62	5.0	55	0.10
257	C257	TF	0.00	0.01	73	3.0	49	0.10
258	C258	TF	0.00	0.30	69	4.0	57	0.01
259	C259	TF	0.00	0.30	78	3.0	50	0.01
260	C260	TF	0.00	0.01	46	3.0	53	0.01
261	C261	TF	0.00	0.30	69	5.0	71	0.01
262	C262	TF	0.00	0.50	50	3.0	72	0.01
263	C263	TF	0.00	0.30	47	4.0	62	0.01
264	C264	TF	0.00	0.01	72	3.0	65	0.01
265	C265	TF	0.00	0.30	106	4.0	61	0.01
266	C266	TF	0.00	0.70	167	6.0	67	0.01
267	C267	TF	0.00	0.01	12	4.0	72	0.01
268	C268	TF	0.00	0.50	197	6.0	102	0.01
269	C269	TF	0.00	0.30	139	4.0	82	0.01
270	C270	TF	0.00	0.20	23	12.0	14	0.01
271	C271	TF	0.00	0.50	92	18.0	118	0.01
272	C272	TF	0.00	0.60	167	14.0	160	0.01
273	C273	TF	0.00	0.01	120	0.1	90	0.01
274	C274	TF	0.00	0.10	22	7.0	16	0.01
275	C275	TF	0.00	0.30	680	3.0	118	0.01
276	C276	TF	0.00	0.40	97	5.0	93	0.01
277	C277	TF	0.00	0.01	182	5.0	90	0.01
278	C278	TF	0.00	0.40	98	5.0	88	0.01
279	C279	TF	0.00	0.10	96	1.0	119	0.01
280	C280	TF	0.00	0.01	53	5.0	84	0.20
281	C281	TF	0.00	0.40	83	4.0	65	0.01
282	C282	TF	0.00	0.30	79	6.0	91	0.01
283	C283	TF	0.00	0.10	69	4.0	54	0.01
284	C284	TF	0.00	0.70	158	8.0	110	0.01
285	C285	TF	0.00	0.40	81	5.0	87	0.20
286	C286	TF	0.00	0.01	66	3.0	67	0.01
287	C287	TF	0.00	0.20	100	5.0	112	0.01
288	C288	TF	0.00	0.01	97	6.0	89	0.01
289	C289	TF	0.00	0.40	92	6.0	79	0.01
290	C290	TF	0.00	0.40	94	2.0	104	0.01
291	C291	TF	0.00	0.20	13	4.0	43	0.10
292	292	TF	0.00	0.40	155	5.0	125	0.01
293	C293	TF	0.00	0.30	100	4.0	89	0.01
294	C294	TF	0.00	0.40	160	5.0	90	0.01
295	C295	TF	0.00	0.40	133	5.0	104	0.01
296	C296	TF	0.00	0.01	159	7.0	82	0.01
297	C297	TF	0.00	0.50	166	4.0	87	0.01
298	C298	TF	0.00	0.40	101	6.0	91	0.10
299	C299	TF	0.00	0.30	142	1.0	52	0.01
300	C300	TF	0.00	0.01	138	5.0	75	0.01

-- DMCS --

***** METAL CONTENTS IN GEOCHEMICAL SAMPLES ****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
301	C301	TF	0.00	0.01	45	3.0	53	0.01
302	C302	TF	0.00	0.20	69	4.0	44	0.01
303	C303	TF	0.00	0.30	62	0.1	58	0.01
304	C304	TF	0.00	0.10	71	3.0	60	0.01
305	C305	TF	0.00	0.01	43	2.0	45	0.01
306	C306	TF	0.00	0.30	61	4.0	76	0.20
307	C307	TF	0.00	0.20	118	1.0	54	0.01
308	C308	TF	0.00	0.01	49	4.0	31	0.01
309	C309	TF	0.00	0.01	61	2.0	81	0.01
310	C310	TF	0.00	0.30	85	4.0	69	0.01
311	C311	TF	0.00	0.01	113	0.1	82	0.01
312	C312	TF	0.00	0.20	147	5.0	70	0.01
313	C313	TF	0.00	0.01	86	4.0	81	0.01
314	C314	TF	0.00	0.40	58	3.0	64	0.01
315	C315	TF	0.00	0.20	20	0.1	44	0.01
316	C316	TF	0.00	0.10	85	3.0	50	0.01
317	C317	TF	0.00	0.01	153	4.0	82	0.01
318	C318	TF	0.00	0.30	117	3.0	64	0.01
319	C319	TF	0.00	0.50	133	2.0	73	0.10
320	C320	TF	0.00	0.20	80	4.0	61	0.01
321	C321	TF	0.00	0.20	181	0.1	69	0.01
322	C322	TF	0.00	0.20	74	2.0	61	0.01
323	C323	TF	0.00	0.01	335	2.0	50	0.10
324	C324	TF	0.00	0.20	96	3.0	64	0.01
325	C325	TF	0.00	0.01	30	1.0	31	0.01
326	C326	TF	0.00	0.50	112	4.0	71	0.01
327	C327	TF	0.00	0.01	27	5.0	26	0.01
328	C328	TF	0.00	0.01	284	3.0	93	0.01
329	C329	TF	0.00	0.20	137	4.0	66	0.01
330	C330	TF	0.00	0.20	87	2.0	69	0.01
331	C331	TF	0.00	0.01	38	2.0	48	0.01
332	C332	TF	0.00	0.01	35	2.0	47	0.01
333	C333	TF	0.00	0.20	57	3.0	42	0.01
334	C334	TF	0.00	0.10	31	2.0	47	0.01
335	C335	TF	0.00	0.10	17	0.1	34	0.01
336	C336	TF	0.00	0.01	30	3.0	40	0.01
337	C337	TF	0.00	0.01	96	5.0	64	0.01
338	C338	TF	0.00	0.30	127	3.0	76	0.01
339	C339	TF	0.00	0.01	109	0.1	71	0.01
340	C340	TF	0.00	0.40	64	3.0	58	0.01
341	C341	TF	0.00	0.01	35	1.0	62	0.01
342	C342	TF	0.00	0.40	261	3.0	65	0.01
343	C343	TF	0.00	0.20	92	4.0	59	0.30
344	C344	TF	0.00	0.20	69	2.0	44	0.01
345	C345	TF	0.00	0.10	77	1.0	41	0.01
346	C346	TF	0.00	0.10	86	5.0	67	0.01
347	C347	TF	0.00	0.61	99	2.0	69	0.01
348	C348	TF	0.00	0.20	75	5.0	40	0.01
349	C349	TF	0.00	0.30	68	2.0	40	0.01
350	C350	TF	0.00	0.10	7	2.0	47	0.01

-- DMCS --

***** METAL CONTENTS IN GEOCHEMICAL SAMPLES ****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
351	C351	TF	0.00	0.20	87	2.0	56	0.01
352	C352	TF	0.00	0.30	87	4.0	59	0.01
353	C353	TF	0.00	0.40	89	6.0	71	0.01
354	C354	TF	0.00	0.01	58	3.0	60	0.30
355	C355	TF	0.00	0.10	86	3.0	55	0.01
356	C356	TF	0.00	0.50	99	0.1	50	0.01
357	C357	TF	0.00	0.01	54	3.0	42	0.01
358	C358	TF	0.00	0.10	69	0.1	55	0.01
359	C359	TF	0.00	0.20	97	1.0	48	0.01
360	C360	TF	0.00	0.10	82	4.0	57	0.20
361	C361	TF	0.00	0.01	57	3.0	53	0.10
362	C362	TF	0.00	0.20	86	5.0	84	0.01
363	C363	TF	0.00	0.10	10	1.0	13	1.20
364	C364	TF	0.00	0.20	32	6.0	67	0.01
365	C365	TF	0.00	0.20	58	6.0	70	0.01
366	C366	TF	0.00	0.40	112	3.0	59	0.01
367	C367	TF	0.00	0.01	37	4.0	35	0.01
368	C368	TF	0.00	0.30	97	1.0	58	0.01
369	C369	TF	0.00	0.50	128	5.0	74	0.01
370	C370	TF	0.00	0.01	54	3.0	54	0.01
371	C371	TF	0.00	0.20	45	6.0	39	0.01
372	C372	TF	0.00	0.01	81	6.0	78	0.01
373	C373	TF	0.00	0.20	69	3.0	56	0.01
374	C374	TF	0.00	0.90	142	3.0	71	0.01
375	C375	TF	0.00	0.01	69	1.0	67	0.01
376	C376	TF	0.00	0.10	68	1.0	64	0.01
377	C377	TF	0.00	0.60	97	4.0	76	0.01
378	C378	TF	0.00	0.40	66	3.0	63	0.01
379	C379	TF	0.00	0.01	166	0.1	90	0.01
380	C380	TF	0.00	0.01	100	4.0	79	0.01
381	C381	TF	0.00	0.01	93	5.0	65	0.01
382	C382	TF	0.00	0.01	101	6.0	83	0.01
383	C383	TF	0.00	0.10	97	5.0	91	0.01
384	C384	TF	0.00	0.20	121	6.0	97	0.02
385	C385	TF	0.00	0.30	94	3.0	89	0.01
386	C386	TF	0.00	0.01	112	3.0	79	0.02
387	C387	TF	0.00	0.01	129	3.0	90	0.01
388	C388	TF	0.00	0.01	78	5.0	127	0.01
389	C389	TF	0.06	0.01	95	3.0	86	0.01
390	C390	TF	0.00	0.60	120	4.0	84	0.01
391	C391	TF	0.00	0.40	47	4.0	79	0.01
392	C392	TF	0.00	0.40	96	5.0	78	0.01
393	C393	TF	0.00	0.40	93	4.0	82	0.01
394	C394	TF	0.00	0.40	104	2.0	93	0.01
395	C395	TF	0.00	0.30	100	7.0	92	0.01
396	C396	TF	0.00	0.50	126	4.0	86	0.01
397	C397	TF	0.00	0.60	137	7.0	81	0.01
398	C398	TF	0.00	0.01	76	4.0	139	0.01
399	C399	TF	0.00	0.50	176	10.0	138	0.01
400	C400	TF	0.00	0.70	109	4.0	84	0.01

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***** METAL CONTENTS IN GEOCHEMICAL SAMPLES *****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
401	C401	TF	0.00	0.20	136	6.0	123	0.01
402	C402	TF	0.00	0.60	536	7.0	125	0.01
403	C403	TF	0.00	0.50	552	5.0	97	0.01
404	C404	TF	0.00	0.40	141	4.0	115	0.01
405	C405	TF	0.00	0.01	26	4.0	34	0.01
406	C406	TF	0.00	0.20	50	7.0	79	0.01
407	C407	TF	0.00	0.30	143	10.0	131	0.01
408	C408	TF	0.00	0.01	101	10.0	85	0.01
409	C409	DA	0.00	0.01	25	4.0	35	0.01
410	C410	DA	0.00	0.10	45	8.0	25	0.01
411	C411	TF	0.00	1.10	779	8.0	305	0.01
412	C411	TF	0.00	0.50	64	5.0	116	0.01
413	C413	TF	0.00	0.60	101	4.0	82	0.01
414	C414	TF	0.00	0.20	55	3.0	60	0.01
415	C415	TF	0.00	0.20	80	3.0	90	0.01
416	C416	TF	0.00	0.01	18	3.0	39	0.01
417	C417	TF	0.00	0.01	85	12.0	67	0.01
418	C418	DA	0.00	0.20	500	3.0	60	0.01
419	C419	TF	0.00	0.01	41	6.0	35	0.01
420	C420	TF	0.00	0.01	105	4.0	64	0.01
421	C421	TF	0.00	0.01	50	8.0	63	0.01
422	C422	TF	0.00	0.01	101	2.0	75	0.01
423	C423	TF	0.00	0.01	111	5.0	83	0.01
424	C424	TF	0.00	0.40	83	3.0	62	0.01
425	C425	DA	0.00	0.01	21	7.0	13	0.01
426	C426	DA	0.00	0.10	38	5.0	47	0.01
427	C427	DA	0.00	0.20	45	5.0	54	0.01
428	C428	DA	0.00	0.20	25	7.0	19	0.01
429	C429	DA	0.00	0.10	25	8.0	33	0.01
430	C430	DA	0.00	0.10	39	6.0	37	0.01
431	C431	DA	0.00	0.01	18	8.0	22	0.01
432	C432	TF	0.00	0.30	24	9.0	38	0.01
433	C433	TF	0.00	0.20	38	6.0	72	0.01
434	C434	TF	0.00	0.50	150	3.0	288	0.01
435	C435	TF	0.00	0.01	42	5.0	103	0.01
436	C436	TF	0.00	0.01	60	4.0	76	0.01
437	C437	TF	0.00	0.60	59	5.0	98	0.01
438	C438	TF	0.00	0.20	92	6.0	93	0.01
439	C439	TF	0.00	0.50	71	10.0	166	0.01
440	C440	TF	0.00	0.01	105	0.1	201	0.01
441	C441	TF	0.00	0.01	56	6.0	79	0.01
442	C442	TF	0.00	0.01	26	5.0	243	0.01
443	C443	TF	0.00	0.40	55	11.0	262	0.01
444	C446	TF	0.00	0.70	443	9.0	1031	0.01
445	C445	TF	0.00	0.10	69	4.0	79	0.80
446	C446	TF	0.00	0.30	49	4.0	116	0.01
447	C447	TF	0.00	0.20	91	1.0	71	0.01
448	C448	TF	0.00	0.40	102	5.0	104	0.01
449	C449	TF	0.00	0.01	13	3.0	36	0.01
450	C450	TF	0.00	0.20	70	2.0	86	0.01

-- DMCS --

***** METAL CONTENTS IN GEOCHEMICAL SAMPLES *****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
451	C451	TS	0.00	0.01	33	0.1	68	0.01
452	C452	TS	0.00	0.01	28	1.0	50	0.01
453	C453	TF	0.00	0.01	19	2.0	35	0.01
454	C454	TS	0.30	0.30	8	7.0	19	0.01
455	C455	TS	0.00	0.01	3	4.0	25	0.01
456	C456	TF	0.00	0.01	28	0.1	72	0.01
457	C457	TF	0.00	0.30	58	3.0	40	0.01
458	C458	TF	0.00	0.01	7	3.0	31	0.01
459	C459	TF	0.00	0.01	5	3.0	27	0.01
460	C460	TS	0.00	0.20	2	1.0	41	0.01
461	C461	TS	0.00	0.10	2	2.0	15	0.01
462	C462	TS	0.00	0.10	9	4.0	20	0.01
463	C463	TS	0.00	0.01	7	3.0	15	0.10
464	C464	TS	0.00	0.01	23	4.0	9	0.01
465	C465	TS	0.00	0.01	5	2.0	17	0.01
466	C466	TS	0.00	0.10	31	3.0	66	0.01
467	C467	TS	0.00	0.01	4	3.0	20	0.01
468	C468	TS	0.00	0.01	50	3.0	39	0.01
469	C469	TS	0.00	0.10	36	2.0	54	0.01
470	C470	TS	0.00	0.20	45	3.0	64	0.01
471	C471	TS	0.00	0.10	10	3.0	33	0.01
472	C472	TS	0.00	0.01	11	3.0	30	0.01
473	C473	TF	0.00	0.10	43	2.0	58	0.01
474	C474	TF	0.00	0.60	68	5.0	88	0.10
475	C475	TF	0.00	0.01	59	4.0	75	0.01
476	C476	TF	0.00	0.60	52	3.0	83	0.30
477	C477	TF	0.00	0.10	10	8.0	59	0.01
478	C478	TF	0.00	0.01	7	3.0	49	0.01
479	C479	TF	0.00	0.20	18	2.0	25	0.01
480	C480	TF	0.00	0.01	5	5.0	26	0.01
481	C481	TS	0.00	0.01	5	3.0	23	0.01
482	C482	TF	0.00	0.01	29	12.0	33	0.01
483	C483	TF	0.00	0.01	27	3.0	38	0.01
484	C484	TF	0.00	0.01	39	7.0	205	0.10
485	C485	TF	0.00	0.01	11	7.0	104	6.01
486	C486	TF	0.00	0.01	21	9.0	69	0.01
487	C487	TF	0.00	0.20	13	9.0	49	0.01
488	C488	TF	0.00	0.30	21	20.0	147	0.01
489	C489	TF	0.00	0.20	18	7.0	63	0.01
490	C490	DA	0.00	0.01	24	9.0	75	0.01
491	C491	TS	0.00	0.30	17	4.0	86	0.01
492	C492	TF	0.00	0.70	23	7.0	52	0.01
493	C493	TF	0.00	0.30	59	141.0	165	0.40
494	C494	TF	0.00	0.01	70	9.0	165	0.01
495	C495	TS	0.00	0.20	9	2.0	30	0.01
496	C496	TF	0.00	0.90	102	7.0	78	0.01
497	C497	TF	0.00	0.40	72	2.0	54	0.01
498	C498	TF	0.00	0.01	39	6.0	78	0.01
499	C499	TF	0.00	0.60	79	7.0	127	0.01
500	C500	TF	0.00	0.40	70	7.0	70	0.01

-- DMCS --

***** METAL CONTENTS IN GEOCHEMICAL SAMPLES *****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
501	C501	TF	0.00	0.30	225	7.0	130	0.10
502	C502	TF	0.00	0.01	17	3.0	20	0.01
503	C503	TF	0.00	0.20	35	4.0	64	0.01
504	C504	TF	0.00	0.40	71	0.1	55	0.01
505	C505	TF	0.00	0.30	44	0.1	57	0.01
506	C506	TF	0.00	0.30	22	12.0	21	0.01
507	C507	TF	0.00	0.01	10	3.0	12	0.01
508	C508	TF	0.00	0.10	32	7.0	74	0.01
509	C509	TF	0.00	0.10	8	2.0	12	0.01
510	C510	TF	0.00	0.20	27	3.0	43	0.01
511	C511	TF	0.00	0.40	316	30.0	1994	0.10
512	C512	TF	0.00	0.10	10	1.0	9	0.01
513	C513	TF	0.00	0.01	9	2.0	14	0.01
514	C514	TF	0.00	0.10	12	5.0	25	0.01
515	C515	TF	0.00	0.10	4	1.0	15	0.01
516	C516	TF	0.00	0.10	17	4.0	75	0.01
517	C517	TF	0.00	0.20	10	3.0	76	0.01
518	C518	TF	0.00	1.30	499	84.0	660	1.10
519	C519	DA	0.00	0.10	38	1.0	41	0.01
520	C520	DA	0.00	0.01	8	1.0	11	0.01
521	C521	DA	0.00	0.01	12	3.0	19	0.01
522	C522	DA	0.00	0.10	10	1.0	33	0.01
523	C523	TF	0.00	0.01	50	2.0	56	0.01
524	C524	TF	0.00	0.20	71	4.0	60	0.01
525	C525	TF	0.00	0.01	53	0.1	63	0.01
526	C526	TF	0.00	0.10	18	3.0	15	0.01
527	C527	TF	0.00	0.10	67	9.0	72	0.01
528	C528	TF	0.00	0.01	7	3.0	16	0.01
529	C529	TF	0.00	0.20	39	17.0	55	0.01
530	C530	TF	0.00	0.30	6	20.0	59	0.01
531	C531	TF	0.00	0.10	41	3.0	44	0.01
532	C532	TF	0.00	0.01	36	2.0	35	0.01
533	C533	TF	0.00	0.40	17	6.0	40	0.01
534	C534	TF	0.00	0.01	28	0.1	72	0.01
535	C535	TF	0.00	0.01	10	4.0	24	0.01
536	C536	TF	0.00	0.20	76	5.0	55	0.10
537	C537	TF	0.00	0.20	40	4.0	47	0.01
538	C538	TF	0.00	0.01	90	5.0	58	0.01
539	C539	TF	0.00	0.01	95	5.0	57	0.10
540	C540	TF	0.00	0.40	117	35.0	115	0.01
541	C541	TF	0.00	0.01	117	6.0	91	0.10
542	C542	TF	0.00	0.30	29	21.0	60	0.10
543	C543	TF	0.00	0.10	15	5.0	22	0.01
544	C544	TF	0.00	0.01	43	31.0	165	0.01
545	C545	TF	0.00	0.01	9	5.0	58	0.01
546	C546	TF	0.00	0.10	12	5.0	13	0.01
547	C547	TF	0.00	0.01	19	6.0	68	0.01
548	C548	TF	0.00	0.10	36	4.0	51	0.01
549	C549	TF	0.00	0.01	10	0.1	64	0.01
550	C550	TF	0.00	0.01	18	5.0	45	0.01

-- DMCS --

***** METAL CONTENTS IN GEOCHEMICAL SAMPLES *****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
551	C551	TF	0.00	0.40	80	5.0	35	0.01
552	C552	TF	0.00	0.20	54	4.0	44	0.01
553	C553	TF	0.00	0.20	58	6.0	58	0.01
554	C554	TF	0.00	0.30	35	3.0	50	0.01
555	C555	TF	0.00	0.30	59	6.0	203	0.10
556	C556	TF	0.00	0.01	6	5.0	23	0.01
557	C557	TF	0.00	0.40	56	2.0	44	0.01
558	C558	TF	0.00	0.20	10	4.0	41	0.10
559	C559	TF	0.00	0.01	11	5.0	62	0.01
560	C561	TF	0.00	0.10	44	4.0	102	0.01
561	C562	TF	0.00	0.30	69	4.0	72	0.01
562	C563	TF	0.00	0.40	314	3.0	127	0.01
563	C564	TF	0.00	0.01	33	2.0	46	0.01
564	C565	TF	0.00	0.01	79	3.0	76	0.01
565	C566	TF	0.00	0.10	34	3.0	62	0.40
566	C567	TF	0.00	0.50	499	10.0	119	0.01

Pico Duarte Sub-Area

-- DMPD --

***** METAL CONTENTS IN GEOCHEMICAL SAMPLES *****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
1	P001	GD	0.00	0.01	4	5.0	37	0.01
2	P002	GD	0.00	0.10	9	4.0	43	0.01
3	P003	GD	0.00	0.01	56	4.0	38	0.01
4	P004	GD	0.00	0.10	11	4.0	26	0.01
5	P005	GD	0.00	0.20	7	7.0	16	0.01
6	P006	GD	0.00	0.20	44	5.0	37	0.01
7	P007	GD	0.00	0.10	36	1.0	36	0.10
8	P008	GD	0.00	0.10	15	3.0	43	0.01
9	P009	GD	0.00	0.01	35	4.0	24	0.01
10	P010	GD	0.00	0.10	166	2.0	41	0.01
11	P011	GD	0.00	0.20	113	0.1	25	0.01
12	P012	GD	0.00	0.10	12	4.0	23	0.01
13	P013	GD	0.00	0.10	12	4.0	40	0.01
14	P014	GD	0.00	0.30	23	4.0	24	0.01
15	P015	GD	0.00	0.01	19	4.0	13	0.01
16	P016	GD	0.00	0.20	25	4.0	30	0.01
17	P017	GD	0.00	0.30	32	2.0	28	0.01
18	P018	GD	0.00	0.10	11	4.0	22	0.01
19	P019	GD	0.00	0.01	27	3.0	24	0.01
20	P020	GD	0.00	0.20	15	3.0	47	0.01
21	P021	GD	0.00	0.10	27	4.0	31	0.20
22	P022	GD	0.00	0.01	45	4.0	38	0.01
23	P023	GD	0.00	0.01	17	4.0	32	0.01
24	P024	GD	0.00	0.01	17	4.0	23	0.01
25	P025	GD	0.00	0.80	39	7.0	46	0.01
26	P026	GD	0.00	0.20	62	3.0	34	0.01
27	P027	GD	0.00	0.01	10	2.0	32	0.01
28	P028	GD	0.00	0.10	82	3.0	45	0.01
29	P029	GD	0.00	0.10	42	3.0	28	0.01
30	P030	GD	0.00	0.10	10	3.0	40	0.01
31	P031	GD	0.00	0.01	18	5.0	22	0.01
32	P032	GD	0.00	0.01	13	0.1	27	0.01
33	P033	GD	0.00	0.01	9	3.0	18	0.01
34	P034	GD	0.00	0.01	10	3.0	30	0.01
35	P035	GD	0.00	0.10	28	2.0	29	0.01
36	P036	GD	0.00	0.10	16	2.0	13	0.01
37	P037	GD	0.00	0.30	51	2.0	32	0.01
38	P038	GD	0.00	0.01	223	2.0	47	0.10
39	P039	GD	0.00	0.01	29	1.0	29	0.10
40	P040	GD	0.00	0.10	15	2.0	29	0.01
41	P041	GD	0.00	0.20	82	1.0	39	0.01
42	P042	GD	0.00	0.01	13	2.0	35	0.01
43	P043	GD	0.00	0.01	55	1.0	24	0.10
44	P044	GD	0.00	0.01	71	3.0	10	0.01
45	P045	GD	0.00	0.01	22	2.0	24	0.10
46	P046	GD	0.00	0.80	138	3.0	54	0.20
47	P047	GD	0.00	0.01	165	1.0	27	0.01
48	P048	GD	0.00	0.20	153	5.0	20	0.80
49	P049	GD	0.00	0.10	499	2.0	28	0.01
50	P050	GD	0.00	0.01	125	2.0	29	0.01

-- DMPD --

***** METAL CONTENTS IN GEOCHEMICAL SAMPLES *****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
51	P051	GD	0.00	0.10	5	2.0	44	0.01
52	P052	GD	0.00	0.01	42	3.0	43	0.01
53	P053	GD	0.00	0.20	318	3.0	40	0.01
54	P054	GD	0.00	0.80	1269	6.0	31	0.01
55	P055	GD	0.00	0.50	885	4.0	27	0.01
56	P056	GD	0.00	0.20	1298	1.0	35	0.10
57	P057	GD	0.00	0.10	65	2.0	52	0.01
58	P058	GD	0.00	0.01	213	2.0	27	0.01
59	P059	GD	0.00	0.01	9	2.0	23	0.01
60	P060	GD	0.00	0.10	14	2.0	73	0.01
61	P061	GD	0.00	0.10	161	2.0	27	0.01
62	P062	GD	0.00	0.01	86	3.0	64	0.01
63	P063	GD	0.00	0.10	40	0.1	59	0.01
64	P064	GD	0.00	0.01	46	2.0	37	0.01
65	P065	GD	0.00	0.01	53	3.0	49	0.01
66	P066	GD	0.00	0.10	18	2.0	31	0.01
67	P067	GD	0.00	0.01	44	1.0	23	0.01
68	P068	GD	0.00	0.20	28	3.0	44	0.01
69	P069	GD	0.00	0.01	50	2.0	40	0.01
70	P070	GD	0.00	0.10	37	4.0	56	0.01
71	P071	GD	0.00	0.10	59	3.0	58	0.01
72	P072	GD	0.00	0.10	61	4.0	40	0.01
73	P073	GD	0.00	0.01	30	3.0	32	0.01
74	P074	GD	0.00	0.01	148	2.0	25	0.01
75	P075	GD	0.00	0.01	53	2.0	67	0.01
76	P076	GD	0.00	0.01	11	2.0	21	0.01
77	P077	GD	0.00	0.01	10	3.0	30	0.01
78	P078	GD	0.00	0.10	17	3.0	52	0.01
79	P079	GD	0.00	0.10	31	2.0	33	0.01
80	P080	GD	0.00	0.10	53	2.0	34	0.01
81	P081	GD	0.00	0.01	18	1.0	36	0.01
82	P082	GD	0.00	0.01	31	1.0	43	0.01
83	P083	GD	0.00	0.01	6	1.0	28	0.01
84	P084	GD	0.00	0.01	7	4.0	27	0.01
85	P085	GD	0.00	0.01	15	2.0	23	0.01
86	P086	GD	0.00	0.10	29	2.0	40	0.01
87	P087	GD	0.00	0.10	243	2.0	27	0.01
88	P088	GD	0.00	0.10	163	2.0	72	0.10
89	P089	GD	0.00	0.01	146	3.0	24	0.01
90	P090	GD	0.00	0.01	63	3.0	43	0.01
91	P091	GD	0.00	0.01	39	2.0	45	0.01
92	P092	GD	0.00	0.10	33	2.0	93	0.01
93	P093	GD	0.00	0.01	7	0.1	24	0.20
94	P094	GD	0.00	0.10	16	2.0	46	0.01
95	P095	GD	0.00	0.10	63	4.0	49	0.01
96	P096	GD	0.00	0.01	330	2.0	36	0.01
97	P097	GD	0.00	0.20	147	2.0	43	0.10
98	P098	GD	0.00	0.01	54	2.0	53	0.01
99	P099	GD	0.00	0.01	31	2.0	55	0.10
100	P100	GD	0.00	0.20	31	3.0	39	0.01

-- DMPD --

***** METAL CONTENTS IN GEOCHEMICAL SAMPLES *****

(4)

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
101	P101	GD	0.00	0.10	41	0.1	41	0.01
102	P102	GD	0.00	0.01	22	2.0	32	0.01
103	P103	GD	0.00	0.01	33	4.0	33	0.01
104	P104	GD	0.00	0.01	12	2.0	20	0.01
105	P105	GD	0.00	0.10	439	3.0	16	0.01

Mata Grande Sub-Area

-- OMMG --

***** METAL CONTENTS IN GEOCHEMICAL SAMPLES *****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
1	M1-1	TS	0.00	0.01	21	5.0	8	0.01
2	M1-2	TS	0.00	0.01	46	2.0	13	0.01
3	M1-3	TS	0.00	0.10	38	3.0	15	0.01
4	M1-4	TS	0.00	0.40	34	8.0	13	0.20
5	M1-5	TS	0.00	0.80	38	6.0	14	0.01
6	M1-6	TS	0.00	0.10	22	4.0	10	0.01
7	M1-7	TS	0.00	0.01	42	7.0	24	0.01
8	M1-8	TS	0.00	0.40	44	6.0	24	0.01
9	M1-9	TS	0.00	0.30	47	7.0	45	0.01
10	M1-10	TS	0.00	0.10	7	2.0	5	0.01
11	M1-11	DF	0.00	0.01	4	2.0	5	0.01
12	M1-12	DF	0.00	0.10	10	3.0	8	0.01
13	M1-13	DF	0.00	0.01	20	5.0	19	0.01
14	M1-14	DF	0.00	0.01	90	4.0	20	0.01
15	M1-15	DF	0.00	0.01	17	2.0	4	0.01
16	M1-16	DF	0.00	0.20	14	4.0	31	0.01
17	M2-1	TS	0.00	0.10	48	0.1	35	0.01
18	M2-2	DF	0.00	0.20	38	2.0	47	0.01
19	M2-3	DF	0.00	0.20	33	5.0	31	0.01
20	M2-4	DF	0.00	0.01	28	5.0	14	0.01
21	M2-5	DF	0.00	0.01	36	5.0	10	0.01
22	M2-6	DF	0.00	0.10	25	5.0	9	0.01
23	M2-7	DF	0.00	0.30	57	2.0	53	0.01
24	M2-8	DF	0.00	0.20	44	4.0	53	0.01
25	M2-9	DF	0.00	0.01	50	2.0	36	0.01
26	M2-10	DF	0.00	0.10	56	2.0	51	0.01
27	M2-11	DF	0.00	0.20	79	4.0	56	0.01
28	M2-12	DF	0.00	0.10	48	3.0	45	0.01
29	M2-13	DF	0.00	0.01	12	7.0	13	0.01
30	M2-14	DF	0.00	0.10	39	4.0	42	0.01
31	M2-15	DF	0.00	0.10	41	4.0	79	0.01
32	M2-16	DF	0.00	0.01	38	5.0	29	0.01
33	M3-1	DF	0.00	0.01	20	4.0	11	0.01
34	M3-2	DF	0.00	0.20	29	5.0	12	0.01
35	M3-3	DF	0.00	0.01	47	6.0	16	0.01
36	M3-4	DF	0.00	0.20	25	5.0	16	0.01
37	M3-5	DF	0.00	0.01	28	3.0	11	0.10
38	M3-6	DF	0.00	0.01	41	6.0	29	0.01
39	M3-7	DF	0.00	0.30	24	11.0	30	0.01
40	M3-8	DF	0.00	0.01	71	7.0	23	0.01
41	M3-9	TS	0.00	0.10	47	5.0	20	0.10
42	M3-10	DF	0.00	0.01	35	4.0	23	0.01
43	M3-11	TS	0.00	0.01	37	3.0	28	0.01
44	M3-12	DF	0.00	0.01	32	2.0	19	0.01
45	M3-13	DF	0.00	0.01	39	8.0	18	0.01
46	M3-14	DF	0.00	0.10	45	4.0	36	0.01
47	M3-15	DF	0.00	0.30	60	5.0	31	0.10
48	M3-16	DF	0.00	0.10	51	2.0	27	0.01
49	M4-1	DF	0.00	0.10	28	5.0	36	0.01
50	M4-2	DF	0.00	0.01	39	2.0	34	0.01

-- OMMG --

***** METAL CONTENTS IN GEOCHEMICAL SAMPLES *****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
51	M4-3	DF	0.00	0.01	25	2.0	15	0.01
52	M4-4	DF	0.00	0.10	43	0.1	41	0.01
53	M4-5	DF	0.00	0.10	42	3.0	21	0.01
54	M4-6	DF	0.00	0.20	40	5.0	31	0.01
55	M4-7	DF	0.00	0.10	47	7.0	42	0.01
56	M4-8	TS	0.00	0.01	34	5.0	17	0.01
57	M4-9	DF	0.00	0.01	58	1.0	12	0.01
58	M4-10	TS	0.00	0.01	38	4.0	29	0.10
59	M4-11	DF	0.00	0.01	33	4.0	38	0.01
60	M4-12	DF	0.00	0.10	58	4.0	16	0.01
61	M4-13	TS	0.00	0.01	23	5.0	33	0.01
62	M4-14	DF	0.00	0.10	51	3.0	23	0.01
63	M4-15	DF	0.00	0.10	52	3.0	29	0.01
64	M4-16	TS	0.00	0.01	8	4.0	31	0.01
65	M5-1	DF	0.00	0.01	19	2.0	27	0.01
66	M5-2	DF	0.00	0.20	54	2.0	26	0.01
67	M5-3	DF	0.00	0.40	35	1.0	24	0.01
68	M5-4	TS	0.00	0.10	56	2.0	33	0.01
69	M5-5	TS	0.00	0.20	28	3.0	18	0.01
70	M5-6	DF	0.00	0.20	35	2.0	29	0.01
71	M5-7	DF	0.00	0.01	106	1.0	19	0.01
72	M5-8	DF	0.00	0.01	46	3.0	19	0.01
73	M5-9	TS	0.00	0.01	51	1.0	21	0.01
74	M5-10	DF	0.00	0.01	73	2.0	20	0.01
75	M5-11	DF	0.00	0.10	66	1.0	22	0.01
76	M5-12	DF	0.00	0.01	46	3.0	26	0.01
77	M5-13	DF	0.00	0.01	33	2.0	18	0.01
78	M5-14	DF	0.00	0.20	63	4.0	34	0.01
79	M5-15	DF	0.00	0.01	97	4.0	37	0.01
80	M5-16	DF	0.00	0.10	28	1.0	33	0.01
81	M6-1	DF	0.00	0.01	30	1.0	16	0.01
82	M6-2	TB	0.00	0.10	42	1.0	22	0.01
83	M6-3	TB	0.00	0.01	35	0.1	19	0.01
84	M6-4	TB	0.00	0.10	35	2.0	17	0.01
85	M6-5	TB	0.00	0.10	80	1.0	35	0.01
86	M6-6	TB	0.00	0.20	48	0.1	28	0.01
87	M6-7	TB	0.00	0.30	53	3.0	26	0.01
88	M6-8	TB	0.00	0.20	38	3.0	32	0.01
89	M6-9	DF	0.00	0.20	103	2.0	46	0.10
90	M6-10	DF	0.00	0.01	236	1.0	41	0.10
91	M6-11	TS	0.00	0.10	107	2.0	34	0.01
92	M6-12	DF	0.00	0.01	109	1.0	28	0.01
93	M6-13	DF	0.00	0.01	95	3.0	30	0.01
94	M6-14	DF	0.00	0.01	65	3.0	22	0.01
95	M6-15	DF	0.00	0.01	44	2.0	23	0.01
96	M6-16	DF	0.00	0.01	176	3.0	40	0.01
97	M7-1	DF	0.00	0.01	29	2.0	14	0.10
98	M7-2	TB	0.00	0.01	43	4.0	63	0.01
99	M7-3	TB	0.00	0.01	59	2.0	34	0.01
100	M7-4	TB	0.00	0.01	33	2.0	29	0.01

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***** METAL CONTENTS IN GEOCHEMICAL SAMPLES *****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
101	M7-5	TB	0.00	0.10	46	2.0	19	0.01
102	M7-6	TB	0.00	0.01	75	1.0	33	0.01
103	M7-7	TB	0.00	0.01	58	2.0	32	0.01
104	M7-8	DF	0.00	0.10	32	2.0	23	0.01
105	M7-9	TS	0.00	0.10	92	2.0	29	0.10
106	M7-10	DF	0.00	0.01	81	2.0	27	0.01
107	M7-11	DF	0.00	0.01	79	3.0	39	0.01
108	M7-12	DF	0.00	0.10	35	3.0	29	0.01
109	M7-13	DF	0.00	0.20	60	2.0	43	0.01
110	M7-14	DF	0.00	0.01	47	1.0	25	0.01
111	M7-15	DF	0.00	0.01	82	1.0	40	0.01
112	M7-16	DF	0.00	0.10	118	5.0	62	0.01
113	M8-1	TB	0.00	0.10	40	4.0	25	0.10
114	M8-2	TB	0.00	0.01	33	3.0	26	0.10
115	M8-3	TB	0.00	0.01	39	4.0	28	0.01
116	M8-4	TB	0.00	0.20	38	4.0	33	0.01
117	M8-5	TB	0.00	0.01	35	2.0	19	0.01
118	M8-6	TB	0.00	0.20	62	2.0	50	0.01
119	M8-7	TB	0.00	0.10	30	4.0	33	0.01
120	M8-8	TS	0.00	0.10	44	2.0	55	0.01
121	M8-9	DF	0.00	0.20	157	3.0	48	0.01
122	M8-10	DF	0.00	0.01	107	1.0	43	0.01
123	M8-11	DF	0.00	0.10	38	10.0	238	0.01
124	M8-12	DF	0.00	0.20	56	3.0	36	0.01
125	M8-13	DF	0.00	0.10	41	2.0	21	0.01
126	M8-14	DF	0.00	0.01	36	4.0	49	0.01
127	M8-15	DF	0.00	0.01	45	2.0	20	0.10
128	M8-16	DF	0.00	0.20	78	5.0	60	0.01
129	M9-1	DF	0.00	0.01	49	2.0	56	0.01
130	M9-2	DF	0.00	0.01	23	3.0	17	0.01
131	M9-3	DF	0.00	0.10	27	3.0	24	0.01
132	M9-4	DF	0.00	0.10	28	3.0	16	0.01
133	M9-5	DF	0.00	0.01	46	3.0	24	0.01
134	M9-6	DF	0.00	0.40	19	4.0	12	0.01
135	M9-7	DF	0.00	0.10	34	3.0	31	0.01
136	M9-8	DF	0.00	0.30	28	3.0	18	0.01
137	M9-9	DF	0.00	0.01	174	5.0	94	0.01
138	M9-10	DF	0.00	0.20	146	1.0	62	0.01
139	M9-11	DF	0.00	0.01	76	3.0	38	0.01
140	M9-12	DF	0.00	0.01	31	1.0	22	0.01
141	M9-13	DF	0.00	0.10	103	3.0	24	0.01
142	M9-14	DF	0.00	0.01	32	2.0	19	0.01
143	M9-15	DF	0.00	0.20	20	1.0	12	0.01
144	M9-16	DF	0.00	0.01	29	2.0	14	0.01
145	M10-1	DF	0.00	0.10	44	2.0	28	0.01
146	M10-2	DF	0.00	0.20	30	2.0	31	0.01
147	M10-3	DF	0.00	0.10	25	3.0	30	0.01
148	M10-4	DF	0.00	0.20	34	2.0	32	0.10
149	M10-5	DF	0.00	0.20	42	3.0	39	0.01
150	M10-6	DF	0.00	0.10	53	0.1	34	0.01

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***** METAL CONTENTS IN GEOCHEMICAL SAMPLES *****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
151	M10-7	DF	0.00	0.10	18	3.0	21	0.01
152	M10-8	DF	0.00	0.01	71	1.0	61	0.01
153	M10-9	DF	0.00	0.20	41	2.0	22	0.01
154	M10-10	DF	0.00	0.10	28	2.0	27	0.01
155	M10-11	DF	0.00	0.01	28	3.0	27	0.01
156	M10-12	DF	0.00	0.01	23	2.0	14	0.01
157	M10-13	DF	0.00	0.01	133	1.0	21	0.01
158	M10-14	DF	0.00	0.10	61	0.1	28	0.10
159	M10-15	DF	0.00	0.10	71	3.0	29	0.01
160	M10-16	DF	0.00	0.20	39	2.0	30	0.10
161	M11-1	DF	0.00	0.01	44	0.1	27	0.01
162	M11-2	DF	0.00	0.10	40	4.0	37	0.01
163	M11-3	DF	0.00	0.01	75	3.0	38	0.01
164	M11-4	DF	0.00	0.01	28	2.0	35	0.01
165	M11-5	DF	0.00	0.10	43	2.0	31	0.01
166	M11-6	DF	0.00	0.01	95	3.0	37	0.01
167	M11-7	DF	0.00	0.01	68	3.0	35	0.01
168	M11-8	DF	0.00	0.10	35	1.0	21	0.01
169	M11-9	DF	0.00	0.20	72	0.1	69	0.10
170	M11-10	DF	0.00	0.10	340	3.0	37	0.20
171	M11-11	DF	0.00	0.20	46	1.0	36	0.01
172	M11-12	DF	0.00	0.01	45	2.0	43	0.01
173	M11-13	DF	0.00	0.01	48	1.0	35	0.01
174	M11-14	DF	0.00	0.01	43	2.0	30	0.01
175	M11-15	DF	0.00	0.01	38	2.0	20	0.01
176	M11-16	DF	0.00	0.10	148	3.0	54	0.01
177	M12-1	DF	0.00	0.10	42	3.0	23	0.01
178	M12-2	DF	0.00	0.10	53	4.0	38	0.01
179	M12-3	DF	0.00	0.10	68	4.0	42	0.01
180	M12-4	DF	0.00	0.01	49	2.0	45	0.01
181	M12-5	DF	0.00	0.01	47	3.0	41	0.10
182	M12-6	DF	0.00	0.01	68	4.0	64	0.01
183	M12-7	DF	0.00	0.01	58	0.1	60	0.01
184	M12-8	DF	0.00	0.01	88	1.0	60	0.01
185	M12-9	DF	0.00	0.01	67	4.0	53	0.01
186	M12-10	DF	0.00	0.01	40	3.0	39	0.10
187	M12-11	DF	0.00	0.20	103	4.0	83	0.01
188	M12-12	DF	0.00	0.30	42	1.0	35	0.01
189	M12-13	DF	0.00	0.20	52	3.0	32	0.01
190	M12-14	DF	0.00	0.01	70	4.0	36	0.01
191	M12-15	DF	0.00	0.01	84	2.0	37	0.01
192	M12-16	DF	0.00	0.20	37	0.1	41	0.01
193	M13-1	DF	0.00	0.01	67	3.0	50	0.01
194	M13-2	DF	0.00	0.10	[illegible]	3.0	67	0.01
195	M13-3	DF	0.00	0.20	64	3.0	65	0.01
196	M13-4	DF	0.00	0.20	78	4.0	66	0.01
197	M13-5	DF	0.00	0.01	60	3.0	38	0.01
198	M13-6	DF	0.00	0.01	61	5.0	47	0.01
199	M13-7	DF	0.00	0.01	62	4.0	44	0.01
200	M13-8	DF	0.00	0.30	58	3.0	61	0.01

-- DMG --

**** METAL CONTENTS IN GEOCHEMICAL SAMPLES ****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
201	M13-9	DF	0.00	0.10	59	2.0	45	0.10
202	M13-10	DF	0.00	0.10	129	3.0	62	0.01
203	M13-11	DF	0.00	0.01	35	4.0	80	0.01
204	M13-12	DF	0.00	0.10	29	3.0	18	0.01
205	M13-13	DF	0.00	0.20	113	4.0	51	0.01
206	M13-14	DF	0.00	0.10	83	4.0	45	0.01
207	M13-15	DF	0.00	0.10	43	4.0	43	0.01
208	M13-16	DF	0.00	0.10	2	2.0	10	0.01
209	M14-1	DF	0.00	0.01	79	3.0	52	0.01
210	M14-2	DF	0.00	0.10	58	3.0	64	0.20
211	M14-3	DF	0.00	0.01	51	4.0	46	0.01
212	M14-4	DF	0.00	0.10	39	1.0	33	0.01
213	M14-5	DF	0.00	0.10	53	3.0	50	0.01
214	M14-6	DF	0.00	0.10	83	4.0	59	0.01
215	M14-7	DF	0.00	0.10	63	2.0	58	0.01
216	M14-8	DF	0.00	0.01	110	4.0	121	0.01
217	M14-9	DF	0.00	0.01	48	3.0	37	0.01
218	M14-10	DF	0.00	0.01	60	3.0	33	0.01
219	M14-11	DF	0.00	0.20	53	2.0	60	0.01
220	M14-12	DF	0.00	0.01	33	2.0	43	0.01
221	M14-13	DF	0.00	0.40	23	7.0	18	0.01
222	M14-14	DF	0.00	0.60	30	7.0	19	0.01
223	M14-15	DF	0.00	0.30	28	6.0	21	0.01
224	M14-16	DF	0.00	0.20	52	4.0	78	0.01
225	M15-1	DF	0.00	0.30	46	5.0	71	0.01
226	M15-2	DF	0.00	0.30	37	4.0	53	0.01
227	M15-3	DF	0.00	0.30	82	5.0	79	0.20
228	M15-4	DF	0.00	0.10	39	3.0	51	0.20
229	M15-5	DF	0.00	0.30	23	4.0	31	0.20
230	M15-6	DF	0.00	0.30	121	1.0	55	0.01
231	M15-7	DF	0.00	0.20	73	4.0	76	0.01
232	M15-8	DF	0.00	0.20	41	3.0	36	0.01
233	M15-9	DF	0.00	0.20	27	3.0	29	0.01
234	M15-10	DF	0.00	0.20	35	0.1	31	0.01
235	M15-11	DF	0.00	0.20	54	2.0	69	0.01
236	M15-12	DF	0.00	0.01	34	3.0	24	0.01
237	M15-13	DF	0.00	0.01	57	3.0	72	0.20
238	M15-14	DF	0.00	0.10	35	5.0	44	0.01
239	M15-15	DF	0.00	0.30	26	5.0	22	0.01
240	M15-16	DF	0.00	0.20	24	3.0	35	0.01
241	M16-1	DF	0.00	0.01	25	3.0	36	0.01
242	M16-2	DF	0.00	0.20	30	3.0	38	0.01
243	M16-3	DF	0.00	0.20	41	2.0	65	0.01
244	M16-4	DF	0.02	0.20	35	3.0	35	0.01
245	M16-5	DF	0.00	0.20	8	1.0	31	0.01
246	M16-6	DF	0.00	0.30	66	0.1	77	0.01
247	M16-7	DF	0.00	0.20	53	2.0	47	0.01
248	M16-8	DF	0.00	0.20	28	3.0	34	0.01
249	M16-9	DF	0.00	0.01	21	0.1	23	0.01
250	M16-10	DF	0.00	0.10	16	3.0	19	0.01

-- DMG --

**** METAL CONTENTS IN GEOCHEMICAL SAMPLES ****

Ser. No.	Sample No.	Geol. Unit	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
251	M16-11	DF	0.00	0.01	18	2.0	25	0.01
252	M16-12	DF	0.00	0.10	32	6.0	24	0.01
253	M16-13	DF	0.00	0.20	24	4.0	28	0.01
254	M16-14	DF	0.00	0.10	28	2.0	25	0.01
255	M16-15	DF	0.00	0.50	27	4.0	37	0.01
256	M16-16	DF	0.00	0.01	71	2.0	64	0.01
257	M17-1	DF	0.00	0.01	26	3.0	31	0.01
258	M17-2	DF	0.00	0.20	42	2.0	57	0.01
259	M17-3	DF	0.00	0.20	53	2.0	64	0.10
260	M17-4	DF	0.00	0.20	39	3.0	79	0.01
261	M17-5	DF	0.00	0.20	56	2.0	71	0.01
262	M17-6	DF	0.00	0.10	31	3.0	51	0.01
263	M17-7	DF	0.00	0.01	29	4.0	26	0.01
264	M17-8	DF	0.00	0.10	38	2.0	45	0.01
265	M17-9	DF	0.00	0.30	28	1.0	27	0.01
266	M17-10	DF	0.00	0.01	31	2.0	29	0.01
267	M17-11	DF	0.00	0.10	44	2.0	35	0.01
268	M17-12	DF	0.00	0.10	50	2.0	56	0.01
269	M17-13	DF	0.00	0.20	62	4.0	48	0.01
270	M17-14	DF	0.00	0.20	36	2.0	43	0.01
271	M17-15	DF	0.00	0.01	34	2.0	35	0.01
272	M17-16	DF	0.00	0.01	36	3.0	26	0.01
273	M18-1	DF	0.00	0.01	34	3.0	80	0.01
274	M18-2	DF	0.00	0.01	40	1.0	42	0.01
275	M18-3	DF	0.00	0.10	28	3.0	48	0.01
276	M18-4	DF	0.00	0.10	26	3.0	33	0.01
277	M18-5	DF	0.00	0.20	15	3.0	28	0.01
278	M18-6	DF	0.00	0.30	21	2.0	34	0.01
279	M18-7	DF	0.00	0.01	56	3.0	57	0.01
280	M18-8	DF	0.00	0.20	30	3.0	31	0.10
281	M18-9	DF	0.00	0.20	33	2.0	31	0.01
282	M18-10	DF	0.00	0.01	25	3.0	26	0.01
283	M18-11	DF	0.00	0.10	35	2.0	44	0.01
284	M18-12	DF	0.00	0.20	43	1.0	59	0.01
285	M18-13	DF	0.00	0.20	45	2.0	53	0.01
286	M18-14	DF	0.00	0.01	27	1.0	27	0.01
287	M18-15	DF	0.00	0.20	21	5.0	19	0.01
288	M18-16	DF	0.00	0.01	36	2.0	35	0.01
289	M18-17	DF	0.00	0.40	18	3.0	16	0.01
290	M18-18	DF	0.00	0.20	34	1.0	43	0.01
291	M18-19	DF	0.00	0.10	55	1.0	60	0.01

Table A–7 Result of Magnetic Susceptibility Data in the Pico Duarte Sub-Area

(1)

No.	Measured point No.	Date	Measured value				*Surface unevenness	Truth measured value	Alteration zoon
			1st	2nd	3rd	Average			
1	M001	84.9.12	4.39	4.38	4.33	4.37	1 (mm)	4.68	B
2	M002		16.0	16.3	16.1	16.13	2	18.5	
3	M003		15.3	15.4	15.1	15.27	1	16.3	
4	M004		13.9	13.7	14.0	13.87	1	14.8	
5	M005		13.6	13.4	13.2	13.4	2	15.4	
6	M006		14.5	14.5	14.5	14.5	1	15.5	
7	M007		18.2	18.2	18.5	18.3	3	22.5	
8	M008		15.7	15.5	15.7	15.6	1	16.7	
9	M009		12.0	11.8	12.2	12.0	2	13.8	
10	M010	84.9.13	7.69	7.69	7.82	7.73	2	8.89	
11	M011		5.72	5.64	5.85	5.74	2	7.00	
12	M012		7.57	7.54	7.41	7.51	3	9.23	
13	M013		15.3	15.2	15.2	15.23	2	17.5	
14	M014		7.31	2.32	2.39	2.34	2	2.69	B
15	M015		16.5	16.5	16.5	16.5	2	19.0	
16	M016		10.2	10.4	10.0	10.2	2	11.7	B
17	M017		11.6	11.8	11.9	11.8	3	14.5	
18	M018	84.9.14	2.26	2.27	2.26	2.26	2	2.56	
19	M019		3.13	3.11	3.04	3.09	2	3.55	B
20	M020		0.20	0.19	0.19	0.19	2	0.22	A'
21	M021		7.71	7.65	7.73	7.70	2	8.86	B
22	M022		5.88	5.87	5.85	5.87	2	6.75	
23	M023		15.4	15.8	15.2	15.5	2	17.8	
24	M024	84.9.15	5.57	5.62	5.54	5.58	1	5.97	
25	M025		14.8	14.9	14.8	14.8	2	17.0	
26	M026		22.1	22.1	22.1	22.1	2	25.4	
27	M027		13.0	13.3	13.0	13.1	2	15.1	A
28	M028		0.78	0.79	0.78	0.78	2	0.90	B
29	M029		0.05	0.05	0.05	0.05	2	0.06	A
30	M039	84.9.16	4.63	4.56	4.54	4.58	2	5.27	
31	M030'		37.7	37.4	37.4	37.6	1	40.2	
32	M031	84.9.17	20.5	20.5	20.5	20.5	2	23.6	
33	M032		12.8	12.8	12.9	12.9	2	14.8	
34	M033		18.4	18.4	18.4	18.4	3	22.6	
35	M034		17.0	17.3	17.2	17.2	1	18.4	
36	M035		20.6	20.5	20.5	20.5	1	21.9	
37	M036	84.9.18	0.10	0.10	0.10	0.10	3	0.12	A
38	M037		14.8	14.8	14.6	14.7	1	15.7	
39	M038		17.6	17.6	17.6	17.6	2	20.2	A
40	M039		1.24	1.24	1.24	1.24	2	1.43	A

No.	Measured point No.	Date	Measured value				*Surface unevenness	Truth measured value	Alteration zoon
			1st	2nd	3rd	Average			
41	M040	84.9.18	4.01	4.01	4.01	4.01	1	4.29	A
42	M041		2.73	2.74	2.74	2.74	2	3.15	B
43	M042		3.81	3.84	3.88	3.84	5	5.41	
44	M043		3.15	3.15	3.15	3.15	2	3.62	A
45	M044	84.9.19	15.7	15.8	15.5	15.7	1	16.8	
46	M045		21.6	21.4	21.6	21.5	1	23.0	
47	M046		11.2	11.2	11.2	11.2	2	12.9	
48	M047		17.8	17.8	17.6	17.7	2	20.4	A'
49	M048		29.6	29.4	29.0	29.3	1	31.4	
50	M049		0.15	0.16	0.16	0.16	2	0.18	B
51	M050		7.51	7.57	7.59	7.56	2	8.69	B
52	M051	84.9.20	11.9	11.9	12.0	11.9	2	13.7	
53	M052		19.4	19.5	19.5	19.5	1	20.9	
54	M053		4.39	4.41	4.41	4.40	1	4.70	
55	M054		4.18	4.17	4.18	4.18	2	4.80	
56	M055		0.00	0.00	0.00	0.00	1	0.00	A
57	M056		0.10	0.09	0.10	0.10	1	0.11	A
58	M057		1.05	102	1.00	1.02	1	1.09	A
59	M058		0.85	0.83	0.84	0.84	2	1.00	A
60	M059		9.47	9.43	9.43	9.45	2	10.9	
61	M060		13.0	13.3	13.0	13.1	2	15.1	
62	M061	84.9.21	4.63	4.68	4.57	4.62	3	5.68	
63	M062		11.0	10.7	11.0	10.9	2	12.5	
64	M063		10.4	10.4	10.6	10.5	2	12.1	
65	M064	84.9.22	3.56	3.52	3.57	3.55	3	4.37	B
66	M065		14.5	14.5	14.5	14.5	3	17.8	
67	M066		7.6	7.36	7.50	7.49	2	8.61	
68	M067		3.41	3.43	3.42	3.42	3	4.21	B
69	M068		9.73	9.88	9.15	9.79	2	11.3	
70	M069		5.35	5.40	5.42	5.39	3	6.63	
71	M070	84.9.30	19.8	19.9	20.0	19.9	1	21.3	
72	M071		11.7	11.7	11.7	11.7	2	13.5	
73	M072		12.3	12.3	12.4	12.3	3	15.2	A'
74	M073		19.1	19.1	19.2	19.1	2	22.0	
75	M074		19.2	19.2	19.1	19.2	3	23.6	
76	M075		15.5	15.6	15.8	15.6	2	18.0	
77	M076		22.2	22.2	21.9	22.1	1	23.6	
78	M077	84.10.1	9.65	9.67	9.70	9.67	3	11.9	
79	M078		5.31	5.36	5.36	5.34	3	6.57	
80	M079		10.7	10.6	10.8	10.7	3	13.2	

No.	Measured point No.	Date	Measured value				*Surface unevenness	Truth measured value	Alteration zoon
			1st	2nd	3rd	Average			
81	M080	84.10.1	17.8	18.2	18.3	18.1	3	22.3	
82	M081	84.10.2	4.71	4.68	4.79	4.73	3	5.81	B
83	M082		2.32	2.30	[illegible]28	2.30	3	2.83	B
84	M083		2.52	2.49	2.[illegible]	2.50	3	3.07	
85	M084		11.1	11.1	10.9	11.0	3	13.6	
86	M085		2.16	2.14	2.15	2.15	2	2.47	B
87	M086		11.9	11.7	11.8	11.8	3	14.5	
88	M087		8.67	8.67	8.67	8.67	3	10.7	
89	M0[illegible]		5.25	5.26	5.25	5.25	10	10.3	
90	M089		11.2	10.8	11.1	11.0	3	13.6	
91	M090		2.13	2.19	2.17	2.10	3	2.66	
92	M091	84.10.3	11.7	11.1	11.5	11.4	2	13.1	
93	M092		9.23	9.20	9.23	9.22	5	13.0	
94	M093		15.2	15.1	15.3	15.2	2	17.48	
95	M094		0.57	0.57	0.56	0.57	2	0.65	
96	M095		9.51	9.50	9.50	9.50	3	11.7	
97	M096		7.58	7.54	7.55	7.56	2	8.69	
98	M097		5.21	5.22	5.21	5.21	2	5.99	
99	M098		10.5	10.5	10.5	10.5	2	12.1	
100	M099		0.33	0.31	0.32	0.32	2	0.37	B
101	M100		16.1	15.5	15.9	15.8	2	18.2	
102	M101		16.4	16.1	16.3	16.3	2	18.7	
103	M102		15.1	15.2	15.1	15.1	2	17.4	
104	M103	84.10.4	9.50	9.60	9.48	9.53	3	11.7	
105	M104		14.1	14.1	14.1	14.1	3	17.3	
106	M105		2.33	2.35	2.34	2.34	5	3.30	
107	M106		17.8	17.8	17.7	17.8	2	20.5	
108	M107		12.2	12.2	12.2	12.2	4	16.1	
109	M108		5.21	5.09	5.07	5.13	3	6.30	
110	M109		19.9	20.5	20.5	20.9	2	23.4	
111	M110	84.10.5	16.9	16.7	16.9	16.8	2	19.4	
112	M111		15.4	15.5	15.6	15.5	2	17.8	
113	M112		10.5	10.5	10.3	10.4	2	12.0	
114	M113		11.1	11.1	11.0	11.1	2	12.8	
115	M114		8.52	8.51	8.54	8.52	1	9.12	
116	M115		11.8	11.8	11.9	11.8	2	13.6	
117	M116		0.12	0.11	0.11	0.11	2	0.13	
118	M117		0.13	0.13	0.14	0.13	2	0.15	B
119	M118	84.10.6	17.4	17.4	17.6	17.5	2	20.1	
120	M119		3.67	3.64	3.61	3.64	2	4.19	

No.	Measured point No.	Date	Measured value				*Surface unevenness	Truth measured value	Alteration zoon
			1st	2nd	3rd	Average			
121	M120	84.10.6	11.8	11.6	12.0	11.8	2	13.6	B
122	M121		9.80	9.76	9.72	9.76	2	11.22	
123	M122		8.90	9.15	8.85	8.97	2	10.31	
124	M123		0.20	0.22	0.22	0.21	2	0.24	
125	M124		9.84	9.77	9.69	9.77	3	12.00	
126	M125		6.66	6.64	6.60	6.65	3	8.16	
127	M126		10.1	10.1	10.1	10.1	2	11.6	
128	M127		10.1	10.1	10.0	10.1	3	12.3	
129	M128		0.22	0.22	0.22	0.22	2	0.25	

* Correction for surface unevenness

Surface unevenness (mm)	Correction factor
1	1.07
2	1.15
3	1.23
4	1.32
5	1.41
6	1.51
7	1.61
8	1.72
9	1.84
10	1.96