

## **CHAPTER 2 C BLOCK AREA**

### **2-1 Location of the Survey Area**

As shown in Fig. 2, the survey area is located in the central part of the Alta Floresta region at approximately 20Km northwest of Paranaita City. During the Phase III, several surveys were carried out in the C Block area within a large area that presented concentrations of gold anomalies of above 25 ppb in soil (Fig. II-2-1).

### **2-2 Survey Methods**

#### **2-2-1 Geological survey**

The trench survey was carried out as part of the geological survey in order to identify within saprolite, the geological structure that is related to gold mineralization. Clarification of its orientation and dip of the geological structure had the purpose to define the drilling direction within C block (Fig. II-2-1 and Fig. II-2-2).

##### **(1) Field survey**

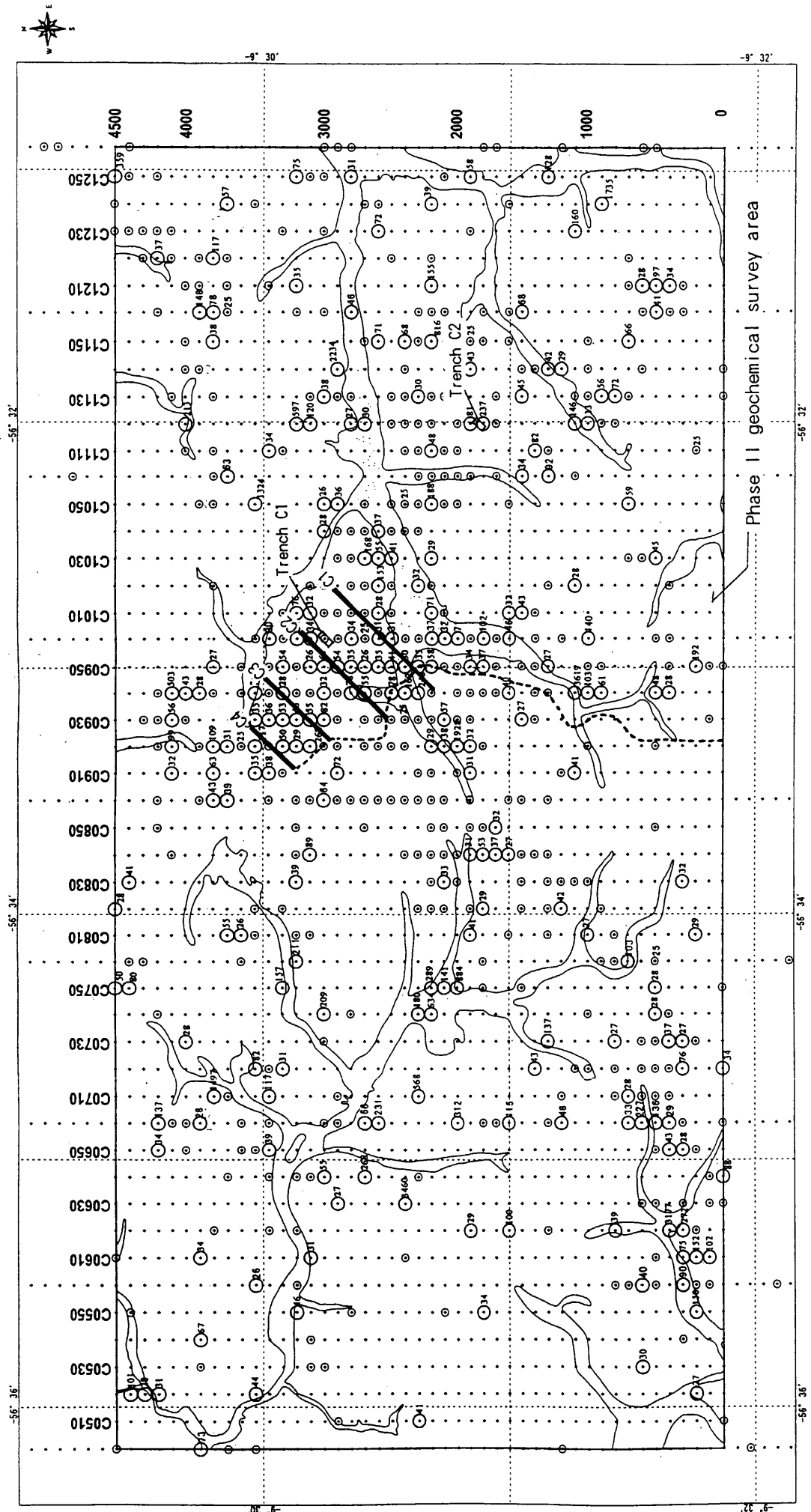
The trenches were located by GPS and its excavation was made manually. Detailed sketch (1:100 scale) for each trench is shown in the Plate II-2-1.

##### **(2) Sample collection and preparation**

Ore samples were taken at the base of the trench with a width of 2m as shown in the Fig. II-2-3. Samples to be used for Thin section, Polished ore and X-ray analysis were taken from quartz veins and shearing zones within the trenches. Sample preparation was carried out at Lakefield Geosol laboratory located in Belo Horizonte city, Minas Gerais state.

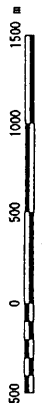
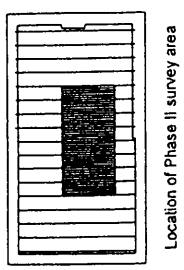
#### **2-2-2 Drilling survey**

A reverse circulation drilling (RC) program was conducted in C block in order to understand the distribution of gold anomalies at depth by acquiring geological and tectonic information related to the gold mineralization. A total coring drilling (DD) program was also conducted to check the continuity in depth of the gold anomalies detected by RC.



**LEGEND**

- Trench
- Drilling survey line (RC drilling method)
- Repairing road
- New road construction



**LEGEND**

- Recommended area for further survey
- Phase III survey area
- Soil sampling point
- Alluvium
- Gold anomaly in soil

Fig. II-2-1 Location map of Phase III survey in Block C

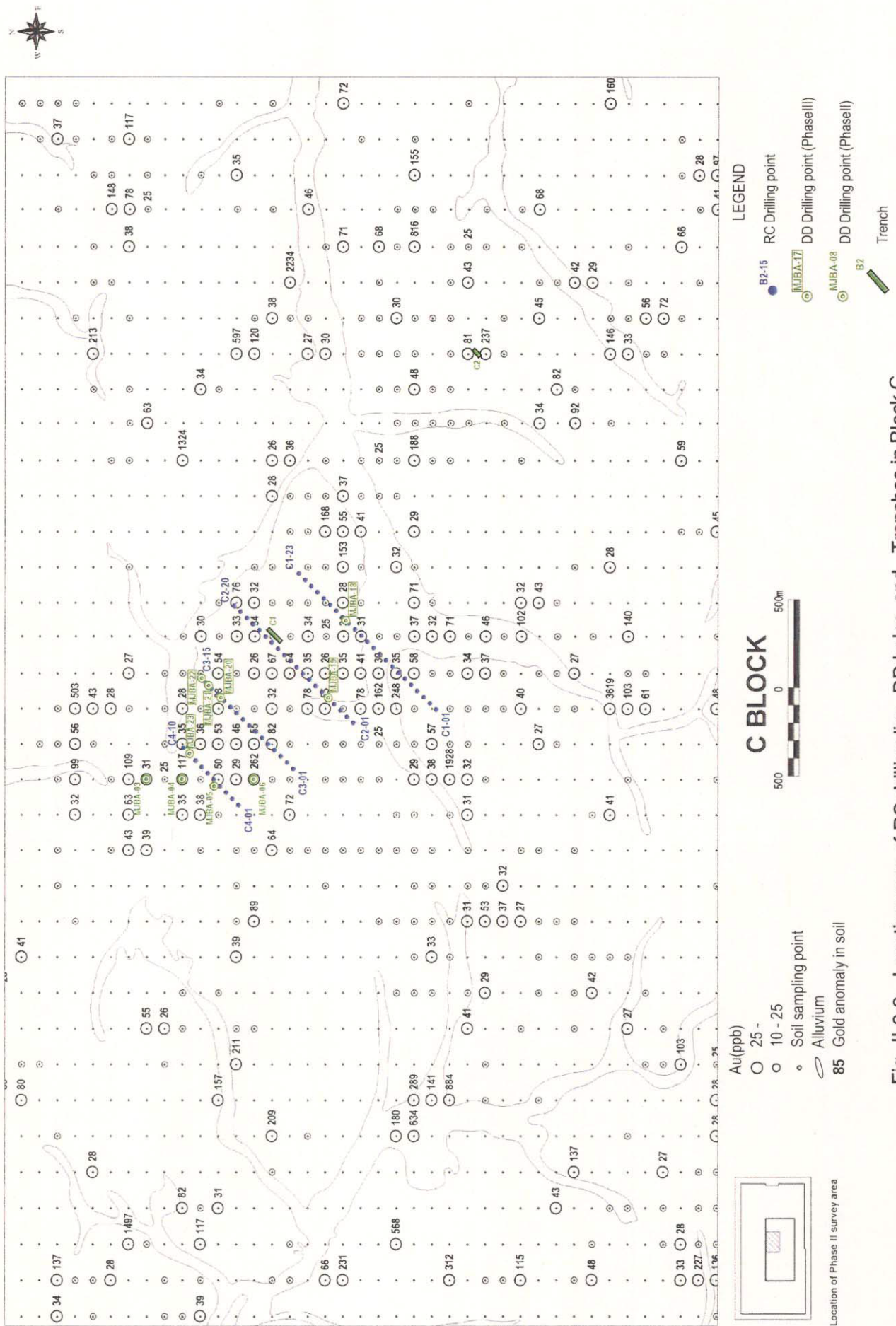


Fig. II-2-2 Location map of RC drilling line, DD holes and Trenches in Block C

### **(1) Drilling sites**

Based on the distribution of soil gold anomalies detected on the Phase II survey, a total of four RC drilling lines were planned as shown in Fig. II-2-1 and Fig. II-2-2. These lines were kept parallel and spaced about 400m. The RC drilling sites were located on these lines at a 50m spacing intervals.

### **(2) Drilling survey method**

A list of the drilling machine and equipments used in this survey is annexed on Appendix 8. First, a reverse circulation-drilling (RC) program was initially conducted and followed later by a total coring drilling (DD).

### **(3) Sampling and Sample Preparation**

#### **1) RC drilling**

Sample from RC drilling survey was collected at each 2m intervals and with a weight of 2 Kg per sample. Later, the collected sample was split in 2 samples of 1 Kg each to send one of them to the laboratory and the other to Metamat.

#### **2) DD drilling**

The drilling cores were stored in wood boxes at METAMAT laboratory in Cuiaba. Core samples from DD drilling were taken at 1m spacing from top down to the bottom. The collected core samples were crushed to -10 mesh size and sent to the Lakefield Geosol laboratory. During the core description, the samples were tested for Thin Section, Polished Section, Fluid Inclusion and X-ray analyses.

#### **2-2-3 Laboratory tests results**

Samples for laboratory tests were taken from several DD drilling holes during the Phase III survey and their locations are indicated in this report in the Appendix of the respective Location Maps. The tests included thin section analysis, polished ore analysis, X-ray analysis, fluid inclusion analysis and chemical analysis of ore samples. Results of these tests are presented from Appendix 1 to Appendix 7 and from Appendix 12 to Appendix 17.

#### **2-3 Geology**

The Phase III survey was carried out in the Central part of the C block within a large area that presented concentrations of gold anomalies of above 25 ppb in soil. The geology of these areas can be described as follows:

### **(i) Stratigraphy**

The geology of C block is composed from Middle Proterozoic Pre-Uatuma, Middle Proterozoic Uatuma Group, Dykes and Quaternary sediments. The Iri Formation and Teles Pires represent the Uatuma Group.

The Pre-Uatuma Granite is composed of biotite granite (GrIIIb) and it is widely distributed in the central part of the C block area. The granite shows medium pinkish color and includes feldspar, quartz, biotite and hornblende.

The Iri Formation of the Uatuma Group, represented by acidic volcanic rocks (Puiv), consisted of gray, rhyolitic lava, tuff breccia and tuff and outcrops at the western part of the survey area.

The dikes are composed of aplite (Ap) and diabase (Di). The aplite is distributed in the northeastern part of the survey area and the diabase in the western part of the survey area.

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

### **(ii) Geological structure**

The shearing zones represent the most important geological structure observed in the survey area. A shearing trend was observed along the NW-SE direction in some of the primary gold garimpo. Shear zones with NNW-SSE and ENE-WSW trends also were confirmed in the area.

### **(iii) Mineralization**

Gold alluvial garimpo are found widespread in the survey area, confirming the presence of a large alluvial gold mineralization in the survey area. The source of primary gold are thought to be due to a disseminated or vein / veinlets types gold mineralization.

During the Phase II survey, some of the primary gold garimpo in the C block area were surveyed. The host rock consists of strongly weathered porphyry biotite granite with alterations of chlorite, epidote, potassium, and sericite. Some of the polished sections collected from garimpo indicated pyrite, magnetite, chalcopyrite, covellite, sphalerite and gold grains. Analytical results of these samples showed gold values of 113.44g/t of Au in C7 garimpo. Anomalous values of Ag, Cu, Pb and Zn were also confirmed.

## **2-4 Survey results**

### **2-4-1 Geological Survey**

#### **(1) Background**

A geological survey by means of trenching was carried out in the C block in order to uncover a hidden mineralized structure within the large soil gold anomaly. The clarification of the mineralized structure was

useful to decide the drilling direction.

## (2) Survey areas and Amounts

Two trenches with a total length of 150m and depth of 4m were made in the C block in the locations shown in the Fig. II-2-1 and Fig. II-2-2. A total of 75 ore samples were collected from the two trenches.

Trench name	Direction	Trench length	Depth
Trench C1	N45E	100m	4m
Trench C2	N45E	50m	4m
Total length:		150m	

## (3) Survey Method

During the Auger survey of Phase II, the sites for trench survey were selected from the high gold anomalies detected in saprolite. Two trenches, with 100m and 50m length, respectively and width of 1m and depth of 4m were made along N45E direction. Ore samples were collected at the bottom of the trench by means of 2m wide channel sampling. A 1:100 scale detailed sketch was made for each of the trench as shown on Fig.II-2-3.

## (4) Survey results

### (a) Trench C1

**Geology:** Trench survey results clarified, that the soil could be classified into the horizons A, B, A/B, C and fresh rock boulders (Fig. II-2-3). The A soil is dark brown which corresponds to the uppermost horizon presents in general, mixed fragments of quartz veins and blackish sub rounded pisolith. The B soil presents a yellowish brown color and showing a more compacted texture than A-horizon. The B-horizon presents a continuous pisolith rich layer at the bottom, just in the boundary with C-horizon. The A/B horizon is considered as a transition horizon between A and B-horizon and shows a mixed texture of both horizons. The C-horizon, also known as saprolite, shows a yellowish brown color still preserving some of its original structure, such as quartz veins and shearing structure within saprolite. The thin section results for the samples A3103 to A3105 (Appendix 1) showed that the boulders are porphyritic bi-granite, with phenocrysts of plagioclase.

**Geological Structure:** The trench C1 showed within the C-horizon, a silicified zone at 8m, a shearing structure at 78m and quartz vein at 99m. The direction of these structures was inferred between N55W and E-W and showing a low dip between 30 and 35 degrees.

**Gold mineralization:** Channel sample with width of 2m were taken in saprolite at the bottom of the trench C1. Results from this sample Indicated gold contents above Au0.1g/t between 56 and 58m and between 68

and 72m. Results from fluid inclusion in Sample A3101 (Appendix 5) presented an average temperature of 321.5 degree and salinity of 13.1%. Results of polished section for the sample A3106 taken from 8m (Appendix 2) showed the presence of pyrite, chalcopyrite, covellite, sphalerite and hematite.

**Alteration:** Results of Thin section analysis in the samples A3103 to A3105 (Appendix 1) indicated biotite, sericite, epidote, chlorite, pyrite and albite. X-ray analysis in the samples A3101 to A3104 (Appendix 3) showed gibbsite, muscovite and Kaolinite.

#### **(b) Trench C2**

**Geology:** C2 Trench survey showed similar soil classifications as in the trench B2 (Fig. II-2-3). The A soil is dark brown and correspond to the uppermost horizon and commonly mixed with quartz veins fragments and blackish sub rounded pisolith. The B soil has brownish color with a more compacted texture than A-horizon. The B-horizon of this trench presents at its bottom, a continuous and homogenous layer rich in pisolith and quartz fragments, just at the boundary with C-horizon. The A/B horizon is seen as a transition horizon between A and B-horizon, and showing a mixed texture of both horizons. The C-horizon shows a yellowish color and an original structure related to gold mineralization, such as quartz veinlets and network structure. The thin section results for the samples A3118, A3122 and A3123 (Appendix 1) showed that the boulders are composed of porphyritic bi-granite, with phenocrysts of plagioclase.

**Geological Structure:** The trench C2 shows within C-horizon, some quartz veins between 5m and 7m, a zone of shearing with quartz veins between 22 and 26m and quartz vein at 50m site. The direction of this structure range between N10W and N50W and the dip were between 43 and 60 degrees to NE.

**Gold mineralization:** Results from a 2m wide saprolite sample taken at the bottom of the C2 trench, show within C-horizon, some quartz veins between 5m and 7m with gold grade above Au0.1g/t. A shearing zone with quartz veins between 22 and 26m indicated a gold average in 4m wide of Au2.0g/t, and one sample taken from 25cm quartz vein presented a gold grade of Au51.7g/t.

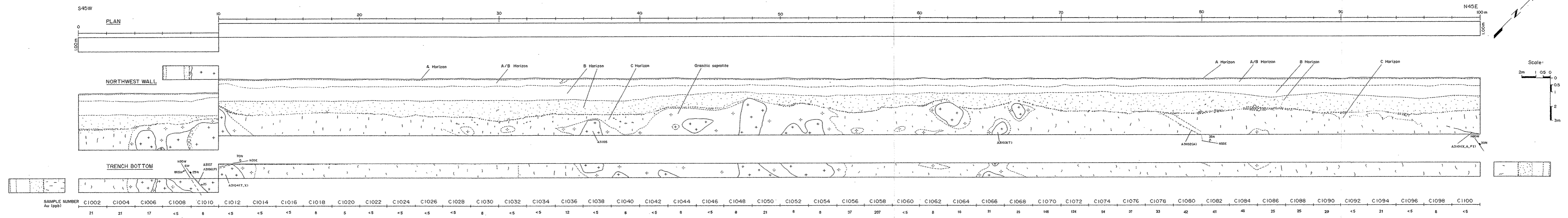
Results from fluid inclusion in Sample A3125 (Appendix 5) presented an average temperature of 317.2 degree and salinity of 13.7%. Other Sample A3108 (Appendix 5) presented an average temperature of 195.6 degree and salinity of 12.5%. Results of polished section in the samples A3124 to A3125 showed the presence of hematite, goethite, limonite and free gold.

**Alteration:** Results of Thin section analysis in the samples A3118, A3122 and A3123 (Appendix 1), showed biotite, sericite, epidote, chlorite, pyrite and albite. X-ray analysis in the samples A3109 to A3125 (Appendix 3) showed mainly gibbsite, muscovite and Kaolinite.

#### **(5) Discussion**

Results from the trench survey proved that some of the surveyed geological structure was related to gold mineralization in C block and based on the information from this structure, it was possible to define the

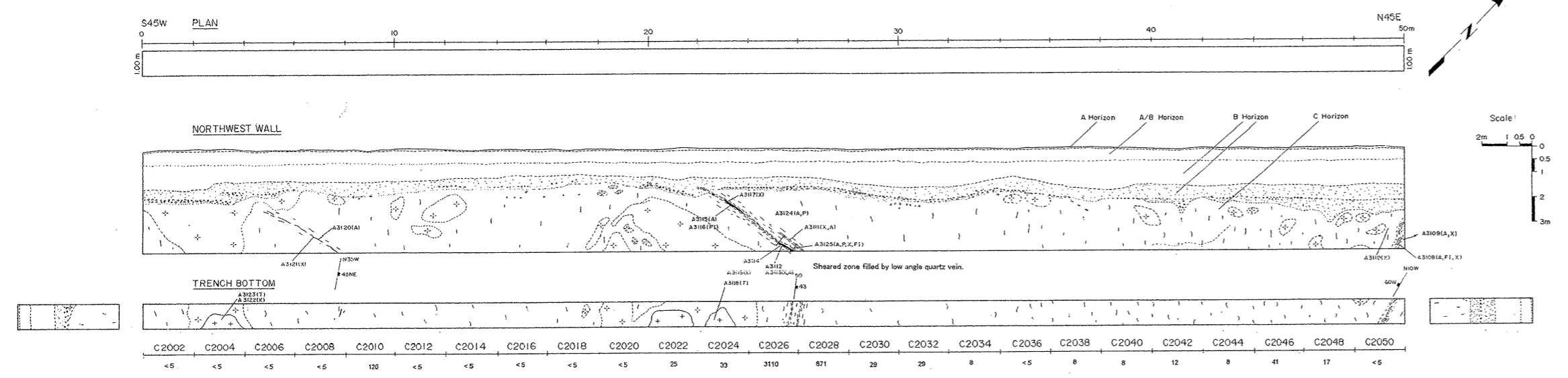
TRENCH C1  
(Looking N45°W)



LEGEND

- Pisolite iron crust and soft nodular iron crust mixed in soil.
- Shearing plane
- Quartz veinlets
- Quartz vein
- Sample for Laboratory tests
- Ore analysis
- Polished ore
- Thin Section
- Fluid Inclusion
- X-Ray analysis
- Fresh granite
- Channel sample number. Collected in the trench bottom, with 2m width.
- A Horizon:** Dark brown sandy soil with roots, few pisolite.
- A/B Horizon:** Yellowish brown sandy clayey soil, few roots, mixed with small fragments of quartz fragments.
- B Horizon:** Yellowish brown sandy clayey soil, with few mixed fragments of quartz veins. Presence of stone line with variable thickness, at the bottom of B Horizon constituted by quartz vein fragments and subrounded pisolite.
- C Horizon:** Yellowish clayey granitic saprolite with weathered granitic parts.

TRENCH C2  
(Looking N45°W)



LEGEND

- Pisolite iron crust and soft nodular iron crust mixed in soil.
- Shearing plane
- Quartz veinlets
- Quartz vein
- Sample for Laboratory tests
- Ore analysis
- Polished ore
- Thin Section
- Fluid Inclusion
- X-Ray analysis
- Fresh granite
- Channel sample number. Collected in the trench bottom, with 2m width.
- A Horizon:** Dark brown to brown color sandy soil with many roots.
- A/B Horizon:** Yellowish brown sandy silty soil, few roots, with few fragments of quartz.
- B Horizon:** Yellowish brown sandy clayey soil, with mixed fragments of quartz veins. Presence of stone line with variable thickness at the bottom of B Horizon, with many quartz fragments.
- C Horizon:** Brownish yellow clayey granitic saprolite.

Fig. II-2-3 Sketch of trench C1 and C2 in Block C



S45W direction for the drilling in the C block.

Geological structure observed in the trench C1 consists of a silicified zone, shearing zone and quartz vein. Its direction ranges between N55W and E-W with a low dip between 30 and 35 degrees to NE. Trench C2 showed quartz veins filling shearing zone at three sites with direction ranging between N10W and N50W and dipping between 43 and 60 degrees. Results from channel sample taken in the bottom of the trenches indicated that this geological structure is related to gold mineralization in C block. Gold content above Au0.1g/t is commonly observed in this structure with a maximum value of Au51.7g/t in 25cm wide quartz vein filling shear zone. Results from polished section indicated the presence of pyrite, chalcopyrite, covellite, sphalerite and hematite and in one of the samples, the observation of free gold indicates the existence of a relation between gold mineralization and geological structure in C block. Based in this information, it was defined the direction of S45W for drilling in the C block.

## **2-4-2 Drilling Survey**

### **(1) Background and Objectives**

A reverse circulation drilling (RC) program was conducted in C block in order to understand the distribution of gold anomalies detected by the geochemical survey at depth by acquiring geological. A total coring drilling (DD) program was also conducted to check the continuity in depth of the gold anomalies detected by RC.

### **(2) Survey areas and Amounts**

#### **(i) RC drilling**

RC drilling survey was conducted within a large soil geochemical anomaly at the central part of C block area. A total of 4 drilling lines, named C1 line to C4 line, were set within the soil geochemical anomaly, as shown in the Fig II-2-1 and Fig. II-2-2.

As indicated below, the total amount of survey consisted of 68 boreholes with a total drilling length of 3,400m.

<b>Drilling line</b>	<b>Direction</b>	<b>Inclination (deg.)</b>	<b>Drilled Length</b>
C1 Line (23 holes)	S45W	-50	1150m
C2 Line (20 holes)	S45W	-50	1000m
C3 Line (15 holes)	S45W	-50	750m
C4 Line (10 holes)	S45W	-50	500m
<b>Total 68 holes</b>			<b>3,400m</b>

### (ii) DD drilling

DD drilling survey was conducted to check the continuity in depth of the gold anomalies detected by RC. The totals of boreholes were 6, numbered from MJBA-18 to MJBA-21, as shown in the Fig II-2-1 and detailed in the Fig II-2-2. As indicated below, the drilling length was 602.45m.

<b>Borehole Number</b>	<b>Direction</b>	<b>Inclination (deg.)</b>	<b>Length Executed</b>
MJBA-18	S45W	-50	100.15m
MJBA-19	S45W	-50	100.30m
MJBA-20	S45W	-50	100.30m
MJBA-21	S45W	-50	100.55m
MJBA-22	S45W	-50	100.75m
MJBA-23	S45W	-50	100.40m
<b>Total: 6 holes</b>			<b>602.45m</b>

### (3) Survey Method

#### (i) Drilling operations

Drilling lines were set along NE direction that is approximately perpendicular to the extension of gold geochemical anomaly with a NW direction. The spacing between drilling lines was defined to be 400m, and by keeping a distance of 50 m between RC drilling holes. The trench survey proved that some of the surveyed geological structure was related to gold mineralization and on this basis, it was possible to define the S45W direction for the drilling in the C block.

The drilling operations were carried by using the machines and equipment mentioned on the Appendix 7. The sampling spacing for RC drilling was set in 2m and for DD drilling it was 1m. The amount of sample collected for RC drilling in 2m intervals was of 1 Kg. The DD drilling operations were carried out by means of the Wire Line method with HQ and NQ sizes coring. Table II-1-1 and Appendix 9 show the work amount and the progress record of the drilling operations.

**(ii) Core logging**

Description of the drill cores was conducted at the drilling site during drilling operations and compiled in a 1:200 log sheet. Core sampling was carried out concomitant with core logging activities. The core samplings were spaced by 1m and at the same time samples were collected for laboratory tests.

Amounts of laboratory works collected in the B block area are indicated below:

Thin Section	6
Polished Section	7
X-Ray Analysis	7
Fluid Inclusion	2
Chemical Analysis	2,300

**(4) Results of Drilling Survey**

**(i) RC Drilling**

The RC drilling survey was carried out to clarify the vertical extension of the gold anomalies, detected during the Phase II soil geochemical survey. The Fig. II-2-4 shows the geological cross section by RC drilling, and the Appendix 10 and Appendix 16 shows respectively, the RC logs and geochemical analysis results for gold.

**(a) C1 Line**

**Geology:** The RC drilling showed soil at the top level, a thick zone of yellowish brown clayey granitic saprolite below it, and fresh granitic rock at the bottom.

The soil thickness including garimpeiro work in C1 line is between 1m and 6m with saprolite thickness between 10m and 25m. Examination of rock chips collected by RC drilling confirmed not only a large distribution of biotite granite (GrIIb) but also the presence of narrow shearing zone within saprolite and fresh rock. Wide shearing zone was detected at the vicinities of the hole C1-15. The thickness of the saprolite gets thicker at the southwestern portion of C1 line.

**Alteration:** Alteration minerals frequently observed within the host rock were silicice, epidote, chlorite and potassic alteration, and with less frequency, it was found Kaolin and sericite. In the central part of the shearing zone silicic, epidote and potassic alteration is commonly found.

**Mineralization:** Gold mineralization with average gold grade above Au0.1g/t was found at 11 sites in C1 Line.

Drill Hole	Hole Length (m)	From (m)	To (m)	Length (m)	Au (g/t)
C1-02	50.0	34.0	36.0	2.0	0.19
C1-04	50.0	8.0	8.0	2.0	0.14
"	"	14.0	16.0	2.0	0.11
C1-06	50.0	48.0	50.0	2.0	0.24
C1-07	50.0	16.0	18.0	2.0	0.10
"	"	40.0	42.0	2.0	0.53
C1-10	50.0	10.0	14.0	4.0	0.19
"	"	22.0	24.0	2.0	0.17
C1-11	50.0	6.0	10.0	4.0	0.17
C1-14	50.0	10.0	12.0	2.0	1.14
C1-15	50.0	24.0	50.0	26.0	0.23

**(b) C2 Line**

**Geology:** At C2 line, the RC drilling showed soil at the top level, a thick zone of greenish brown clayey granitic saprolite below it, and fresh granitic rock at the bottom.

The soil thickness, including garimpeiro work in C2 line is between 1m and 7m with saprolite thickness between 8m and 30m. Examination of rock chips collected by RC drilling confirmed not only a large distribution of biotite granite (GrIIb) but also the presence of narrow shearing zone within saprolite and fresh rock.

**Alteration:** Alteration minerals frequently observed in the host rock are, silicic, epidote, chlorite and potassic alteration, but less frequently Kaolin and sericite. In the central part of the shearing zone, silicic, epidote and potassic alteration is commonly found.

**Mineralization:** Gold mineralization with average gold grade above Au0.1g/t was found in 16 sites in C2 Line.

Drill Hole	Hole Length (m)	From (m)	To (m)	Length (m)	Au (g/t)
C2-01	50.0	14.0	18.0	4.0	0.43
C2-04	50.0	14.0	14.0	14.0	0.59
C2-05	50.0	14.0	16.0	2.0	0.70
"	"	36.0	38.0	2.0	0.47
C2-06	50.0	12.0	14.0	2.0	2.69
"	"	32.0	34.0	2.0	0.31
"	"	44.0	46.0	2.0	0.18
C2-07	50.0	12.0	14.0	2.0	0.13
C2-08	50.0	12.0	14.0	2.0	0.17
C2-09	50.0	34.0	36.0	2.0	0.16
C2-10	50.0	16.0	18.0	2.0	0.32
C2-12	50.0	10.0	14.0	4.0	0.13
C2-13	50.0	36.0	38.0	2.0	0.26

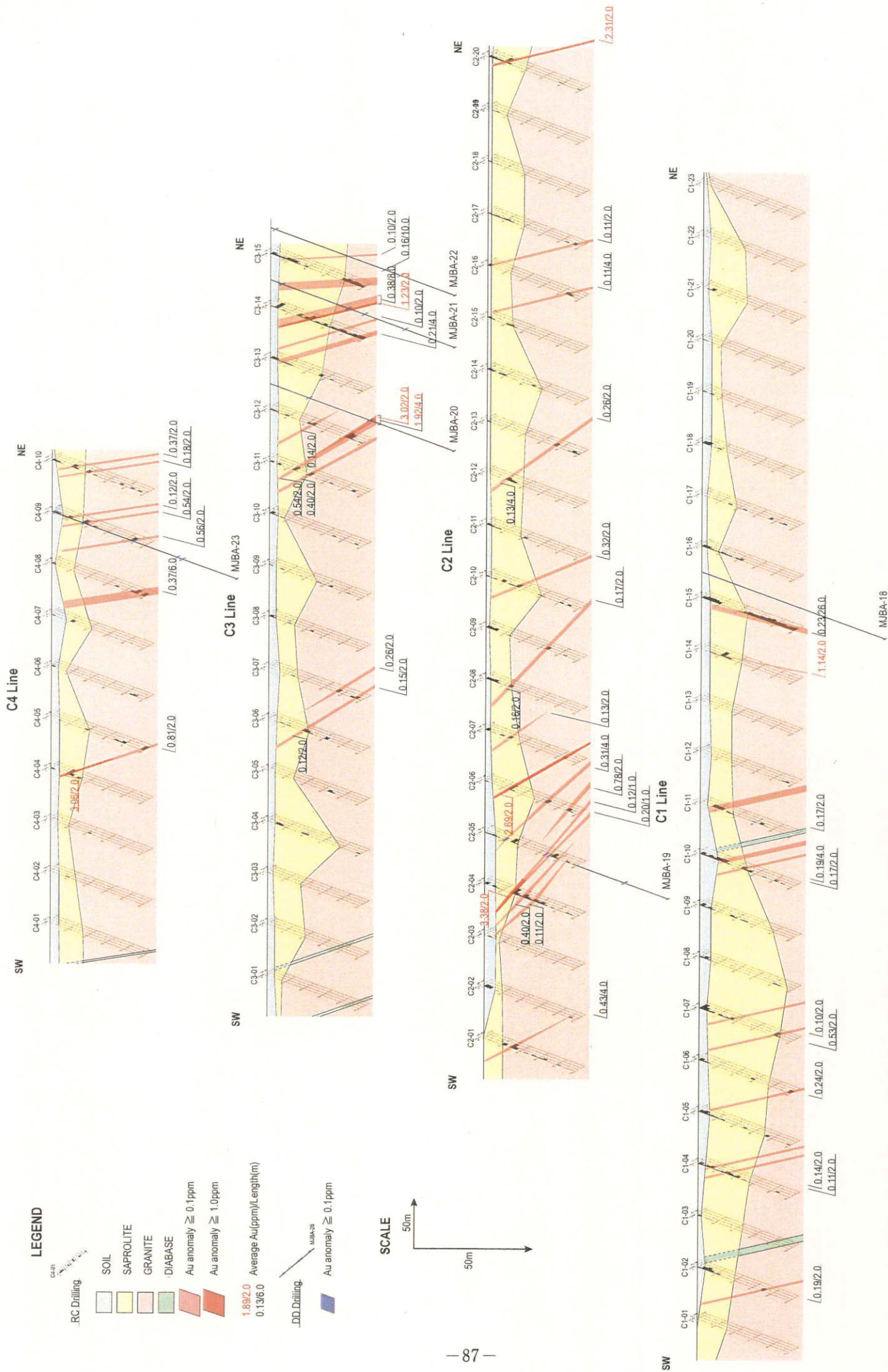


Fig. II-2-4 Geologic cross section of boreholes in Block C

C2-16	50.0	42.0	46.0	4.0	0.11
C2-17	50.0	46.0	48.0	2.0	0.11
C2-20	50.0	8.0	10.0	2.0	2.31

**(c) C3 Line**

**Geology:** Similar to others lines, the C3 line also showed soil at the top level, a thick zone of yellowish brown clayey granitic saprolite below it, and fresh granitic rock at the bottom.

The soil is generally thick between 3m and 6m. The saprolite thickness is very variable between 8m and 40m but it is thicker at the vicinities of the holes C3-04, C3-14 and C3-15. Examination of rock chips collected by RC drilling confirmed a large distribution of biotite granite (GrIIIb) in C3 line. It was also confirmed the presence of narrow shearing zone with strong silicification.

**Alteration:** Alteration minerals frequently observed in the host rock are silicica, epidote, chlorite and potassic alteration, and less frequently, Kaolin and sericite. In the central part of the shearing zone silicic, epidote and potassic alteration is commonly found.

**Mineralization:** Gold mineralization with average gold grade above Au0.1g/t was found in 12 sites in C3 Line.

Drill Hole	Hole Length (m)	From (m)	To (m)	Length (m)	Au (g/t)
C3-06	50.0	18.0	20.0	2.0	0.12
C3-07	50.0	36.0	38.0	2.0	0.26
"	"	46.0	48.0	2.0	0.15
C3-11	50.0	12.0	14.0	2.0	0.54
"	"	20.0	22.0	2.0	0.40
C3-12	50.0	22.0	24.0	2.0	0.14
"	"	40.0	44.0	4.0	1.92
C3-14	50.0	14.0	22.0	8.0	0.38
"	"	36.0	38.0	2.0	0.10
"	"	46.0	50.0	4.0	0.21
C3-15	50.0	8.0	10.0	2.0	0.10
"	"	38.0	48.0	10.0	0.16

**(d) C4 Line**

**Geology:** At C4 line, the RC drilling showed soil at the top level, a thick zone of reddish brown clayey granitic saprolite below it, and fresh granitic rock at the bottom.

The soil thickness in C1 line is between 2m and 5m with saprolite thickness between 8m and 22m. Examination of rock chips collected by RC drilling confirmed not only a large distribution of biotite granite (GrIIIb) but also confirmed the presence of narrow shearing zone within saprolite and fresh rock with strong silicic alteration.

**Alteration:** Alteration minerals frequently observed in the host rock are silicic, epidote, chlorite and potassic alteration, and less frequently, Kaolin and sericite. In the central part of the shearing zone silicic, epidote and potassic alteration is commonly found.

**Mineralization:** Gold mineralization with average gold grade above Au0.1g/t was found in 8 sites in C4 Line.

Drill Hole	Hole Length (m)	From (m)	To (m)	Length (m)	Au (g/t)
C4-04	50.0	8.0	12.0	4.0	1.56
C4-05	50.0	48.0	50.0	2.0	0.81
C4-08	50.0	44.0	50.0	6.0	0.37
C4-09	50.0	8.0	10.0	2.0	0.12
"	"	16.0	18.0	2.0	0.54
"	"	42.0	44.0	2.0	0.56
C4-10	50.0	10.0	12.0	4.0	0.37
"	"	18.0	20.0	2.0	0.18

Based on the results of the RC drilling results, 6 DD drilling holes were performed to clarify the gold mineralization at depth.

- (1) **MJBA18:** This site was selected because the RC drilling holes C1-14 and C1-15 showed relatively wide gold anomalies of above Au0.1g/t, and because gold anomaly values of Au1.14g/t were detected in the hole C1-14 and Au0.23g/t in the hole C1-15.
- (2) **MJBA19:** This site was selected because the RC drilling holes C2-04 and C2-05 presented wide gold anomalies of above Au0.1g/t and the hole C2-04 showed higher gold value of Au3.38g/t.
- (3) **MJBA20:** This site was selected because the RC drilling holes C3-12 presented relatively high gold anomaly of Au1.92g/t with 4m wide.
- (4) **MJBA21:** This site was selected because the RC drilling holes C3-14 presented relatively wide gold anomalies of above Au0.1g/t and at one site showed gold anomalies of Au1.23g/t. A relatively wide gold anomaly was also observed at RC drilling holes C3-15.
- (5) **MJBA22:** This site was selected because the RC drilling holes C3-15 presented relatively wide gold anomaly of above Au0.1g/t
- (6) **MJBA23:** This site was selected because the RC drilling holes C4-09 presented wide gold anomalies of above Au0.1g/t and higher gold value of Au0.69g/t and Au0.41g/t with alteration minerals as sericite and strong pyrite dissemination.

## (ii) DD Drilling

Drilling logs of a total of 6 DD boreholes carried out in C block are annexed on Appendix 11. Results of Thin Section, Polished ore, X-ray, Fluid Inclusion and Ore chemical analysis are presented from Appendices 12 to 15 and on Appendix 17.

### (a) MJBA-18 ( Fig. II-2-5 )

**Geology:** Consisting of biotite granite from Pre-Uatuma Granite (GriIIb).

0.00m - 1.30m:	Transported soil
1.30m - 8.70m:	Granitic saprolite
8.70m - 10.60m:	Clayey zone
10.60m - 16.75m:	Granitic saprolite
16.75m - 36.40m:	Weathered granite
36.40m - 40.85m:	Fine texture granite (Aplite)
40.85m - 100.15m:	Biotite granite, porphyry, weak epi-chl-py alteration

**Mineralization:** Polished section sample from 83.10m (Appendix 13) indicated the presence of free gold. Pyrite, chalcopyrite, sphalerite, bismuthinite, magnetite and ilmenite were also observed.

**Alteration:** The main alteration observed in fresh granite were silicification, potassic, chlorite and epidote alteration. Others alterations such as kaolin and sericite were also observed. Thin section sample taken from 80.20m (Appendix 12) indicated alteration such as biotite, sericite, chlorite and carbonate. From X-ray sample taken at 83.10m (Appendix 14) alteration was observed as quartz, albite, potassic and muscovite.

### (b) MJBA-19 ( Fig. II-2-6 )

**Geology:** Consisting of biotite granite from Pre-Uatuma Granite (GriIIb).

0.00m - 1.00m:	Transported soil
1.00m - 1.80m:	Alluvial sediments
1.80m - 11.80m:	Granitic saprolite
11.80m - 12.25m:	Weathered granite
12.25m - 13.40m:	Granitic saprolite
13.40m - 14.95m:	Weathered granite
14.95m - 17.70m:	Granitic saprolite
17.70m - 22.95m:	Weathered granite
22.95m - 28.05m:	Granitic saprolite
28.05m - 28.55m:	Weathered granite
28.55m - 40.60m:	Granitic saprolite
40.60m - 45.50m:	Greenish grey ho-bi-gd, K pheldspar porphyry with mod. Epi-chl alteration
45.50m - 47.40m:	Light grey, strong silicified zone, bleached with weak Epi-Chl-K alt
47.40m - 53.00m:	Greenish grey ho-bi-gd, K pheldspar porphyry with mod. Epi-chl alteration
53.00m - 64.76m:	Light grey, strong silicified zone, bleached with weak Epi-Chl and mod K alt.
64.76m - 82.00m:	Greenish grey ho-bi-gd, K pheldspar porphyry with mod. Epi-chl alteration
82.00m - 89.15m:	Alternation between pinkish grey strong silicified zone and fresh greenish grey ho-bi-gd
89.15m - 100.30m:	Greenish grey, ho-bi-gd, with strong Epi alteration, weak K-chl-sil alteration



**Mineralization:** Gold anomalies were observed in the following intervals. Between 11.0m and 12.0m, a clayey material shows gold anomaly of 1.90g/t. Between 35.0m and 36.0m, a limonitic material shows gold anomaly of Au2.0g/t. Polished sample from 76.40m (Appendix 13) presented dissemination of pyrite, chalcopyrite, galena and ilmenite.

**Alteration:** The main alteration observed in fresh granite consists of silicification, potassic, chlorite and epidote alteration. Alterations such as, kaolin and sericite were also observed. At the center of the shearing zone, silicic, potassic, epidote and chlorite alteration were mostly observed. Thin sections sample taken from 76.30m (Appendix 12) showed quartz, biotite, sericite, and carbonate alteration and from X-ray sample taken at 76.40m and 82.85m (Appendix 14) quartz, muscovite, potassic, and albite were observed

(c) MJBA-20 ( Fig. II-2-7 )

**Geology:** Consisting of biotite granite from Pre-Uatuma Granite (GriIb).

0.00m - 2.70m:	Transported soil
2.70m - 36.90m:	Light yellowish grey granitic saprolite
36.90m - 54.50m:	Weathered greenish grey ho-bi-granodiorite
54.50m - 55.20m:	Grey sheared zone, silicified with py dissemination
55.20m - 82.80m:	Pinkish grey, ho-bi-gd with moderate Epi and weak K and silicic alteration
82.80m - 83.50m:	Pinkish grey strong sil zone, weak epi alteration
83.50m - 87.80m:	Grey, ho-bi-granodiorite with moderate epi alteration and weak silicification
87.80m - 88.85m:	Pinkish strong K and sil alt, chl films in fractures
88.85m - 100.30m:	Grey ho-bi-granodiorite with weak epi alteration

**Mineralization:** Gold anomalies were observed in the following intervals. Between 54.0m and 55.0m, a clayey silicified rock with py rich quartz vein (5cm width) shows gold anomaly of 2.70ppm and Pb499ppm and Zn259ppm. Polished sample from 54.80m (Appendix 13) presented dissemination of pyrite, chalcopyrite, coveline, galena and ilmenite.

**Alteration:** The main alteration observed in fresh granite were silicification, potassic, chlorite and epidote alteration. Alterations of kaolin and sericite were also observed. In the central part of the shearing zone, silicic, potassic, epidote and chlorite alteration were mostly observed. Thin section sample taken from 58.90m (Appendix 12) showed quartz, sericite, chlorite, epidote and carbonate alteration, and from X-ray sample taken at 55.10m it was observed quartz, kaolinite and muscovite.

(d) MJBA-21 ( Fig. II-2-7 )

**Geology:** Consisting of biotite granite from Pre-Uatuma Granite (GriIb).

0.00m - 3.70m:	Transported soil
3.70m - 28.55m:	Granitic saprolite
28.55m - 43.85m:	Grey coarse grained ho-bi-gd with moderate epi-chl-magn-K alteration
43.85m - 45.80m:	Alternation of strong sheared silic rock and grey coarse grained ho-bi-gd
45.80m - 73.17m:	Grey ho-bi-granodiorite with moderate epi-K alteration

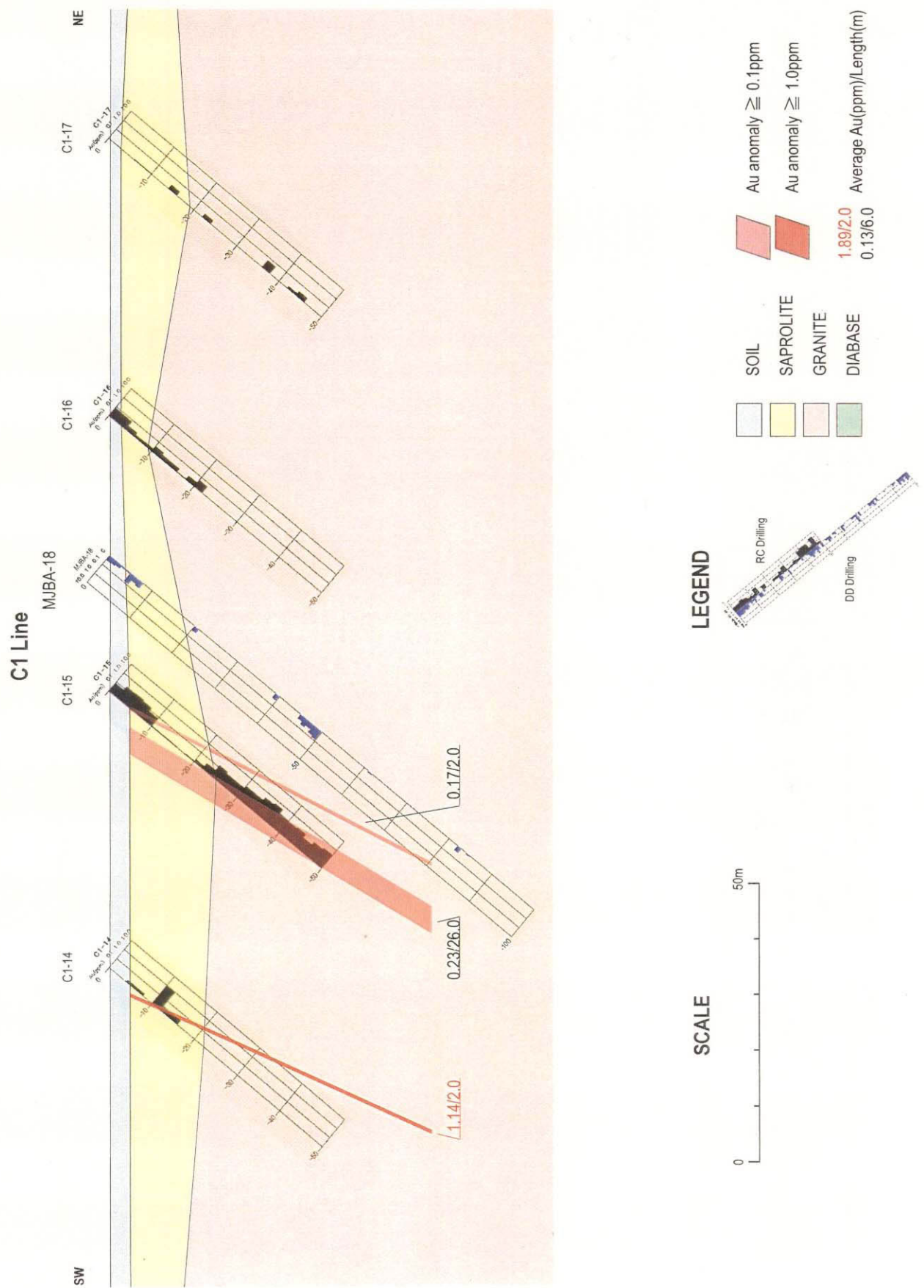


Fig. II-2-5 Geologic cross section of boreholes MJBA-18

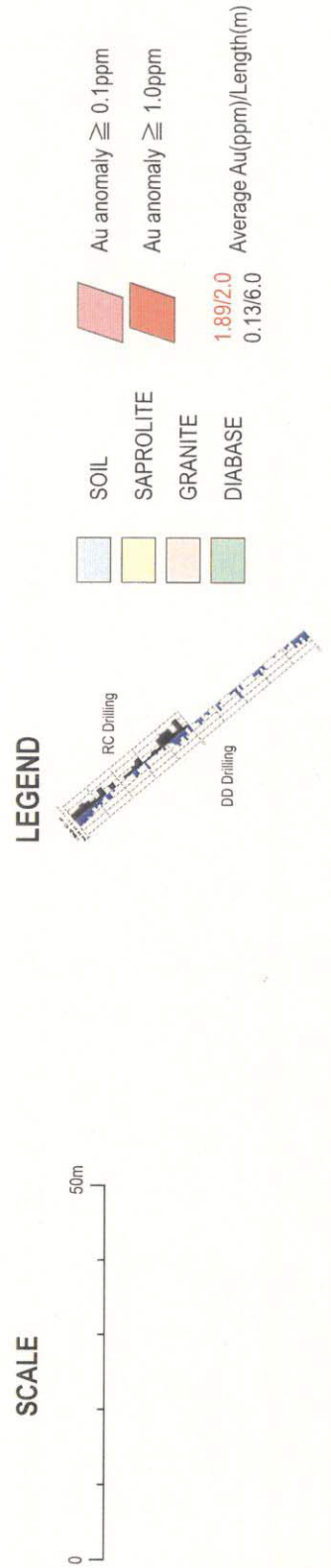
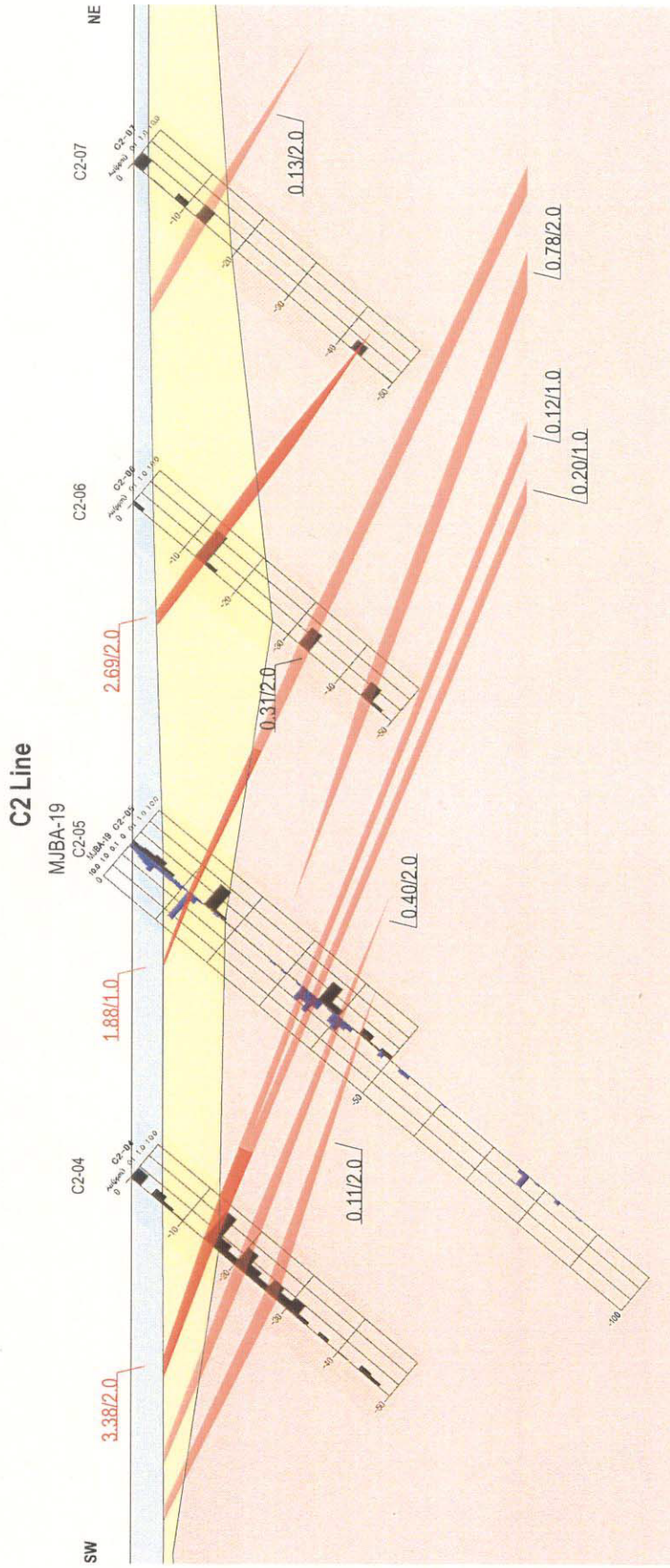


Fig. II-2-6 Geologic cross section of boreholes MJBA-19