

Xingu Complex unit. Diabase dykes and some primary gold garimpo, as Aluizio garimpo are observed within these structures in the survey area. The main shearing direction observed in F block is the WNW-ESE structure and the Aluizio garimpo is within this shearing trend. Others gold garimpo within shearing zones were observed as exemplified by the Mineral showing F1, F2, F3 and F4.

3-4 Survey Results

A detailed geological survey was carried out in Serrinha do Guaranta garimpo area and in Aluizio garimpo area. The two sites for the scout diamond drilling were defined by the results from this geological survey.

A hand auger geochemical survey was carried out in Serrinha do Guaranta garimpo area and its vicinities.

A regional soil geochemical survey was performed in the entire F block area, and the survey proceeding was similar to Phase I soil geochemical survey. The results of these surveys are described as follows:

3-4-1 Soil Geochemical Survey

(1) Background and Objectives

The Phase II soil geochemical survey was recommended by the results of the Phase I geological survey and it was carried out in the entire area of the B block area. The main objectives of the geochemical survey were to identify gold mineralization, others than Serrinha do Guaranta and Aluizio within F block area.

(2) Survey areas and Amounts

The survey area is shown in Fig. II-3-1. The total of soil samples collected in the F Block during the regional soil geochemical survey were 877 samples, as shown in Appendix 29.

(3) Results from statistical data treatment

The chemical analysis results used in the data treatment are shown in the Appendix 30. The results of statistical data treatment are shown on Appendix 31.

Five elements, Ag, Sb, Bi, Cd and W indicated in most of samples, values of less than the precision of the analytical method.

Correlation coefficients were calculated in order to clarify the relation among elements. The elements showing high correlation coefficient (more than 0,500) are as follows:

Cu-Zn, Cu-V, Pb-Fe, Pb-V, Zn-Mn, Fe-V, Pb-Bi, Pb-Ni, Pb-Mn, Zn-Bi,
Zn-Ni, Fe-Bi, Fe-Ni, Bi-Ni, Bi-V, Bi-Mn, Co-Ni, Ni-V, Ni-Mn,

None of the analyzed elements showed more than 0,500 correlation coefficient with Au, only Cu shows a correlation coefficient of 0,441 with Au.

(4) Single element analysis

Based on the results of statistical data treatment (Appendix 31), the threshold values were determined using histogram analysis, EDA methods and cumulative frequencies.

The threshold values for each element are as follows:

Au: 20ppb	Ag: 0.2ppm	Cu: 50ppm	Pb: 50ppm
Zn: 30ppm	Fe: 8%	As: 17ppm	Sb: 2ppm
Hg: 50ppb	Bi: 17ppm	Cd: none	Co: 8ppm
Ni: 40ppm	V: 250ppm	Mn: 500ppm	Mo: 4ppm
K: 0.50%	W: 10ppm		

Anomalous map for each element (Fig. II-3-6) were elaborated by using the threshold values on Appendix 32. The soil gold anomaly map using the threshold value of 20ppb are shown on Fig. II-3-5. Within the soil gold anomaly it is possible to separate three zones of gold anomalies at Southwest, Central north and Central part of the F block. The gold anomaly at Southwest part embodies the Serrinha do Guaranta garimpo area and the gold anomaly at the Central north part embodies the Aluizio garimpo area.

An overlapping of anomalies of several elements is shown on Fig. II-3-6.

An overlapping of Au, Cu, Pb, Zn and V were observed in the gold anomalies of the Southwest part and partial overlapping of Au, Cu and As were observed in the Central part of the F block.

(5) Multi element analysis

A multi element analysis was conducted by using factor analysis method and its results are shown in the Appendix 31.

The following elements relationship were extracted by the factor analysis of data from Phase II soil geochemical survey:

- Factor 1 : Fe-Bi-V-Pb
- Factor 2 : Zn-Ni-Mn-Co
- Factor 3 : W-Sb
- Factor 4 : Au-Cu
- Factor 5 : K-Ag
- Factor 6 : Mo
- Factor 7 : As-K

Among these factors analysis results, three factors (Factors 1, 2 and 4) were selected and a distribution map of factor score was prepared by allocating three different colors for each factor (Fig. II-3-7). These

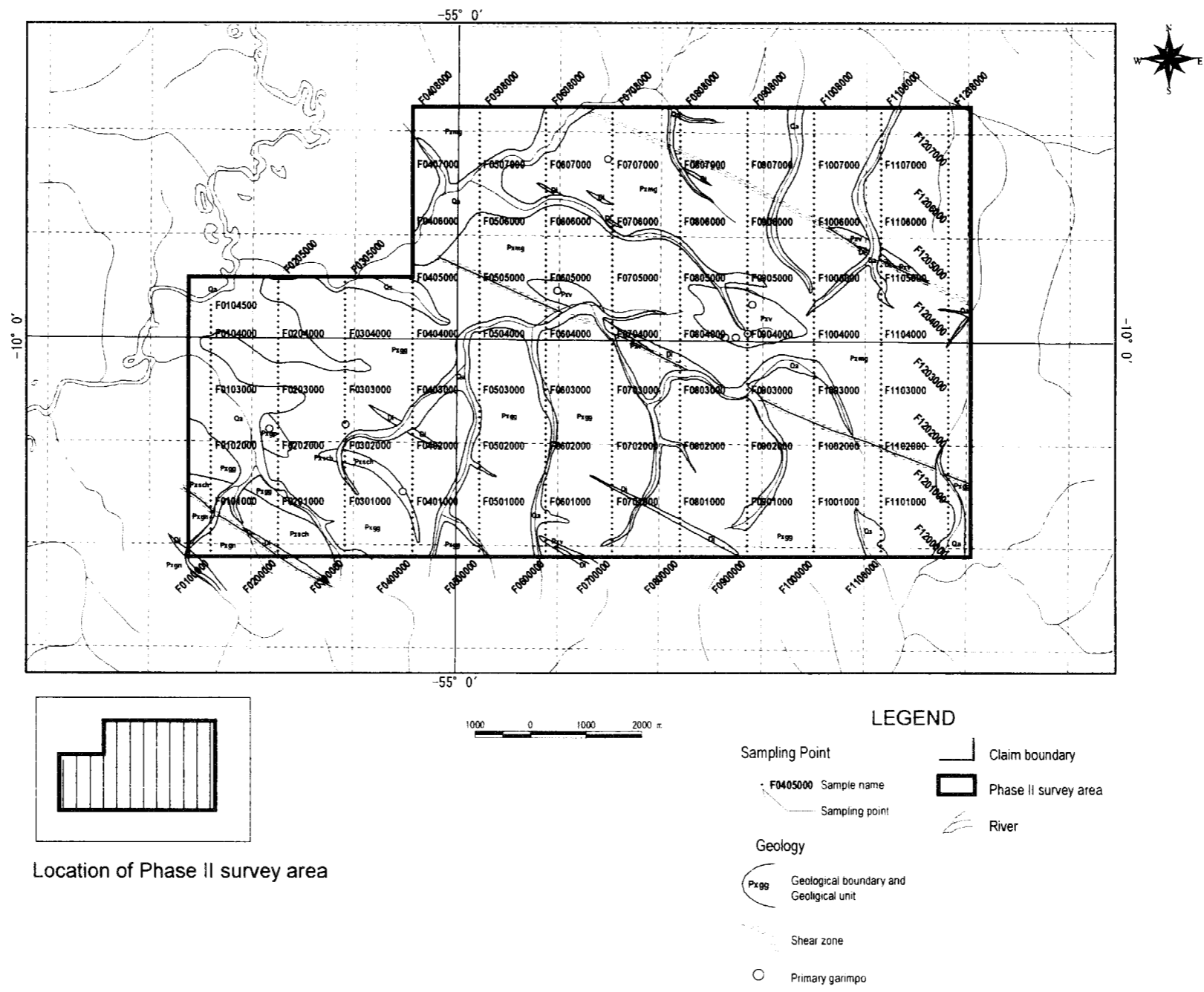
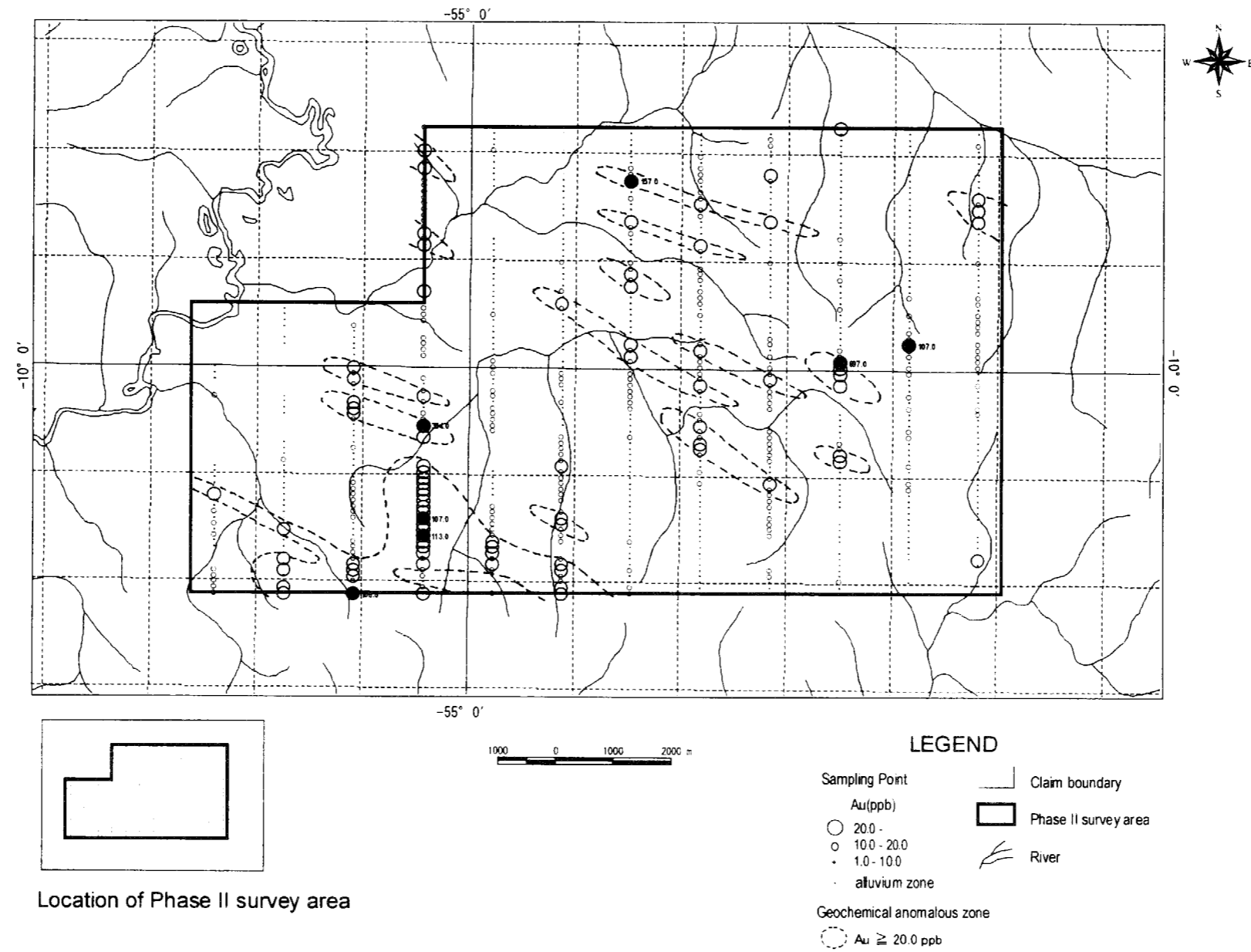


Fig. II-3-4 Location map of soil samples in Block F



Location of Phase II survey area

Fig. II-3-5 Distribution map of Au anomalies in Block F

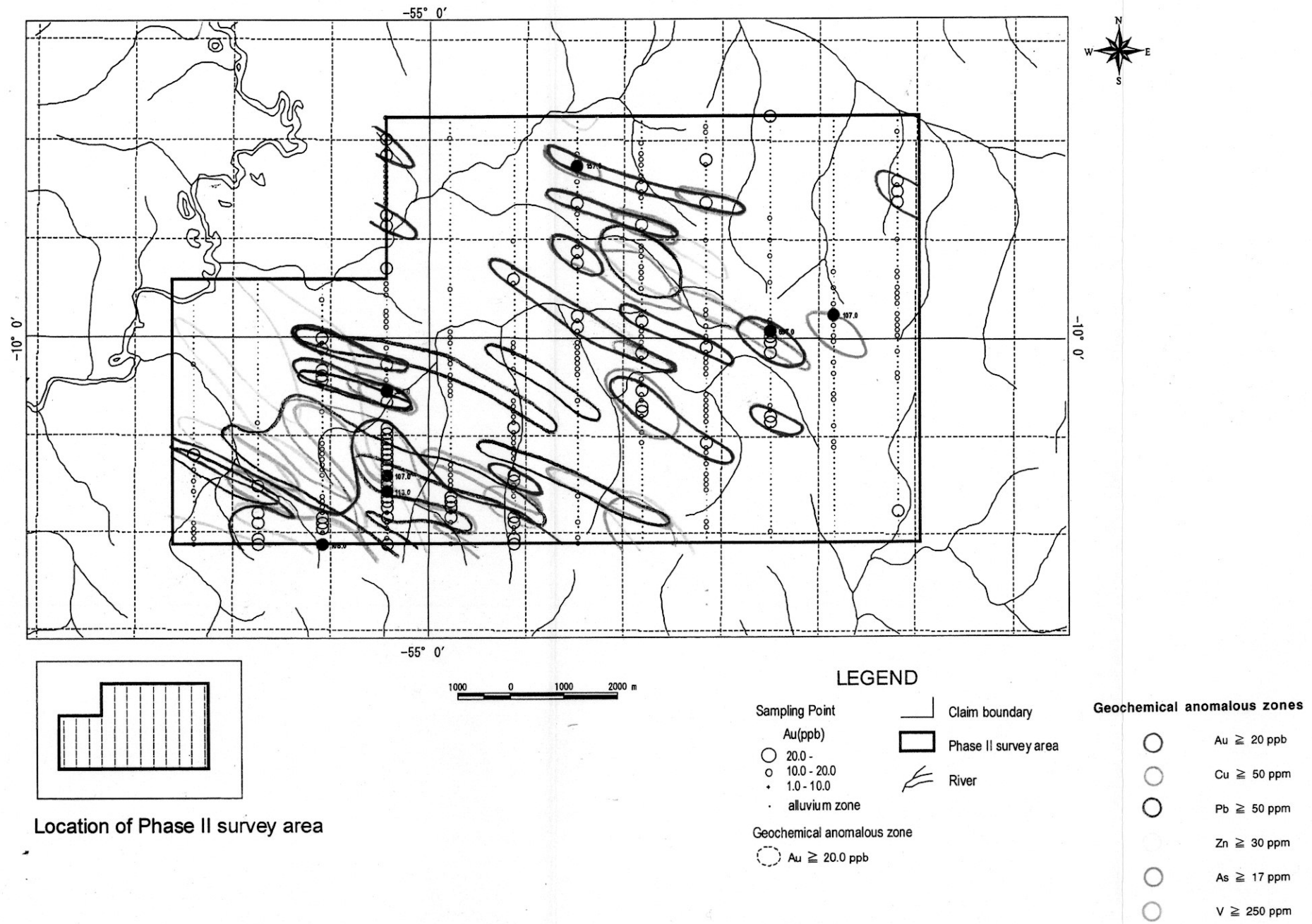
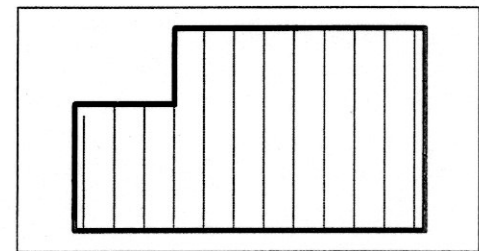
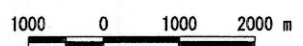
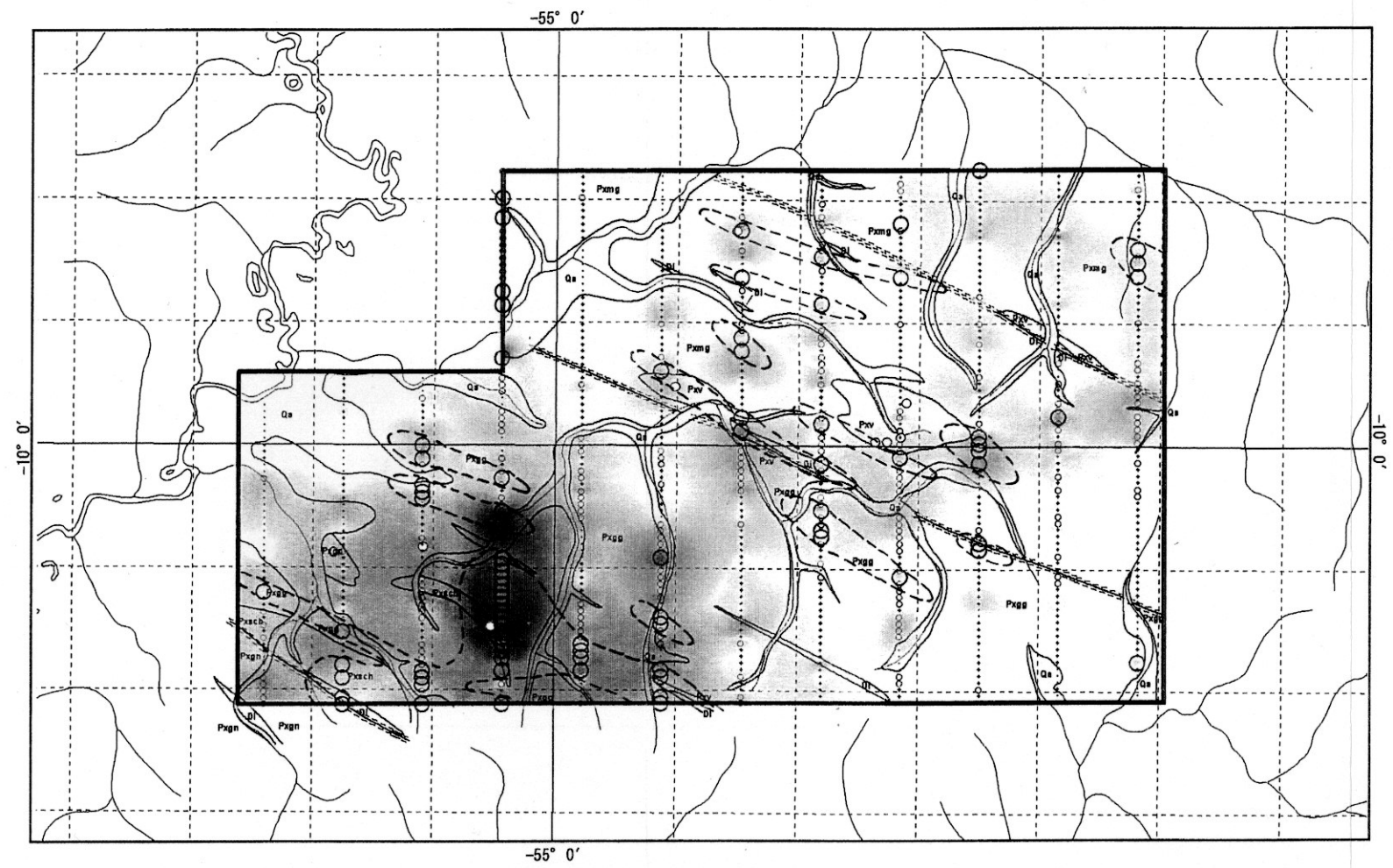


Fig. II-3-6 Distribution map of soil anomalies in Block F



Location of Phase II survey area

LEGEND

- Au(ppb)
- 20-
 - 10-20
 - 1.0-10
 - alluvium zone

- Factor Score
- Factor 1 Score (Fe, V, Bi, Pb)
 - Factor 2 Score (Zn, Ni, Mn, Co)
 - Factor 4 Score (Au, (Cu))
- Low High

- Geology
- Pxgg Geological boundary and Geological unit
 - Shear zone
 - Primary garimpo
 - Claim boundary
 - Phase II survey area
 - River

Fig. II-3-8 Compiled map of geology and geochemical anomalies in Block F

three factors are represented by the following colors:

Factor 1 : blue Factor 2 : yellow Factor 4 : red

The distribution tendency of these factors can be summarized as follows:

Factor 1: Its distribution is mostly in the southwestern part.

Factor 2: Its distribution is also mostly in the southwestern part.

Factor 4: Its distribution is from the central part to the southwestern side of the survey area.

(6) Discussion

As observed in the compiled map on the Fig. II-3-8, the result of soil geochemical survey confirmed the presence of two major trends for the gold anomalies in the F block. NW-SE gold anomalies trend was observed in the southwestern part and WNW-ESE trend were observed in the central part and central north part of F block. These gold anomaly trends were interpreted as reflecting gold mineralization strongly controlled by shearing structures. The gold anomaly at the central north part of F block embodies the Aluzio garimpo that show the same shearing direction. The southwest gold soil anomaly that embodies the Serrinha do Guaranta garimpo area was interpreted as controlled by both, shearing structures and lithology. In Serrinha do Guaranta garimpo, the shearing structure and the talc-chlorite-schist outcrops show the same NW-SE direction. The multi element analysis indicated a association between Au and Cu in the southwestern gold soil anomaly and this metal signature possibly is reflecting gold mineralization adjacent to the intrusive center.

1-4-2 Auger Geochemical Survey

(1) Background and Objectives

The Phase I geological survey and the results from soil geochemical survey carried out by Metamat defined the area to be surveyed by auger geochemical survey. The auger survey area is widely covered by thick garimpo tailing. The main objective of this survey was to clarify the geology and check of possibility of gold mineralization in saprolite, beneath the garimpo tailing. Also, to understand the width of gold halo within saprolite.

(2) Survey areas and Amounts

The hand auger survey was performed within an area with a length of 3Km and width of 0.5Km. The total of survey lines was 16, and for each of the survey lines, 11 auger holes were performed.

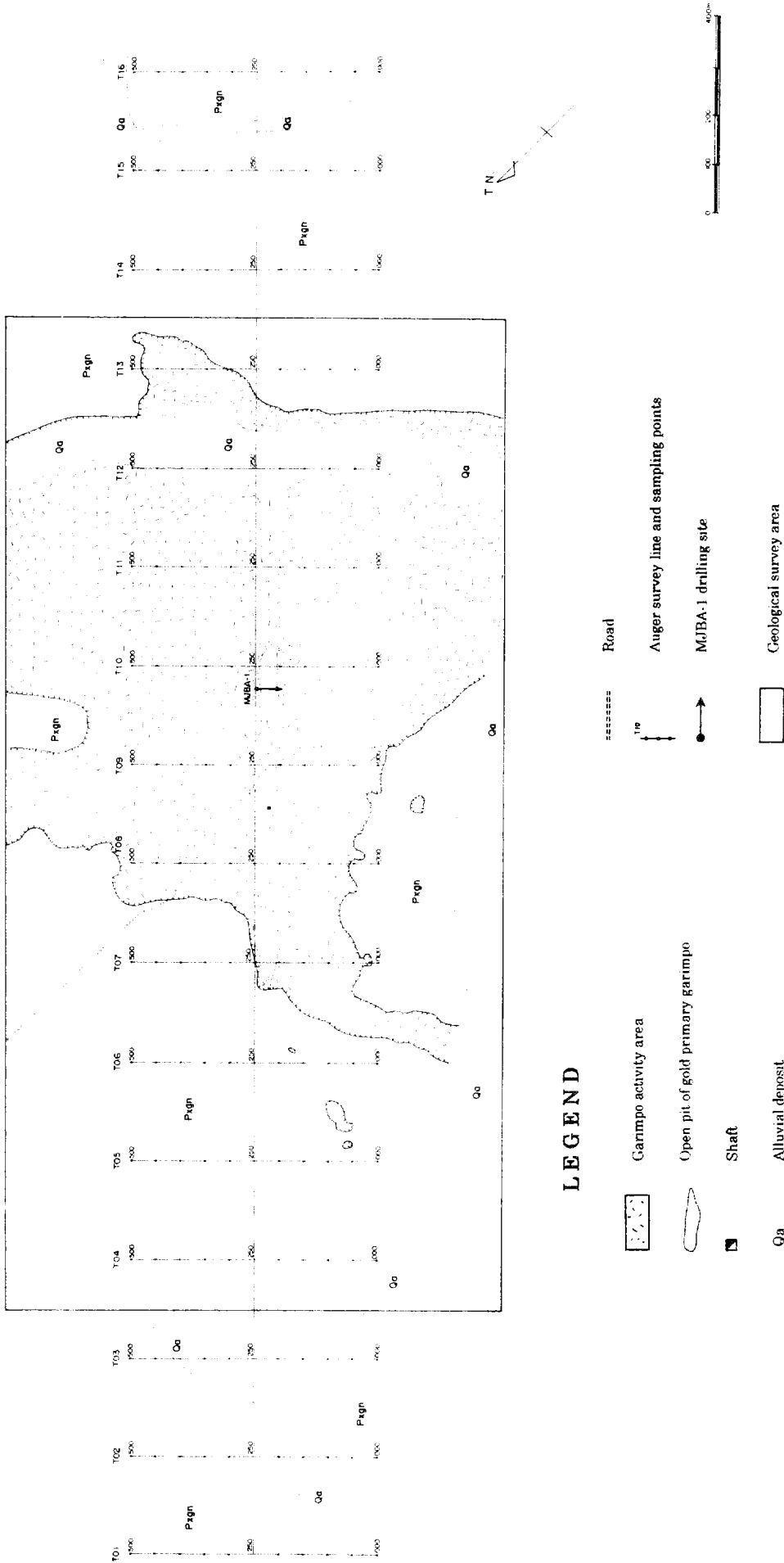


Fig. II-3-9 Location map of auger samples and drilling site in Block F

Line	Holes No.	Drilled length	Samples	Line	Holes No.	Drilled length	Samples
T-1	11	57m	57	T-9	11	77m	77
T-2	11	64m	64	T-10	11	67m	67
T-3	11	55m	55	T-11	11	68m	68
T-4	11	66m	66	T-12	6	42m	42
T-5	11	66m	66	T-13	11	70m	70
T-6	11	66m	66	T-14	11	66m	66
T-7	11	66m	66	T-15	11	64m	64
T-8	11	68m	68	T-16	11	64m	64

The Amount of survey were as follow:

Number of Auger lines	16 lines
Number of Auger holes	171 holes
Number of Auger samples	1026 samples

(3) Survey Methodology

The hand auger survey was performed with a line spacing of 200m and the auger holes were made at an interval of 50m along these lines as shown in the Fig II-3-9.

The average depth of auger holes were 6m, due the objective of sampling was to get a saprolite depth sample. The sampling with interval of 1m started at the surface and ended at hole bottom. The sample weight average was 1Kg. Sample description was made at each 1m interval and its results are shown on Appendix 33.

(4) Results from Auger geochemical survey

Geological sections of each auger lines showing the auger holes and respective gold analytical results (Fig.II-3-10, Fig.II-3-11) were prepared. Gold anomalies in saprolite drawn from geological sections were transferred to the geological map (Fig.II-3-12).

(i) Results from statistical data treatment

A statistical data treatment was performed using the whole auger saprolite data, and excluding the auger soil data on Appendix 34. The results of statistical data treatment are shown on Appendix 35.

Correlation coefficients were calculated in order to clarify the relation among elements. The elements showing high correlation coefficient (more than 0.500) were as follows:

Fe-Ni, Zn-Cu, Zn-Ni, Zn-Co, Fe-Mn, Zn-Mn, Fe-V, Fe-Co, Co-Ni and Co-Mn

None of the analyzed elements showed high correlation coefficient with Au, though Cu shows a low correlation coefficient with Au.

(ii) Single element analysis

Based on the results of statistical data treatment, the threshold values were determined using histogram analysis, EDA methods and cumulative frequencies.

The threshold values for gold in saprolite was very high. Then, it was adopted a threshold value of 20 ppb for the interpretation of auger data in saprolite.

(iii) Multi element analysis

A multi element analysis was conducted by using factor analysis method. This analysis indicated that the gold in the saprolite is related to Cu and Ag, as shown on Factor 3.

(iv) Interpretation of auger geochemical survey

The subdivision of soil horizon in the vicinities of Serrinha do Guaranta garimpo area was possible by using auger information. But, this same subdivision was impossible within garimpo area due the garimpo tailing is covering the whole area. In the subdivision of soil, the thickness of A horizon was very thin, and it had a very limited distribution surface.

In C-horizon, the original structure of the rock was still preserved, and by this reason it was named saprolite in field. Generally, the boundary between B-horizon and saprolite was not clearly identified, then the definition of this boundary was made by the preservation or not of original rock structure.

The boundary line between soil and saprolite was transferred for the geological section of each auger lines. In the same geological section were plotted the gold analytical results for each interval and it was shown on Fig.II-3-10 and Fig II-3-11. From this geological section it was observed the follow:

- a) The total thickness of A and B horizon varied between 1m and 4m and averaged 2m to 3m. The saprolite is situated below the B-horizon. The thickness of garimpo tailing varied between 1m and 6m.
- b) The soil is generally clayey and pisolith concretion is widespread in almost whole area. Boulders of massive pisolith locally outcrop.
- c) Gold anomalies in A and B horizon were found in the whole area and some of the remarkable results were found in the following samples; T072001 (932ppb), T114502 (498ppb), T133501 (624ppb), T144001 (417ppb) and T164501 (849ppb).
- d) Gold anomalies were also found within saprolite and some of the best results were obtained in the samples; T093502 (755ppb), T093504 (1431ppb), T102004 (509ppb), T102005 (684ppb) and T134003 (426ppb).
- e) As an average, the gold content within saprolite is very low with local spot like enrichment. In comparison, the average gold content within A and B horizon is much higher and present less spot like enrichment of gold.

A compiled map by overlapping the auger survey data and geological survey results was made for the

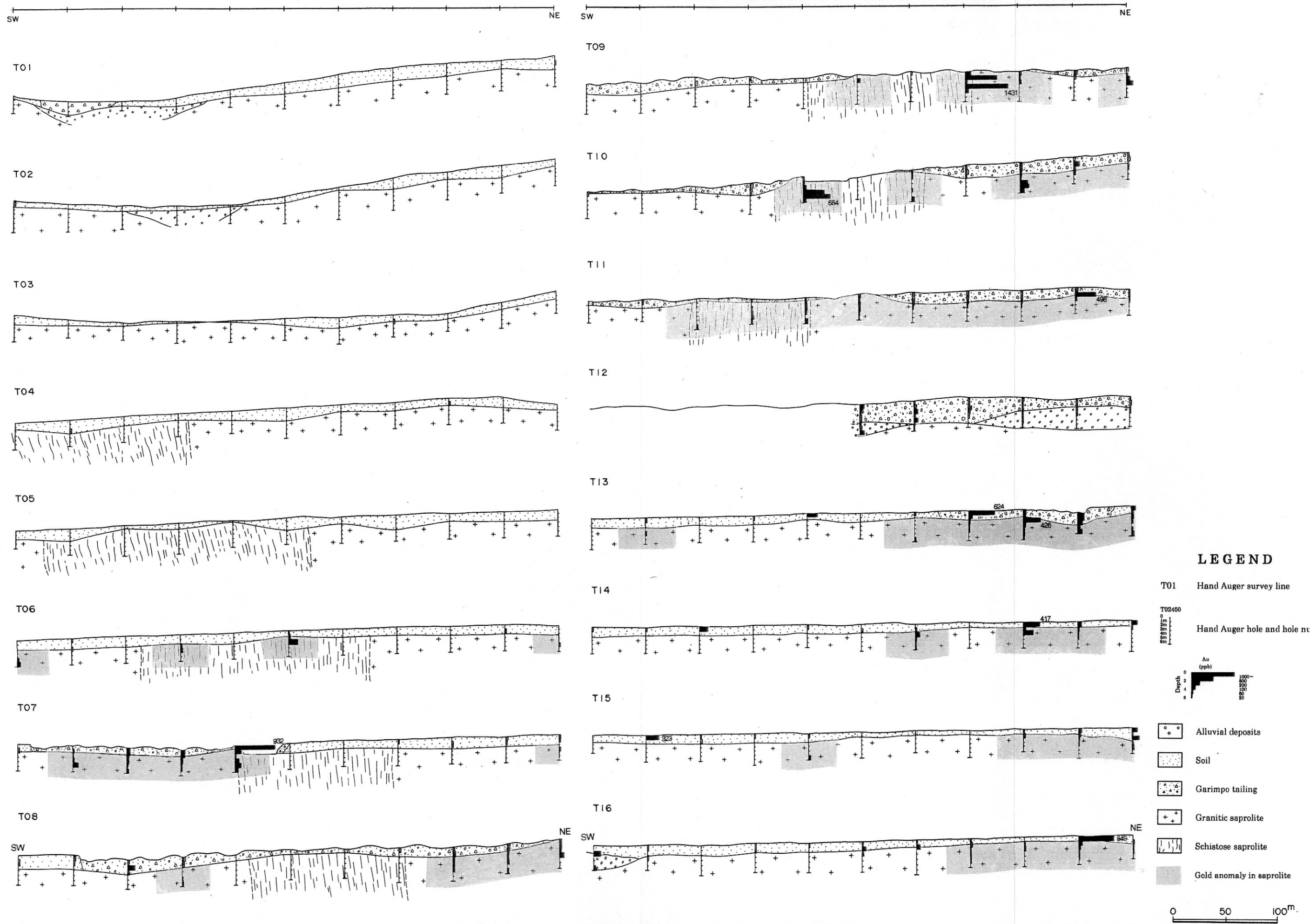


Fig. II-3-10 Geological cross section and Au anomalies by auger in the Serrinha do Guaranta area

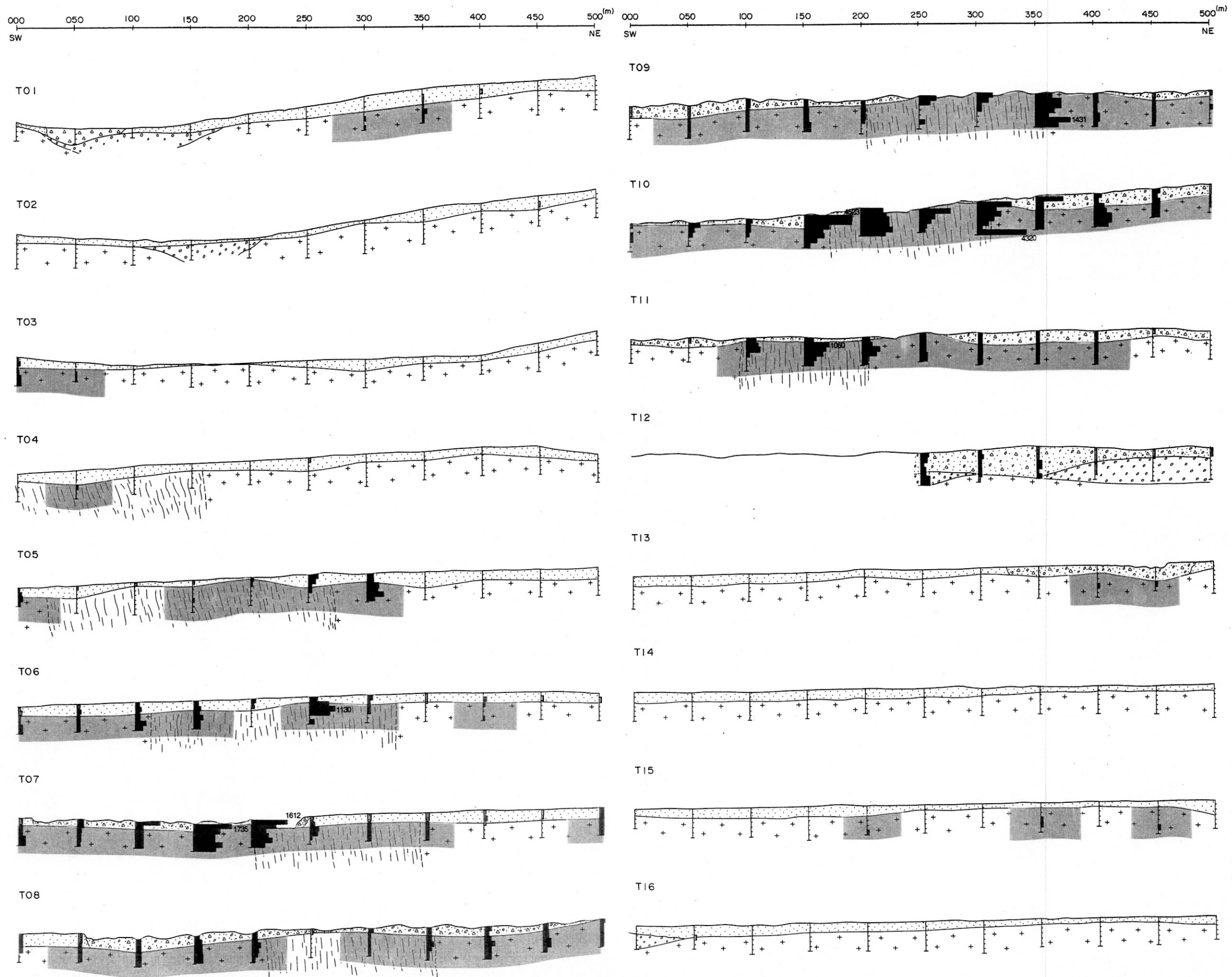


Fig. II-3-11 Geological cross section and Cu anomalies by auger in the Serrinha do Guaranta area

Serrinha do Guaranta garimpo area (Fig II-3-12). The following information was get from the compiled map.

- 1- Schist outcrops with a south-opening arc form structure in the central part of the area.
- 2- Gold anomalies observed in soil and in saprolite show a NW direction distribution.
- 3- Gold distribution observed in saprolite is not concordant, while the copper distribution in saprolite is concordant with the outcrop of schist.
- 4- Open pits of gold garimpo in Serrinha do Guaranta area is distributed along NW-SE direction.
- 5- A large gold anomaly in saprolite was detected at the northern part of the area surveyed by auger and a extension of this gold anomaly were confirmed by regional soil geochemical survey in F block.

(4) Discussion

Interpretation of analytical results of 1026 auger samples confirmed that the gold anomalies in soil show a large distribution of low gold grade, however, the gold anomalies in saprolite are narrow and locally present high gold values. In the Serrinha do Guaranta garimpo area, the gold anomaly is related to the garimpo tailing and the existing gold was mined one time, so it is impossible to prepare a original distribution map of detritus gold.

Analytical results for gold in saprolite of Serrinha do Guaranta area indicated a continuous low gold grade anomaly, but gold values above 0.4g/t were confirmed in only 5 samples and one sample indicated gold value of 1.43g/t. The distribution of higher gold values has an erratic spatial distribution.

Gold anomalies are not concordant with the outcrop of talc chlorite schist as thought during Phase I, but it was confirmed a good spatial relation between copper anomalies and schist outcrop. Copper values above 0.05% were observed in 62 samples and 25 samples presented values of above 0.1%Cu.

Results of Phase II regional geochemical survey indicated a large gold anomaly in saprolite at the northern part of the survey area. The gold anomaly showed a NNW trend zone, and was confirmed to be longer than 2 Km.

3-4-3 Geological Survey

(1) Background and Objectives

The survey area for Phase II geological survey was selected based on the survey results of Phase I survey. Results of Phase I survey indicated gold and copper anomalies in Serrinha do Guaranta garimpo area and gold anomaly in Aluizio garimpo area. The objective of this survey was to clarify the geological structure related to the gold mineralization and also, to select two borehole sites within these garimpo areas.

(2) Survey areas and Amounts

The total area for geological survey in Serrinha do Guaranta and Aluizio areas was 3 km² and the total survey length was 15.0Km (Fig II-3-1). In the Plate II-3-3 was shown the results of the laboratory tests for

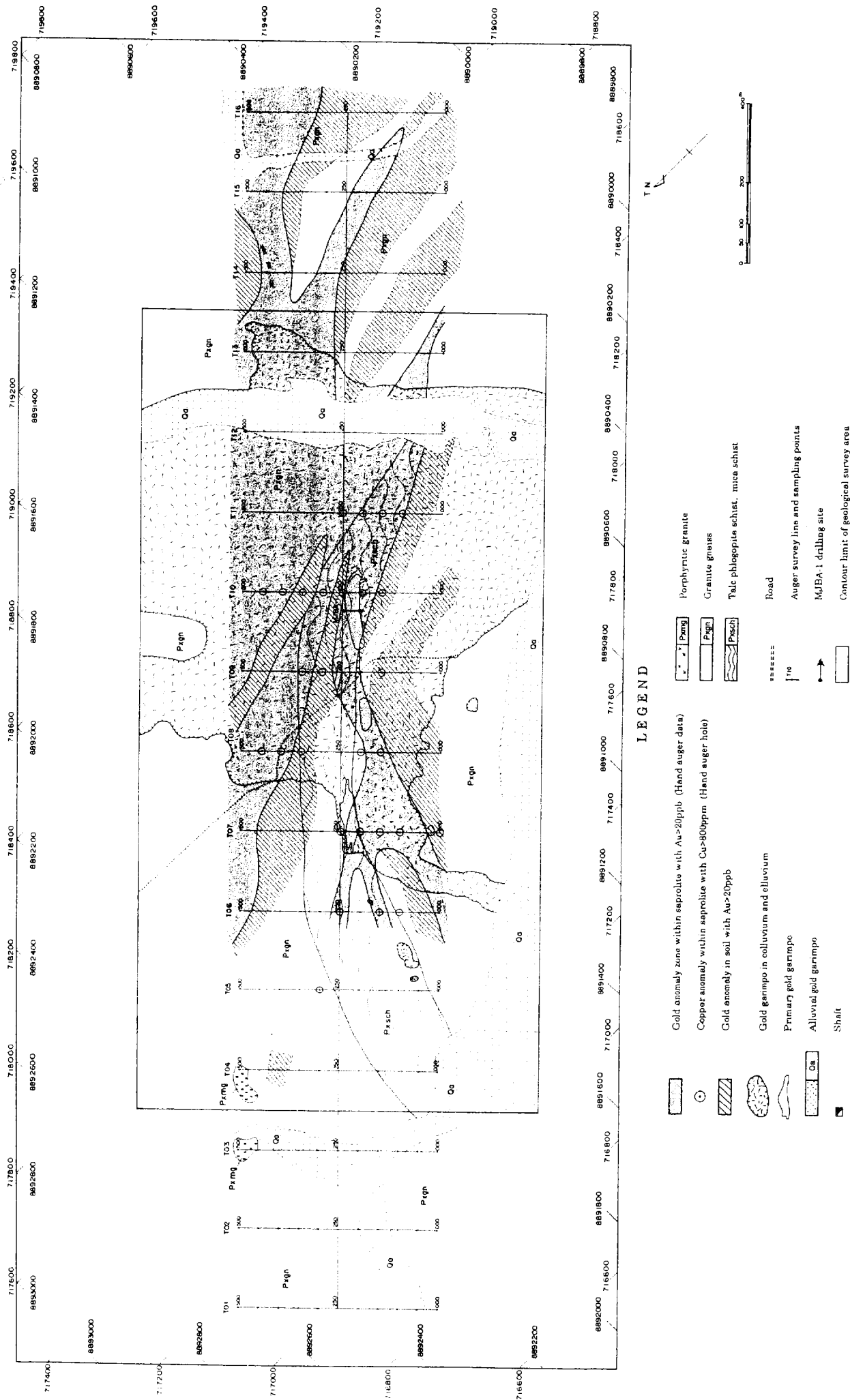


Fig. II-3-12 Compiled map of geology and auger geochemical anomalies in the Serrinha do Guaranta area

samples collected during the geological survey.

(3) Survey results

(i) Serrinha do Guaranta garimpo

a) Geology

Archean to Lower Proterozoic Xingu Complex (Px), Basic Dykes and Quaternary sediment compose the geology of Serrinha do Guaranta area. The geological map of the garimpo area is shown on Fig. II-3-13 and the stratigraphical columnar section are shown on Fig II-3-14.

a-1) Xingu Complex (Px)

The Xingu Complex outcrops in the entire survey area and it is represented by metamorphic units, as biotite-gneiss (Pxgn) and schist (Pxsch) and intrusions as biotite granite (Pxmg) and basic dykes.

Due the absence of fresh outcrop in the survey area, the biotite-gneiss (Pxgn) was mapped during the auger survey and for its identification was used the gneissic texture still present in the saprolite. The schist (Pxsch) also was mapped by saprolite characteristics during auger survey. The schist outcrops in the central part of the survey area and it was confirmed by thin section samples B2018, B2041 and MJBA-1 at depth of 30.50m. The schist shows an arc form exposition and an elongation along WNW-ESE.

The biotite granite (Pxmg) is medium grained to coarse grained, and present a porphyritic potassic feldspar texture, as confirmed by thin section sample B2050.

a-2) Dykes



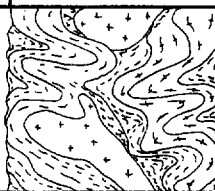
Diabase dyke is commonly intruded within the shearing zone. Borehole MJBA-1 showed diabase and rhyolite dykes intruded in schist (Pxsch). A weak dissemination of pyrite was observed in diabase and dissemination of pyrite and hematite and silicification were observed in gneissose host rock.

a-3) Quaternary

The quaternary (Qa) is mainly alluvial deposits that are distributed in the rivers flat.

b) Geological structure

Shearing zones are present in the survey area and the primary gold garimpo of Serrinha do Guaranta are located inside these shearing structure. The main shearing direction in the survey area is NW-SE and present ductile and brittle-ductile deformation and locally strong brecciation. The direction of the deformation is NW-SE and seems parallel to the schist outcrop.

EON	ERA	COLUMNAR SECTION	STRATIGRAPHIC UNIT	SYMBOL	LITHOLOGY	IGNEOUS ACTIVITY PLUTON.	MINERALIZATION
PHANE-ROZOIC	QUATER-NARY		Recent Alluvium	Qa	Inconsolidated alluvial sediments		
			Ductil Shearing Zone	Dsz	Quartz mylonite, micro breccia and ultramylonite		
PALEO-PROTEROZOIC TO ARCHEAN			Xingu Complex	Pxmg	Medium to coarse grained pinkish porphyritic granite; medium grained hornblende biotite granite		
				Pxsch	Talc phlogopite schist, talc chlorite schist and two mica schist		
			Pxgn	Biotite gneiss and granite gneiss			

Stratigraphy in accordance with: Schobbenhauss et al., 1981 and Antonio Joao P. Barros, 1984; modified

Fig. II-3-14 Generalized stratigraphic columnar section for the Serrinha do Guaranta area

(c) Mineralization

Channel sample was taken in two garimpo open pit of Serrinha do Guaranta area during the geological survey.

c-1) Southeast Garimpo open pit

As shown in Fig. II-3-15, were collected 11 channel samples in the southeast garimpo open pit. The main objective of the sampling was as follow:

Samples B2033 to B2037 (5 samples) were taken aiming to check the extension of the gold mineralization intercepted by borehole MJBA-1. Analytical result proved a weak gold mineralization in surface, with a maximum gold value of 0.32g/t and copper average grade was 0.25% in 5 samples.

Samples B2038 to B2043 (6 samples) were taken aiming to check the northwestern extension of the gold mineralization. Analytical result showed a very weak gold and copper mineralization.

c-2) Northwest Garimpo open pit

As shown in Fig. II-3-16, in the northwest garimpo open pit were collected 21 channel samples. The main objective of the sampling was as follow:

Samples B2009 to B2017 (9 samples) were taken aiming to evaluate the NE-SW shearing observed within open pit. Analytical result proved a weak gold and copper mineralization with maximum gold value of 0.29g/t.

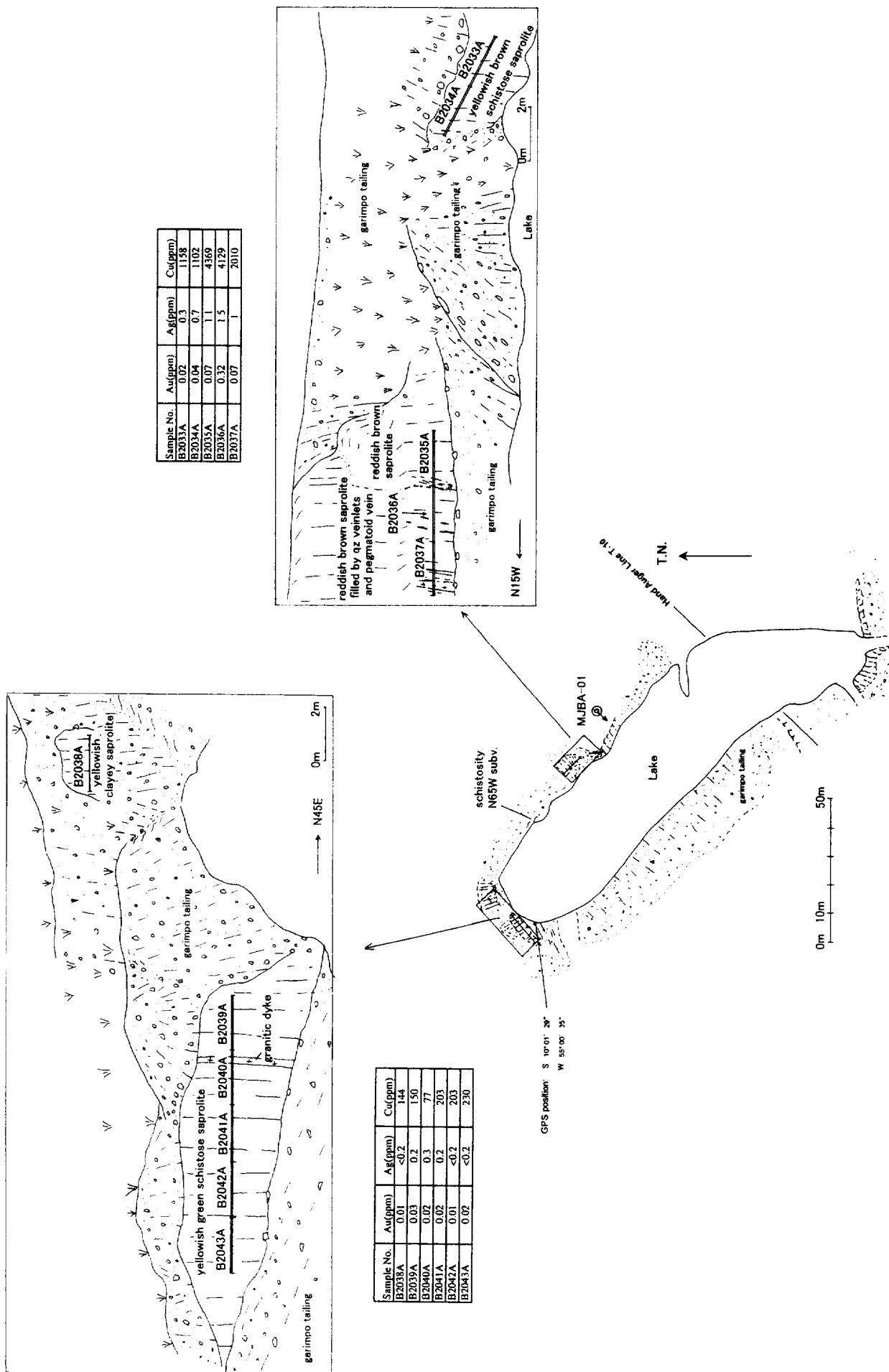
Samples B2019 to B2024 (6 samples) were taken aiming to evaluate the northwest extension of the open pit. Analytical result proved a weak gold and copper mineralization with maximum gold value of 0.29g/t and an average copper grade in 6 samples of 0.09%.

Samples B2027 to B2032 (6 samples) were taken aiming to evaluate at other site, the same NE-SW shearing observed in open pit. Analytical result proved a very weak gold and copper mineralization.

A fluid inclusion test in quartz vein (sample B2024) at the northwest garimpo open pit, showed a homogenization temperature of 155.3°C and a low NaCl content of 7%. Others fluid inclusion test were performed in samples (B2002 and P2001) taken at the proximity of southeast garimpo open pit. Tests results showed homogenization temperature of 260.7°C and 225.4°C and low NaCl content of 11.8% and 9%.

(d) Discussion

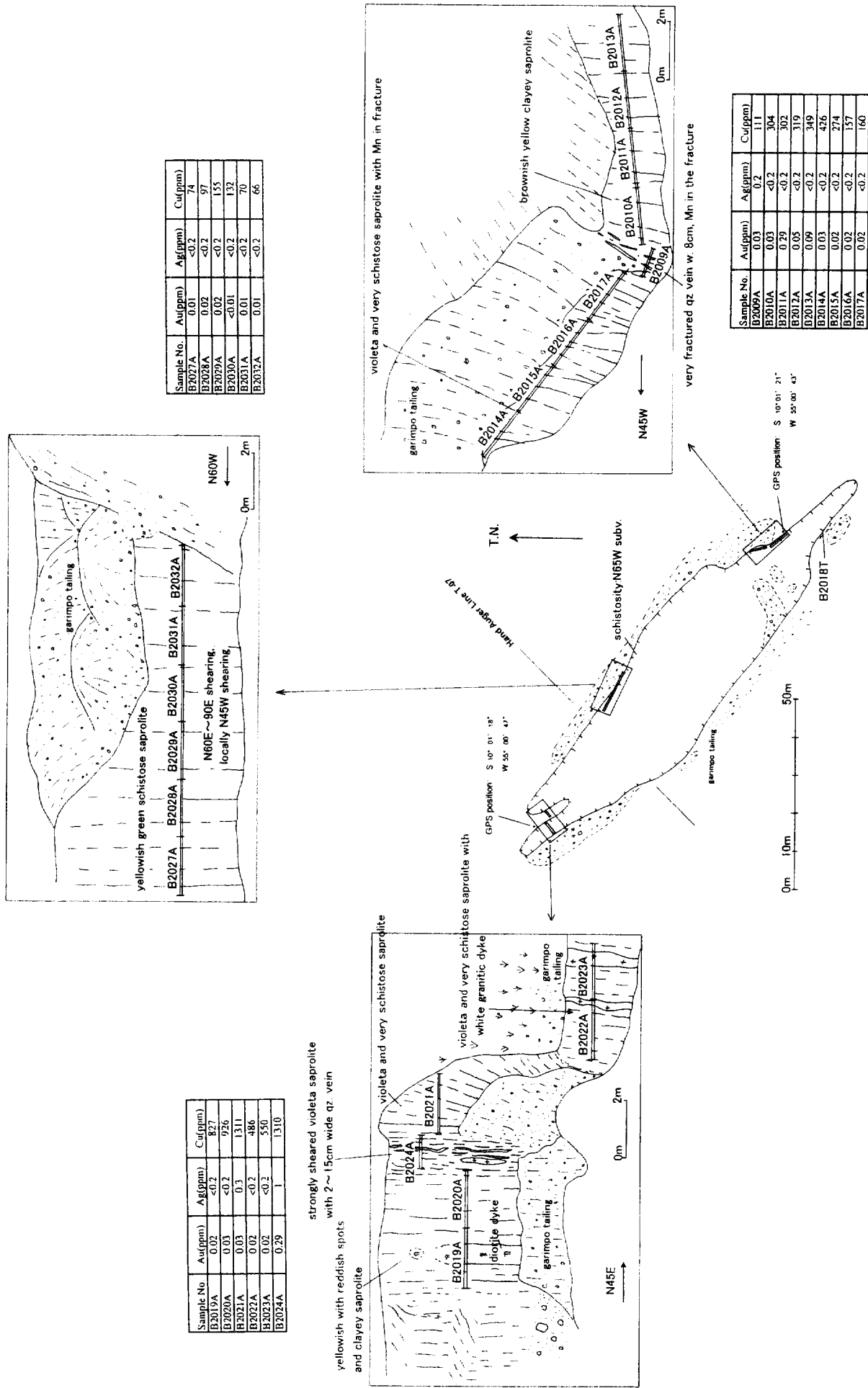
The geology of Serrinha do Guaranta area is mostly composed by Archean to Lower Proterozoic Xingu Complex (Px). The archean unit is intensely affected by a shearing zones and its structure is filled by basic dykes. Primary garimpo open pits are located inside these shearing structures. The main direction of shearing in the survey area is NW-SE and show ductile and brittle-ductile deformation with local strong brecciation. Two garimpo open pits were surveyed by channel sampling in Serrinha do Guaranta. Results from channel samples at the southeast garimpo open pit, proved a weak gold



Sample No.	Au(ppm)	Ag(ppm)	Cu(ppm)
B2033A	0.02	0.3	1158
B2034A	0.04	0.7	1102
B2035A	0.07	1.1	4369
B2036A	0.32	1.5	4129
B2037A	0.07	1	2010

Sample No.	Au(ppm)	Ag(ppm)	Cu(ppm)
B2038A	0.01	<0.2	144
B2039A	0.03	0.2	150
B2040A	0.02	0.3	77
B2041A	0.02	0.2	203
B2042A	0.01	<0.2	203
B2043A	0.02	<0.2	230

Fig. II-3-15 Sketch of mineralization in the Serrinha do Guaranta area (1)



Sample No.	Au(ppm)	Ag(ppm)	Cu(ppm)
B2027A	0.01	<0.2	74
B2028A	0.02	<0.2	97
B2029A	0.02	<0.2	155
B2030A	<0.01	<0.2	132
B2031A	0.01	<0.2	70
B2032A	0.01	<0.2	66

Sample No.	Au(ppm)	Ag(ppm)	Cu(ppm)
B2019A	0.02	<0.2	827
B2020A	0.03	<0.2	926
B2021A	0.03	0.3	1311
B2022A	0.02	<0.2	486
B2023A	0.02	<0.2	550
B2024A	0.29	1	1310

Sample No.	Au(ppm)	Ag(ppm)	Cu(ppm)
B2009A	0.03	0.2	111
B2010A	0.03	<0.2	304
B2011A	0.29	<0.2	302
B2012A	0.05	<0.2	319
B2013A	0.09	<0.2	349
B2014A	0.03	<0.2	426
B2015A	0.02	<0.2	274
B2016A	0.02	<0.2	157
B2017A	0.02	<0.2	160

Fig. II-3-16 Sketch of mineralization in the Serrinha do Guaranta area (2)

mineralization in surface, with maximum gold value of 0.32g/t and the copper average grade in 5 samples was 0.25%. Results from channel samples at the northwest garimpo open pit in Serrinha do Guaranta proved a weak gold and copper mineralization with maximum gold value of 0.29g/t and an average copper grade in 6 samples of 0.09%.

(ii) Aluizio garimpo

a) Geology

Archean to Lower Proterozoic Xingu Complex (Px), Basic Dykes and Quaternary sediment compose the geology of Aluizio area. The geological map of the garimpo area is shown on Fig. II-3-17 and the stratigraphical columnar section are shown on Fig II-3-14.

a-1) Xingu Complex (Px)

The Xingu Complex outcrops in the entire survey area and it is represented by granitic rock as biotite granite (Pxmg) and basic dykes.

Due the absence of fresh outcrop in the survey area, soil characteristic and saprolitic characteristic made the identification of the biotite granite (Pxmg). The biotite granite (Pxmg) was confirmed by thin section samples MJBA-2 at depth of 41.00m, 63.85m and 100.00m.

a-2) Dykes

Diabase dykes has a general NW-SE direction and it is intruded in granite. Borehole MJBA-2 confirmed the presence of 5 diabase dykes intruded in sheared granite (Pxmg). A weak dissemination of pyrite was observed in the diabase.

a-3) Quaternary

The quaternary (Qa) is mainly alluvial deposits that are distributed in the rivers flat.

b) Geological structure

Shear zone with NW-SE shearing direction is present in the survey area and the primary gold garimpo of Aluizio is located inside this shearing structure.

(c) Mineralization

The gold mineralization is related to quartz vein filling shearing zone with NW-SE direction. The quartz veins present a width between 3 cm and 30 cm, milkish white in general and strongly disseminated by pyrite. The width of the zone filled by quartz veins was proved to be narrow by the geological survey, but locally it reaches a width of 10 meters.

The shearing zone has a length of more than 500 meters and it presents several open pits, with a

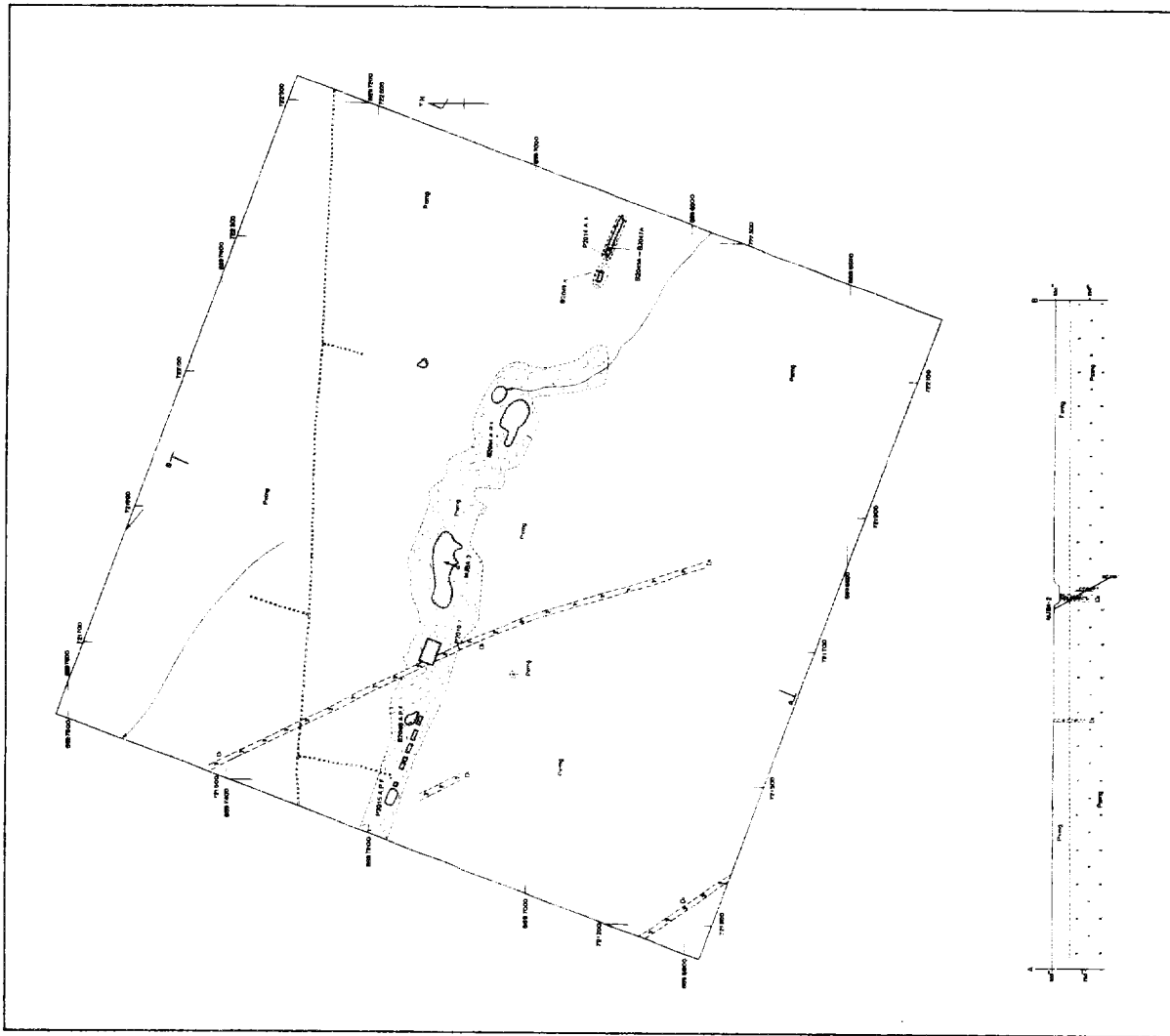


Fig. II-3-17 Geological map and cross section of Garimpo Aluizio area

maximum size of 150 meters length and 20m width.

Analytical results for four-sulfide rich quartz veins filling shear zone, provided gold content between 1.55g/t and 12.45g/t Au. A cross channel sampling with 6m length was set to evaluate the shearing zone of Aluizio garimpo and it is shown on fig II-3-18. Analytical results indicated an average gold grade of 0.32g/t in 6 meters. Fluid inclusion test of quartz vein sample (B2044, B2048 and P2015) presented a low salinity of 7.0%, 2.6% and 7.9% NaCl and homogenization temperatures averaging 226.5°C, 224.7°C and 216.8°C.

(d) Discussion

The geology of Aluizio garimpo area is mostly composed by Archean to Lower Proterozoic Xingu Complex (Px). Shear zone with WNW-ESE shearing direction is present cutting the Archean unit and the primary gold garimpo of Aluizio is located inside this shearing structure. The shearing zone has a length of more than 500 meters and it presents several open pits, with a maximum size of 150 meters length and 20m width. The gold mineralization is related to quartz vein with width between 3 cm and 30 cm, filling the shearing zone. The width of the zone filled by quartz veins was proved to be narrow by the geological survey, but locally it reaches a width of 10 meters or more. Analytical results for four-sulfide rich quartz veins filling shear zone, provided gold content between 1.55g/t and 12.45g/t Au, but a cross channel sampling with 6m length, set to evaluate the shearing zone showed only an average gold grade of 0.32g/t in 6 meters.

3-4-4 Drilling Survey

(1) Background and Objectives

Results of Phase I geological survey indicated promising results for gold mineralization in Serrinha do Guaranta and Aluizio garimpo. Drilling survey was recommended in these garimpo areas, during Phase II, aiming to clarify the geological structure associated to gold and copper mineralization in Serrinha do Guaranta and also to evaluate the gold mineralization at depth in Aluizio area.

(2) Survey areas and Amounts

Drilling survey was conducted in Serrinha do Guaranta garimpo area and in Aluizio garimpo area. The drilling sites were selected during the Phase II geological survey and the boreholes targets was the largest garimpo open pit present in the central part of the two garimpo areas.

As indicated below, the total amount of survey consisted of 2 boreholes and the total drilling length was 200.70m.

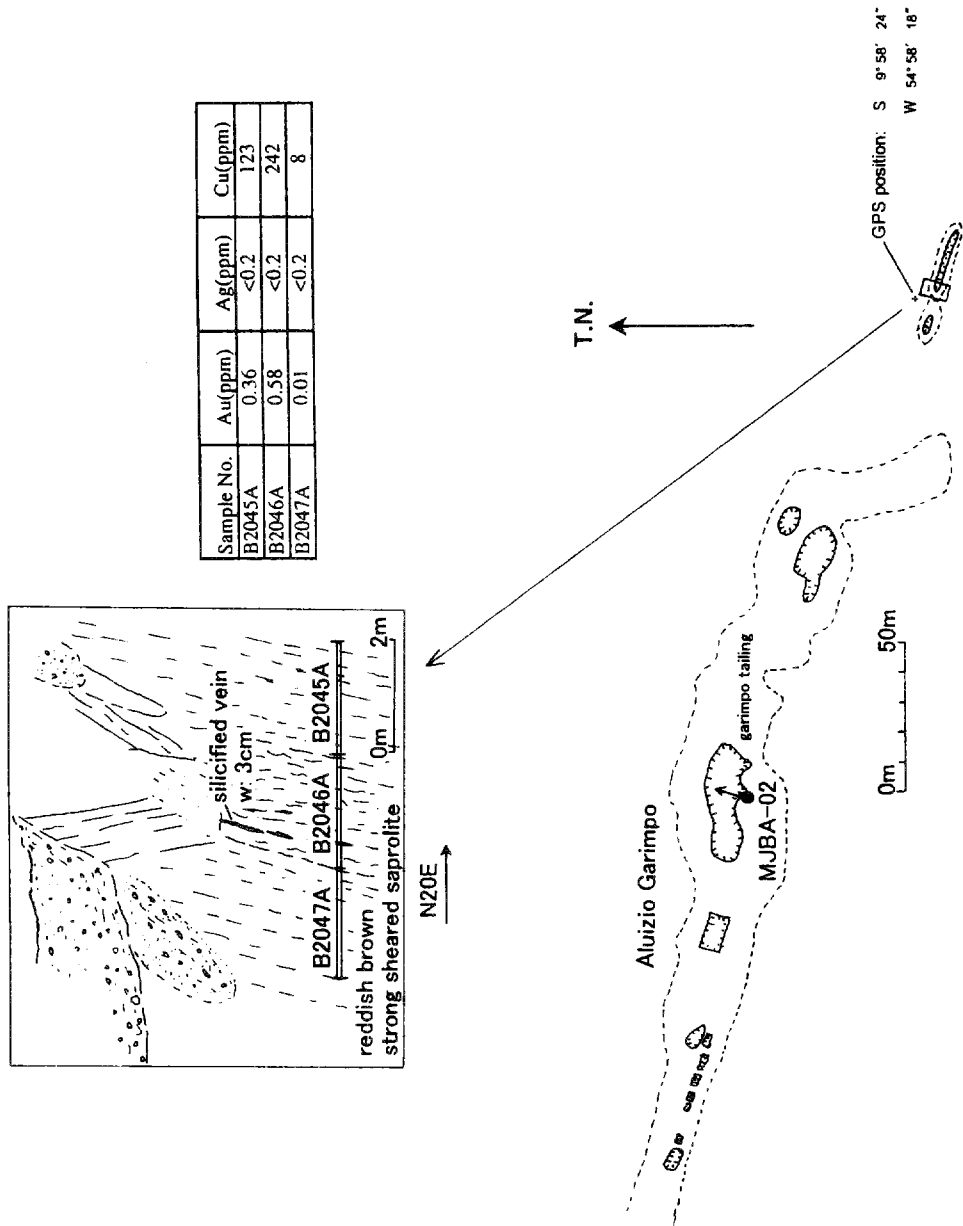


Fig. II-3-18 Sketch of mineralization in the Garimpo Aluizio area

Borehole Number	Inclination (deg.)	Hole direction	Drilled Length
MJBA-1	-60°	S45W	100.15m
MJBA-2	-60°	N20E	100.55m
Total: 2 holes			200.70m

The drilling location map is shown in Fig II-3-13 and Fig II-3-17.

(3) Survey Method

The drilling operations were similar to that conducted in B block.

(4) Core logging

The core description and core sampling were similar to the B block drilling survey. Amounts of laboratory works collected in the F block area are indicated below:

Thin Section	9
Polished Section	10
X-Ray Analysis	10
Chemical Analysis	200

(5) Results of Drilling Survey

Drilling logs are shown in Appendix 9. In this report, the results of the laboratory works are described in the following appendices: Thin Section on Appendix 10, Polished Section on Appendix 11, X-ray Analysis on Appendix 12 and Chemical Analysis on Appendix 13. The results of drilling survey are described for each borehole as follows:

(i) MJBA-1 borehole

Geology: Consisting of talc chlorite schist (Pxsch) and granite gneiss

0.00m to 1.00m:	transported soils
1.00m to 5.30m:	schistose saprolite. Yellowish to violet color, mica rich
5.30m to 5.80m	dark gray silicic saprolite
5.80m to 7.90m	greenish yellow clayey saprolite
7.90m to 25.25m	chl schist, Rhyolite was confirmed on 23.00m by thin section. Sericite and Kaolin were confirmed by X-ray analysis.
25.25m to 26.60m	quartz vein
26.60m to 38.10m	strong sheared talc-chl. schist. Qtz vein with 1.0cm wide at 33.65m
38.10m to 39.22m	strongly fract. qz. with sulph. boxwork
39.22m to 42.10m	strong sheared blackish schist with many milky qz veinlets, locally green color. Kaolin and chlorite were confirmed at 39.50m by X-ray.
42.10m to 42.60m	weakly sheared granite, 42.10m and 42.60m: qtz.vein (w:3.0cm)

42.60m to	45.00m	blackish schist. 43.70m: qtz. Vein (w:2.0cm)
45.00m to	45.60m	coarse mica rich schist
45.60m to	46.15m	blackish schist, locally green color
46.15m to	51.00m	granite intruded in schists. Pinkish color, strong sheared, potassic alt.
51.00m to	61.60m	talc-chlorite schist. Weakly silicified with chl.-epi. alt., slight. py.diss., calc.-potassic alt., calc. network w: 1mm
61.60m to	62.50m	dolerite. Strongly silicified, with chilled margin in 61.90m, intrusion angle approx.45deg.
62.50m to	63.50m	talc-chlorite schist
63.50m to	69.50m	rhyolite. Dark gray color, slight. epi.-chl alt., calc.-potassic alt., calc. network w: 1mm
69.50m to	72.50m	bi.-chl. schist Weakly silicified, with calc.-potassic alt.
72.50m to	73.00m	strongly sheared bi.-chl. schist. Weak silicif., med. py disseminatation, calc.-potassic alt.
73.00m to	81.60m	talc-chl. schist. strongly silicified, with weak py.diss., calc. alt. and py diss.
81.60m to	85.20m	rhyolite. dark gray color, slight.silicified, magnetite alt., epi.-chl. alt.
85.20m to	86.30m	talc-chl. schist. calc.-qz. veinlets
86.30m to	87.00m	rhyolite. dark gray color, slight.silicified, magnetite alt., epi.-chl. alt.
87.00m to	90.00m	chl. schist. strongly magnetite alt., calc. veinlets, slight. silicified
90.00m to	90.55m	gradual boundary between schists and granite gneiss.
90.55m to	96.20m	granite gneiss Strongly magnetic, med. silicified, chl.-epi. alt., partly potassic alt.
96.20m to	100.15m	dolerite. greenish dark gray color, slight. chl. alt., calc.-qz. veinlets, intrusion angle approx.50deg.

Mineralization: From 0.00m until 7.90m: Characteristics of gold mineralization were not observed due the weathering, but gold values of 1.31g/t in 1m was observed in this interval. Weak gold mineralization was observed from 7.90m until 24.00m. The gold grade between 15.00m and 16.00m was 1.76g/t. The interval between 24.00m and 27.40m is composed by strongly brecciated schist, mixed with qz fragments. The average gold grade between 24.00m and 28.00m was 2.51g/t. The interval between 27.40m and 46.20m is composed by sheared black schist and locally the schist is mixed with qz veins fragments. Quartz vein with strong py dissemination is present between 38.10m and 39.22m, and the gold grade in the interval between 38.00m and 40.00m was 1.24g/t. Average copper grade between 0.00m and 8.00m was 0.38% and between 15.00m and 26.00m was 0.24%. The highest copper grade was observed between 35.00m and 45.00m, presenting an average of 1.41% Cu.

Alteration: Weak to medium chlorite and epidote alteration was observed from 7.90m until 26.00m. Strong silicification was observed from 22.90m until 27.40m. X-Ray analysis in this interval showed also

sericitic alteration. Weak chlorite and epidote alteration, potassic alteration and medium to strong silicification was observed from 45.60m until hole bottom.

(ii) MJBA-2 borehole

Geology: Consisted by Xingu Complex, hornblende biotite granite(Pxmg).

0.00m to	1.50m	transported materials	Transported soils
1.50m to	25.20m	granitic saprolite. Light brown to pinkish brown, locally very loose	
25.20m to	26.10m	strong weathered diabase. greenish gray, chl.alt.	
26.10m to	29.90m	diabase. Greenish dark gray, chl. alt., slight. py.diss.	
29.90m to	30.00m	qz. Vein. wide: 4cm, angle 70deg.	
30.00m to	30.60m	diabase. Slight. sheared, chl. alt., slight. py.diss.	
30.60m to	30.80m	qz. Vein. wide: 6cm, with py.veinlets	
30.80m to	31.20m	granite. Pinkish color, weathered and slight. silicified, slight. epi.-chl. alt., potassic alt.(strong)	
31.20m to	32.70m	diabase. Bluish gray clayey, slight. silicified, with py.diss.	
32.70m to	32.90m	qz. Vein. wide:5cm, with py.veinlets	
32.90m to	33.60m	diabase. Bluish gray argilized, with py.diss., magnetite alt.	
33.60m to	34.10m	coarse bi. Granite. Strong. Silic., epi.-chl. alt., py.diss., potassic alt.(strong)	
34.10m to	38.20m	diabase. Dark greenish grey, epi.-chl. alt., slight.py.diss., qz.-cal. veinlets, weak silic.(34.10m to 35.75m)	
38.20m to	49.90m	coarse hb.-bi. Granite. Pinkish, strong silic., strong epi.-chl. alt. along fractures, weak.py.diss., potassic alt.(strong). Biotite granite was confirmed by Thin Section on 41.00m, 63.85m and 100.00m	
49.90m to	51.60m	diabase. Greenish dark grey, with calcite veinlets.	
51.60m to	62.70m	med. bi. Granite. Pinkish, silic.(strong), epi.-chl. alt.(med. to strong) along fractures, potassic alt.(strong)	
62.70m to	62.90m	weak.brecciated and sheared granite. Pinkish, silic., py.diss., epi.-chl. alt.(med. to strong), potassic alt.(strong)	
62.90m to	63.85m	diabase. Greenish dark grey, weak schistosity and silic., epi.-chl. alt.(med. to strong), py.diss.(strong),	
63.85m to	64.10m	brecciated and sheared bi. Granite. py.diss., epi.-chl.(med. to strong), potassic alt.(strong)	
64.10m to	84.30m	med. bi. granite Pinkish. silic.(weak to strong), py.diss.(med.), epi.-chl.alt.(med.) along fractures, potassic alt.	
84.30m to	94.20m	med. hb.bear.bi.granite. Pinkish, silic., epi.-chl.(med. to strong) along	