1-3-3 Considerations

To grasp the anomalies picked up on the survey lines F-1 and F-2 quantitatively two dimensional simulation is performed. The result is considered.

(1) Survey line F-1 (FIG. 2-1-42)

In this simulation analysis, the resistivity structure is divided to three sections whose resistivities are 100, 500 and 200 Ω · m from the north side of the survey line and borders are set up near the survey stations 8 and 9 and 13 considering the section of apparent resistivity. Additionally, considering the existence of a mineralized zone, a model of 1 Ω · m and 15 % PFE and another model of 1 Ω · m and 20% PFE are set up to the north of the survey station 8 and a model of 100 Ω · m and 15% PFE is set up below the survey stations 14 and 15. As a result of simulation analysis, the calculated apparent resistivity and PFE coincide with the observed PFE and apparent resistivity around where the model is set up. Further, it can be estimated that the excellent mineralized zone captured in drilling survey is reflected on the distribution of the PFE anomalies obtained as a result of this simulation analysis.

(2) Survey line F-2 (FIG. 2-1-43)

Because both resistivity anomaly and PFE anomaly are weak as a result of observation on this survey line, the first purpose of simulation analysis is to fit configuration of apparent resistivity and PFE anomaly. For this reason, a model of 200 Ω · m and 10% PFE is set up below the survey stations 13 and 15.

Consequently, the observed apparent resistivity almost coincided with the calculated apparent resistivity. In addition, as this simulation analysis expresses a high PFE anomaly below the survey stations 13 -15, recognized in the section of observed PFE section. However, in this simulation analysis, the detailed distribution of the apparent resistivity and PFE value to the north of the survey station 10 in the section of apparent resistivity and PFE respectively could not be expressed satisfactorily. The simulation analysis is not performed on the survey line F-3 because a noticeable low apparent resistivity and high PFE anomaly could not be captured.

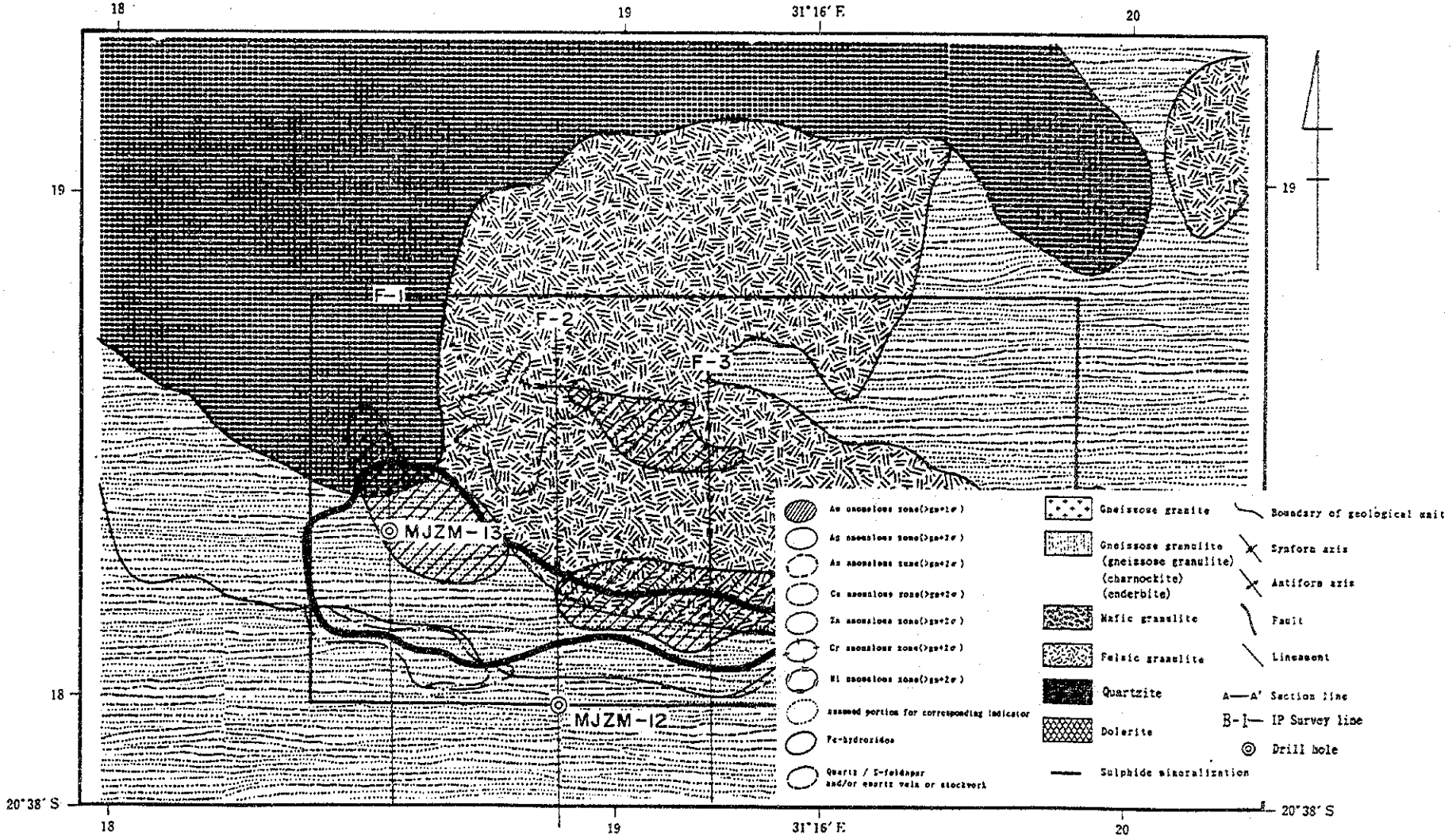

FIG. 2-1-30 Locality Map of Survey Lines(Fumure Zone)

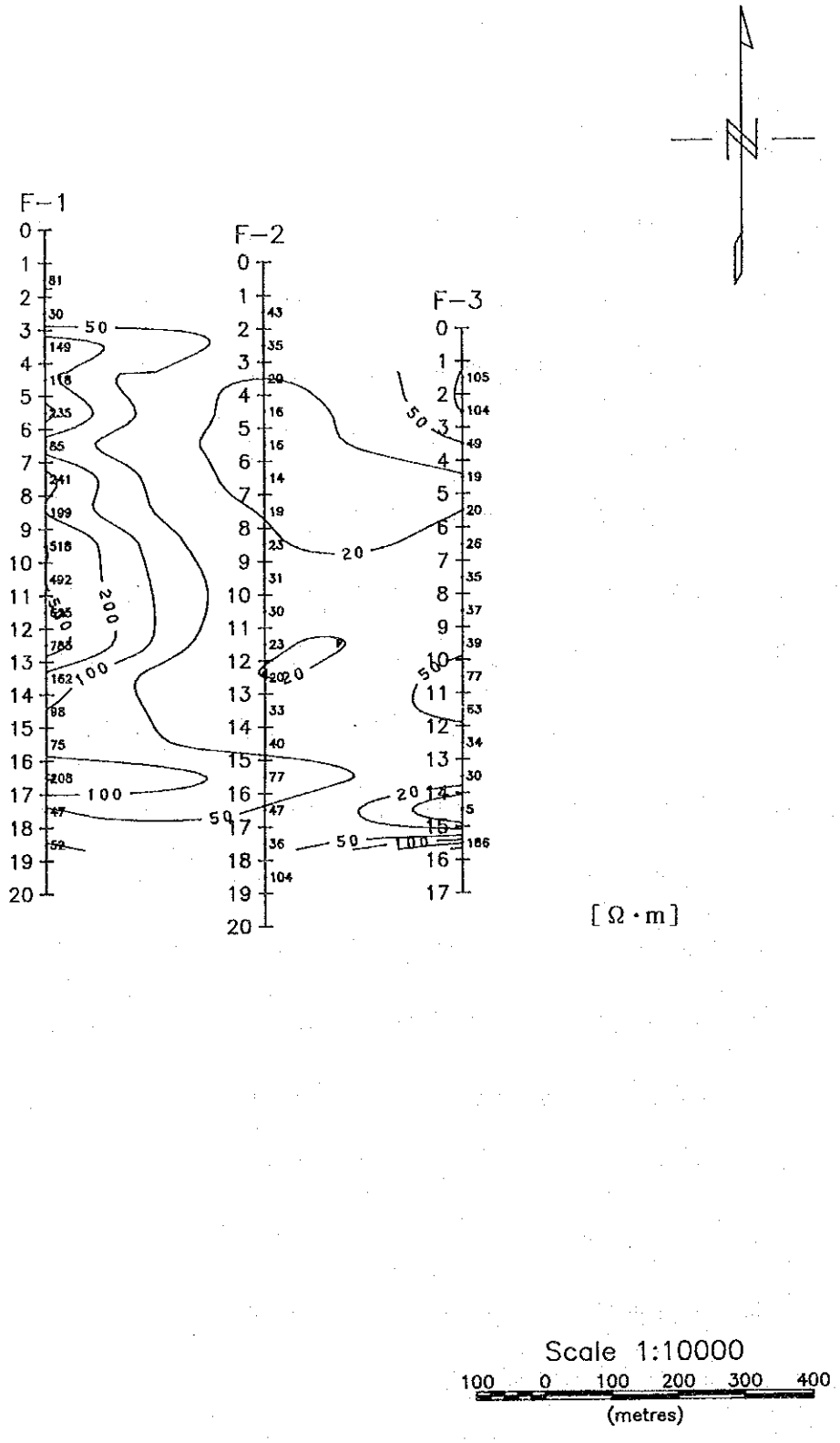

FIG. 2-1-31 Plan of Apparent Resistivity(Fumure Zone: 3 Hz, n=1)

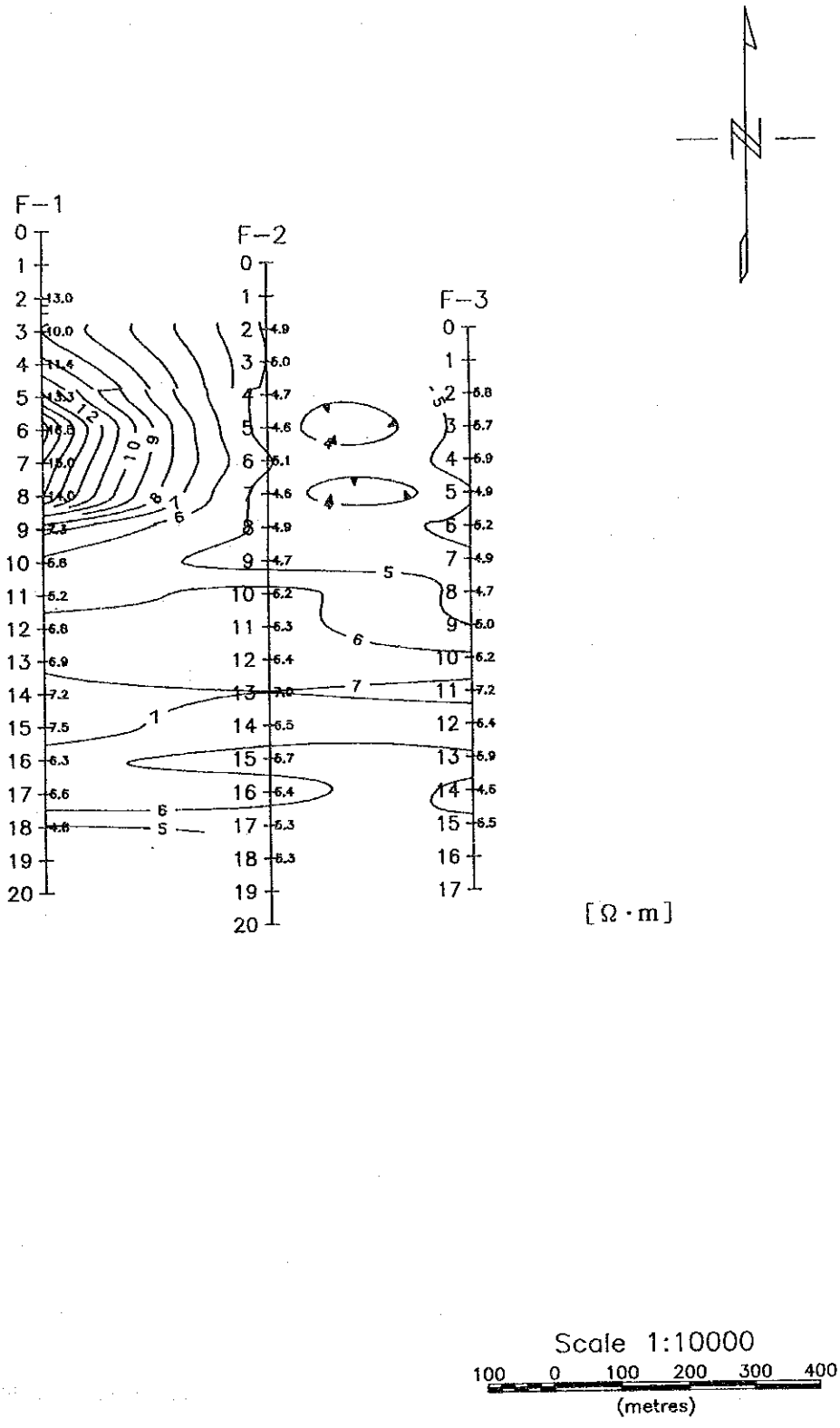

FIG. 2-1-32 Plan of Apparent Resistivity(Fumure Zone: 3 Hz, n=2)

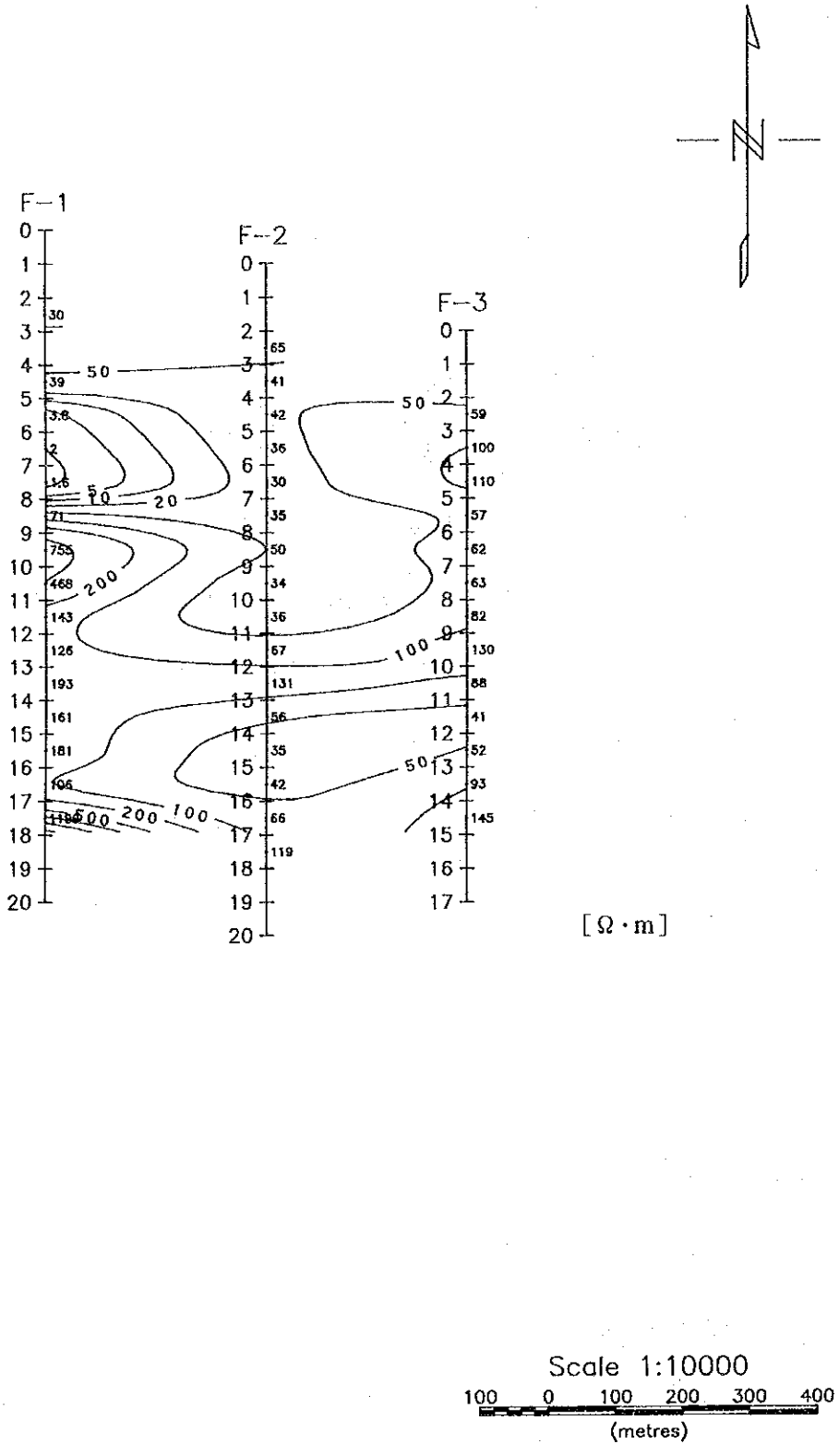

FIG. 2-1-33 Plan of Apparent Resistivity(Fumure Zone: 3 Hz, n=3)

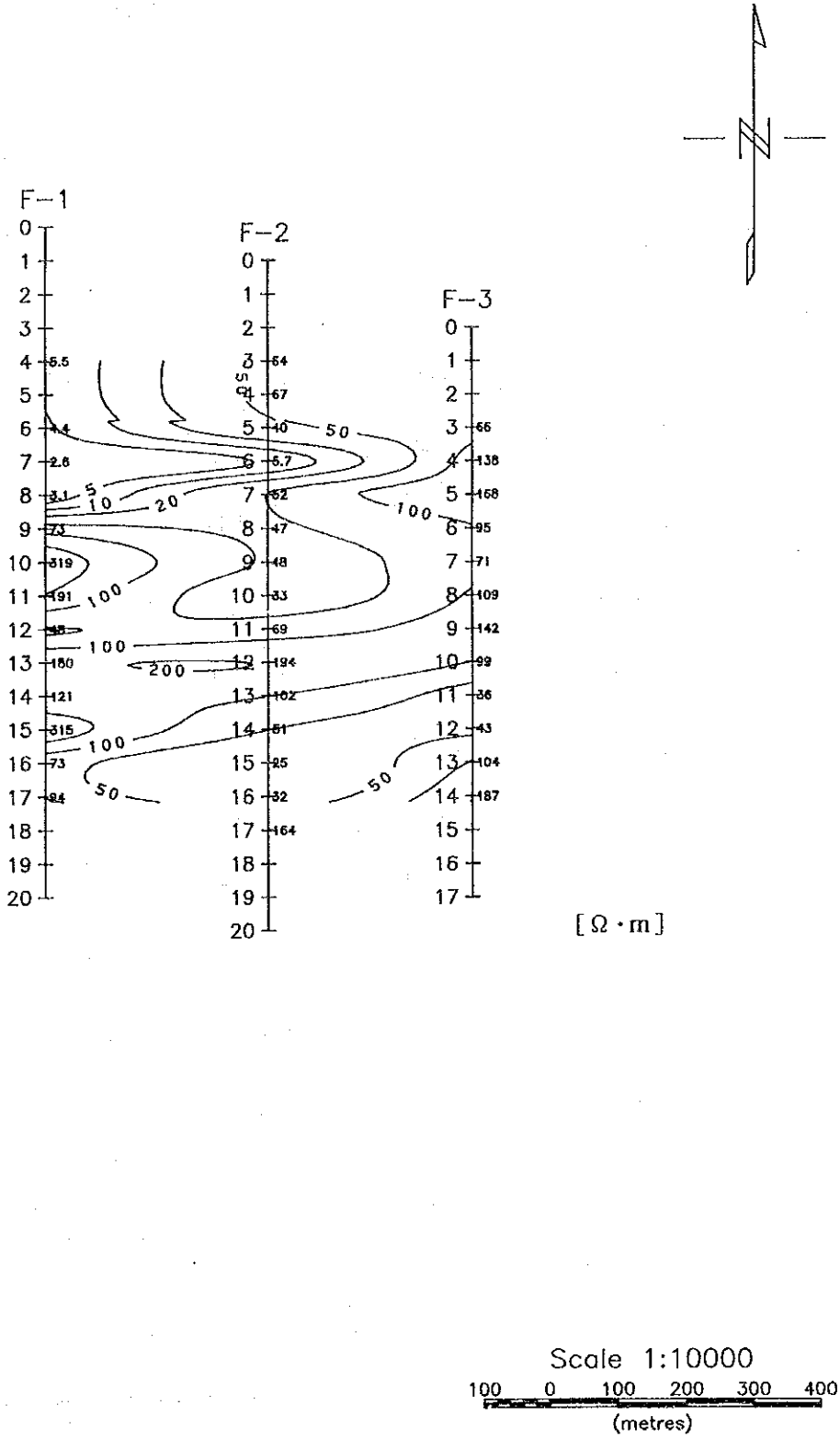

FIG. 2-1-34 Plan of Apparent Resistivity(Fumure Zone: 3 Hz, n=4)

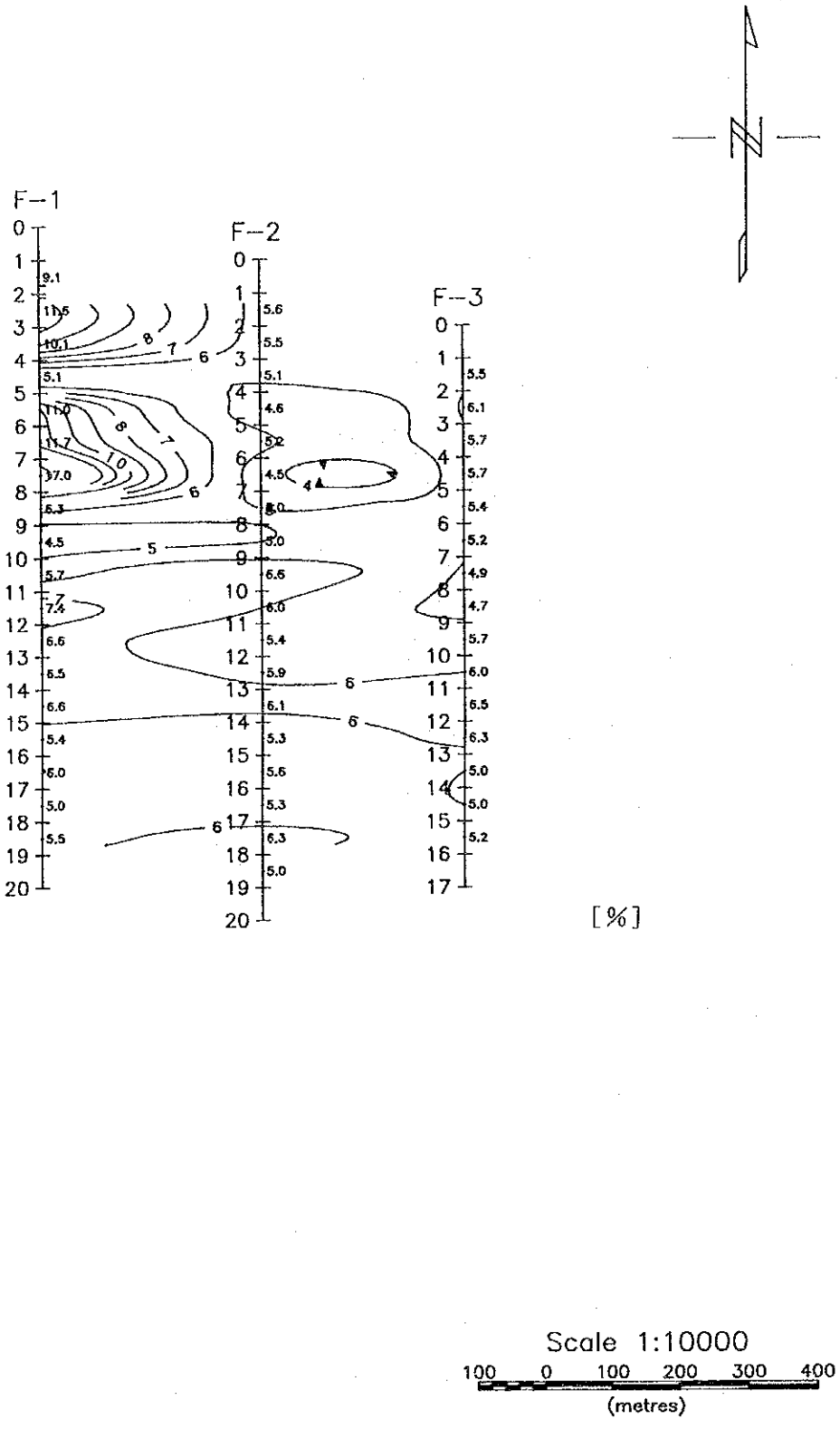

FIG. 2-1-35 Plan of PFE(Fumure Zone:0.3 Hz/ 3 Hz, n=1)

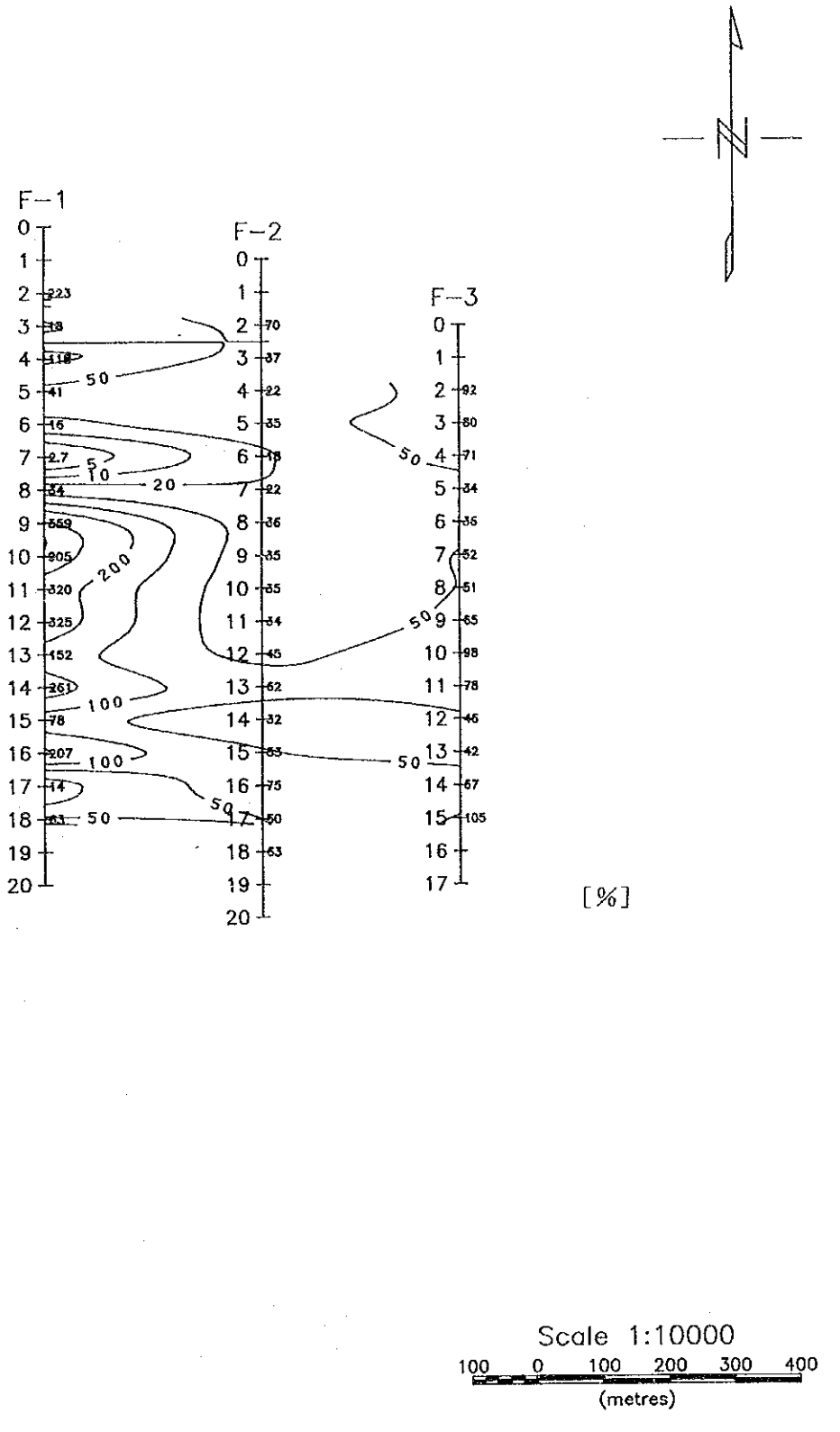

FIG. 2-1-36 Plan of PFE(Fumure Zone:0.3 Hz/ 3 Hz, n=2)

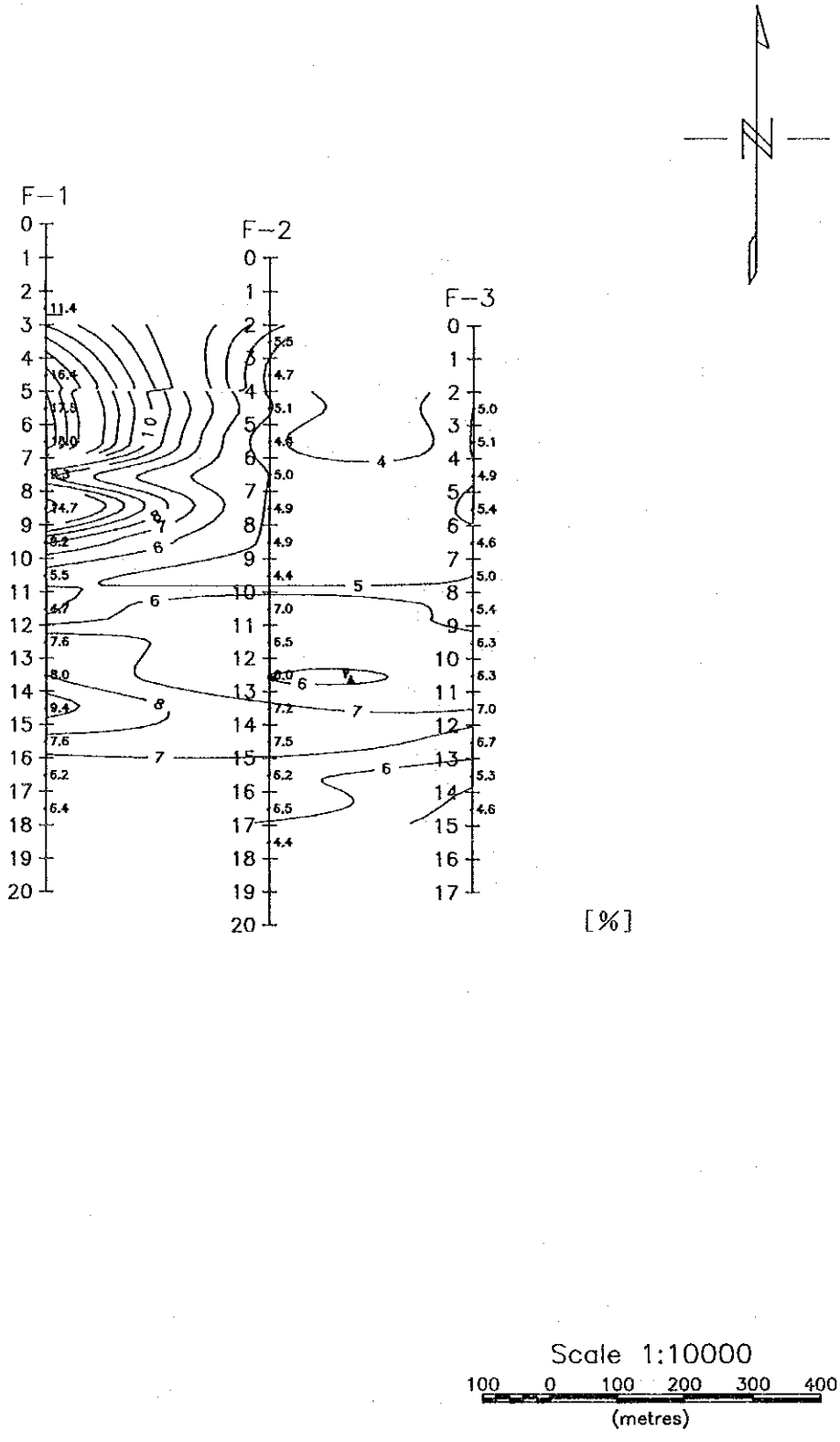

FIG. 2-1-37 Plan of PFE(Fumure Zone:0.3 Hz/ 3 Hz, n=3)

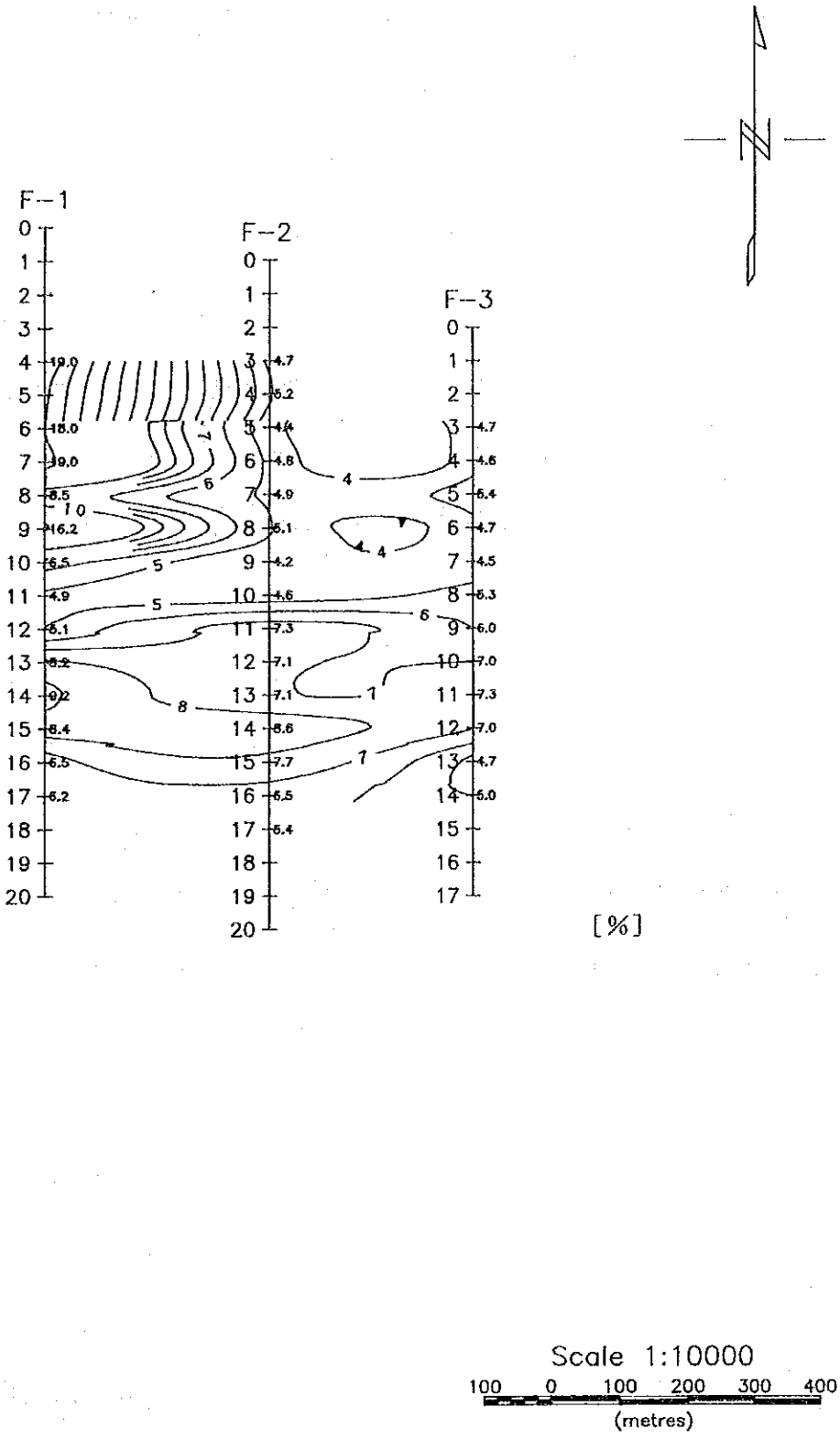

FIG. 2-1-38 Plan of PFE(Fumure Zone:0.3 Hz/ 3 Hz, n=4)

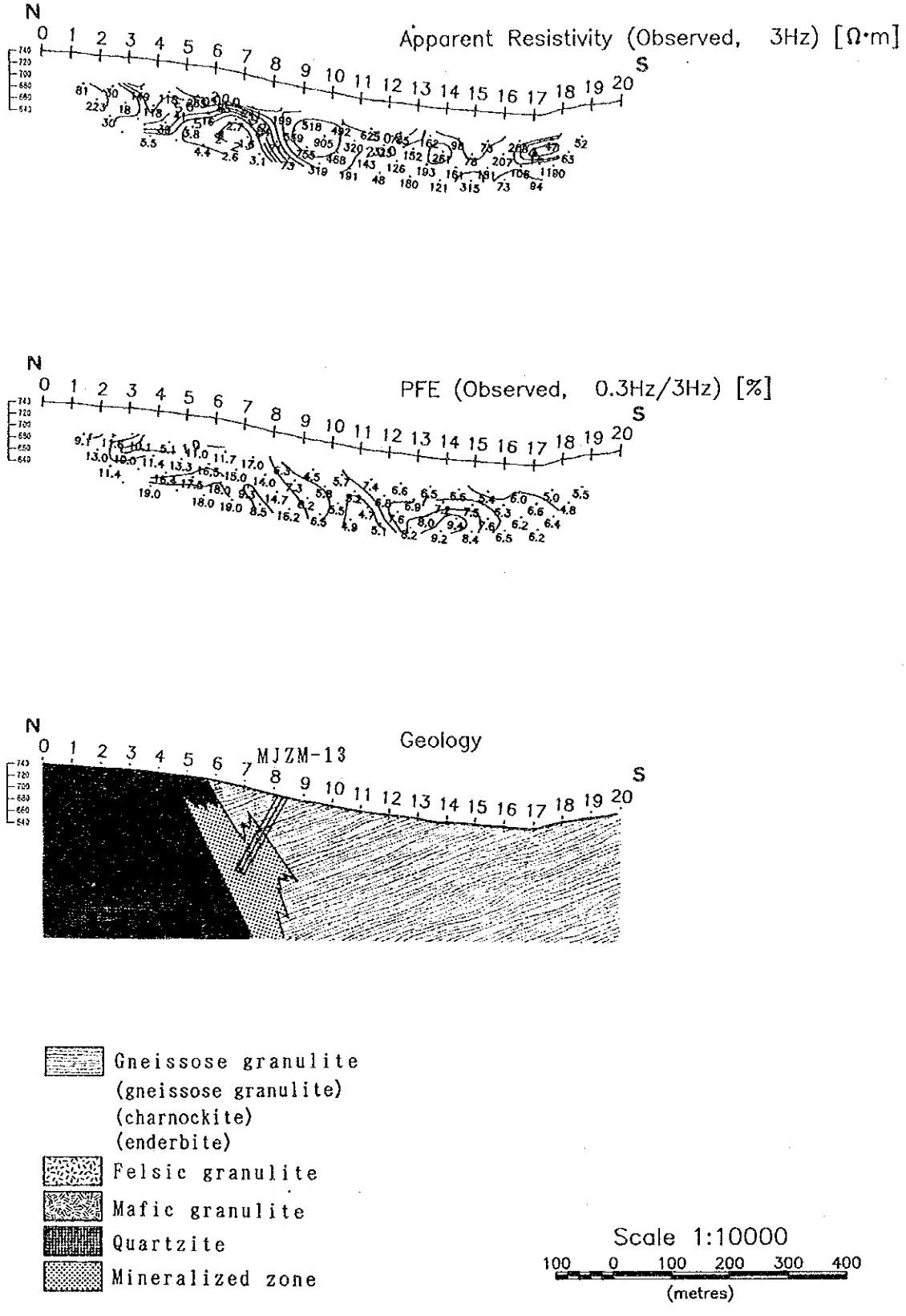

FIG. 2-1-39 Section of Apparent Resistivity and PFE(Fumure Zone: F-1)

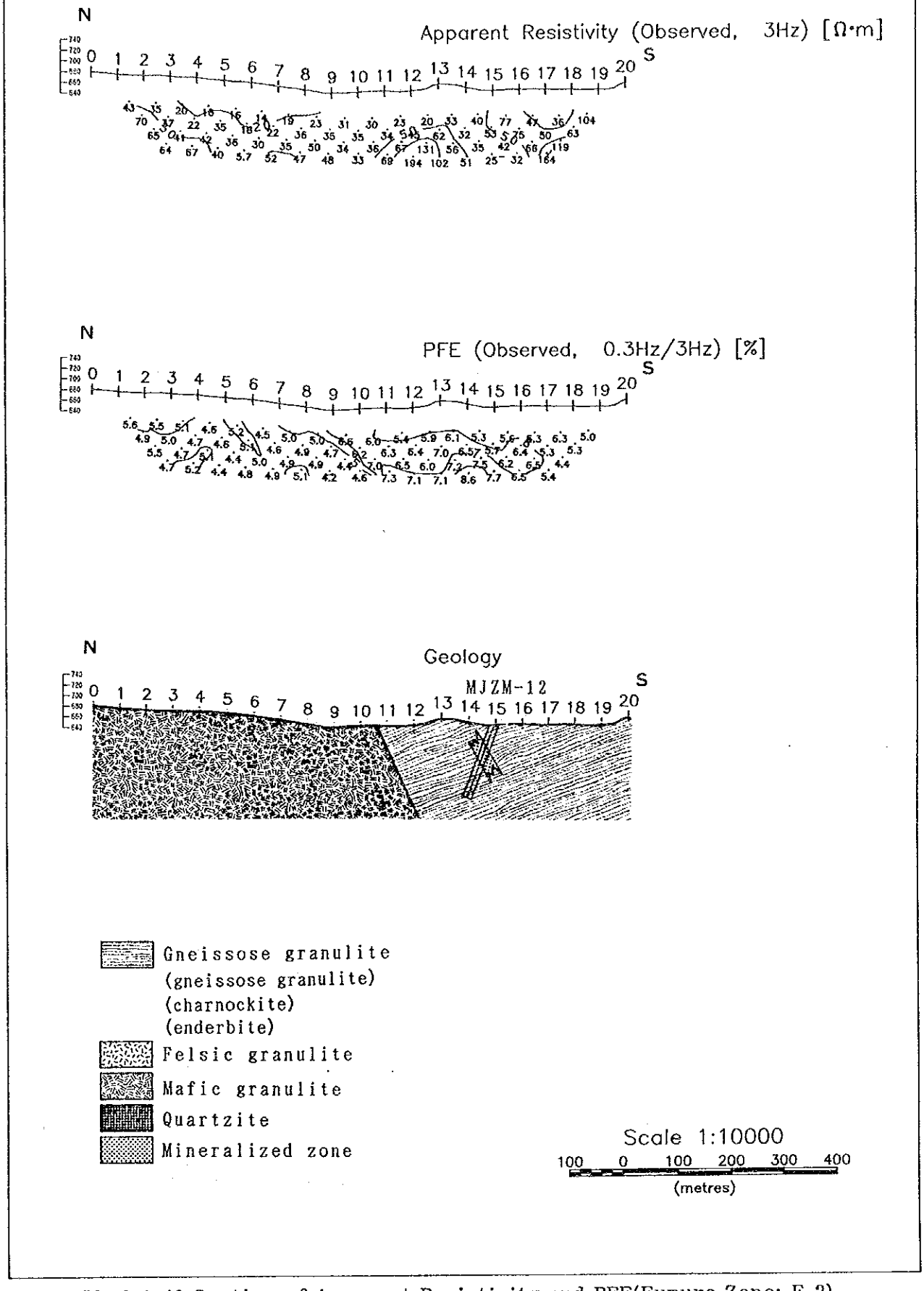

FIG. 2-1-40 Section of Apparent Resistivity and PFE(Fumure Zone: F-2)

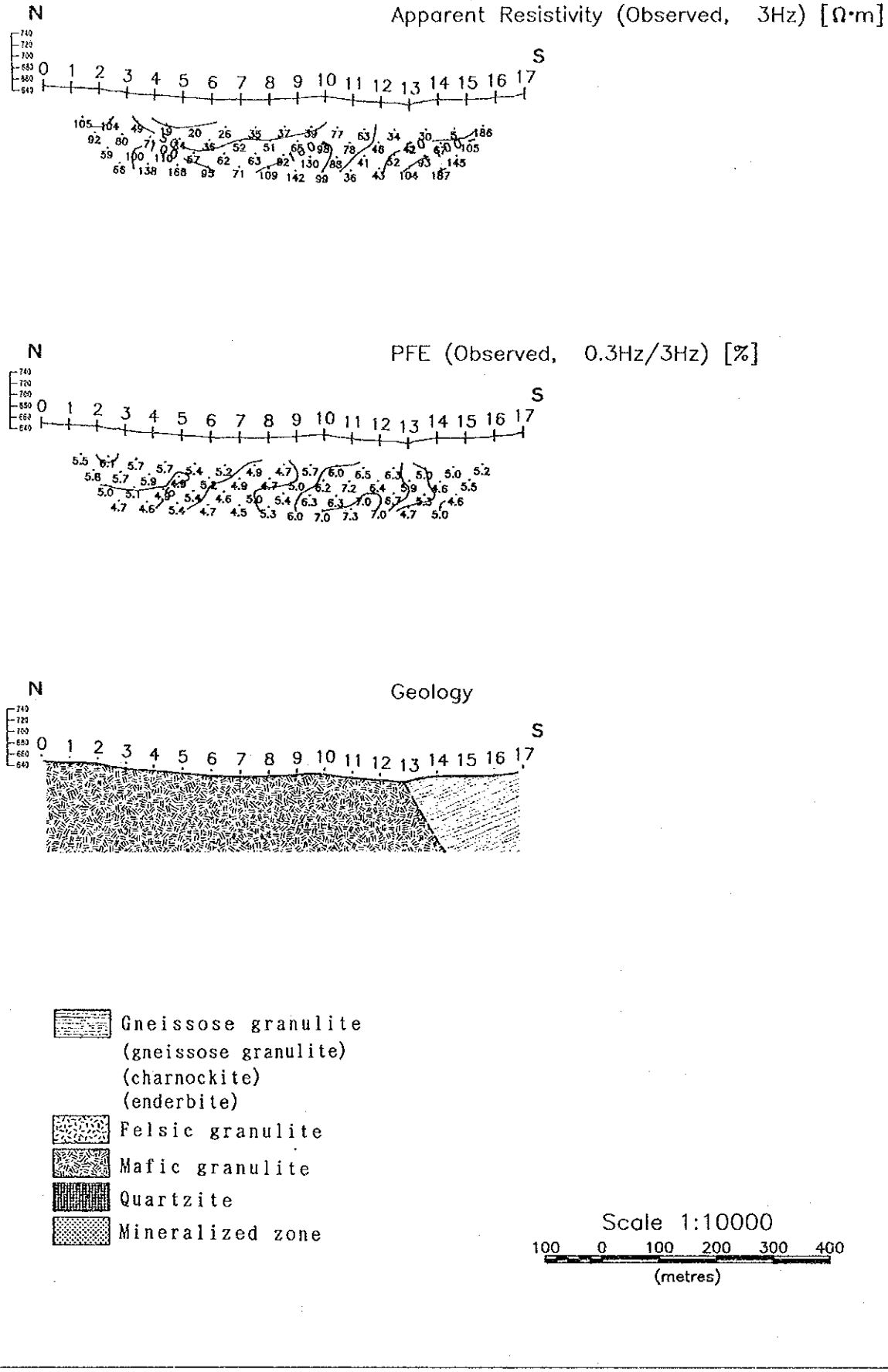

FIG. 2-1-41 Section of Apparent Resistivity and PFE(Fumure Zone: F-3)

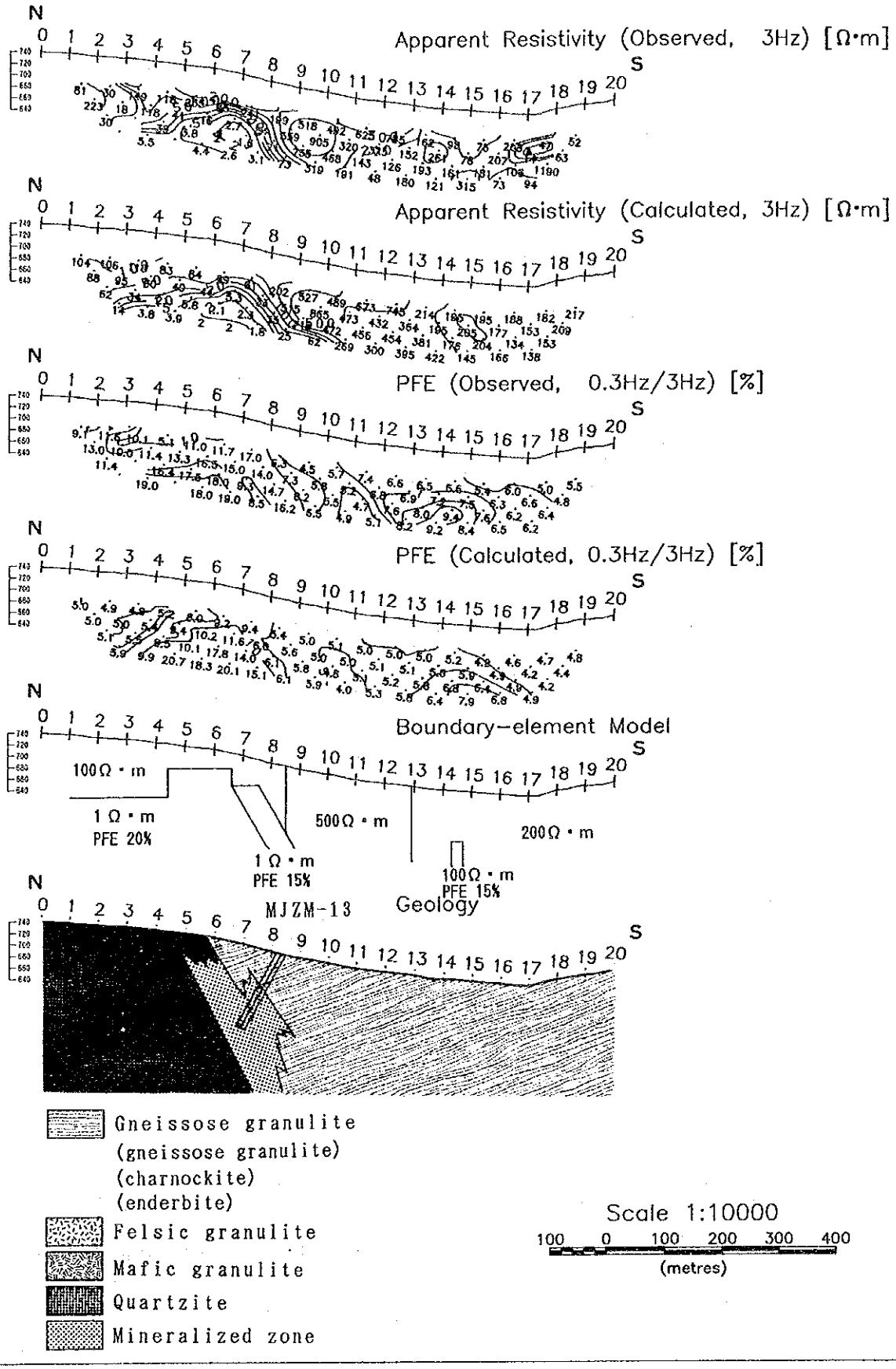

FIG. 2-1-42 Section of Simulated Results(Fumure Zone: F-1)

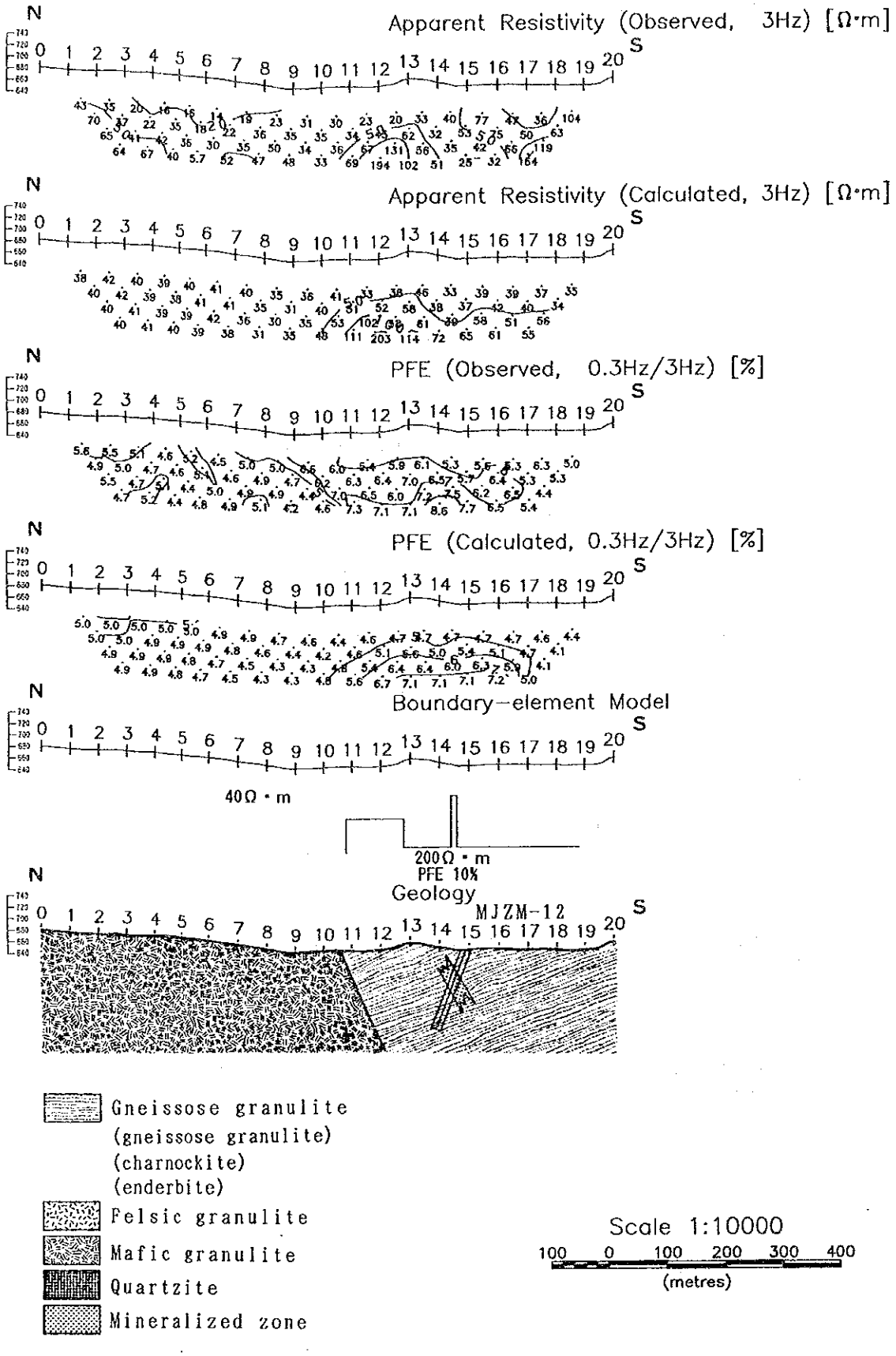

FIG. 2-1-43 Section of Simulated Results(Fumure Zone: F-2)

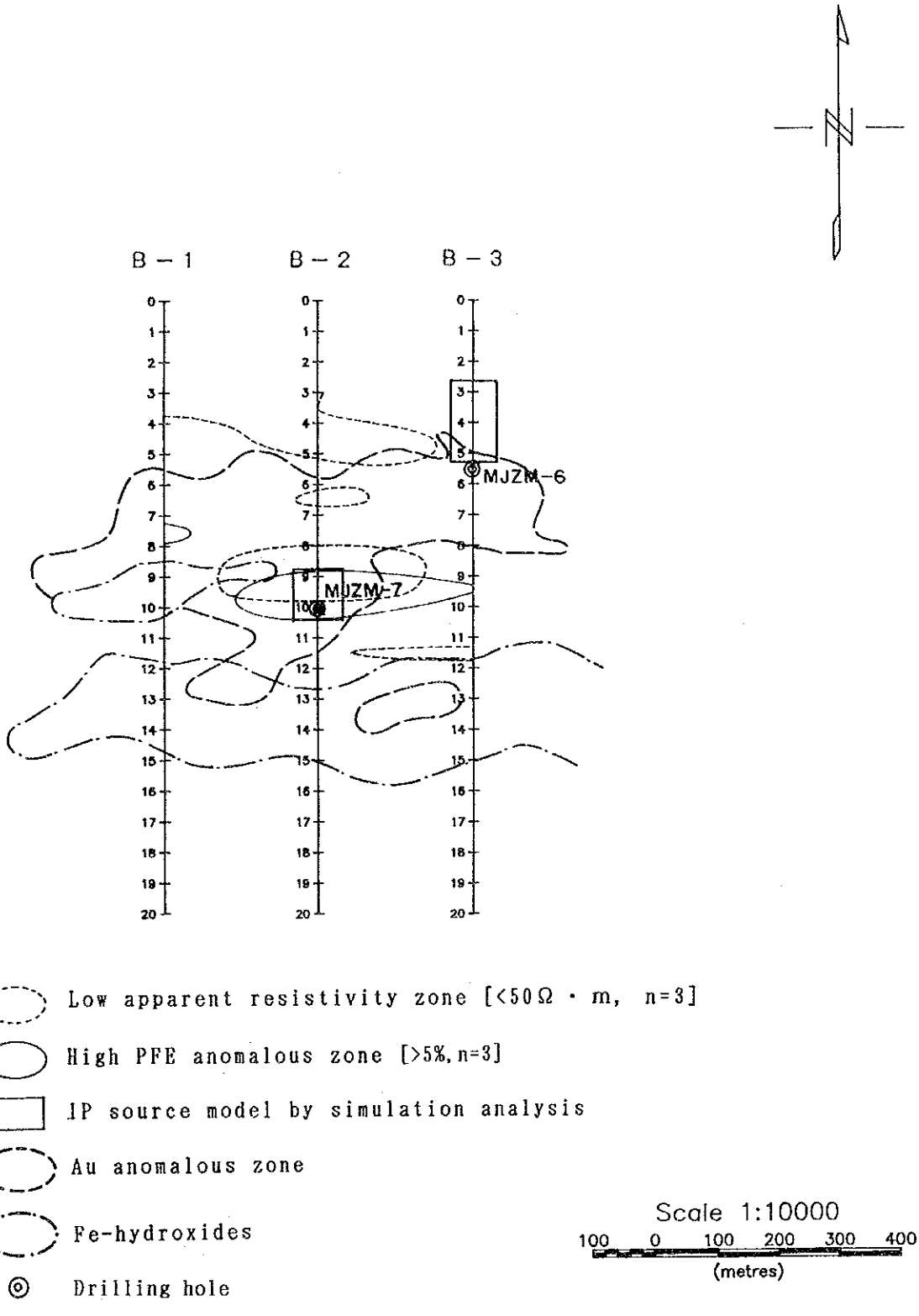

FIG. 2-1-44 Interpretation Map of Geophysical Survey Results(Benzi Zone)

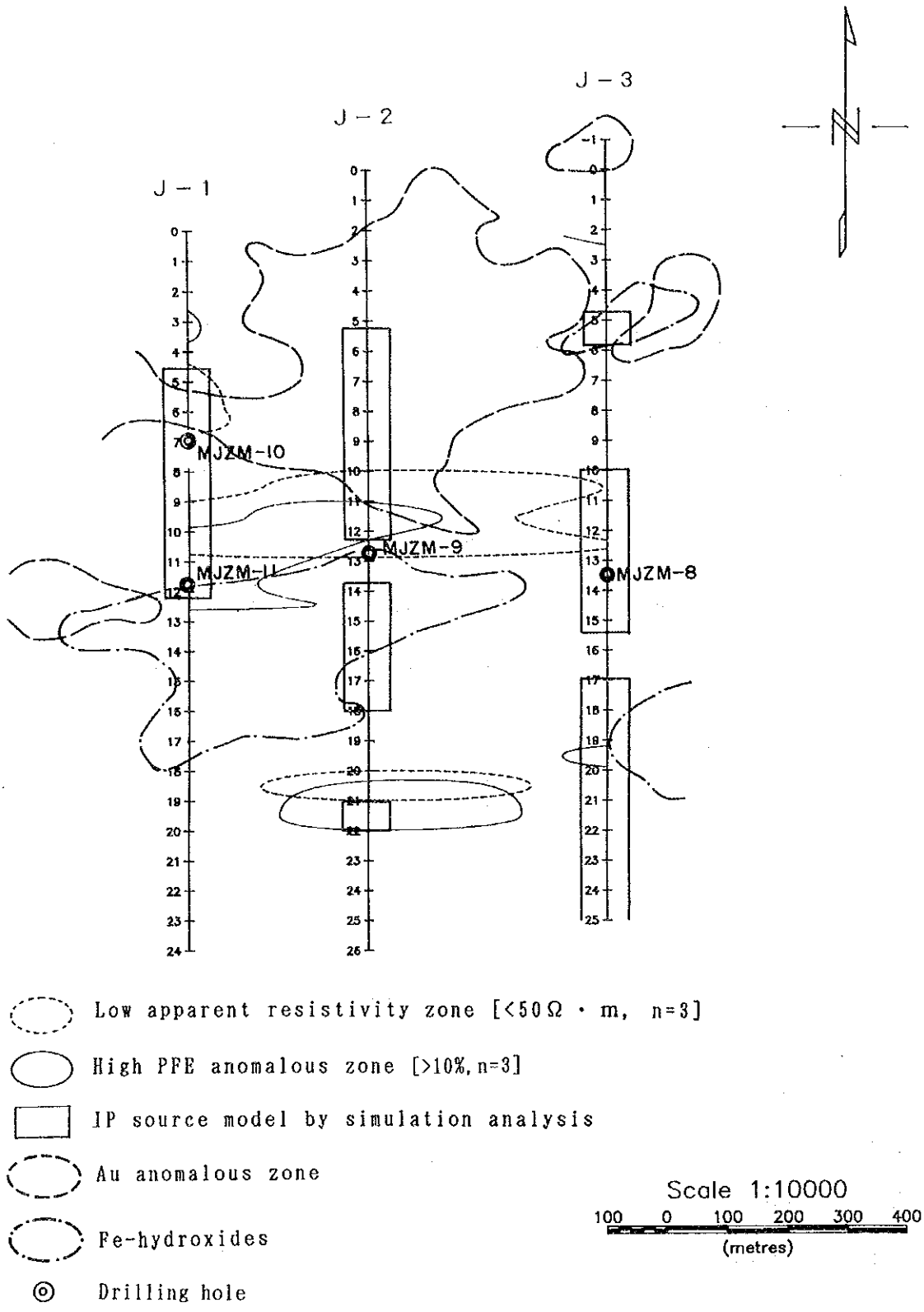

FIG. 2-1-45 Interpretation Map of Geophysical Survey Results(Jegede Zone)

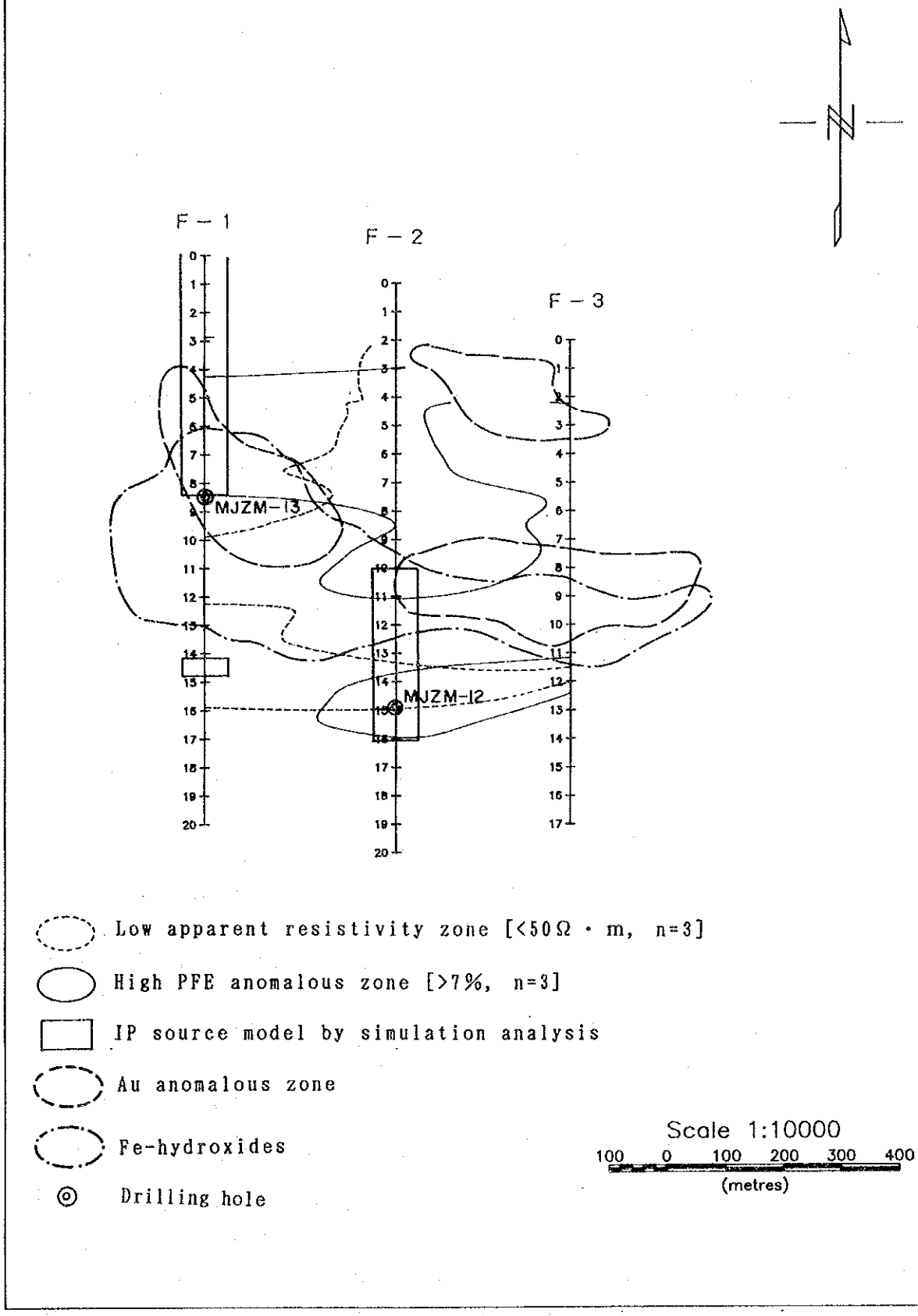

FIG. 2-1-46 Interpretation Map of Geophysical Survey Results(Fumure Zone)

1-4 DISCUSSION

1-4-1 Benzi zone (FIG. 2-1-44)

As for the survey line B-2, a clear border line (high in the north and low in the south) exists between the survey stations 9 and 12, and although this is noted, the PFE value of 5% in the north is not high, therefore it is difficult to estimate the position and configuration of the source model providing this PFE value. As a result of simulation analysis, the calculated PFE of the horizontal plate model with 10% PFE and resistivity of 100 Ω · m shown in FIG. 2-1-44 coincides most with the observed PFE. As for the survey line B-3, a medium apparent resistivity is noticed in the high apparent resistivity zone below the survey stations 4-6 (shallow place) and a relatively high PFE anomaly zone exists corresponding to this medium apparent resistivity zone. As this geological interpretation, because a disseminated sulphide mineral is deposited in the high apparent resistivity, so that it is estimated that the apparent resistivity is relatively reduced and the PFE value is raised.

As a result of the simulation analysis based on this concept, the calculated PFE value of the horizontal plate model having 100 Ω · m and 10% PFE shown in FIG. 2-1-44 coincides with the observed PFE well.

The mineralized zone captured as a result of the drilling survey of this zone (MJZM-6, MJZM-7) is so narrow and has not so much sulphide mineral amount that no pant leg pattern appears in the section of PFE. The above mentioned horizontal plate model is interpreted to be complex of weakly mineralized zone.

1-4-2 Jegede zone(FIG.2-1-45)

As for the survey line J-1, the low apparent resistivity and a pant-leg pattern PFE anomaly is recognized below the survey station 11 (shallow place). From his typical PFE configuration, a horizontal plate of mineralized zone is estimated. Additionally, the PFE anomalous zone below the survey stations 5 - 7 is not accompanied with a low apparent resistivity zone and corresponds to the sheet of high apparent resistivity. From these facts, it is estimated that there is a source model inclined toward the south. However, as a result of simulation analysis, the calculated PFE of the horizontal plate model fits to the observed PFE well rather than this inclined plate model finally.

As for the survey line J-2, a vertical plate of mineralized zone is estimated from the distribution of the PFE anomaly noticed below the survey stations 11 - 12, and an accompanied low apparent resistivity zone.

On the other hand, the PFE anomaly noticed below the survey stations 22 - 24 is also accompanied with a low apparent resistivity zone and a horizontal plate of mineralized zone is estimated from the pant-leg pattern of this PFE anomaly. Additionally, two source models (weakly mineralized zone) is estimated between

the survey stations 10 - 11, and 13 - 15 from a PFE anomalous zone below the survey stations 11 - 12 and two low apparent resistivity zones noticed below the survey stations 10 - 11 and 13 -15. It is interpreted that a PFE anomaly appear between the survey stations 11 - 12 by two source model.

As for the survey line J-3, although the PFE anomaly noticed between the survey stations 0 - 2 is accompanied with a low apparent resistivity zone, it is difficult to estimate the configuration of this anomaly because this is located at the end of this survey line.

The PFE anomalous zone in the deep place below the survey stations 12 - 13 is accompanied with low apparent resistivity zone and from the configuration of the PFE anomalous zone and low apparent resistivity zone, a steeply inclined or vertical plate of source model (strongly mineralized zone) is estimated just below the survey stations 12 - 13. However, as a result of the simulation analysis based on this estimation, the calculated PFE of the horizontal plate shaped model having 100 Ω · m resistivity and 10% PFE fits well to the observed PFE. The strongly mineralized zone captured in the drilling survey (MJZM-10, MJZM-11) on the survey line J-1 corresponds to the overlapped distribution of the low apparent resistivity zone and high PFE anomalous zone, and the weakly mineralized zone corresponds to the section where only a high PFE zone is distributed.

From the result of the drilling survey (MJZM-8) on the survey line J-3 also, such an excellent mineralized zone that is reflected on the low apparent resistivity and high PFE value largely has not been found out.

1-4-3 Fumure zone(FIG. 2-1-46)

As for the survey line F-1, a noticeable high PFE anomalous zone existing between the survey stations 5 - 8 corresponds to the low apparent resistivity zone, showing a pant-leg pattern and concentric circle. This configuration suggests the existence of a complicated horizontal plate of source model (strongly mineralized zone estimated from the PFE and apparent resistivity). This source model is estimated to develop toward the north of the survey station 5.

As for the survey line F-2, low apparent resistivity zone of a pant-leg pattern is noticed below the survey stations 12 - 13, configuration of PFE corresponding to this low apparent resistivity suggests the existence of a high PFE anomalous zone in a deeper place. Although, from the configuration of this PFE anomalous zone, a vertical plate of source model is estimated, a 200 Ω · m and 10% PFE source model gave most approximated results to the observed result. From the result of the drilling survey (MJZM-13) on the survey line F-1 also, an excellent mineralized zone estimated to correspond to these high PFE

anomaly and low apparent resistivity zone have been recognized. The mineralized zone captured as a result of the drilling survey (MJZM-12) on the survey line F-2 is not an excellent, but the complicated effects of weakly mineralized zone are estimated to be reflected on the PFE and apparent resistivity distribution.

CHAPTER 2 DRILLING SURVEY

Outline of Drilling Survey

The drilling work was contracted by R. A. Longstaff (Pvt) Ltd., based in Harare. The drilling survey consists of thirteen drill holes, total length of 1,530.65 metres. The target zones for drilling survey
and conducted drilling holes are summarized as follows:

① Juwere zone (MJZM-1 ~ MJZM-3)
② Muchacha zone (MJZM-4 ~ MJZM-5)
③ Benzi zone (MJZM-6 ~ MJZM-7)
④ Jegede zone (MJZM-8 ~ MJZM-11)
⑤ Fumure zone (MJZM-12 ~ MJZM-13)

Each drilling survey was smoothly performed.

Progress of each drill hole is shown in TABLE 2-1-1 and TABLE 2-1-2.

Two drilling machines were used and each machine was operated by one driller and three assistants. And also two-machine operation was supervised by a foreman who was in charge of water supply by a bowser.
A shift 10 hours per day was applied but 12 hours working also adopted under the necessity of doing.

Drilling Method and Equipment Used

All holes were drilled down by normal drilling method using NXC diamond bit, then by TNW, and finally by TBW.
Equipment used and material consumed for drilling operation are listed in TABLE 2-1-3 and TABLE 2-1-4.

Site Preparation, Mobilization and Demobilization

Construction of access roads and site preparation for thirteen drilling sites were performed by local people. A truck was used for all mobilization work. After completion of the final hole, all equipment and tools were checked and repaired and then stored by Longstaff people.

Drilling cores were transported to a storage of the Ministry of Mines in Harare.

Water Supply

Drilling water was taken from stream and canal for irrigation as far as 7 to 14 kilometre of drilling site.
A bowser capacity of 10 cubic metres was used for the water supply.

Determination of Rocks

A rock type determined to have been gneissose granulite so far was classified into ①gneissose granulite, ②charnockite, and ③enderbite according to the rock forming minerals.
Iron formation in Fumure zone was determined to be quartzite because its Fe-hydroxides were derived from sulphide minerals.

TABLE 2-2-1 Summary of Drilling Progress

(MJZM-1, MJZM-4, MJZM-7, MJZM-8, MJZM-9, MJZM-13)

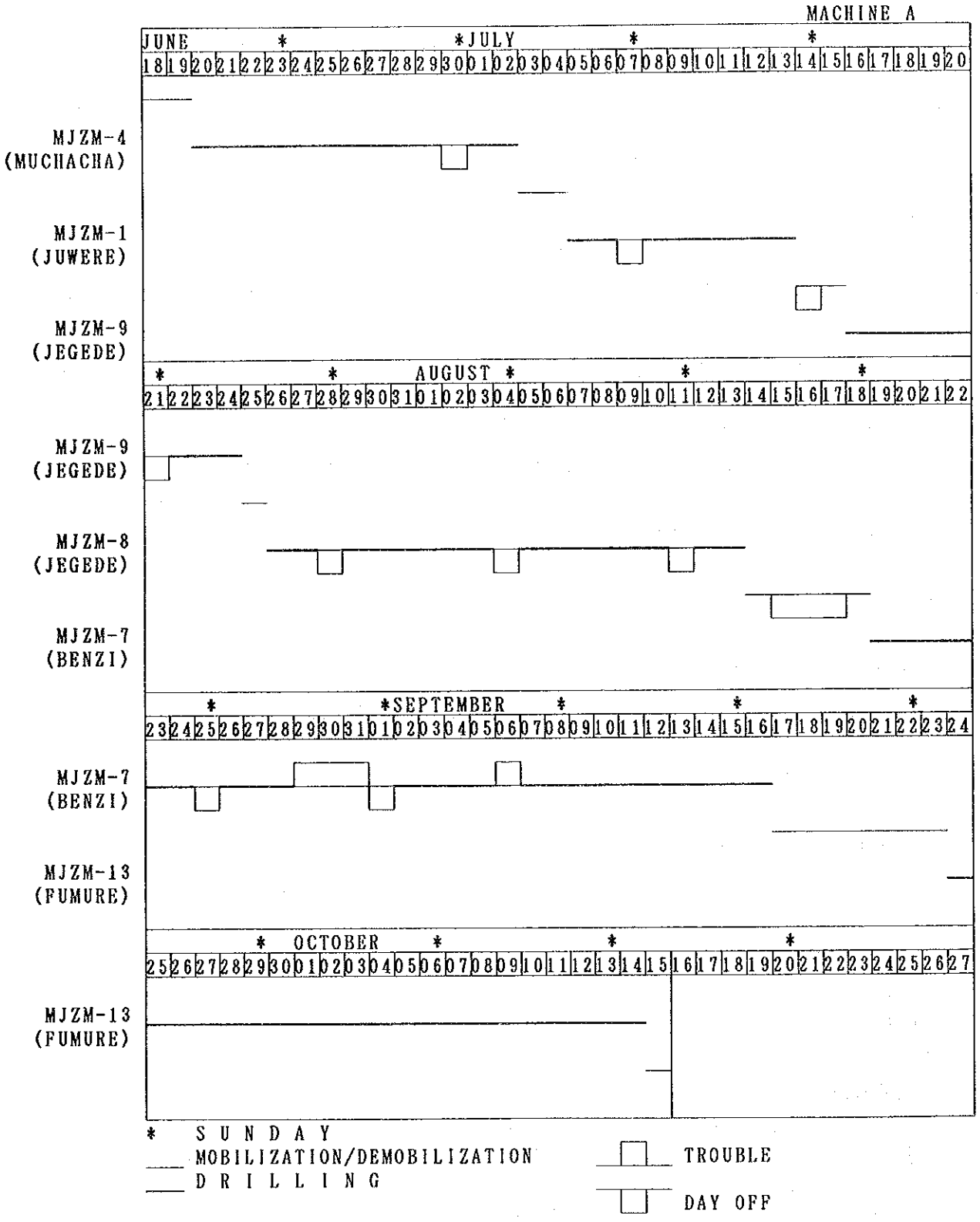

TABLE 2-2-2 Summary of Drilling Progress

(MJZM-2, MJZM-3, MJZM-5, MJZM-6, MJZM-10, MJZM-11, MJZM-12)

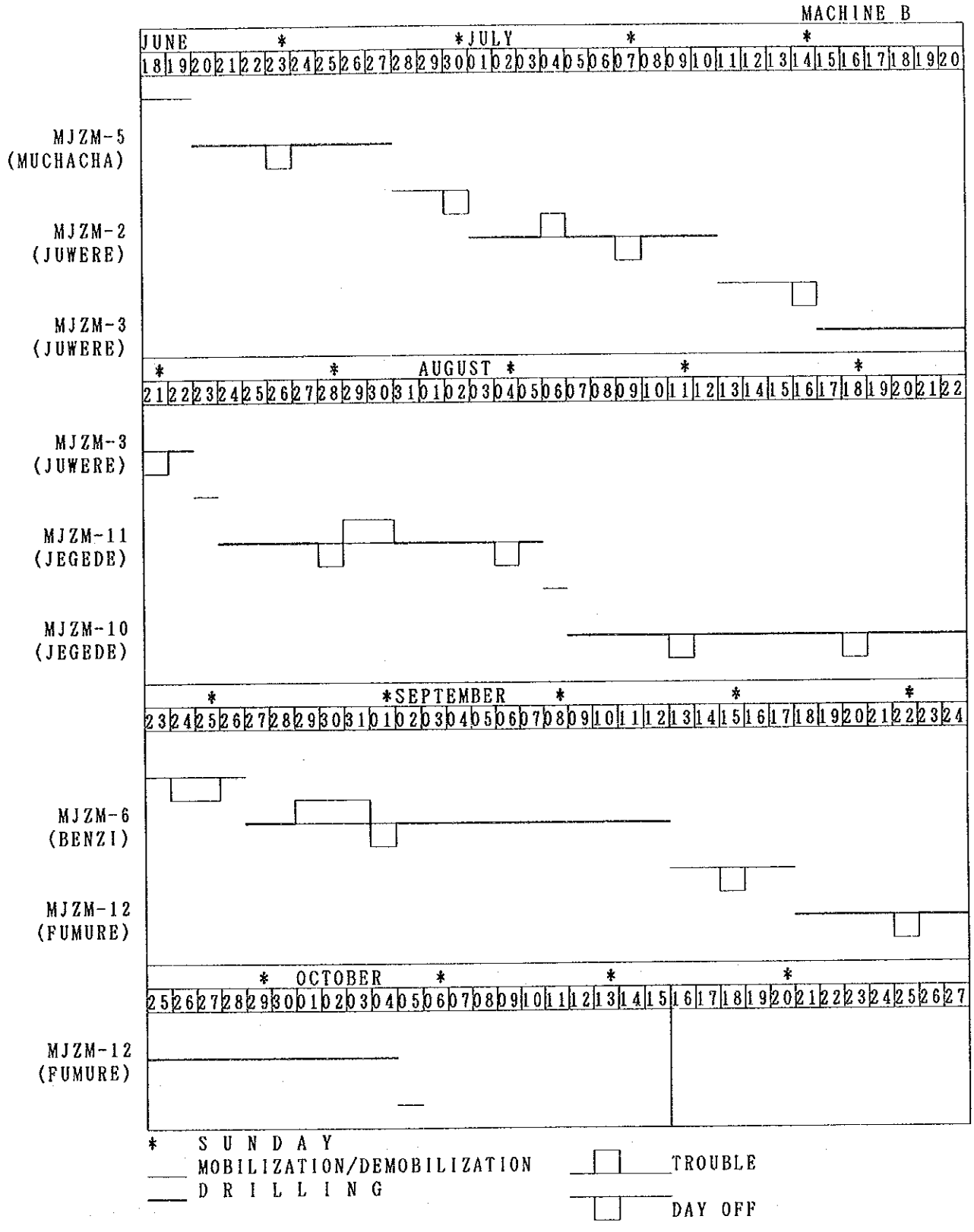

TABLE 2-2-3 LIST OF EQUIPMENT USED

ITEM	SPECIFICATION	QUANTITY	COMMENT
DRILLING MACHINE	SECO-B12H	2	
DRILLING PUMP	ROYAL BEANS	2	
BOWSER		1	
SHEAR LEGS		4"	x 2 sets
DRILL RODS	NX	10	
DRILL RODS	TNW	10	
DRILL RODS	TBW	70	lengths
CORE BARREL	4 9/16	2	
CORE BARREL	TNW	2	
CORE BARREL	TBW	6	
STANDPIPE		12	x 3 m
CASING	NX	12	lengths
CASING	BX	28	lengths

TABLE 2-2-4 LIST OF SUPPLIES AND CONSUMABLES SPENT

ITEM	SPECIFICATION	QUANTITY	COMMENT
METAL BIT	4 9/16	1	
DIAMOND BIT	1765 NXC	2	
	1765 TNW	12	
	1765 TBW	12	+ 51400 x 4
	1560 TBW	4	
REAMING SHELL	NXC	2	
	TNW	2	
	TBW	7	
CORE SPRING	NXC	4	
	TNW	8	
	TBW	44	
BASKET	TNW	4	
	TBW	24	+ 24 Extensines
SHACKLE	"D"	4	x 8 1/2"
JAW	18"	4	
	24"	4	
	36"	3	
HEEL	18"	4	
	24"	4	
	36"	2	
DROMUS		140	Litres
DIESEL		8,800	Litres
HYDRAULIC OIL		100	Litres
ENGINE OIL		90	Litres
GEAR OIL		45	Litres
ROD GREASE		250	Kg
LUBE GREASE		40	kg

2-1 JUWERE ZONE(FIG.2-2-1)

2-1-1 Survey Method

Drilling State of MJZM-1

The bed rock appears after the soil portion of 5.70 metres

Any troubles like lost circulation or collapse were encountered, although silisified zones with sulphide dissemination were drilled.

The core recovery of 89.88% was attained and the drilling speed of this hole was 12.86 m/day.

TABLE 2-2-5 Summary of Drilling Programme(Juwere Zone : MJZM-1)

	PERIOD	NO. OF DAYS	WORKING DAY	DAY OFF	NO. OF WORKER
MOBILIZATION	JUL. 04	1	1	0	4.5
D R I L L I N G	JUL. 05 - JUL. 12	8	7	1	31.5
DEMOBILIZATION	JUL. 13	1	1	0	4.5
T O T A L	JUL. 04 - JUL. 13				

DEPTH PLANNED	90.00 m	DEPTH DRILLED		90.00 m
OVERBURDEN	5.70 m	RATE OF CORE RECOVERY		
CORE LENGTH	80.89 m		TOTAL	89.88 %
C A S I N G	NX 9.00 m		T B W	98.24 %
	BX 14.92 m			
DRILLING SPEED	12.82 m/ DRILLING DAY			
	10.00 m/ TOTAL WORKING DAY			

Drilling State of MJZM-2

The bed rock appears after the thick soil portion of 19.71 metres.

No good core recovery was attained as depth as about 27 metres due to weathered and loose mafic granulite.

No special trouble happened except the weathered mafic granulite portion.

The core recovery of 75.57% was attained and the drilling speed of this hole was 10.00 m/day.

TABLE 2-2-6 Summary of Drilling Programme(Juwere Zone : MJZM-2)

	PERIOD	NO. OF DAYS	WORKING DAY	DAY OFF	NO. OF WORKER
MOBILIZATION	JUN. 29	1	1	0	4.5
D R I L L I N G	JUL. 01 - JUL. 10	10	9	1	40.5
DEMOBILIZATION	JUL. 11	1	1	0	4.5
T O T A L	JUN. 29 - JUL. 11				

DEPTH PLANNED	90.00 m	DEPTH DRILLED		90.00 m
OVERBURDEN	19.71 m	RATE OF CORE RECOVERY		
CORE LENGTH	68.01 m		TOTAL	75.57 %
C A S I N G	NX 19.71 m		T B W	100.00 %
	BX 29.92 m			
DRILLING SPEED	10.00 m/ DRILLING DAY			
	9.00 m/ TOTAL WORKING DAY			

Drilling State of MJZM-3

The bed rock appears after the thin soil portion of 3.00 metres
The smooth drilling was attained due to homogeneous rock condition.
The core recovery of 95.25% was attained and the drilling speed of this hole was 12.86 m/day.

TABLE 2-2-7 Summary of Drilling Programme(Juwere Zone : MJZM-3)

	PERIOD	NO. OF DAYS	WORKING DAY	DAY OFF	NO. OF WORKER
MOBILIZATION	JUL. 12 - JUL. 13	2	2	0	4.5
D R I L L I N G	JUL. 15 - JUL. 22	8	7	1	31.5
DEMOBILIZATION	JUL. 23	1	1	0	4.5
T O T A L	JUL. 12 - JUL. 23				

DEPTH PLANNED	90.00 m	DEPTH DRILLED		90.00 m
OVERBURDEN	3.00 m	RATE OF CORE RECOVERY		
CORE LENGTH	85.73 m		TOTAL	95.25 %
C A S I N G	NX 8.89 m		T B W	100.00 %
	BX 15.52 m			
DRILLING SPEED	12.86 m/ DRILLING DAY			
	9.00 m/ TOTAL WORKING DAY			

2-1-2 Geology

Geology of MJZM-1(FIG.2-2-2)

The geology of this hole is similar to the geology confirmed through the field survey. That is, it is mainly made of gray, compact, hard, medium grained, and foliated charnockite which is accompanied by a massive felsic granulite and mafic granulite.
According to microscopic observation of charnockite(depth : 37.00 metres, 49.00 metres), plagioclase and k-feldspar are partly changed to sericite and also produced chlorite in extremely small quantities.
Opaque minerals show no intimate association with sericite and chlorite.

Geology of MJZM-2(FIG.2-2-3)

The geology of this hole consist mainly of charnockite and mafic granulite.
Charnockite show a weak foliation of 50° to 60° .
According to microscopic observation of felsic granulite(depth : 38.00 metres) intercalated in charnockite, plagioclase and k-feldspar are partly changed to sericite in extremely small quantities and no chlorite was observed.
Opaque minerals show no intimate association to sericite and tend to grow between the boundaries silicate minerals.

Geology of MJZM-3(FIG.2-2-4)

The geology of this hole is similar to the geology confirmed through the field survey. That is, the shallower part of the hole consists of layers of charnockite, felsic granulite and mafic granulite. Meanwhile, the deeper part of the hole is mainly made of gray, compact, hard and medium grained charnockite

having a weak foliation of 70° to 80° .

According to microscopic observation of charnockite(depth : 7.00 metres), sericite and chlorite in extremely small quantities were observed in clinopyroxene and orthopyroxene. Plagioclase and k-feldspar show a little sign of hydrothermal alteration.

On the other hand, opaque minerals appear as dispersedly scattered grain, veinlets, and network showing a rather intimate association with sericite.

2-1-3 Survey results

Mineralization of MJZM-1

A dissemination of pyrite, pyrrhotite, and pyrite was recognized in charnockite at the depth of 33.72 metres to 37.33 metres and 43.53 metres to 51.90 metres.

And also a weak mineralization of pyrite, pyrrhotite, and chalcopyrite exists at the depth of 20.00 metres to 33.72 metres.

According to microscopic observation of polished sections(depth : 37.00 metres, 49.00metres), an association of pyrrhotite, pyrite, and chalcopyrite was observed in small to extremely small quantities.

On the other hand, magnetite and ilmenite filling the boundary of silicate minerals appear as oxide minerals and ilmenite rarely shows exsoluted lamella in magnetite.

Assay results are as follows:

M J Z M - 1

SAMPLE NO.	D E P T H(m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn(%)	COMMENT
01-01	20.00- 22.00	<0.01	0.35	<0.01	<0.01	<0.01	
01-02	- 24.00	<0.01	0.05	<0.01	<0.01	<0.01	
01-03	- 26.00	<0.01	<0.01	<0.01	<0.01	<0.01	
01-04	- 28.00	<0.01	<0.01	<0.01	<0.01	<0.01	
01-05	- 30.00	0.02	0.05	<0.01	<0.01	<0.01	
01-06	- 32.00	0.02	0.20	<0.01	<0.01	<0.01	
01-07	- 33.72	<0.01	<0.01	<0.01	<0.01	<0.01	
01-08	33.72- 35.72	0.03	0.05	<0.01	<0.01	<0.01	
01-09	- 37.33	0.03	<0.01	0.01	<0.01	0.01	
01-10	43.53- 45.53	<0.01	0.15	0.03	<0.01	0.01	
01-11	- 47.53	0.02	0.35	0.02	<0.01	0.01	
01-12	- 49.53	0.03	0.05	<0.01	<0.01	<0.01	
01-13	- 51.90	0.01	<0.01	0.01	<0.01	<0.01	
	TOTAL 25.70 m						

No encouraging assay results were obtained.

Mineralization of MJZM-2

A dissemination of pyrite, pyrrhotite, and chalcopyrite was recognized in charnockite at the depth of 36.45 metres to 40.28 metres. And also a weak mineralization of pyrite, pyrrhotite, and chalcopyrite exists at the depth of 20.00 metres to 33.72 metres.

According to microscopic observation of polished sections(depth : 38.00 metres 49.00metres), an association of pyrrhotite, pyrite, and chalcopyrite were observed in small to extremely small quantities.
Magnetite and ilmenite showing an irregular form present as oxide minerals and ilmenite partly appears as exsoluted lamella in magnetite.
On the other hand, ilmenite exsoluted tiny hematite(< 0.001 mm).

Assay results are as follows:

MJZM - 2

SAMPLE NO.	DEPTH(m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn(%)	COMMENT
02-01	36.45- 38.45	<0.01	≤0.01	<0.01	≤0.01	<0.01	
02-02	- 40.28	0.04	<0.01	0.01	<0.01	0.01	
	TOTAL 3.83 m						

No encouraging assay results were obtained.

Mineralization of MJZM-3

A weak dissemination of pyrite, pyrrhotite, and chalcopyrite was recognized in charnockite at the depth of 5.50 metres to 9.09 metres.
According to microscopic observation of polished section(depth : 7.00 metres), only pyrite was observed in extremely small quantities and rarely included very tiny chalcopyrite blebs(0.01 mm to 0.03 mm).
Magnetite, ilmenite-hematite exsolution, and ilmenite exists as oxide minerals in small to extremely small quantities.
Magnetite in general shows a granular to irregular form and produces ilmenite lamella as exsoluted products. On the other hand, ilmenite exsolutes very tiny hematite along the parallel to its crystallographic plane of (0001).

Assay results are as follows:

MJZM - 3

SAMPLE NO.	DEPTH(m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn(%)	COMMENT
03-01	5.50- 7.50	0.04	0.15	≤0.01	≤0.01	≤0.01	
03-02	- 9.09	0.03	<0.01	<0.01	<0.01	<0.01	
	TOTAL 3.59 m						

2-1-4 Considerations

For the mineralization characteristic, it is found from the results of three executed holes (MJZM-1, MJZM-2, and MJZM-3) that the mineralization of pyrrhotite, pyrite and chalcopyrite is found mainly in charnockite and local felsic granulite and their mode of occurrence is almost concordant with foliation.

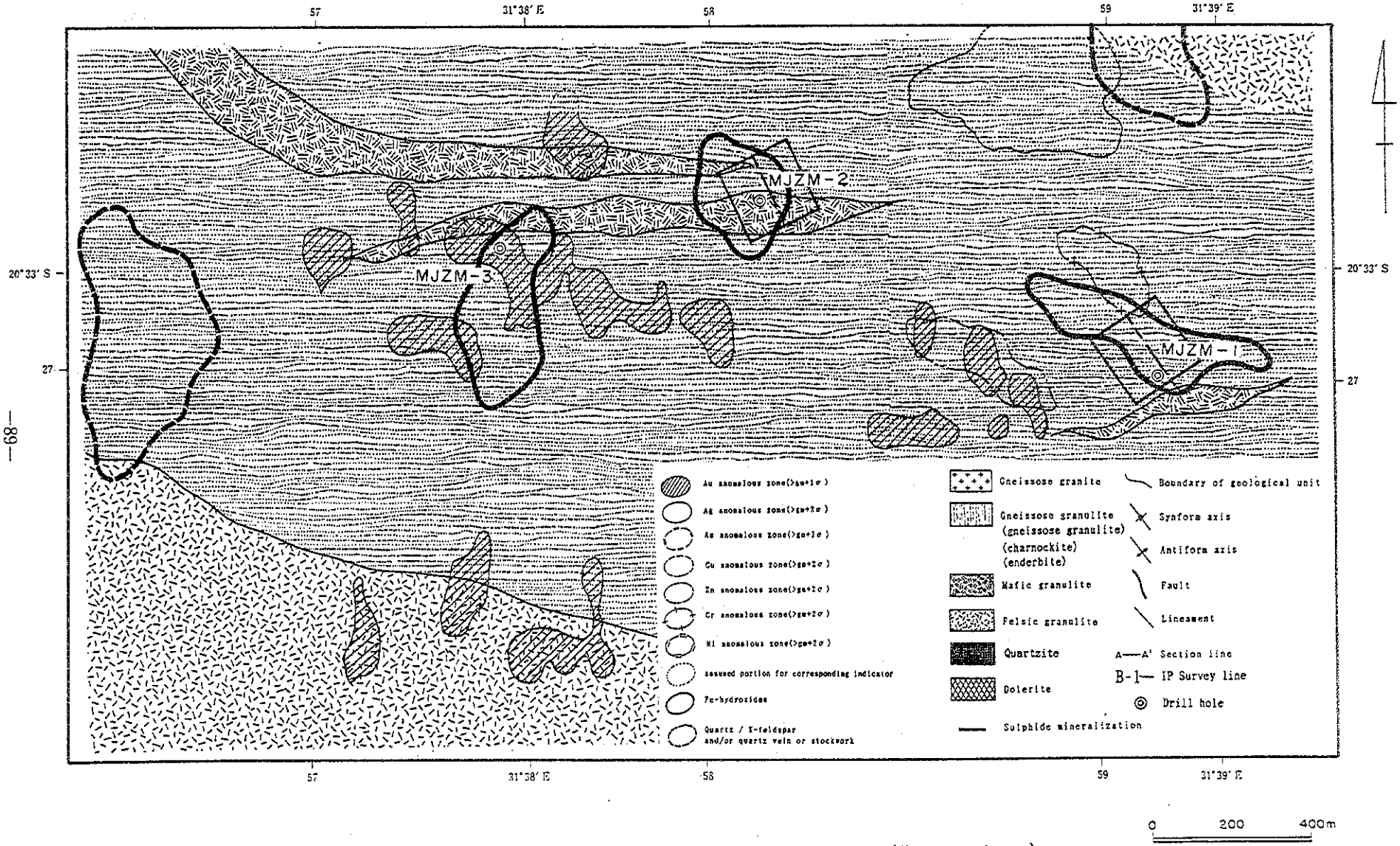

FIG. 2-2-1 Locality Map of Drill Holes(Juwere Area)

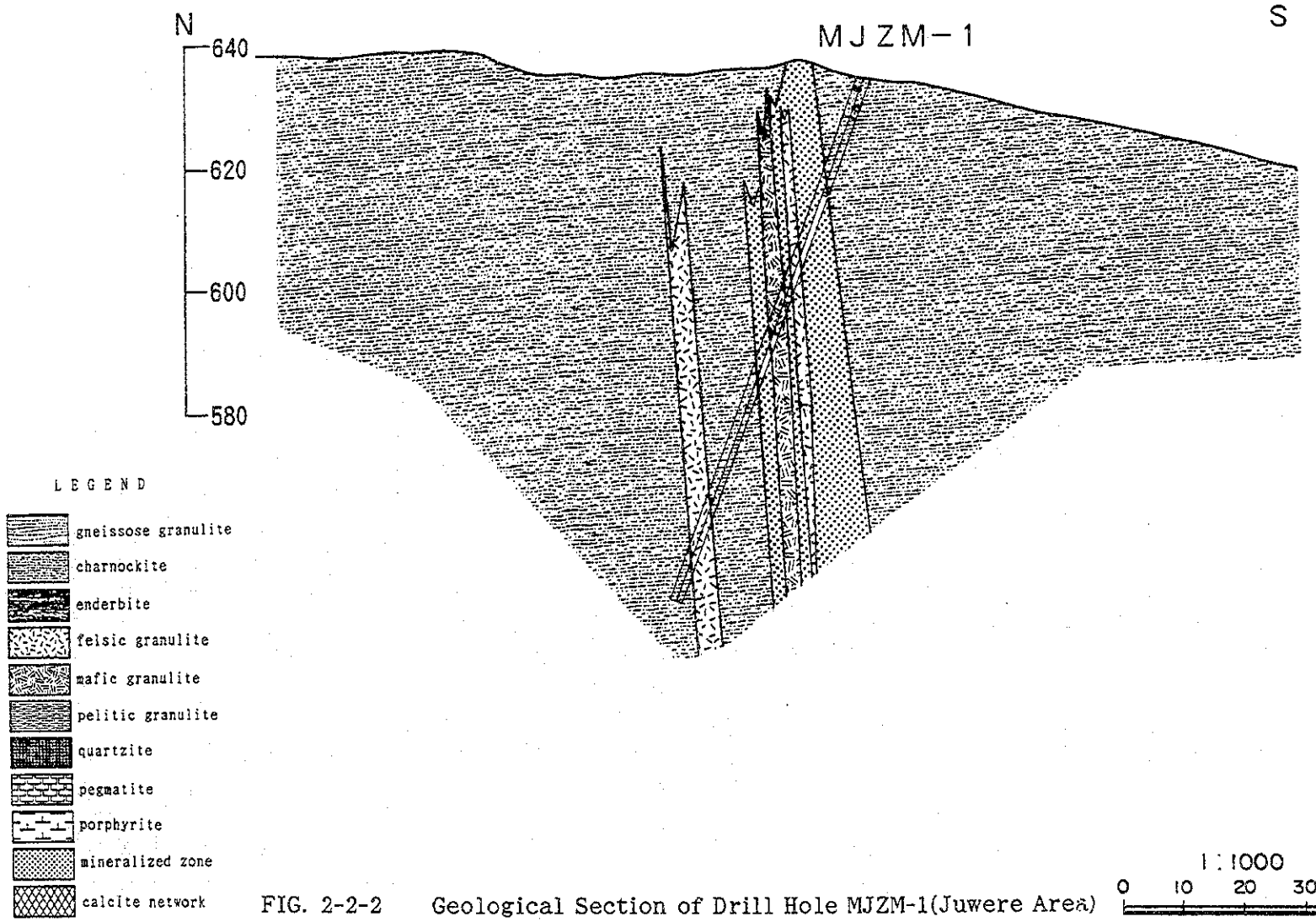

FIG. 2-2-2 Geological Section of Drill Hole MJZM-1(Juwere Area)

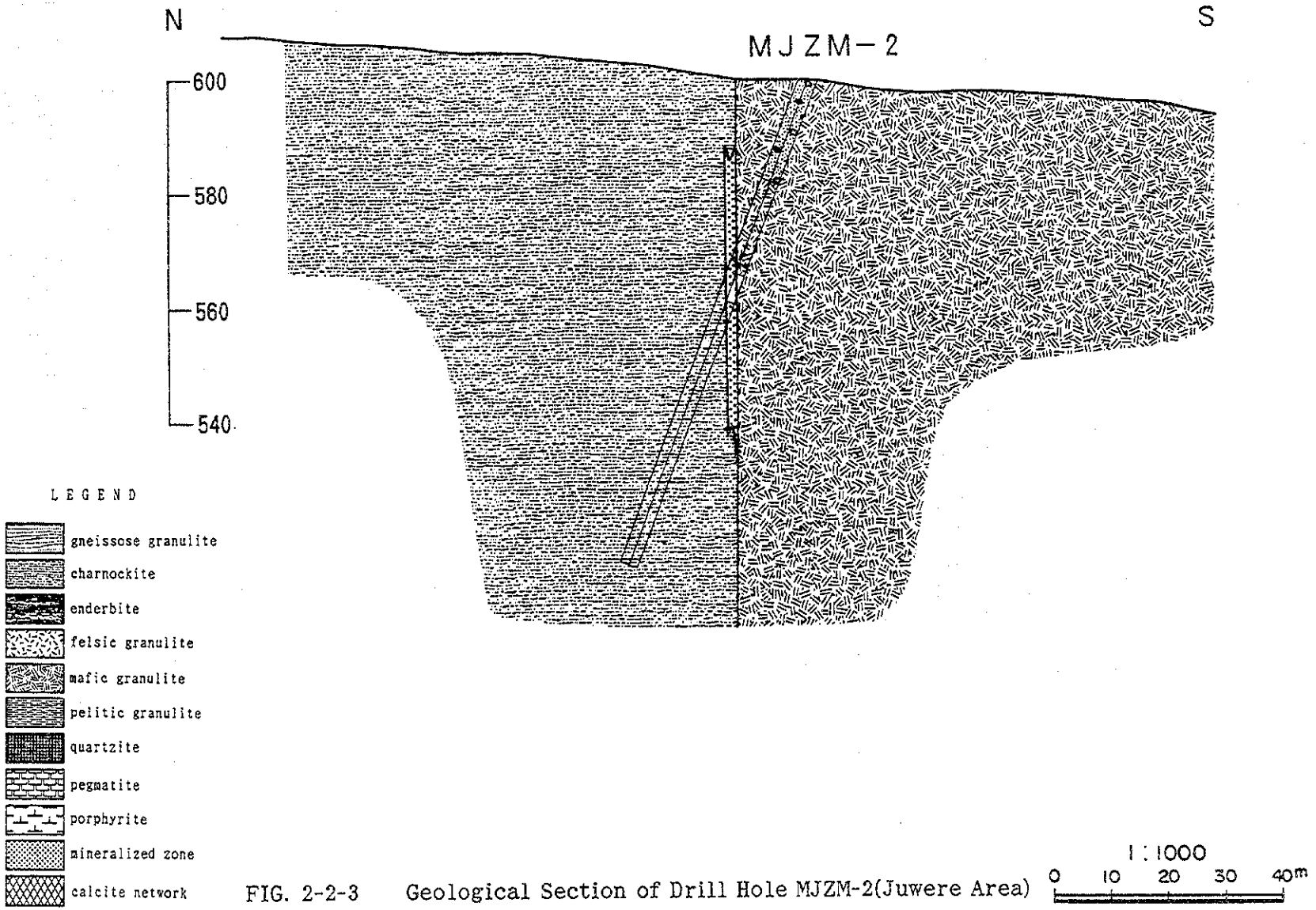

FIG. 2-2-3 Geological Section of Drill Hole MJZM-2(Juwere Area)

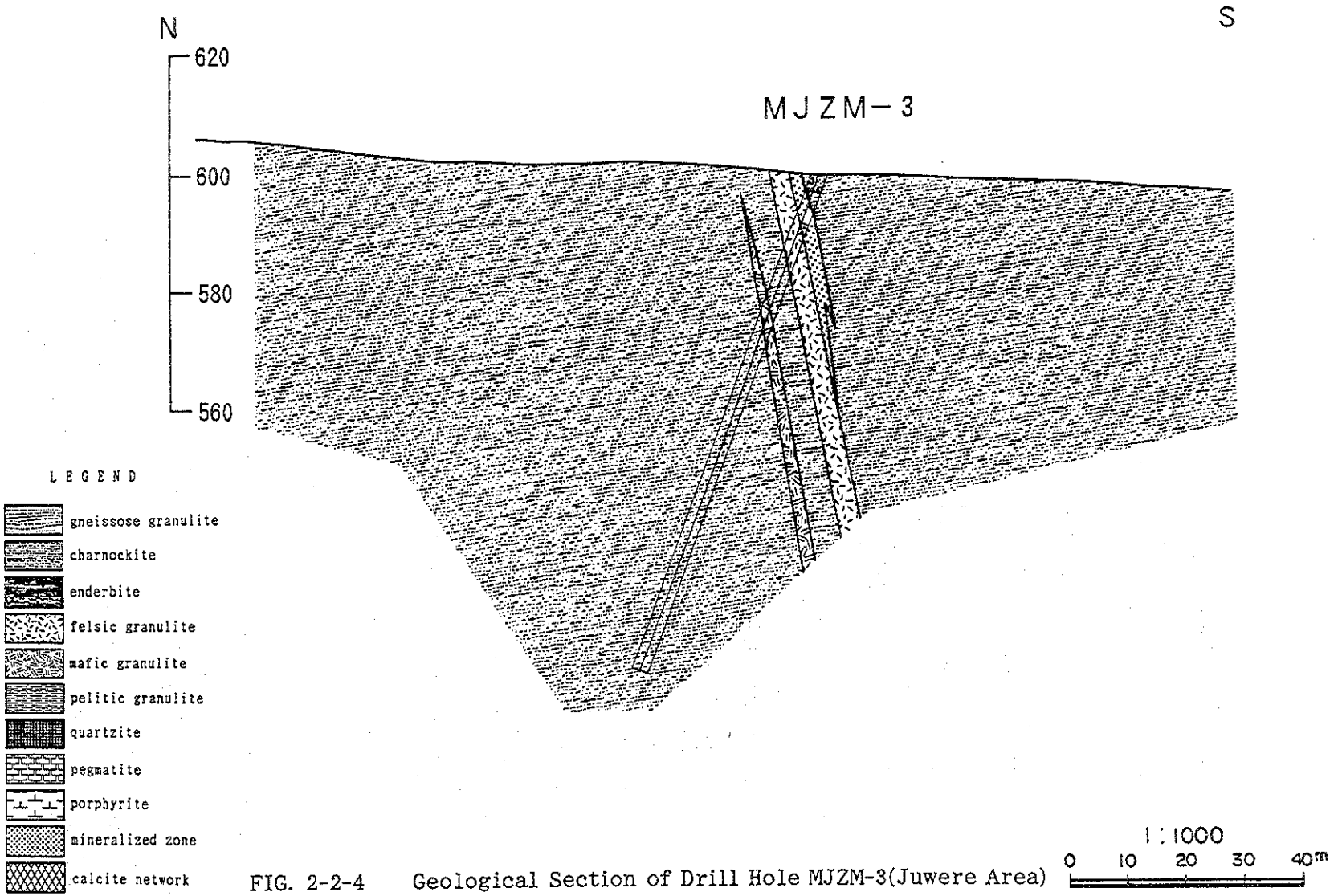

FIG. 2-2-4 Geological Section of Drill Hole MJZM-3(Juwere Area)

This fact shows that mineralization occurred before metamorphism. Meanwhile, because mineralization inadequately occurs in mafic granulite, it is estimated that mineralization and country rock are syngenetic or mafic granulite was produced after mineralization.
Judging from selectivity and concordance of mineralization for the country rock, this zone has a large possibility of stratabound ore deposit.

2-2 MUCHACHA ZONE(FIG.2-2-5)

2-2-1 Survey Method

Drilling State of MJZM-4

The bed rock appears after the thin soil portion of 3.00 metres. However, drilling was stagnated because of intensely fractured mafic granulite and only 75.00 % of core recovery was attained. The drilling speed of this hole was as low as 7.50 m/day.

TABLE 2-2-8 Summary of Drilling Programme(Muchacha Zone : MJZM-4)

	PERIOD	NO. OF DAYS	WORKING DAY	DAY OFF	NO. OF WORKER
MOBILIZATION	JUN. 18 - JUN. 19	2	2	0	9.0
D R I L L I N G	JUN. 20 - JUL. 02	13	12	1	54.0
DEMOBILIZATION	JUL. 03	1	1	0	4.5
T O T A L	JUN. 18 - JUL. 03				

DEPTH PLANNED	90.00 m	DEPTH DRILLED		90.05 m
OVERBURDEN	3.00 m	RATE OF CORE RECOVERY		
CORE LENGTH	67.54 m		TOTAL	75.00 %
C A S I N G	NX 14.00 m		T B W	86.82 %
	BX 27.00 m			
DRILLING SPEED	7.50 m/ DRILLING DAY			
	6.00 m/ TOTAL WORKING DAY			

Drilling State of MJZM-5

The bed rock of dark green mafic granulite appears after the thick soil portion of 18.00 metres. Only 80.00 % of core recovery was attained due to thick soil portion. The drilling speed, however, of this hole was obtained as high as 12.86 m/day.

TABLE 2-2-9 Summary of Drilling Programme(Muchacha Zone : MJZM-5)

	PERIOD	NO. OF DAYS	WORKING DAY	DAY OFF	NO. OF WORKER
MOBILIZATION	JUN. 18 - JUN. 19	2	2	0	9.0
D R I L L I N G	JUN. 20 - JUN. 27	8	7	1	31.5
DEMOBILIZATION	JUN. 28	1	1	0	4.5
T O T A L	JUN. 18 - JUN. 28				

DEPTH PLANNED	90.00 m	DEPTH DRILLED		90.00 m
OVERBURDEN	18.00 m	RATE OF CORE RECOVERY		
CORE LENGTH	72.00 m		TOTAL	80.00 %
C A S I N G	NX 19.00 m		T B W	100.00 %
	BX 28.90 m			
DRILLING SPEED	12.86 m/ DRILLING DAY			
	9.00 m/ TOTAL WORKING DAY			

2-2-2 Geology

Geology of MJZM-4(FIG.2-2-6)

The geology of this hole consist only of mafic granulite.

That is, the shallower part(0 metres to 43 metres) of the hole consists of weathered, and well-fractured mafic granulite.

According to microscopic observation of mafic granulite(depth : 84.81 metres), chlorite in great quantities was commonly observed in clinopyroxene and olivine.

Opaque minerals observed are probably not sulphide but oxide minerals.

No sulphide minerals were observed.

Calcite veinlets and network characterize an alteration structure of this hole.

Geology of MJZM-5(FIG.2-2-7)

The geology of this hole is also similar to the geology confirmed through the field survey. That is, the shallower part of the hole consists of mafic granulite. Meanwhile, the deeper part of the hole is mainly made of gray, compact, hard, medium grained, and foliated(40° to 60°) charnockite.

According to microscopic observation of charnockite(depth : 57.00 metres), sericite in extremely small quantities were observed in rims of plagioclase and k-feldspar. No both sericite and chlorite were produced within clinopyroxene and orthopyroxene.

On the other hand, opaque minerals are produced along the rims of amphibole and pyroxenes and show no intimate association with sericite.

2-2-3 Survey results

Mineralization of MJZM-4

No any sulphide mineralization was encountered.

Mineralization of MJZM-5

A weak dissemination of pyrite and pyrrhotite was recognized in charnockite at the depth of 55.50 metres to 58.30 metres.

According to microscopic observation of polished section(depth : 57.00 metres),

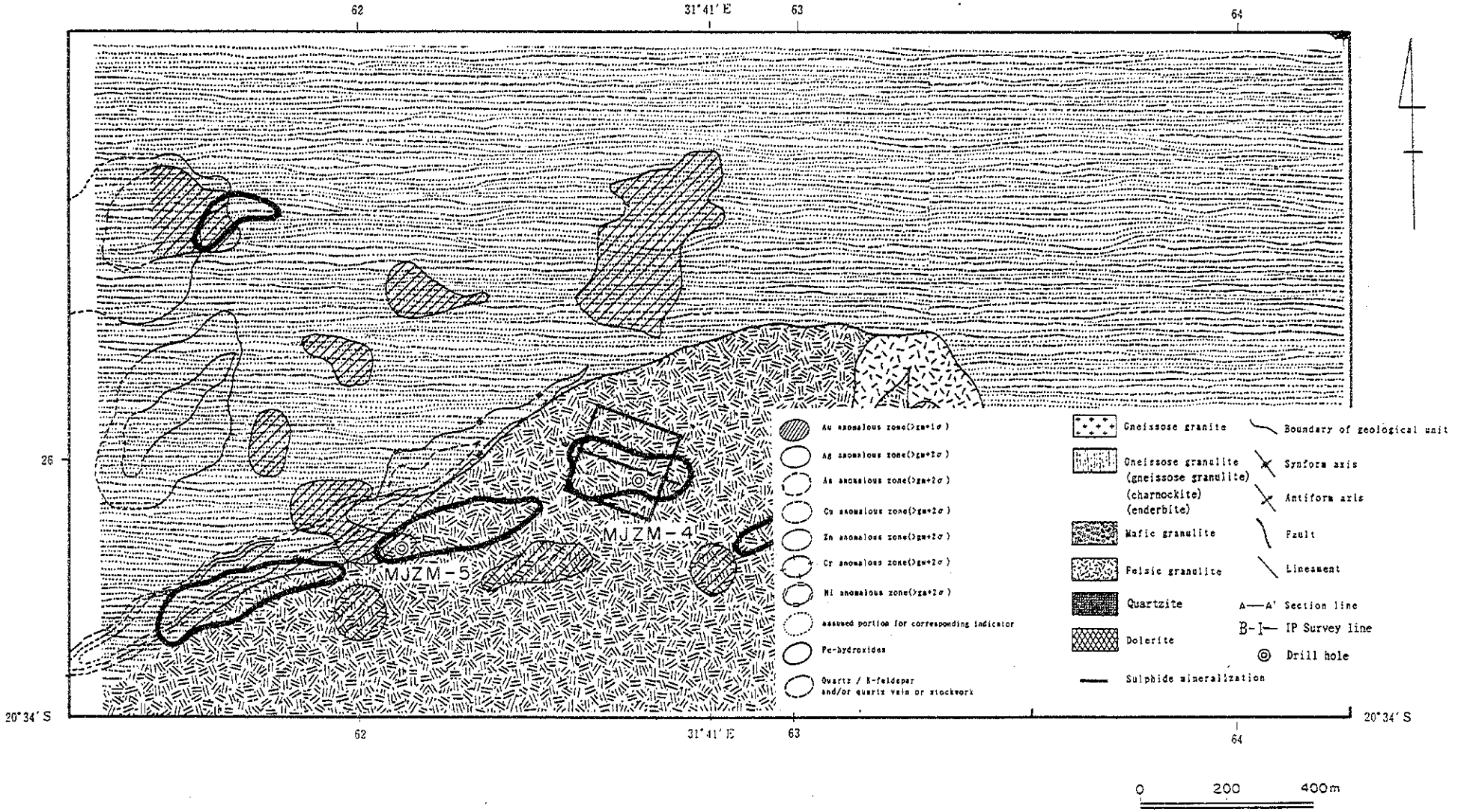

FIG. 2-2-5 Locality Map of Drill Holes(Muchacha Area)

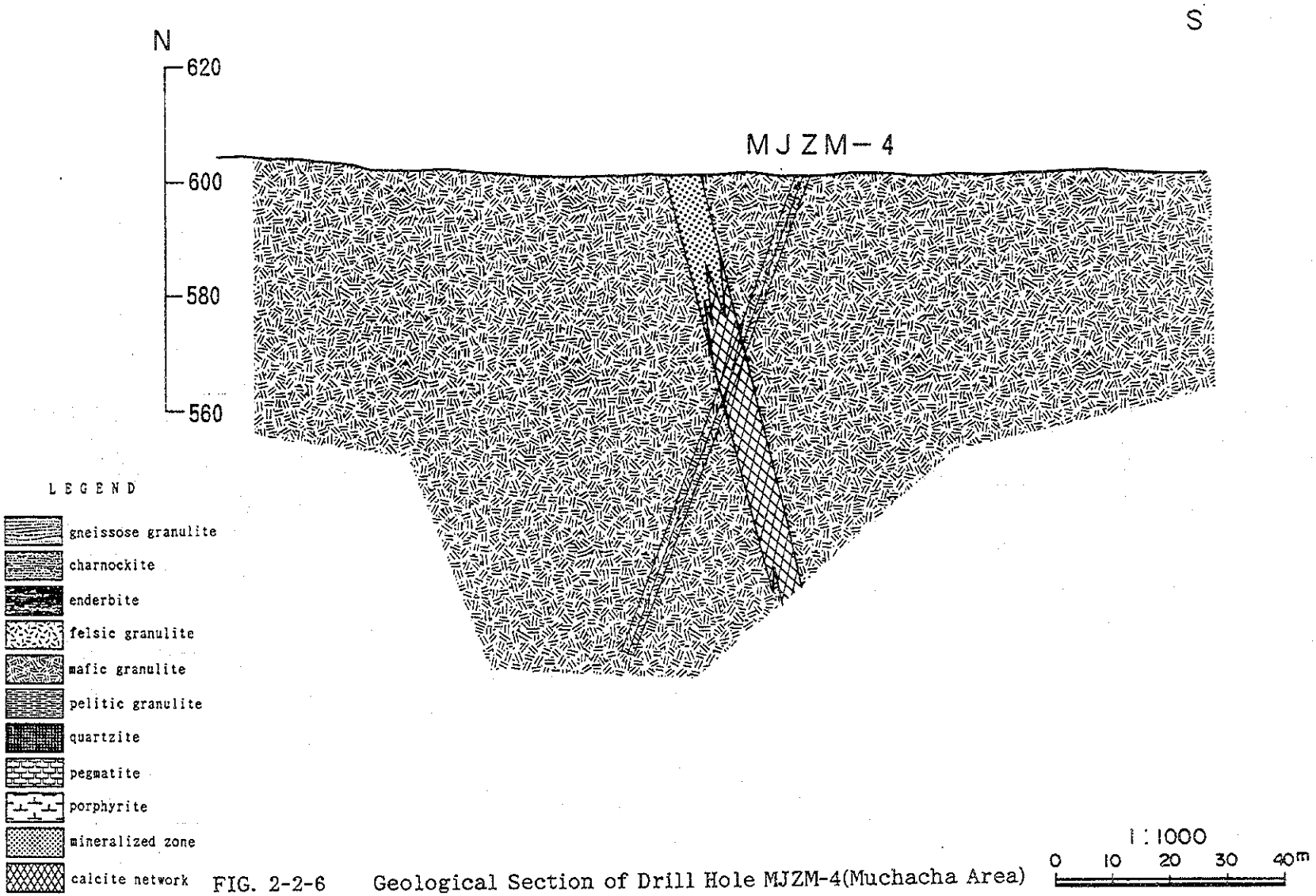

FIG. 2-2-6 Geological Section of Drill Hole MJZM-4(Muchacha Area)

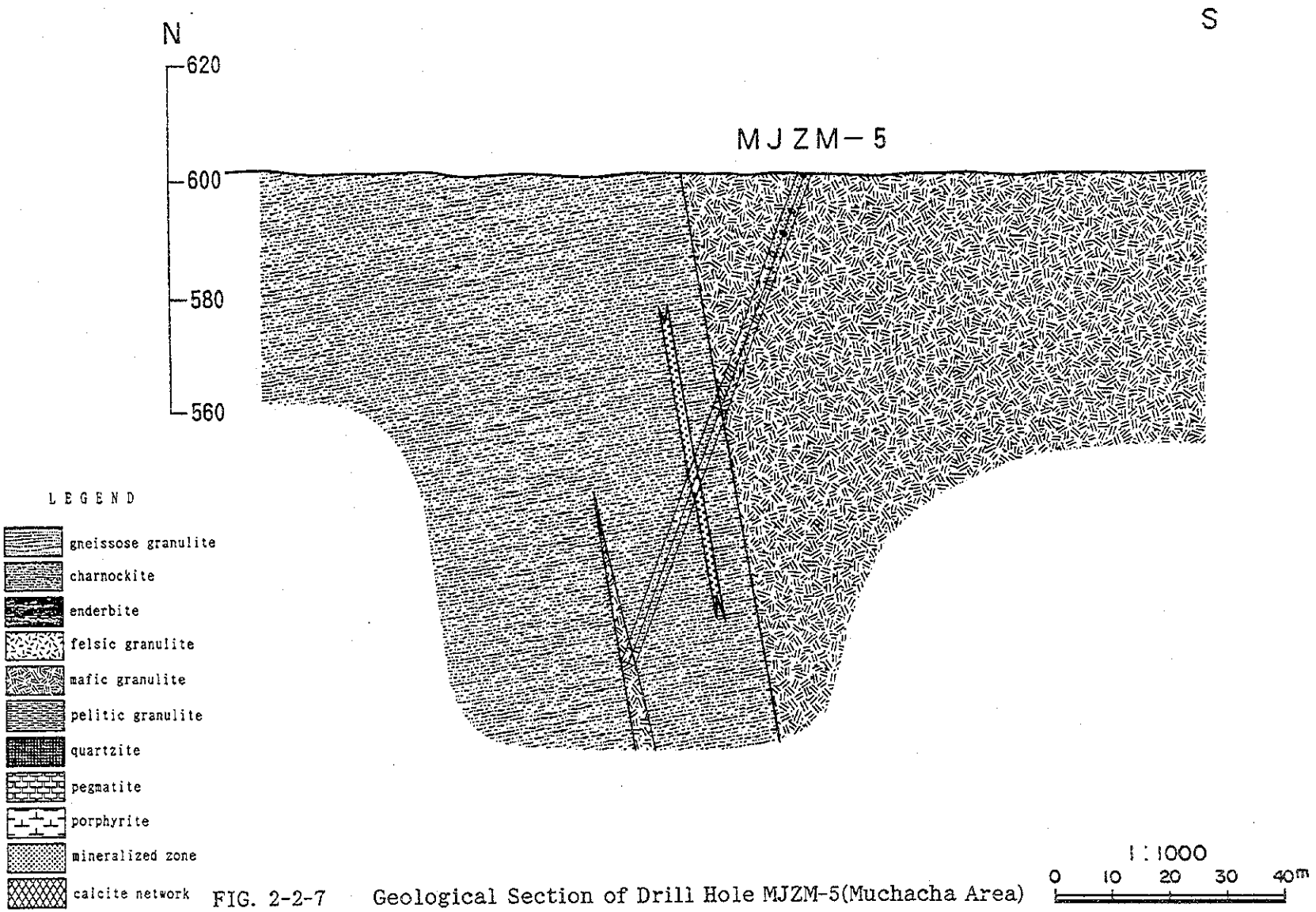

FIG. 2-2-7 Geological Section of Drill Hole MJZM-5(Muchacha Area)

only pyrrhotite was observed in extremely small quantities.
On the other hand, ilmenite showing irregular, prismatic, and lenticular forms exists as a oxide mineral in small quantities.

Assay results are as follows:

M J Z M - 5

SAMPLE NO.	D E P T H(m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn(%)	COMMENT
05-01	55.50- 58.30	0.04	<0.01	<0.01	<0.01	<0.01	
	TOTAL 2.80 m						

No significant assay results were obtained.

2-2-4 Considerations

For the mineralization characteristic, it was impossible to obtain the genetic relation between geological structure and mineralization from the results of two executed drill holes (MJZM-4 and MJZM-5) because mineralization was weak. Especially for MJZM-4, it is found that the mineralized zone having intensely silisified zone detected on the ground surface is changed to a calcite network zone in a deep portion. The following two possibilities are considered for the above change:

① possible lower extension of mineralized zone in surface.
② possible presence of a fault.

2-3 BENZI ZONE(FIG.2-2-8)

2-3-1 Survey Method

Drilling State of MJZM-6

The bed rock appears after the thin soil portion of 3.00 metres.
However, drilling was partly stagnated because of intensely fractured mylonitic charnockite in the upper portion(from surface to 20 metres) but no troubles were encountered in the deeper portion.
As high as 97.29 % of core recovery was attained although the drilling speed was obtained 8.82 m/day.

TABLE 2-2-10 Summary of Drilling Programme(Benzi Zone : MJZM-6)

	PERIOD	NO. OF DAYS	WORKING DAY	DAY OFF	NO. OF WORKER
MOBILIZATION	AUG. 26	1	1	0	4.5
D R I L L I N G	AUG. 27 - SEP. 13	18	17	1	76.5
DEMOBILIZATION	SEP. 14	1	1	0	4.5
T O T A L	AUG. 26 - SEP. 14				

DEPTH PLANNED	150.00 m	DEPTH DRILLED		150.00 m
O V E R B U R D E N	3.00 m	RATE OF CORE RECOVERY		
C O R E L E N G T H	145.93 m		TOTAL	97.29 %
C A S I N G	NX 6.00 m		T B W	100.00 %
	BX 36.00 m			
DRILLING SPEED	8.82 m/ DRILLING DAY			
	7.89 m/ TOTAL WORKING DAY			

Drilling State of MJZM-7

No soil portion was encountered.

However, drilling was stagnated because of intensely fractured mylonitic charnockite, lost circulation, collapse and also trouble of water supply.

A 81.79 % of core recovery was attained although the drilling speed was stagnated as low as 4.84 m/day.

TABLE 2-2-11 Summary of Drilling Programme(Benzi Zone : MJZM-7)

	PERIOD	NO. OF DAYS	WORKING DAY	DAY OFF	NO. OF WORKER
MOBILIZATION	AUG. 18	1	1	0	4.5
D R I L L I N G	AUG. 19 - SEP. 20	33	31	2	139.5
DEMOBILIZATION	SEP. 21	1	1	0	4.5
T O T A L	AUG. 18 - SEP. 21				

DEPTH PLANNED	150.00 m	DEPTH DRILLED		150.00 m
O V E R B U R D E N	00.00 m	RATE OF CORE RECOVERY		
C O R E L E N G T H	122.68 m		TOTAL	81.79 %
C A S I N G	NX 22.00 m		T B W	95.35 %
	BX 36.00 m			
DRILLING SPEED	4.84 m/ DRILLING DAY			
	4.55 m/ TOTAL WORKING DAY			

2-3-2 Geology

Geology of MJZM-6(FIG.2-2-9)

The geology of this hole is also similar to the geology confirmed through the field survey. That is, the hole consists mainly of mylonitic charnockite intruded by sheets of porphyrite and intercalated with thin enderbite.

The mylonitic charnockite is characterized by a foliation of 15° to 20° and a common presence of pinked k-feldspar.

According to microscopic observation of gneissose granulite (depth : 41.00 metres), sericite was commonly observed within plagioclase and k-feldspar.

The veinlets of prehnite and chlorite, which are cutting obliquely the foliation of charnockite, were observed.

On the other hand, opaque minerals are mainly produced together with sericite.

Geology of MJZM-7(FIG.2-2-10)

The geology of this hole is also similar to the geology confirmed through the field survey. That is, the geology of the hole is basically identical with that of MJZM-6. It consists mainly of mylonitic charnockite intruded by a sheet of porphyrite. The mylonitic charnockite is characterized by a foliation of 20° to 30° and a common presence of pinked k-feldspar as well as MJZM-6.

According to microscopic observation of charnockite (depth : 73.00 metres, 96.00 metres), an association of epidote-sericite-opaque minerals was observed although the rock was weakly altered.

On the other hand, plagioclase and k-feldspar in felsic granulite(depth : 144.00 metres) produced commonly sericite.

Opaque minerals appear dispersedly and associate mainly with sericite.

2-3-3 Survey results

Mineralization of MJZM-6

A weak dissemination of pyrite, pyrrhotite, and chalcopyrite was recognized in charnockite at the depth of 33.18 metres to 46.17 metres and 64.07 metres to 64.92 metres.

According to microscopic observation of polished sections(depth : 35.00 metres, 41.00 metres), pyrite, pyrrhotite, and chalcopyrite were observed in small to extremely small quantities and these minerals tend to associate intimately with each other.

Magnetite and ilmenite exist as oxide minerals in small quantities and magnetite commonly exsolutes the lamella of ilmenite.

Assay results are as follows:

M J Z M - 6

SAMPLE NO.	D E P T H(m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn(%)	COMMENT
06-01	33.18- 35.65	0.03	<0.01	<0.01	<0.01	<0.01	
06-02	36.56- 38.56	0.01	<0.01	<0.01	<0.01	<0.01	
06-03	- 40.56	0.01	<0.01	<0.01	<0.01	0.01	
06-04	- 42.56	0.03	<0.01	<0.01	<0.01	0.01	
06-05	- 44.56	0.01	<0.01	<0.01	<0.01	0.01	
06-06	- 46.17	0.02	<0.01	<0.01	<0.01	0.01	
06-07	64.07- 64.92	<0.01	<0.01	0.01	<0.01	0.02	
	TOTAL 12.93 m						

No encouraging assay results were obtained.

Mineralization of MJZM-7

A weak dissemination of pyrite, pyrrhotite, and chalcopyrite was recognized in charnockite at the various depth as shown in the below.

According to microscopic observation of polished sections(depth : 73.00 metres, 96.00 metres, 144.00 metres), pyrite, pyrrhotite, and chalcopyrite were observed in small to extremely small quantities and these minerals tend to closely

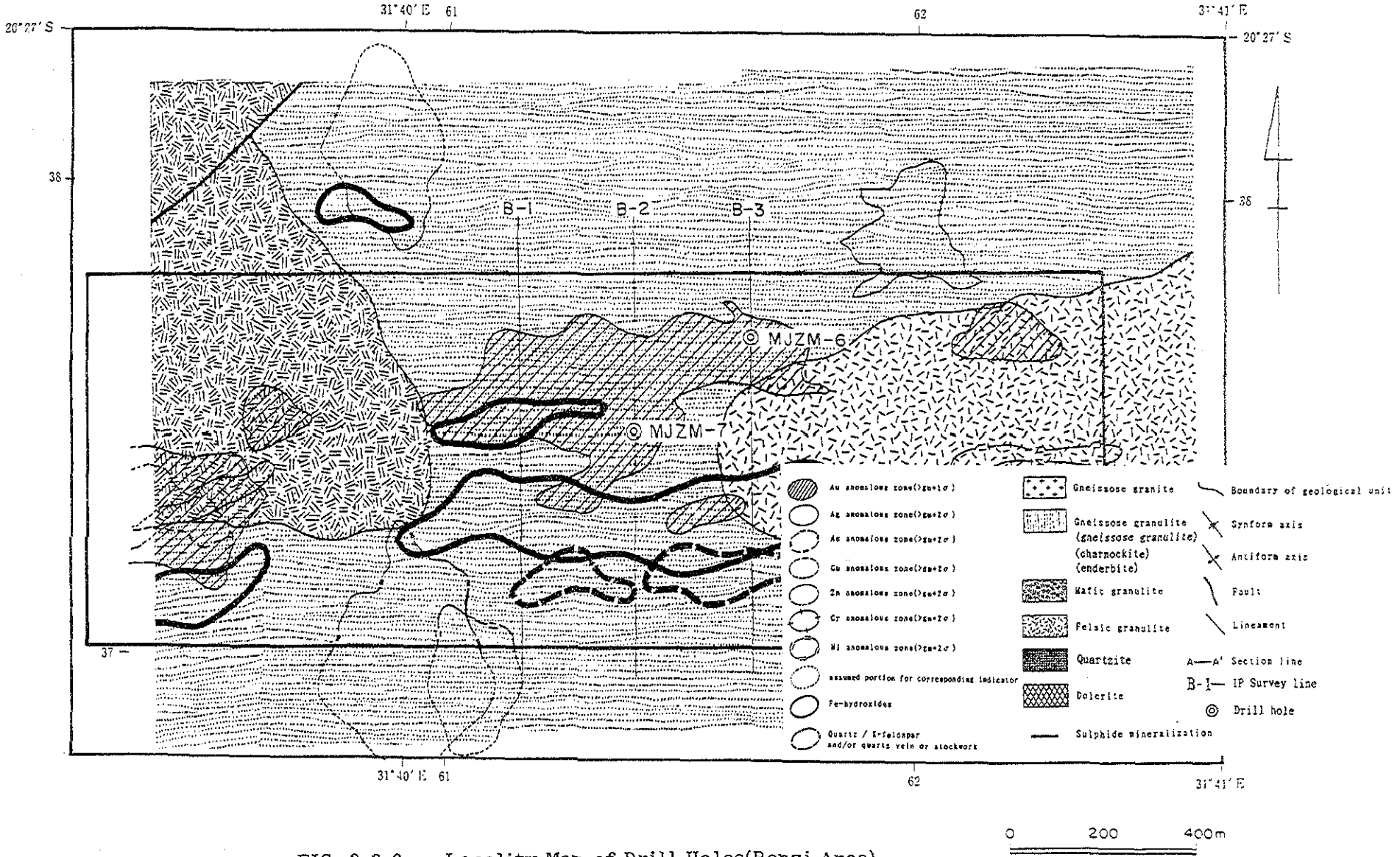

FIG. 2-2-8 Locality Map of Drill Holes(Benzi Area)

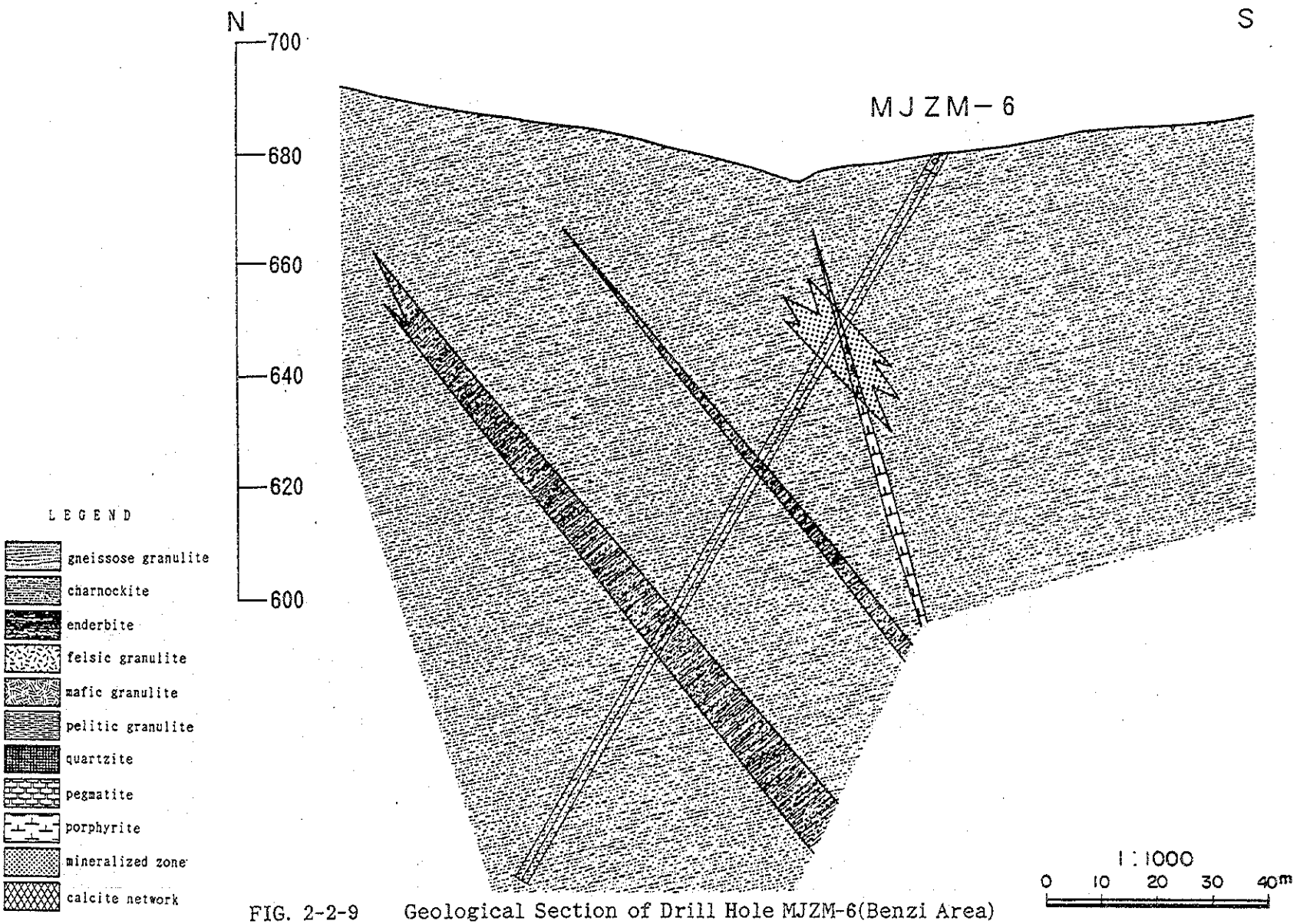

FIG. 2-2-9 Geological Section of Drill Hole MJZM-6(Benzi Area)

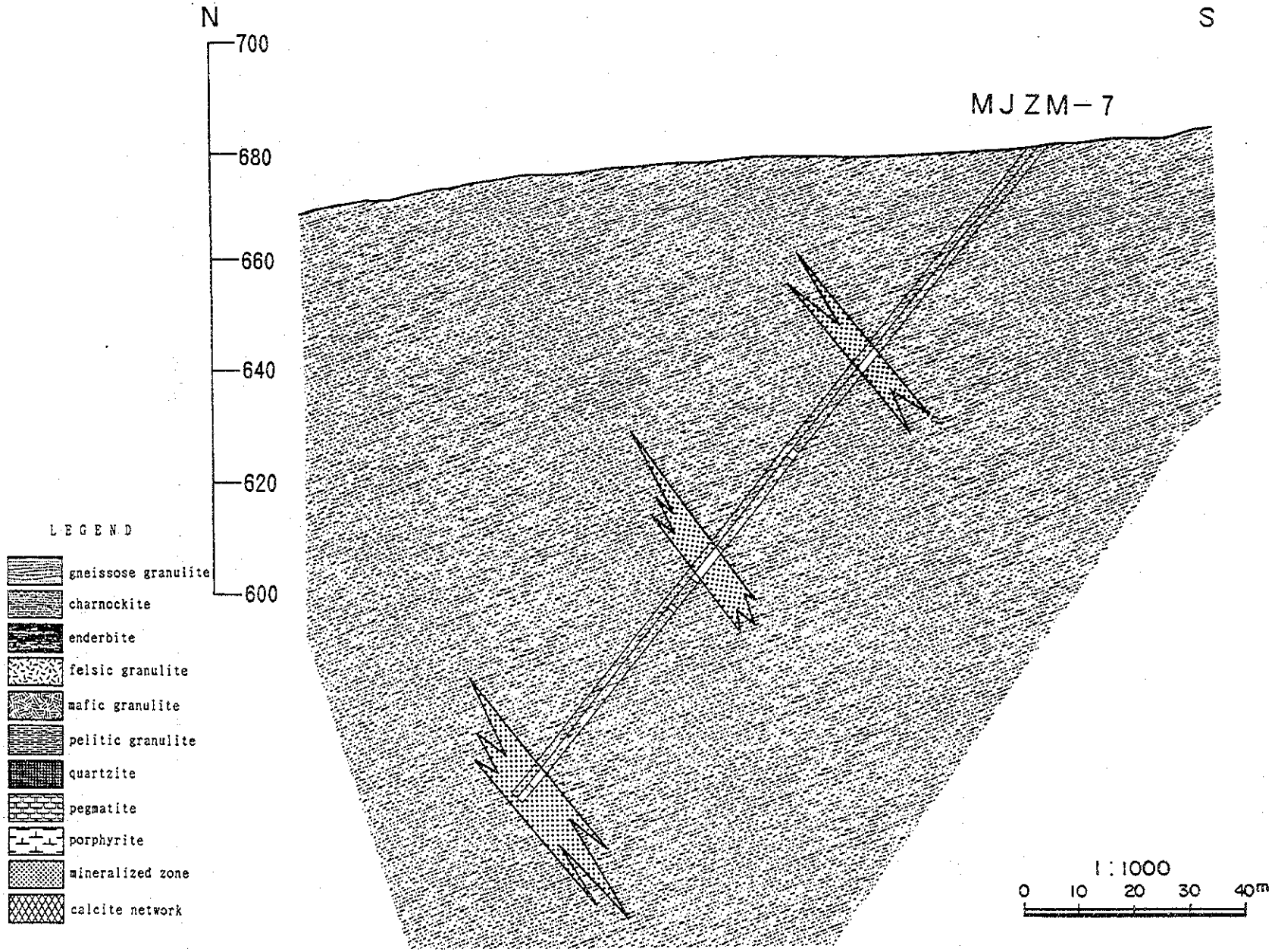

FIG. 2-2-10 Geological Section of Drill Hole MJZM-7(Benzi Area)

associate with each other.
The sulphide minerals in this hole are characterized by a relationship among the mineral quantity shown as follows: That is, it is pyrite > pyrrhotite > chalcopyrite.
And also some sulphide veinlets cutting obliquely the foliation of charnockite were observed.
On the other hand, magnetite and ilmenite exist as oxide minerals in extremely small quantities.

Assay results are as follows:

M J Z M - 7

SAMPLE NO.	D E P T H(m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn(%)	COMMENT
07-01	72.57- 74.12	<0.01	<0.01	<0.01	<0.01	<0.01	
07-02	92.50- 94.50	<0.01	<0.01	<0.01	<0.01	<0.01	
07-03	- 96.50	<0.01	<0.01	<0.01	<0.01	<0.01	
07-04	- 98.50	0.01	<0.01	<0.01	<0.01	<0.01	
07-05	-100.10	<0.01	<0.01	<0.01	<0.01	<0.01	
07-06	105.06-106.90	0.03	0.15	0.02	<0.01	<0.01	
07-07	143.55-145.55	<0.01	<0.01	<0.01	<0.01	0.01	
07-08	-146.83	<0.01	<0.01	<0.01	<0.01	<0.01	
07-09	148.29-150.00	<0.01	<0.01	<0.01	<0.01	0.02	
	TOTAL 19.48 m						

No encouraging assay results were obtained.

2-3-4 Considerations

The following are features of the sulphide minerals (pyrite, pyrrhotite, and chalcopyrite) and the alteration minerals (especially, sericite) of MJZM-6 and MJZM-7.

① Pyrite is more than pyrrhotite compared with other zones.
② Because veinlets (width: 1 to 3 mm) diagonally intersecting with foliation are present in addition to sulphide minerals along foliation similarly to other zones, the mode of occurrence of this zone is different from that of other zones.
③ Alteration minerals appear more frequently than other zones.

There are not so many sulphide minerals in general in this zone. However, judging from the above facts, it is estimated that two stages of mineralization,
① mineralization before metamorphism and
② mineralization after metamorphism
occurred in this zone.
Moreover, for Item ②, it can be estimated that mylonite zone along Benzi river is also related to the time of the mineralization.

2-4 JEGEDE ZONE(FIG.2-2-11)

2-4-1 Survey Method

Drilling State of MJZM-8

The bed rock appears after the thin soil portion of 6.00 metres. No special trouble happened, therefore 89.85 % of core recovery and 9.68 m/day of drilling speed were attained.

TABLE 2-2-12 Summary of Drilling Programme(Jegede Zone : MJZM-8)

	PERIOD	NO. OF DAYS	WORKING DAY	DAY OFF	NO. OF WORKER
MOBILIZATION	JUL. 26	0.5	0.5	0	2.25
D R I L L I N G	JUL. 26 - AUG. 13	18.5	15.5	3	69.75
DEMOBILIZATION	AUG. 14	1	1	0	4.5
T O T A L	SEP.				

DEPTH PLANNED	150.00 m		DEPTH DRILLED	150.30 m
O V E R B U R D E N	6.00 m		RATE OF CORE RECOVERY	
C O R E L E N G T H	135.05 m		TOTAL	89.85 %
C A S I N G	NX 10.72 m		T B W	98.90 %
	BX 22.90 m			
DRILLING SPEED	9.68 m/ DRILLING DAY			
	8.12 m/ TOTAL WORKING DAY			

Drilling State of MJZM-9

The bed rock appears after the soil portion of 12.03 metres. No special trouble happened although intensely disseminated sulphide zone was drilled. A 79.87 % of core recovery and 11.25 m/day of drilling speed were attained.

TABLE 2-2-13 Summary of Drilling Programme(Jegede Zone : MJZM-9)

	PERIOD	NO. OF DAYS	WORKING DAY	DAY OFF	NO. OF WORKER
MOBILIZATION	JUL. 15	1	1	0	4.5
D R I L L I N G	JUL. 16 - JUL. 24	9	8	1	36.0
DEMOBILIZATION	JUL. 25	1	1	0	4.5
T O T A L	JUL. 15 - JUL. 25				

DEPTH PLANNED	90.00 m		DEPTH DRILLED	90.00 m
O V E R B U R D E N	12.03 m		RATE OF CORE RECOVERY	
C O R E L E N G T H	71.88 m		TOTAL	79.87 %
C A S I N G	NX 12.03 m		T B W	99.63 %
	BX 27.66 m			
DRILLING SPEED	11.25 m/ DRILLING DAY			
	9.00 m/ TOTAL WORKING DAY			

Drilling State of MJZM-10

No soil portion was encountered.

A smooth drilling was attained in general except fractured portions of depth 35 metres to 40 metres and 65 metres to 75 metres.

A 80.04 % of core recovery was attained although the drilling speed was as high as 11.11 m/day.

TABLE 2-2-14 Summary of Drilling Programme(Jegede Zone : MJZM-10)

	PERIOD	NO. OF DAYS	WORKING DAY	DAY OFF	NO. OF WORKER
MOBILIZATION	AUG. 07	0.5	0.5	0	2.25
D R I L L I N G	AUG. 07 - AUG. 22	15.5	13.5	2	60.75
DEMOBILIZATION	AUG. 23	1	1	0	4.5
T O T A L	AUG. 07 - AUG. 23				

DEPTH PLANNED	150.00 m	DEPTH DRILLED		150.00 m
O V E R B U R D E N	00.00 m	RATE OF CORE RECOVERY		
C O R E L E N G T H	120.61 m		TOTAL	80.04 %
C A S I N G	NX 19.49 m		T B W	98.29 %
	BX 39.00 m			
DRILLING SPEED	11.11 m/ DRILLING DAY			
	8.82 m/ TOTAL WORKING DAY			

Drilling State of MJZM-11

The bed rock appears after the thin soil portion of 2.68 metres.

A 87.50 % of core recovery was obtained due to a stable rock condition.

A mechanical trouble of drilling machine for two days was encountered, therefore the drilling speed was attained as low as 8.57 m/day.

TABLE 2-2-15 Summary of Drilling Programme(Jegede Zone : MJZM-11)

	PERIOD	NO. OF DAYS	WORKING DAY	DAY OFF	NO. OF WORKER
MOBILIZATION	JUL. 24	0.5	0.5	0	2.25
D R I L L I N G	JUL. 24 - AUG. 05	12.5	10.5	2	42.75
DEMOBILIZATION	AUG. 06	1	1	0	4.5
T O T A L	JUL. 24 - AUG. 06				

DEPTH PLANNED	90.00 m	DEPTH DRILLED		90.00 m
O V E R B U R D E N	2.68 m	RATE OF CORE RECOVERY		
C O R E L E N G T H	78.82 m		TOTAL	87.58 %
C A S I N G	NX 8.89 m		T B W	95.01 %
	BX 17.89 m			
DRILLING SPEED	8.57 m/ DRILLING DAY			
	7.50 m/ TOTAL WORKING DAY			

2-4-2 Geology

Geology of MJZM-8(FIG.2-2-12)

The geology of this hole is characterized by an alternation of enderbite and pelitic granulite both having a foliation of 70° to 80° . And the inferior part of the hole is composed mainly of enderbite.

According to microscopic observation of enderbite(depth : 61.00 metres, 140.00 metres), sericite was observed in plagioclase and opaque minerals have mainly an

association with mafic minerals.
The alteration of the hole is evaluated to be a weak.

Geology of MJZM-9(FIG.2-2-13)

The geology of this hole is also similar to the geology confirmed through the field survey. That is, the upper portion of the hole consists of weathered mafic granulite, the middle portion of well-foliated(70° to 80°) charnockite and the inferior portion of a massive enderbite.
According to microscopic observation of charnockite(depth : 44.00 metres), associations of sericite-chlorite and chlorite-opaque minerals were observed. On the other hand, charnockite(depth : 58.50 metres) shows no chlorite and opaque minerals tend to appear in pyroxenes or the boundaries of quartz and plagioclase.
In enderbite, a sign of hydrothermal alteration is indicated only by a dispersed sericite appearance in extremely small quantities.

Geology of MJZM-10(FIG.2-2-14)

The geology of this hole consists mainly of a massive enderbite which intercalates a small scale pegmatite and several thin charnockite layers.
According to microscopic observation of felsic granulite(depth : 71.00 metres), plagioclase and k-feldspar change completely to a sericite aggregation and sericite has an close association with opaque minerals in general.
On the other hand, charnockite(depth : 96.00 metres) and enderbite(depth : 135.00 metres) show sericite only as an alteration product in extremely small quantities in plagioclase and k-feldspar.

Geology of MJZM-11(FIG.2-2-15)

The geology of this hole can be divided into enderbite, charnockite, and enderbite in ascending order.
The upper enderbite has a weathered, coarse-grained, and massive appearance, the middle one has a foliation of approximately 50° , fine-grained, compact, and hard rock facies, and lower one shows a foliation of 40° to 60° , medium- to fine-grained, compact and hard appearance.
According to microscopic observation of these rocks(depth : 47.00 metres, 65.00 metres, 74.00 metres, 81.00 metres), plagioclase and pyroxenes change partly to a sericite aggregation.
On the other hand, opaque minerals have a general tendency to become a larger grain or banded form in association with mafic minerals.

2-4-3 Survey results

Mineralization of MJZM-8

A weak dissemination of pyrite, pyrrhotite, and chalcopyrite was recognized in enderbite at the various depth as shown in the below.

According to microscopic observation of polished sections(depth : 61.00 metres, 140.00 metres), pyrite, pyrrhotite, and chalcopyrite were observed in small to extremely small quantities and these minerals tend to associate closely each other.

The mineral quantities in this hole are shown as below:

That is, it is pyrrhotite > sphalerite > chalcopyrite > pyrite.

On the other hand, only ilmenite exist as oxide mineral in extremely small quantities.

Assay results are as follows:

MJZM - 8

SAMPLE NO.	D E P T H(m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn(%)	COMMENT
08-01	58.02- 60.02	0.01	<0.01	0.01	<0.01	0.02	
08-02	- 62.02	0.03	<0.01	0.01	<0.01	0.03	
08-03	- 64.02	0.04	<0.01	0.03	<0.01	0.02	
08-04	- 66.02	0.03	<0.01	0.02	<0.01	0.02	
08-05	- 68.02	<0.01	<0.01	<0.01	<0.01	0.01	
08-06	- 70.03	<0.01	<0.01	<0.01	<0.01	0.01	
08-07	137.71-139.71	<0.01	<0.01	<0.01	<0.01	0.02	
08-08	-141.62	0.01	<0.01	0.01	<0.01	0.02	
08-09	148.31-150.30	<0.01	<0.01	<0.01	<0.01	<0.02	
	TOTAL 17.91 m						

No promising assay results were obtained.

Mineralization of MJZM-9

A dissemination of pyrite, pyrrhotite, and chalcopyrite was recognized in enderbite at the depth of 40.90 metres to 81.96 metres was recognized mainly in enderbite.

According to microscopic observation of polished sections(depth : 44.00 metres, 58.00 metres, 78.00 metres), pyrite, pyrrhotite, and chalcopyrite were observed in small to extremely small quantities and these minerals tend to associate intimately each other.

The mineral quantity in this hole is shown as below:

That is, it is pyrrhotite > pyrite = sphalerite > chalcopyrite in general.

Pyrrhotite includes tiny chalcopyrite blebs(0.15 mm to 0.03 mm) and is accompanied by pyrite-marcasite mixture.

On the other hand, no oxide mineral was found.

Assay results are as follows:

M J Z M - 9

SAMPLE NO.	D E P T H(m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn(%)	COMMENT
09-01	40.90- 42.90	<0.01	0.39	0.04	<0.01	0.03	
09-02	- 44.90	0.02	<0.01	0.02	<0.01	0.03	
09-03	- 46.90	<0.01	0.10	0.01	<0.01	0.02	
09-04	- 48.90	0.01	0.05	0.02	<0.01	0.04	
09-05	- 50.90	<0.01	<0.01	<0.01	<0.01	0.01	
09-06	- 52.90	<0.01	<0.01	<0.01	<0.01	0.01	
09-07	- 54.90	0.01	0.05	0.02	<0.01	0.03	
09-08	- 56.90	0.01	0.74	<0.01	<0.01	0.02	
09-09	- 58.90	<0.01	0.44	0.01	<0.01	0.03	
09-10	- 60.90	0.02	0.39	0.02	<0.01	0.02	
09-11	- 62.90	0.05	0.25	0.05	<0.01	0.05	
09-12	- 64.90	0.03	0.29	0.02	<0.01	0.05	
09-13	- 66.22	0.02	0.29	0.01	<0.01	0.06	
09-14	67.54- 69.54	0.04	0.39	0.03	<0.01	0.05	
09-15	- 71.54	0.03	0.98	0.04	<0.01	0.04	
09-16	- 73.54	0.01	0.05	0.01	<0.01	0.04	
09-17	- 75.54	0.03	0.15	0.01	<0.01	0.04	
09-18	- 77.54	0.03	0.10	0.01	<0.01	0.02	
09-19	- 79.54	0.05	<0.01	0.01	<0.01	0.01	
09-20	- 81.96	0.06	<0.01	0.01	<0.01	<0.01	
	TOTAL **49.10** m						

No significant assay results were obtained although intense sulphide mineralization was intersected.

Mineralization of MJZM-10

A dissemination of pyrite, pyrrhotite, and chalcopyrite was recognized in enderbite at the various depth was recognized mainly in felsic granulite, enderbite and charnockite.

According to microscopic observation of polished sections(depth : 71.00 metres, 96.00 metres, 135.00 metres), a different association of sulphide minerals was observed depending on the kinds of country rocks. That is, an association in felsic granulite shows characteristically pyrite > chalcopyrite in quantity. No pyrrhotite and oxide minerals present.

On the other hand, the relationship among the sulphide minerals in enderbite and charnockite is as follows: That is, it is pyrrhotite > sphalerite > pyrite = chalcopyrite in quantity. These minerals tend to associate each other.

Pyrrhotite includes tiny chalcopyrite blebs(0.15 mm to 0.03 mm).

Assay results are as follows:

M J Z M - 1 0

SAMPLE NO.	D E P T H(m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn(%)	COMMENT
10-01	70.26- 72.11	0.06	0.05	0.03	<0.01	0.02	
10-02	91.44- 93.44	0.04	0.29	0.03	<0.01	0.05	
10-03	- 96.67	0.01	0.88	0.01	<0.01	0.02	
10-04	122.85-124.35	0.04	<0.10	0.02	<0.01	0.01	
10-05	127.50-128.43	<0.01	0.39	0.01	<0.01	0.02	
10-06	134.14-137.20	0.02	<0.01	0.02	<0.01	<0.01	
	TOTAL **12.58** m						

No significant assay results were obtained.

Mineralization of MJZM-11

A strong dissemination of pyrite, pyrrhotite, and chalcopyrite was recognized mainly in enderbite and charnockite.

According to microscopic observation of polished sections(depth : 47.00 metres, 65.00 metres, 74.00 metres, 81.00 metres), the mineral quantities in enderbite and charnockite are as follows: That is, it is pyrrhotite>sphalerite>chalcopyrite=arsenopyrite in general.

These minerals tend to associate each other.

Pyrrhotite includes tiny chalcopyrite blebs(0.15 mm to 0.03 mm).

Sphalerite in the hole is characterized by a strong anisotropy possibly due to high FeS contents and commonly includes very tiny pyrrhotite blebs(< 0.01 mm).

Assay results are as follows:

M J Z M - 1 1

SAMPLE NO.	D E P T H(m)	Au(g/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn(%)	COMMENT
11-01	25.71- 29.22	0.37	0.05	0.03	<0.01	0.03	
11-02	31.06- 33.06	<0.01	<0.01	0.03	<0.01	0.02	
11-03	- 35.06	<0.01	<0.01	<0.01	<0.01	0.03	
11-04	- 37.06	<0.01	<0.01	0.01	<0.01	0.03	
11-05	- 39.06	<0.01	<0.01	0.01	<0.01	0.15	
11-06	- 41.06	<0.01	<0.01	<0.01	<0.01	0.01	
11-07	- 43.06	<0.01	<0.01	0.01	<0.01	0.03	
11-08	- 45.06	<0.01	<0.01	0.01	<0.01	0.03	
11-09	- 48.02	<0.01	<0.01	0.01	<0.01	0.05	
11-10	49.25- 51.25	<0.01	<0.01	0.04	<0.01	0.05	
11-11	- 53.43	<0.01	<0.01	0.02	<0.01	0.05	
11-12	53.43- 55.43	0.13	<0.01	<0.01	<0.01	0.02	
11-13	- 57.43	<0.01	<0.01	0.01	<0.01	0.02	
11-14	- 59.43	<0.01	<0.01	0.01	<0.01	0.04	
11-15	- 61.43	<0.01	<0.01	0.02	<0.01	0.07	
11-16	- 63.43	0.03	<0.01	0.01	<0.01	0.04	
11-17	- 65.43	<0.01	0.19	0.04	<0.01	0.02	
11-18	- 68.10	<0.01	<0.01	0.01	<0.01	0.03	
11-19	68.10- 70.10	<0.01	<0.01	0.01	<0.01	0.03	
11-20	- 72.10	0.03	<0.01	0.01	<0.01	0.03	
11-21	- 74.92	<0.01	<0.01	0.01	<0.01	0.02	
11-22	74.92- 76.92	<0.01	<0.01	<0.01	<0.01	0.01	
11-23	- 78.92	<0.01	<0.01	<0.01	<0.01	0.03	
11-24	- 80.92	0.01	<0.01	0.02	<0.01	0.03	
11-25	- 84.13	<0.01	<0.01	0.03	<0.01	0.02	
	TOTAL 55.35 m						

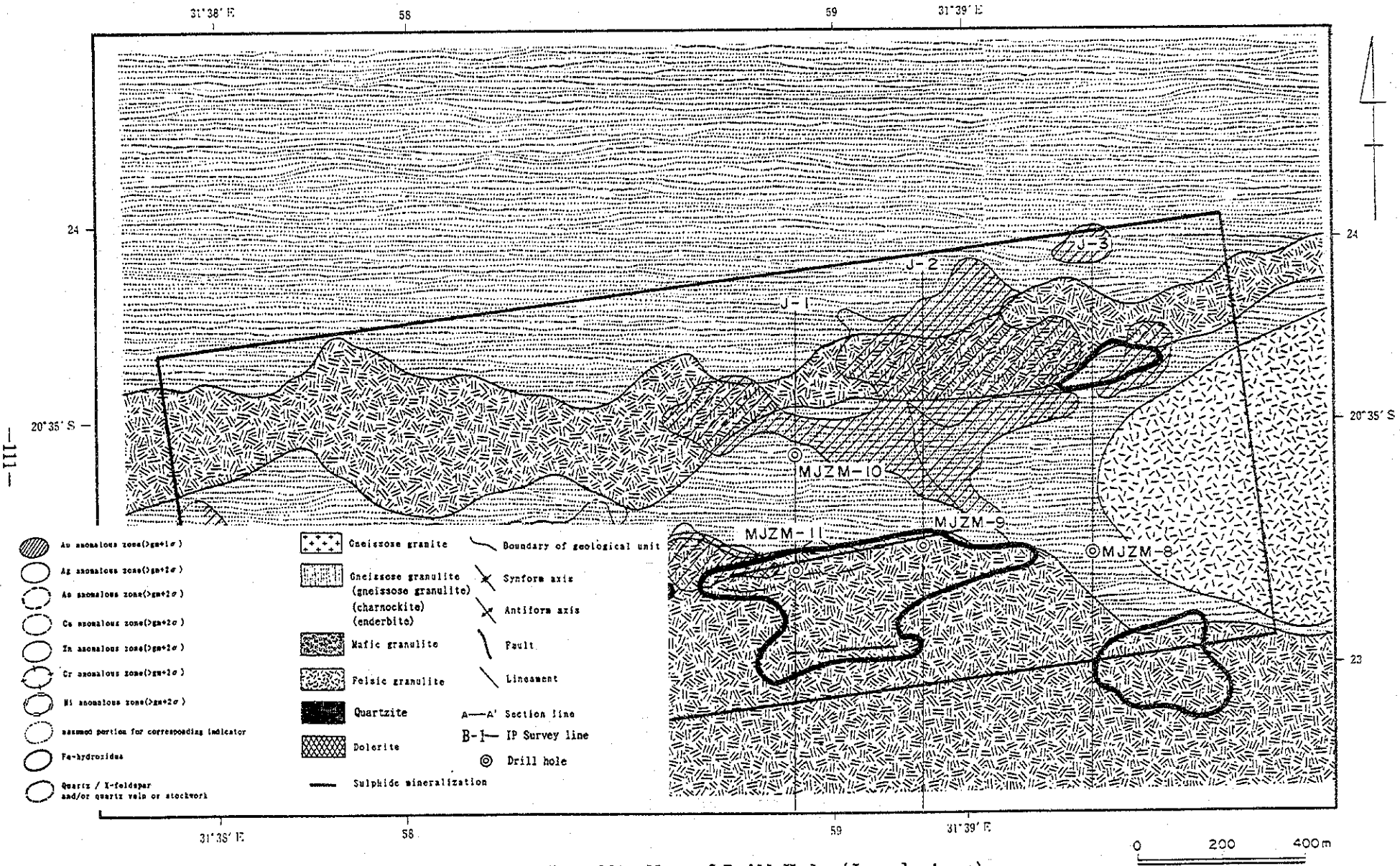

FIG. 2-2-11 Locality Map of Drill Holes(Jegede Area)

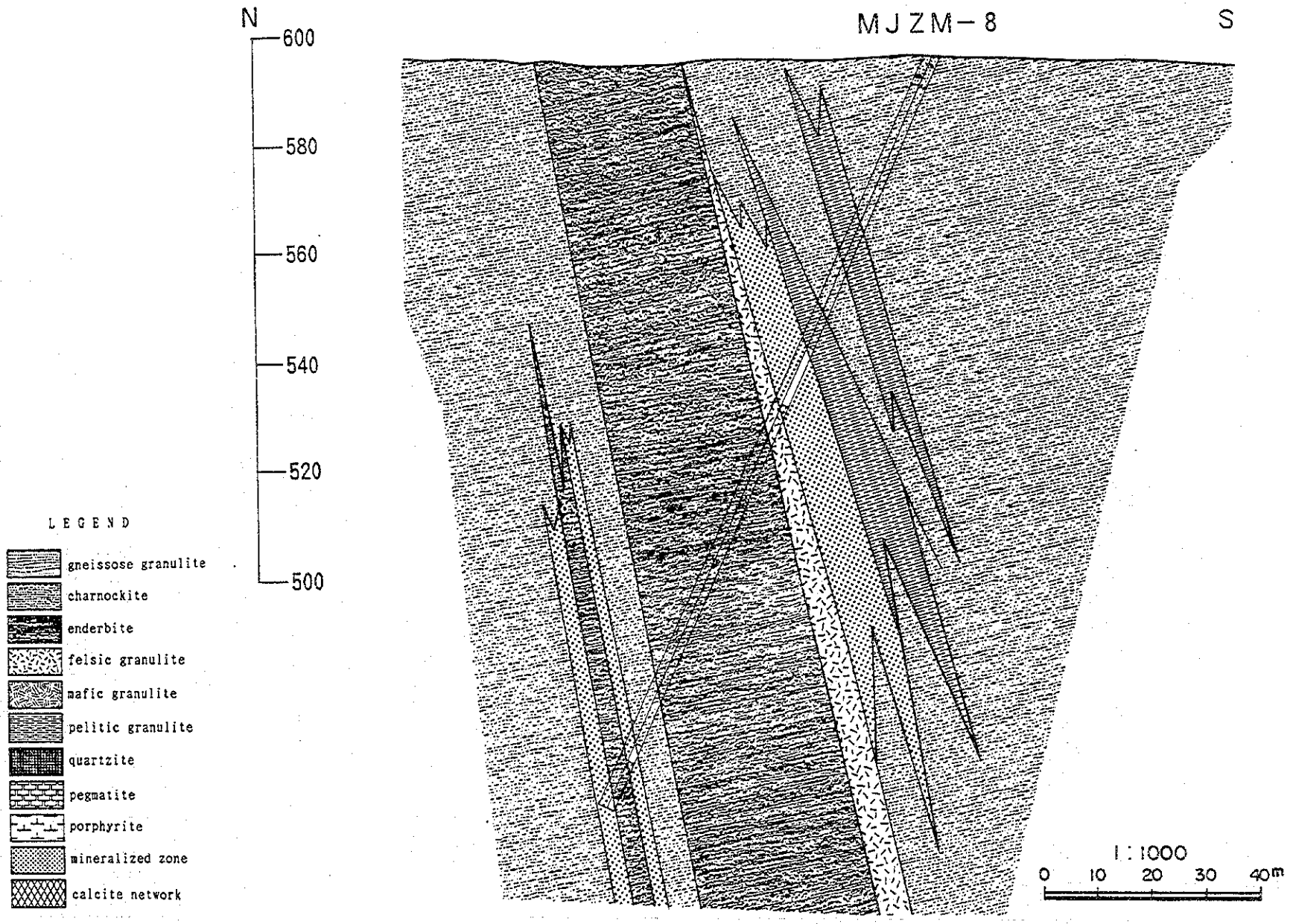

FIG. 2-2-12 Geological Section of Drill Hole MJZM-8(Jegede Area)

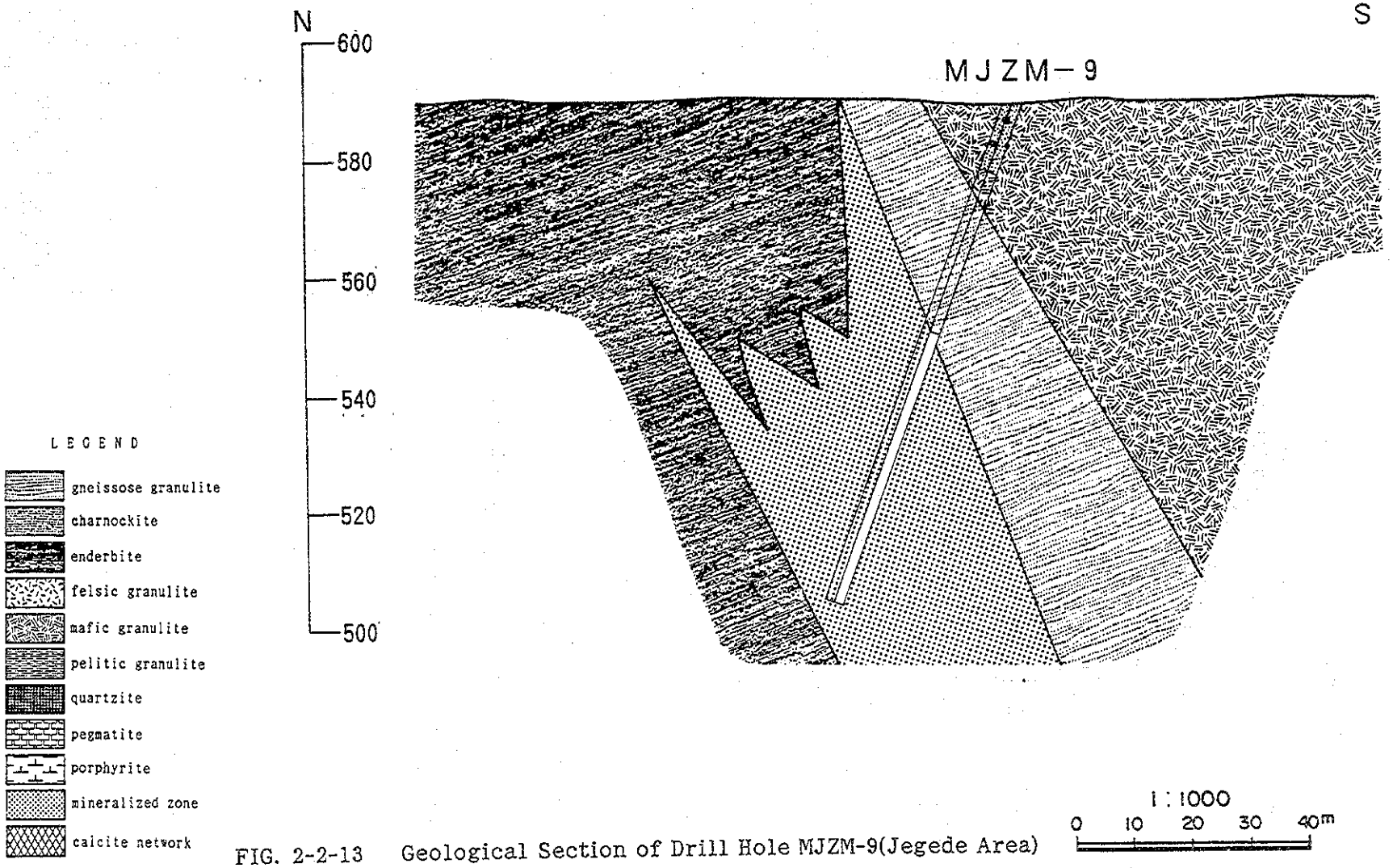

FIG. 2-2-13 Geological Section of Drill Hole MJZM-9(Jegede Area)

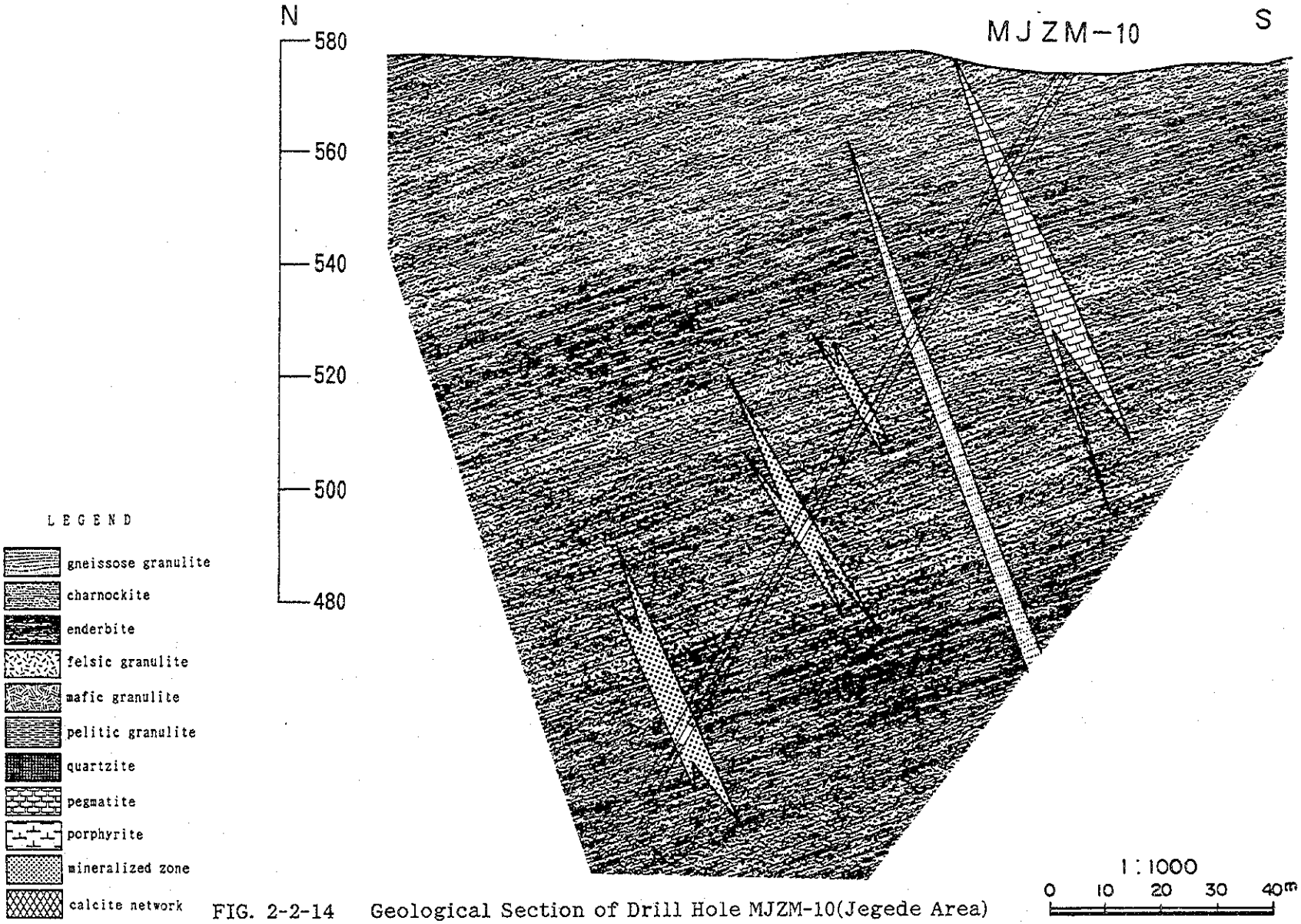

FIG. 2-2-14 Geological Section of Drill Hole MJZM-10(Jegede Area)

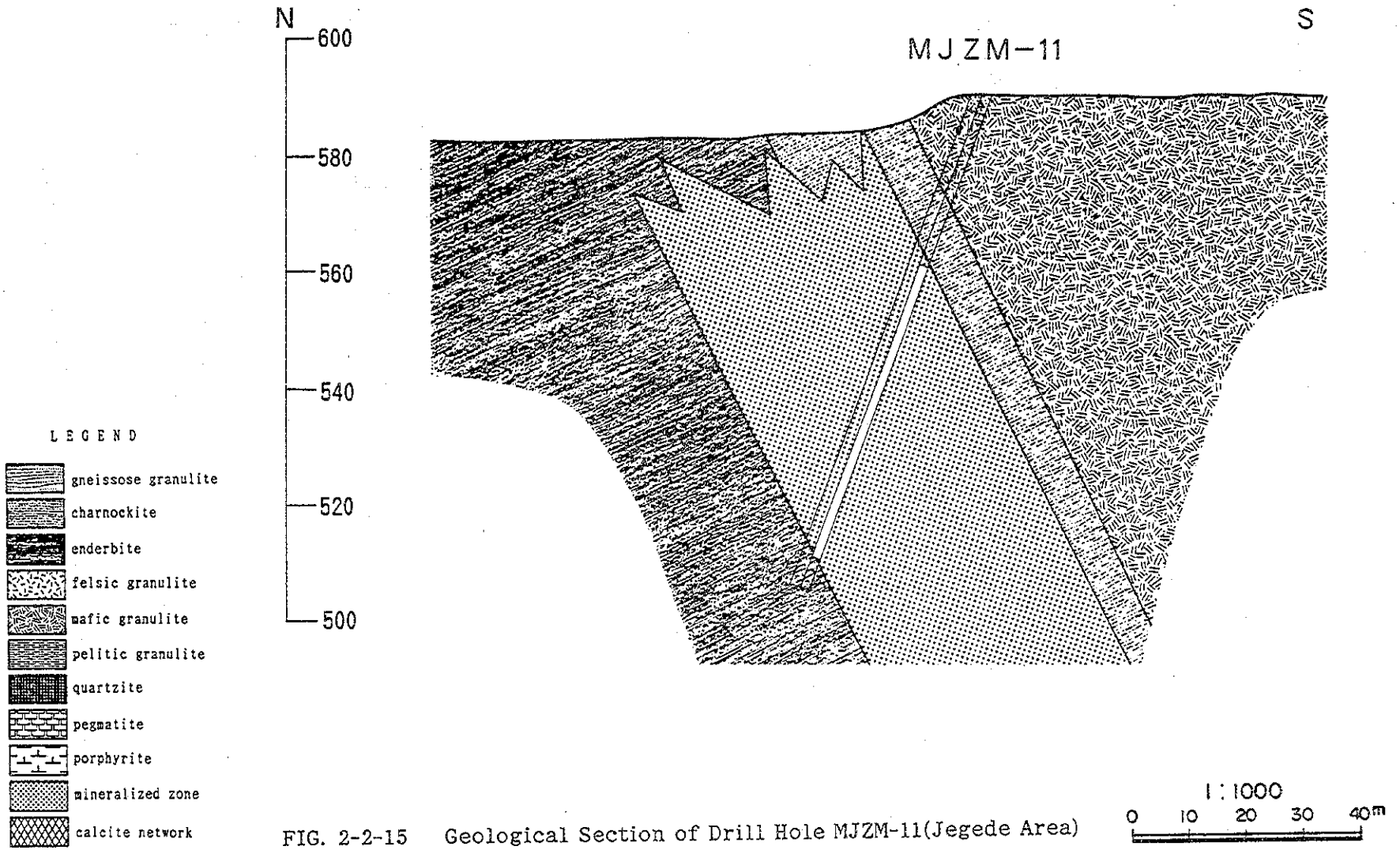

FIG. 2-2-15 Geological Section of Drill Hole MJZM-11(Jegede Area)

No significant assay results were obtained although intense sulphide mineralization was intersected.

2-4-4 Considerations

The following are combinations of sulphide minerals and features of alteration minerals of executed MJZM-8, MJZM-9, MJZM-10, and MJZM-11.

① Pyrrhotite is a predominant sulphide mineral. In addition, very small amounts of pyrite and chalcopyrite are commonly present in this zone similarly to other zones. However, it is different from other zones that a very small amount of sphalerite is commonly produced in this zone.

② The sulphide minerals show dissemination structure. However, some portions also show banding structure. It can be said that this case is approximately concordant with foliation.

③ The presence of mineralization zone (zone including sulphide minerals) is roughly concordant with the direction of foliation in this zone.

④ Alteration minerals (sericite and chlorite) are poorly formed.

⑤ The country rock of mineralized zone mainly consists of charnockite and enderbite. Mafic granulite does not have mineralization of sulphide minerals.

The above facts show that mineralization occurred before metamorphism similarly to the case of Juwere zone. Also judging from the selectivity and concordance of mineralization for the country rock, this zone has a large possibility of stratabound ore deposit.

2-5 FUMURE ZONE(FIG.2-2-16)

2-5-1 Survey Method

Drilling State of MJZM-12

The bed rock appears after the soil portion of 18.00 metres.

A trouble of a small fractured portion of depth 92.48 metres to 95.55 metres was encountered. Therefore 86.33 % of core recovery and 9.38 m/day of drilling speed were attained.

TABLE 2-2-16 Summary of Drilling Programme(Fumure Zone : MJZM-12)

	PERIOD	NO. OF DAYS	WORKING DAY	DAY OFF	NO. OF WORKER
MOBILIZATION	SEP. 16 - SEP. 17	2	2	0	9.0
D R I L L I N G	SEP. 18 - OCT. 04	17	16	1	72.0
DEMOBILIZATION	OCT. 05	1	1	0	4.5
T O T A L	SEP. 16 - OCT. 05				

DEPTH PLANNED	150.00 m	DEPTH DRILLED	150.30 m	
OVERBURDEN	18.00 m	RATE OF CORE RECOVERY		
CORE LENGTH	129.76 m	TOTAL	86.33 %	
C A S I N G	NX 18.00 m	T B W	97.86 %	
	BX 27.00 m			
DRILLING SPEED	9.38 m/ DRILLING DAY			
	7.89 m/ TOTAL WORKING DAY			

Drilling State of MJZM-13

The bed rock appears after the soil portion of 7.32 metres.
No special trouble was encountered, therefore 90.35 % of core recovery was attained. The drilling, however, was stagnated due to hard rock, that is quartzite, and obtained as low as 7.14 m/day of drilling speed.

TABLE 2-2-17 Summary of Drilling Programme(Fumure Zone : MJZM-13)

	PERIOD	NO. OF DAYS	WORKING DAY	DAY OFF	NO. OF WORKER
MOBILIZATION	SEP. 22 - SEP. 23	2	2	0	9.0
D R I L L I N G	SEP. 24 - OCT. 14	21	21	0	94.5
DEMOBILIZATION	OCT. 15	1	1	0	4.5
T O T A L	SEP.				

DEPTH PLANNED	150.00 m	DEPTH DRILLED	150.00 m
OVERBURDEN	7.32 m	RATE OF CORE RECOVERY	
CORE LENGTH	135.53 m	TOTAL	90.35 %
C A S I N G	NX 18.00 m	T B W	100.00 %
	BX 27.00 m		
DRILLING SPEED	7.14 m/ DRILLING DAY		
	6.25 m/ TOTAL WORKING DAY		

2-5-2 Geology

Geology of MJZM-12(FIG.2-2-17)

The geology of this hole is similar to the geology confirmed through the field survey. That is, it is made of gray, compact, and hard charnockite consisting of medium to fine grains from the top to the bottom of the hole, and has a foliation (60° to 80°). Garnet appears from the depth of 58.00 metres and continues to the bottom of the hole. As the result of microscopic observation of the hole, each sample is identified as charnockite (depth : 61.00 metres, 75.00 metres). Sericite in charnockite is commonly formed in plagioclase though it is very slight. Meanwhile, chlorite was detected in plagioclase and quartz of a deeper portion in the form of veins (0.5 mm). Alteration minerals are not strongly associated with opaque minerals.

Geology of MJZM-13(FIG.2-2-18)

The geology of this hole is simple, which can be divided into two parts. That is, the upper part consists of a dark gray to dark green, compact, hard, and massive charnockite of medium to fine grain sizes, and the lower part consists of a gray quartzite of medium grain size. The foliation of charnockite and quartzite shows the inclination of 10° to 30° .
As the result of microscopic observation of samples of this hole, each sample is identified as charnockite (70.00 metres, 93.00 metres, 104.00 metres) and quartzite (143.00 metres). For charnockite, only a small amount of sericite is produced in plagioclase and pyroxenes similarly to the case of MJZM-12.
On the other hand, opaque minerals have a tendency to associate with mafic minerals.