3-3-2 Ngan Me Area

(1) Observed Data

1) Apparent Resistivity

The pseudosections of the apparent resistivity of every line are shown in Fig. 2-43 to 2-44 and the maps of the apparent resistivity of n=1, 3 and 5 are shown in Fig. 2-45 to 2-47. The apparent resistivity in the Ngan Me area is a wide range from 6 to 6,000 ohm-m and is obviously lower in the deeper zone. High resistivity more than 1,000 ohm-m is predominantly distributed in the map of n=1 and low resistivity less than 100 ohm-m is predominantly distributed in the map of n=5. The mean value in the Ngan Me area is about 250 ohm-m and lower than that in the Da Mai area. In the map of n=5, high resistivity areas more than 1,000 ohm-m emerge mainly in the ridge parts. It seems to be due to the topographic effect.

2) Apparent Chargeability

The pseudosections of the apparent chargeability of every line are shown in Fig. 2-48 to 2-49 and the maps of the apparent resistivity of n=1, 3 and 5 are shown in Fig. 2-50 to 2-52. The apparent chargeability in the Da Mai area is mostly higher than 10 mV/V and therefore the background value of chargeability in this area is higher than that in the Da Mai area. The strong chargeability anomaly areas more than 30 mV/V were detected everywhere. The strong anomalies more than 40 mV/V were detected in the central part of lines N-IP-1 to N-IP-3 and the southern part of lines N-IP-3 to N-IP-4.

(2) Analytic Results (2-D Inversion)

1) Resistivity

The resistivity sections drawn with the 2-D inversion are shown in Fig. 2-53 to 2-56. The resistivity maps of 3 levels (SL 150 m, SL 100 m and SL 50 m) are shown in Fig. 2-57 to 2-59. The resistivity in the Ngan Me area is lower than that in the Da Mai area, as a whole. High resistivity more than 1,000 ohm-m is predominantly distributed in the shallow zone and high resistivity more zones than 3,000 ohm-m were detected everywhere. The resistivity in this area is lower in the deeper zone. These tendencies harmonize with the results of CSAMT method carried out on the first phase survey.

The resistivity structure in Ngan Me area is complex. Vertical low resistivity zones were extracted in all the lines. These low resistivity zones tend not to continue clearly. However, it could be considered that the low resistivity zone around the 600 m of lines N-IP-7 to N-IP-10 exhibits a E-W direction and the ones in the western part of the survey area exhibits a NW-SE direction.

2) Chargeability

The chargeability maps drawn with the 2-D inversion are shown in Fig. 2-60 to 2-63. The resistivity maps of 3 levels (SL 150 m, SL 100 m and SL 50 m) are shown in Fig. 2-64 to 2-66. The chargeability in the Ngan Me area is higher than that in the Da Mai area. The background value of chargeability in this area seems to be 10 to 20 mV/V.

The broadest strong chargeability anomaly zone was extracted in the southern part of the survey area. This anomaly zone extends for lines N-IP-2 to N-IP-9 in a E-W direction and includes high chargeability more than 40 mV/V in the lines N-IP-1 to N-IP-2 and lines N-IP-8 to N-IP-9. This anomaly zone tends to incline to the south and disappear in the deep zone below SL 50m. The second broadest strong anomaly zone was extracted in the central part of lines N-IP-1 to N-IP-2. This anomaly zone also includes high chargeability more than 40 mV/V and tends not to extend in the deep zone below SL 0m. The other strong anomaly zones more than 30 mV/V are scattered in the northeastern part of the survey area.

The resistivity in the strong chargeability anomaly zones is medium value. Low resistivity zones tend to be distributed in the vicinity of the strong anomaly zones.

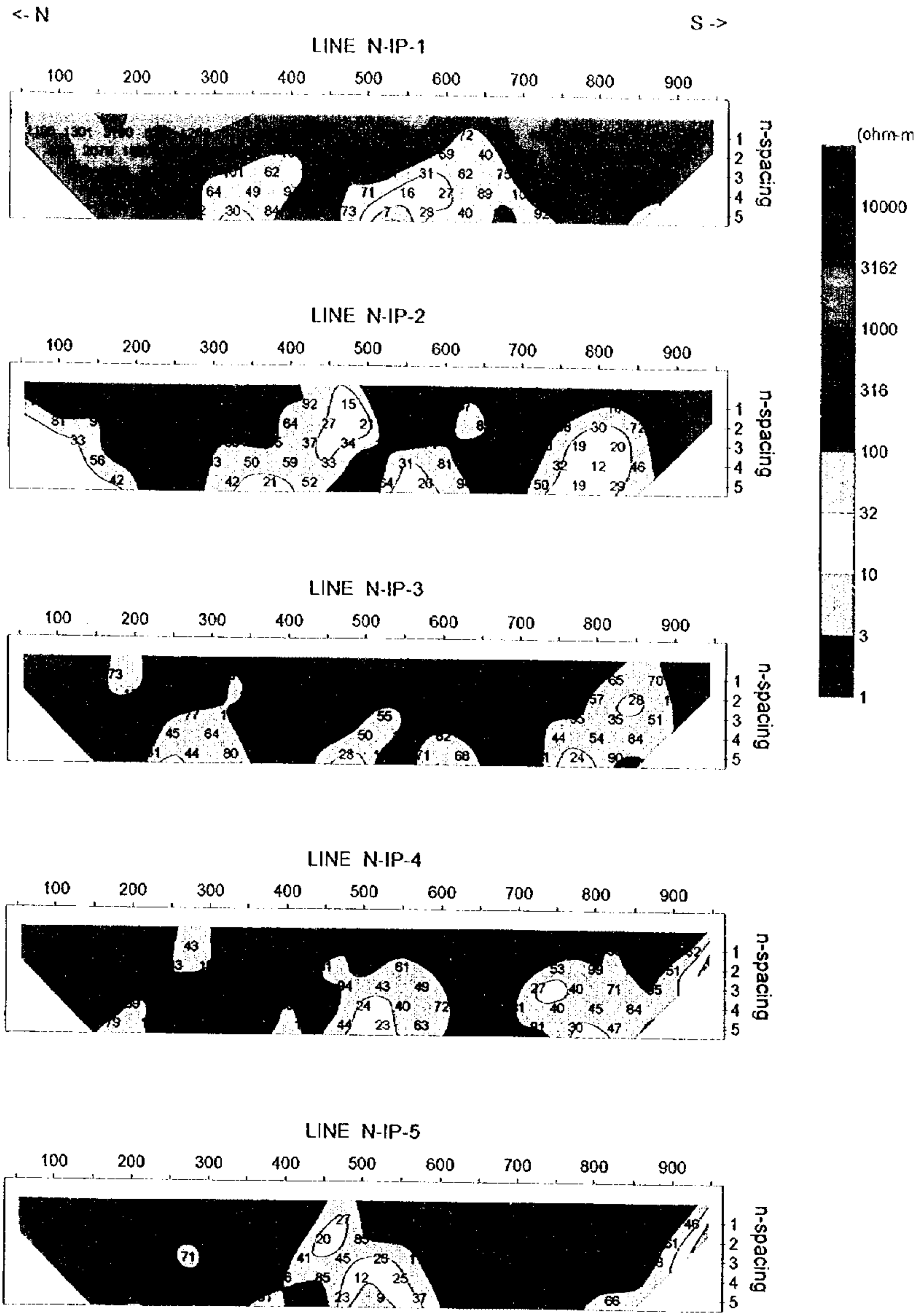


Fig. 2-43 Apparent Resistivity Pseudo-Sections (Lines N-IP-1 to N-IP-5)

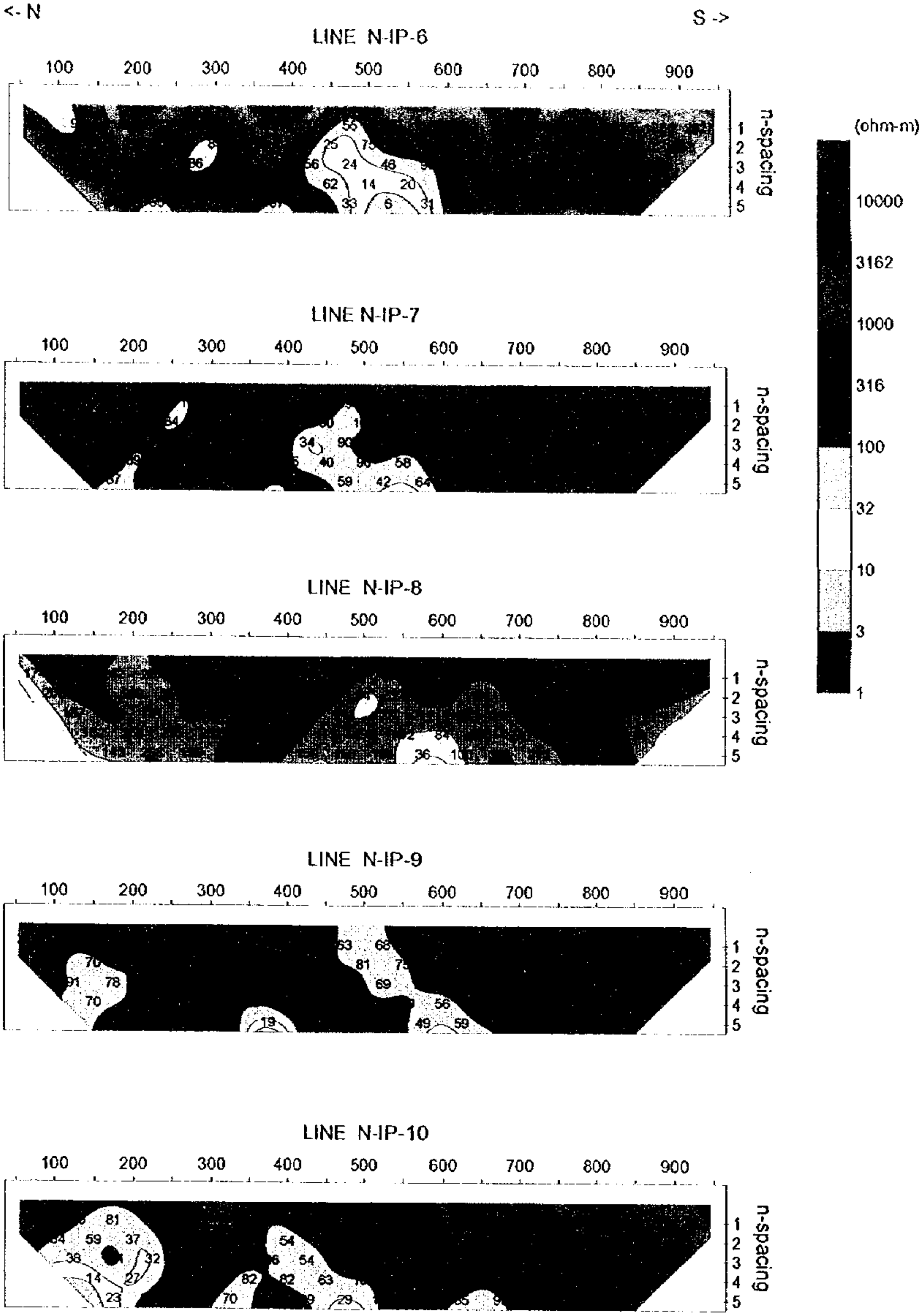


Fig. 2-44 Apparent Resistivity Pseudo-Sections (Lines N-IP-6 to N-IP-10)

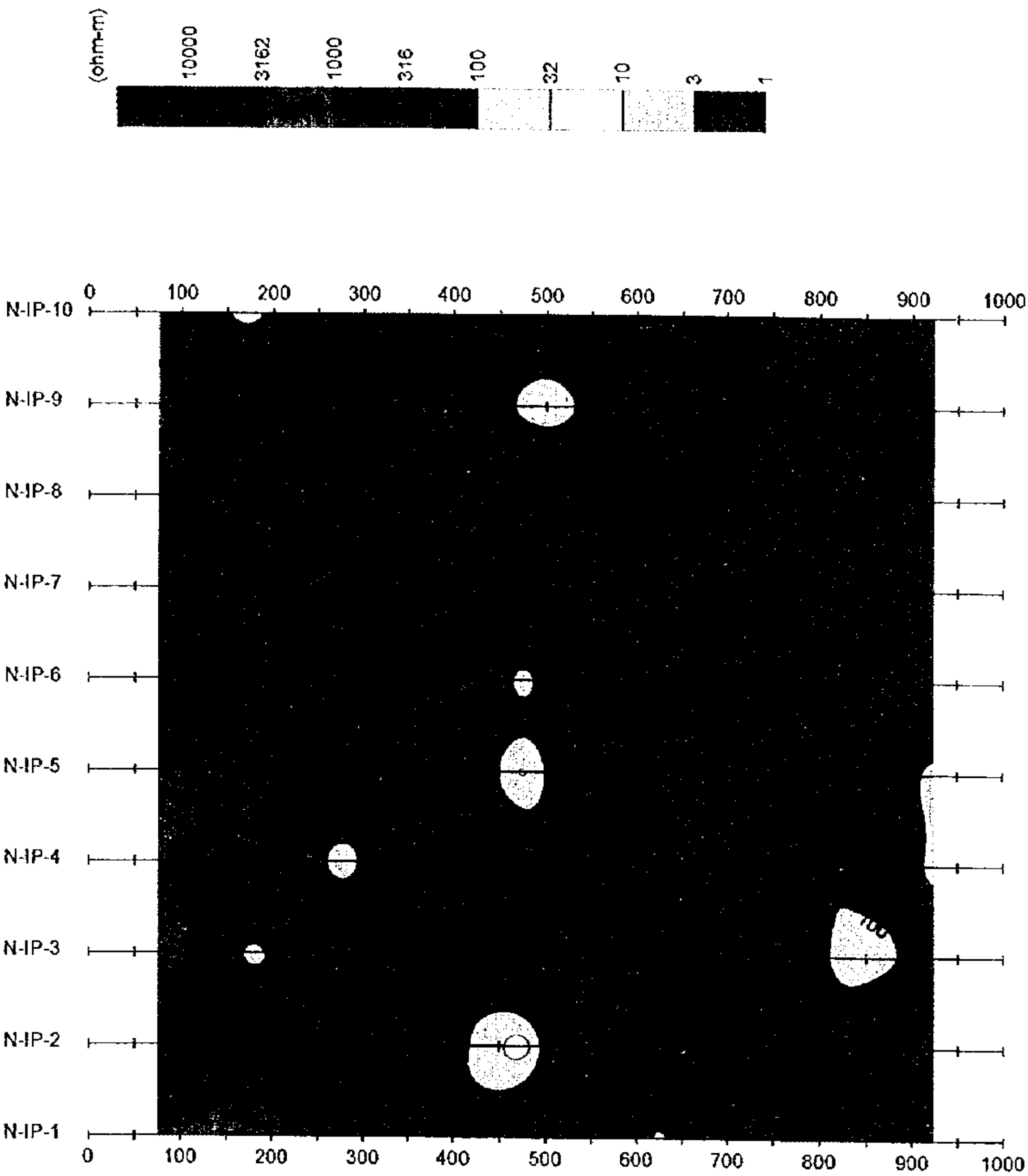


Fig. 2-45 Apparent Resistivity Map in the Ngan Me Area (n=1)

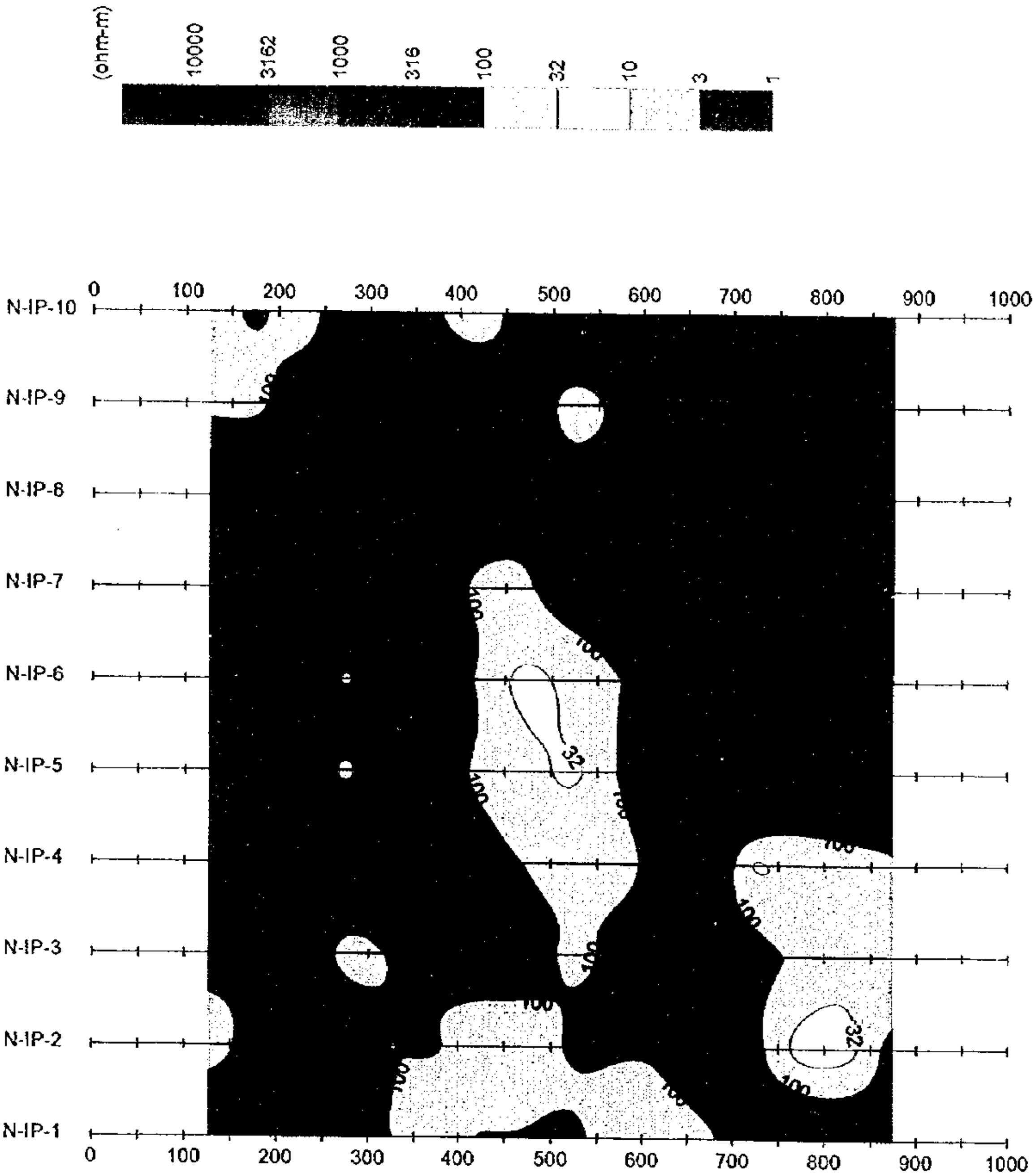


Fig. 2-46 Apparent Resistivity Map in the Ngan Me Area (n=3)

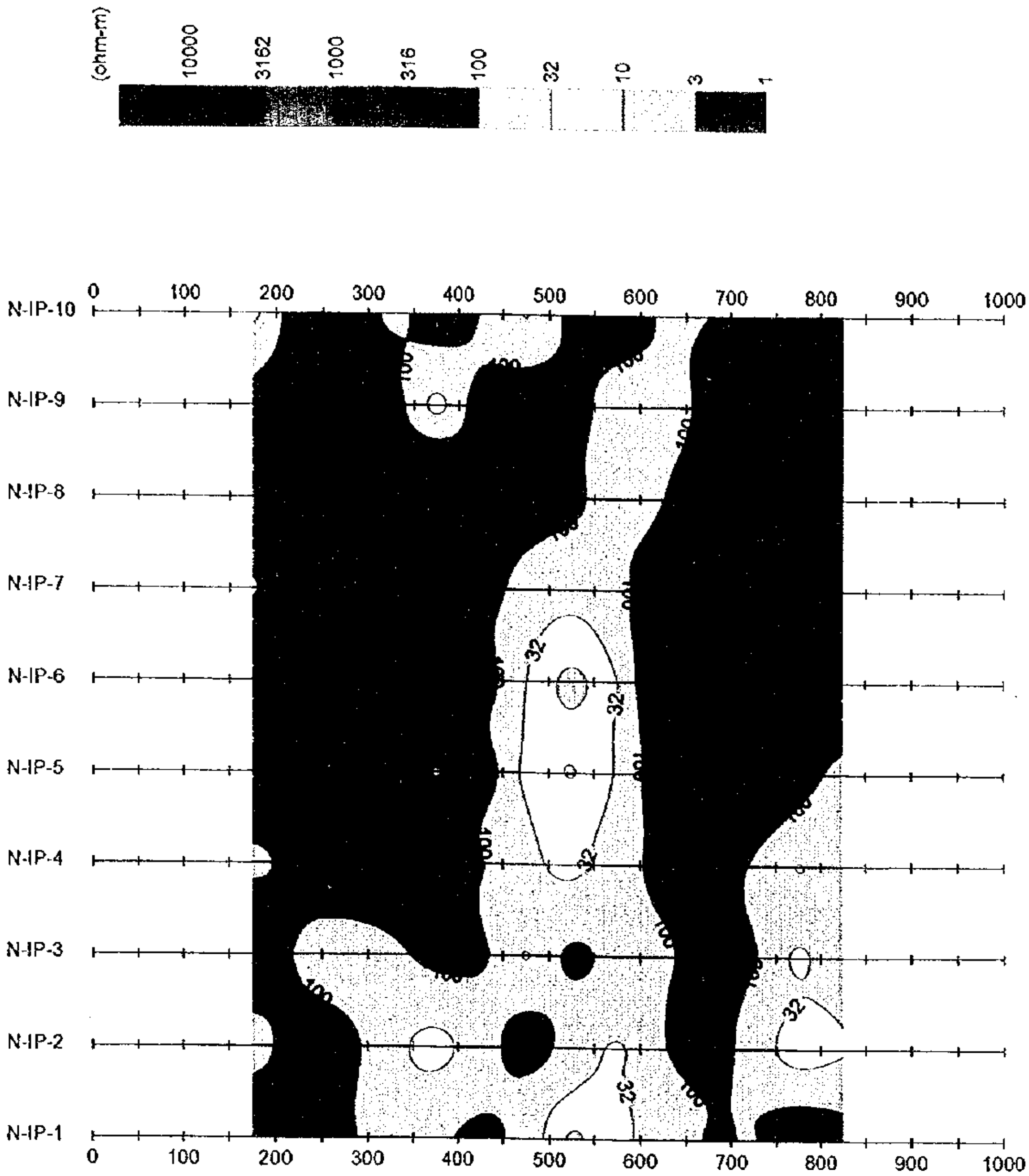


Fig. 2-47 Apparent Resistivity Map in the Ngan Me Area (n=5)

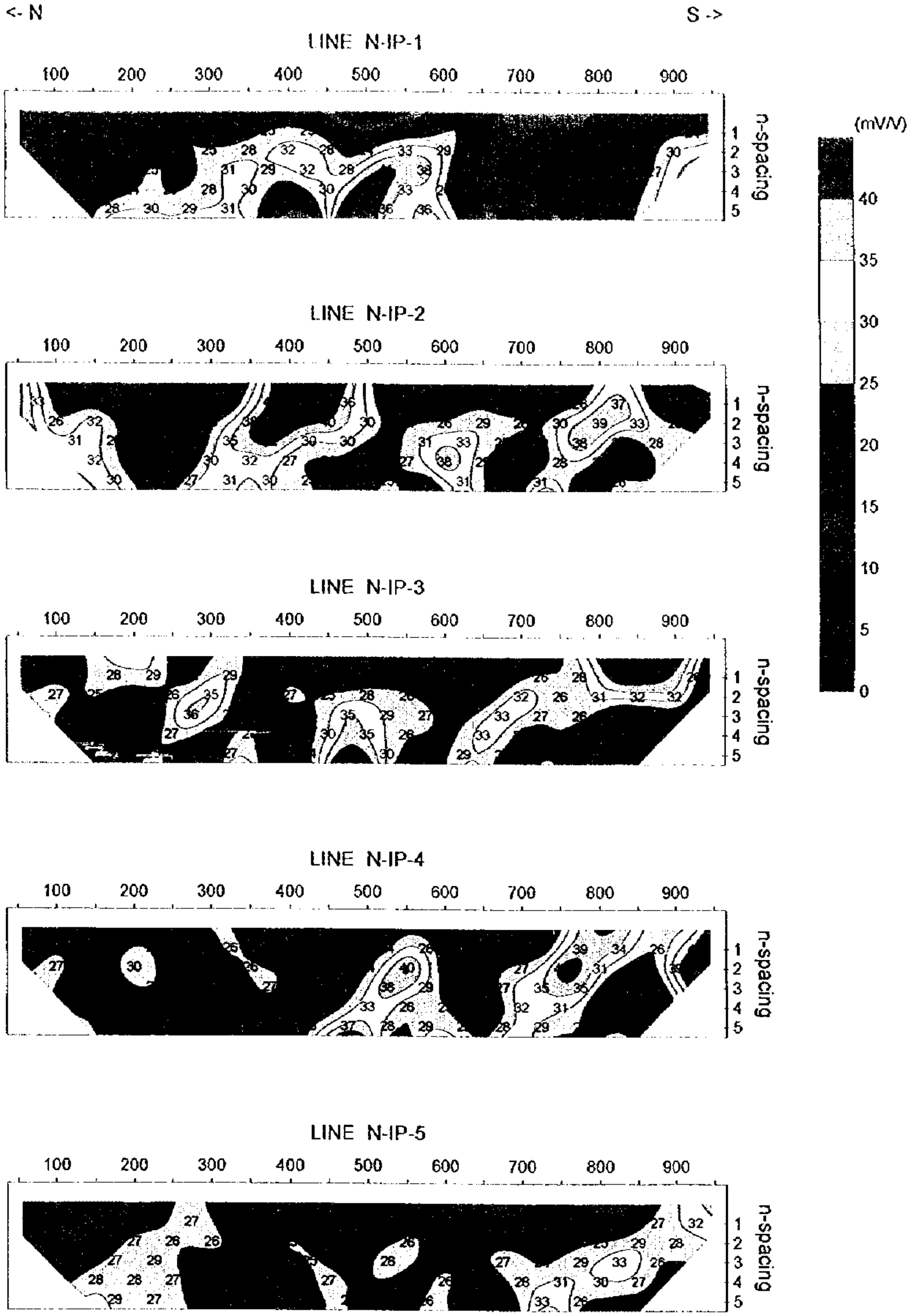


Fig. 2-48 Apparent Chargeability Pseudo-Sections (Lines N-IP-1 to N-IP-5)

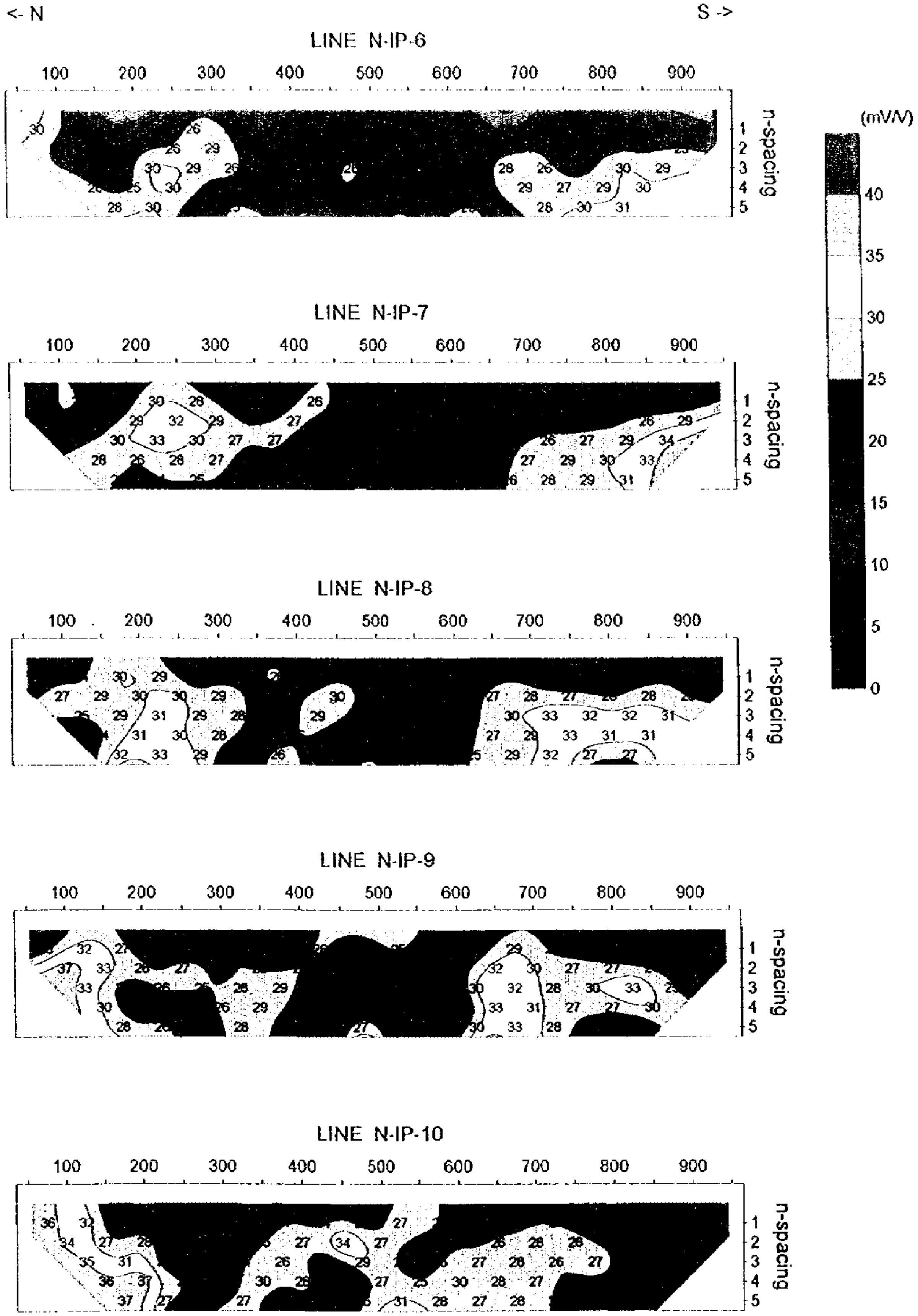


Fig. 2-49 Apparent Chargeability Pseudo-Sections (Lines N-IP-6 to N-IP-10)

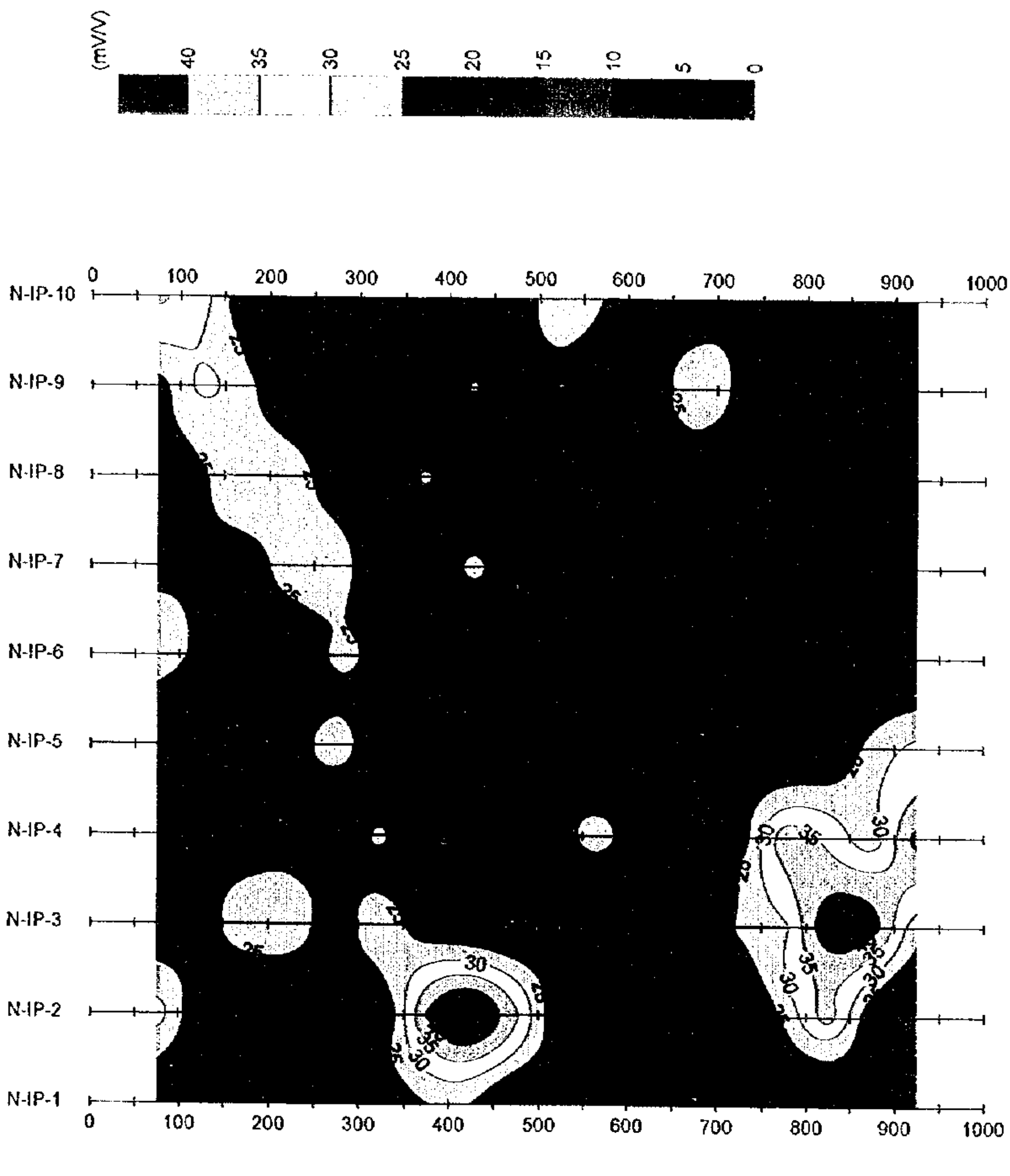


Fig. 2-50 Apparent Chargeability Map in the Ngan Me Area (n=1)

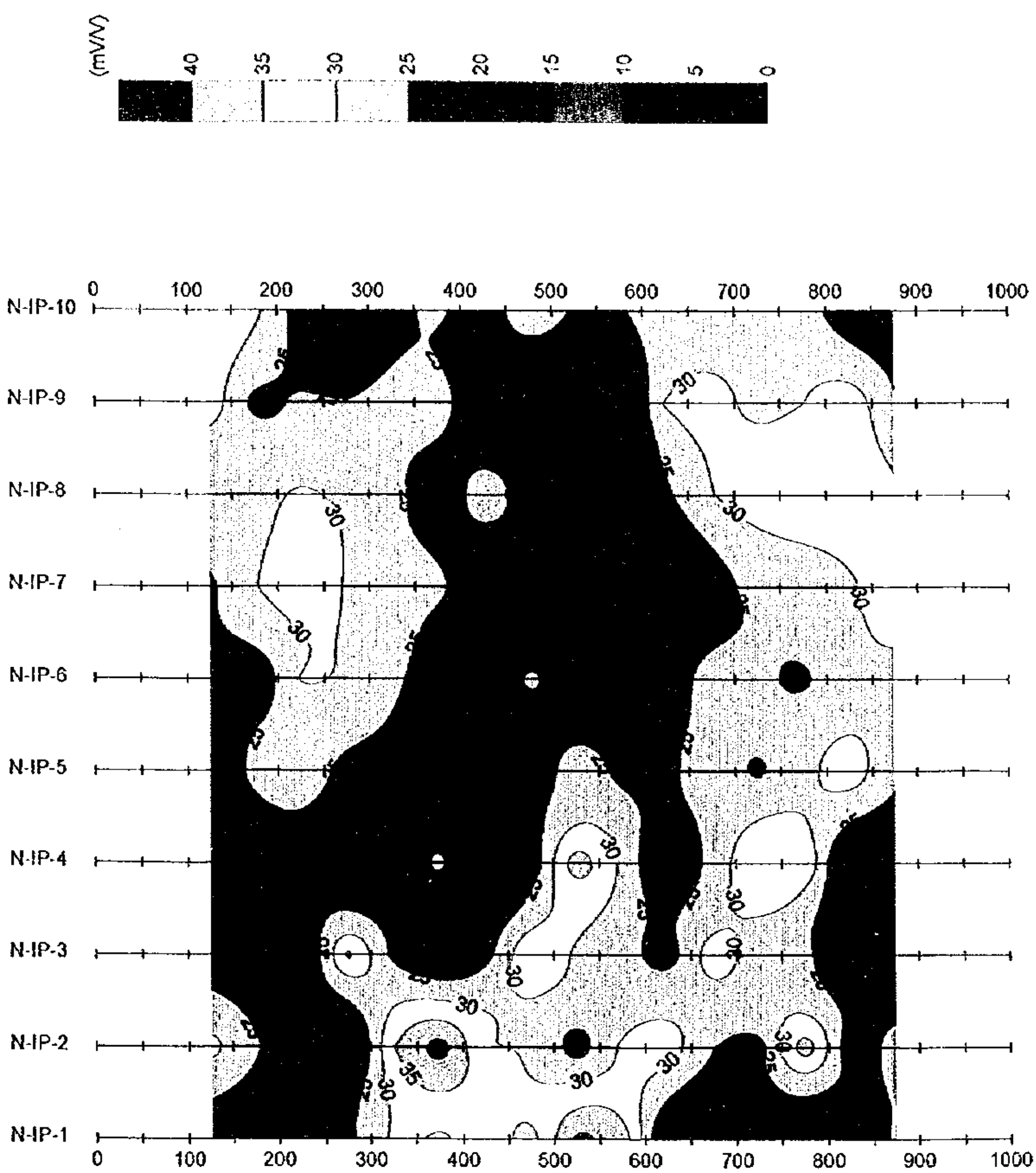


Fig. 2-51 Apparent Chargeability Map in the Ngan Me Area (n=3)

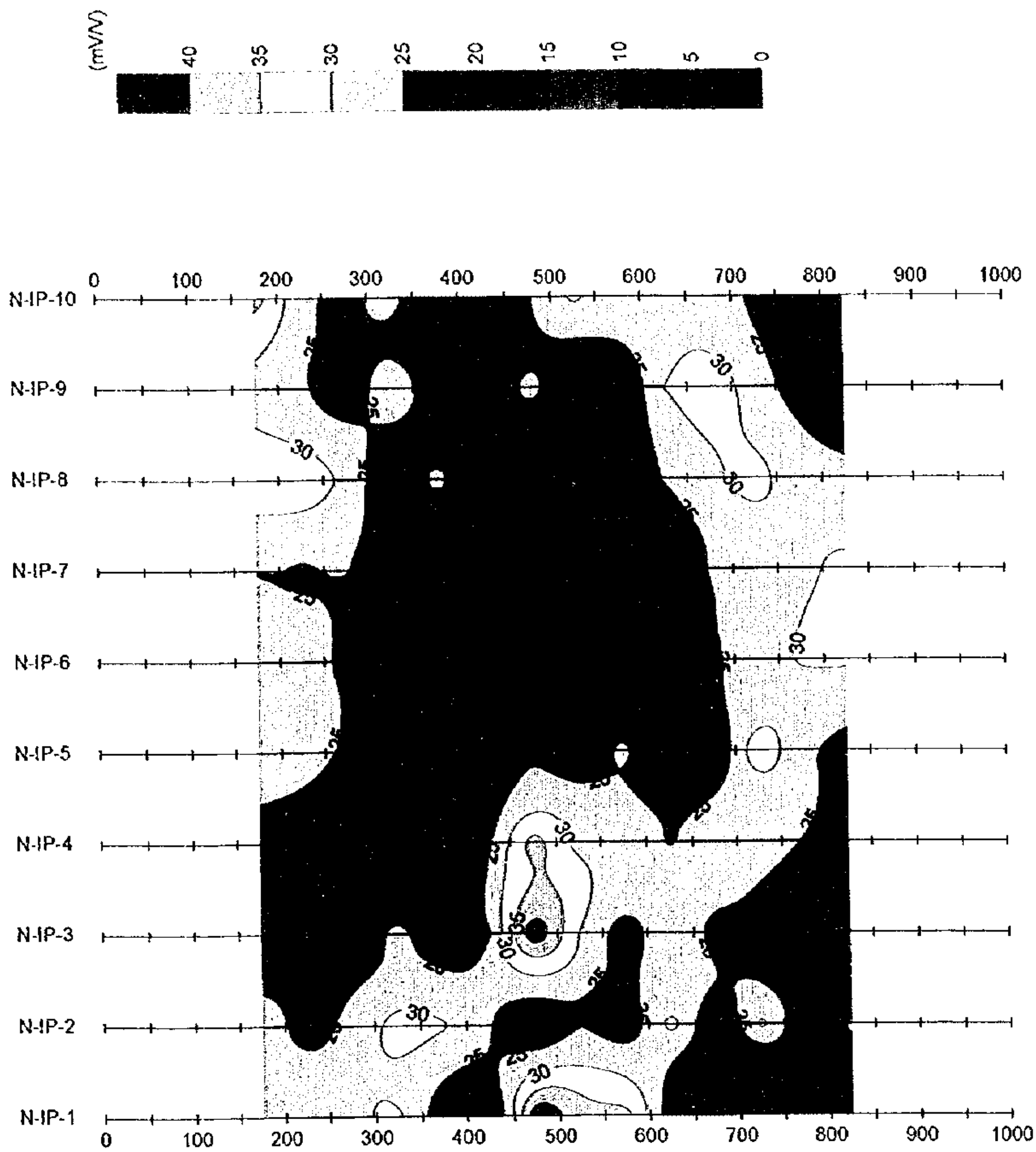


Fig. 2-52 Apparent Chargeability Map in the Ngan Me Area (n=5)

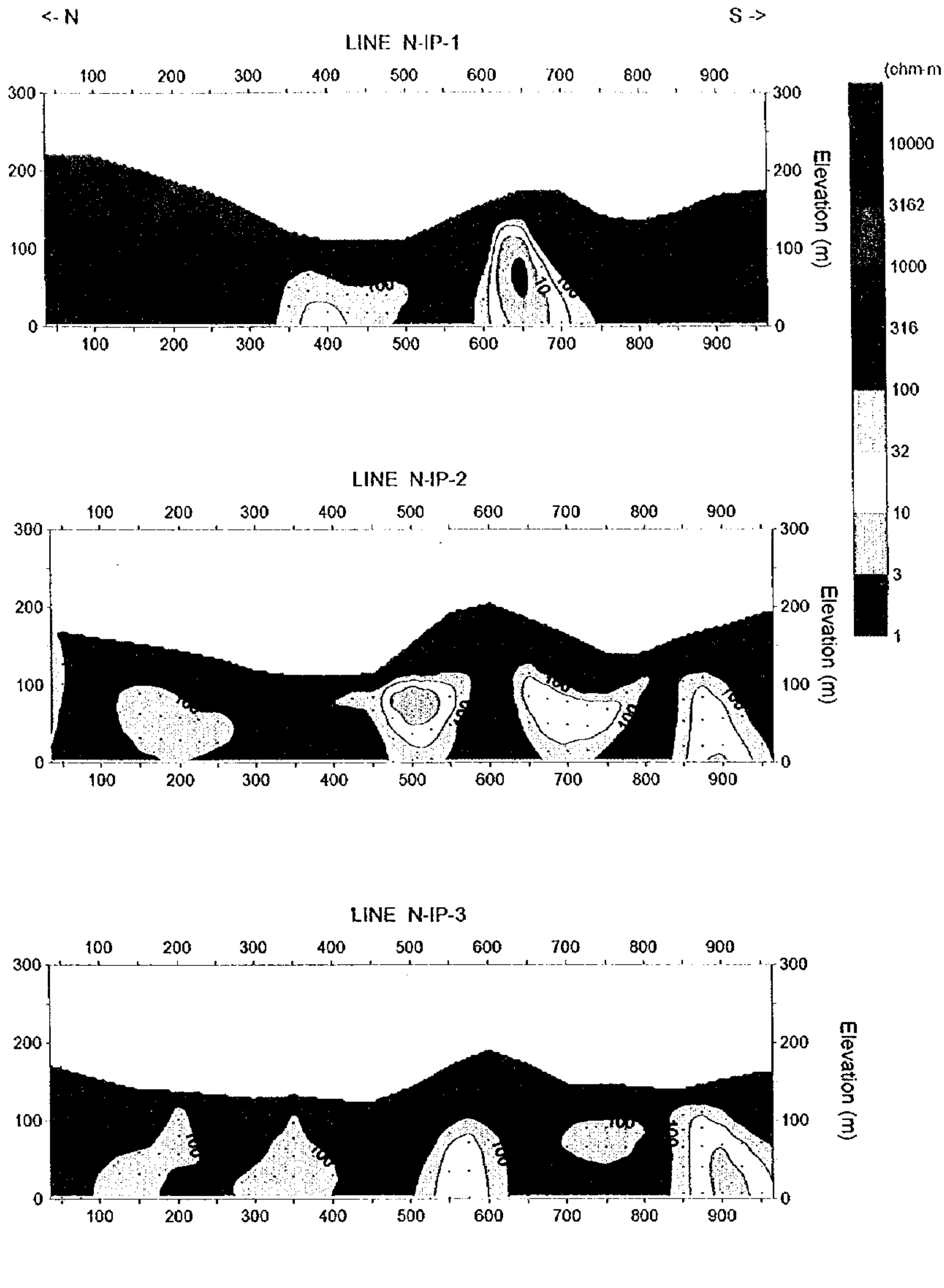


Fig. 2-53 Resistivity Sections (Lines N-IP-1 to N-IP-3)

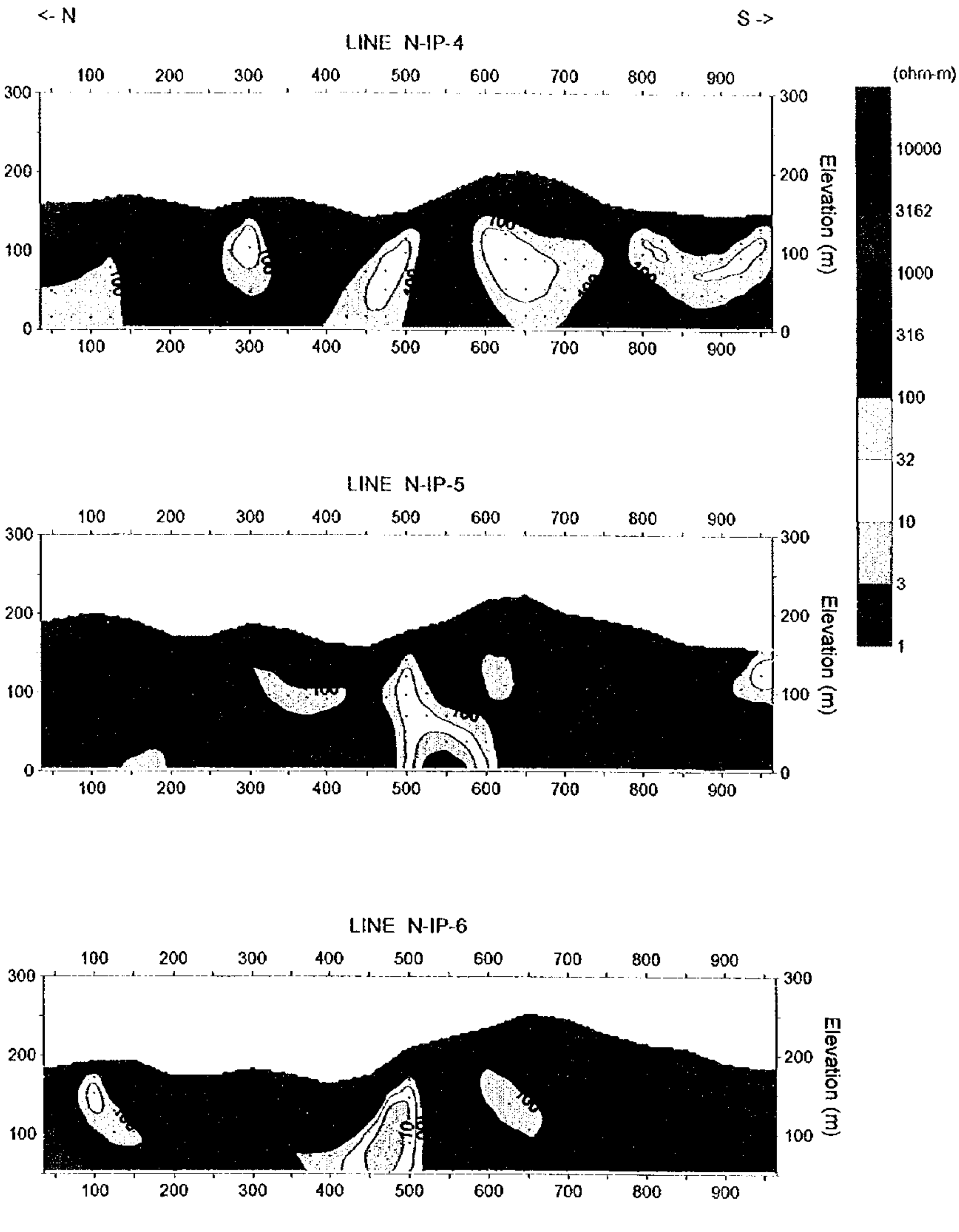


Fig. 2-54 Resistivity Sections (Lines N-IP-4 to N-IP-6)

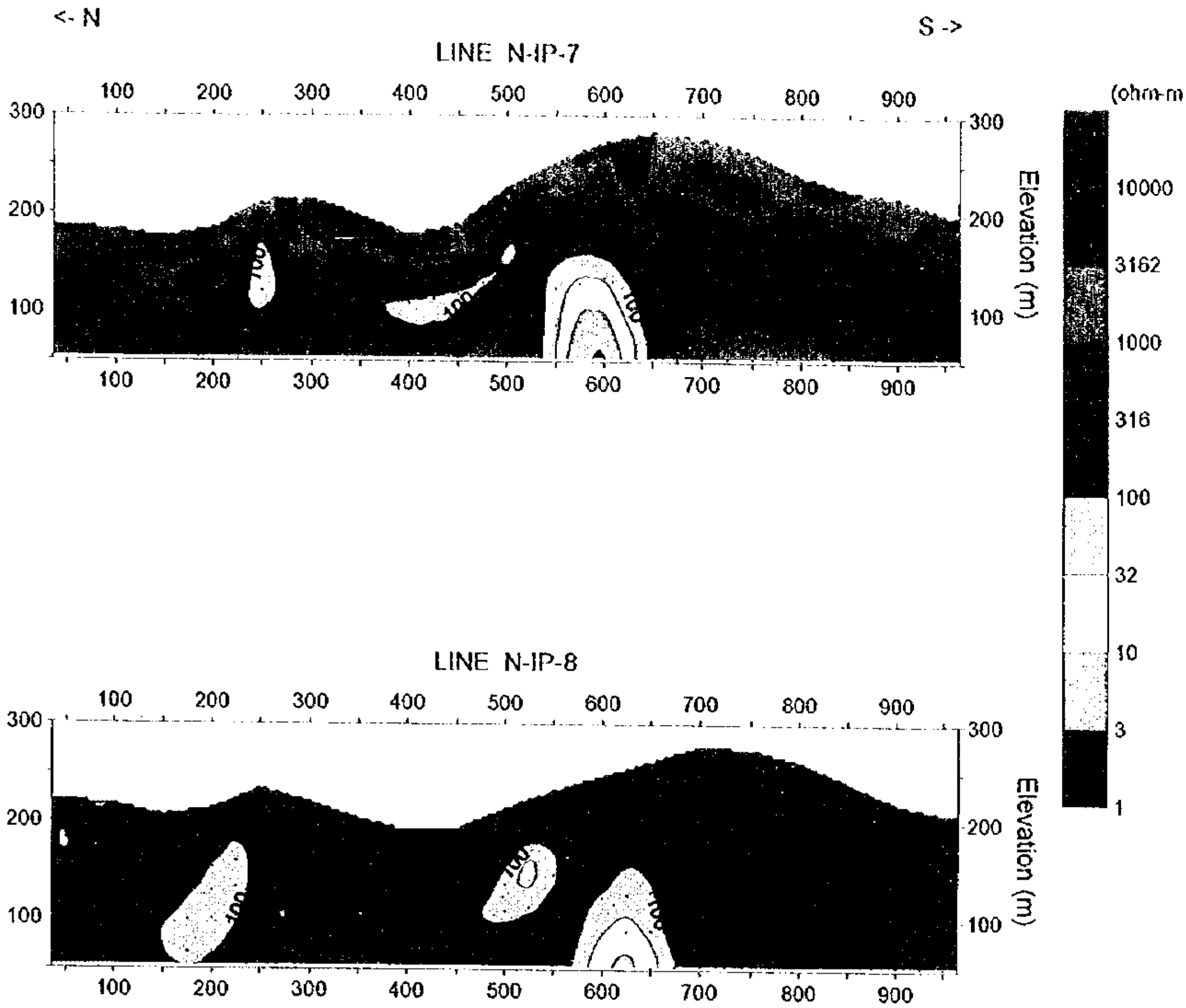


Fig. 2-55 Resistivity Sections (Lines N-IP-7 to N-IP-8)

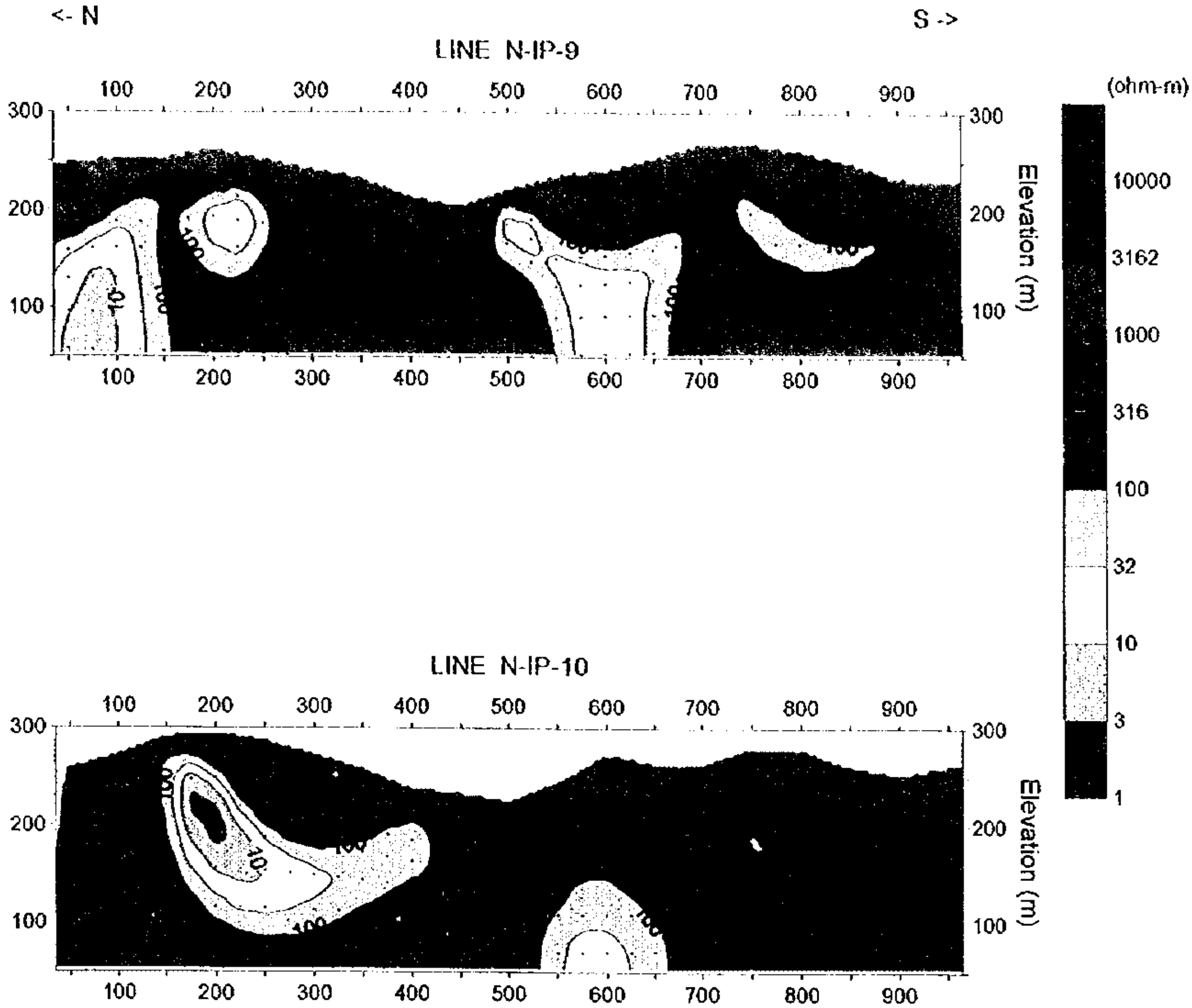


Fig. 2-56 Resistivity Sections (Lines N-IP-9 to N-IP-10)

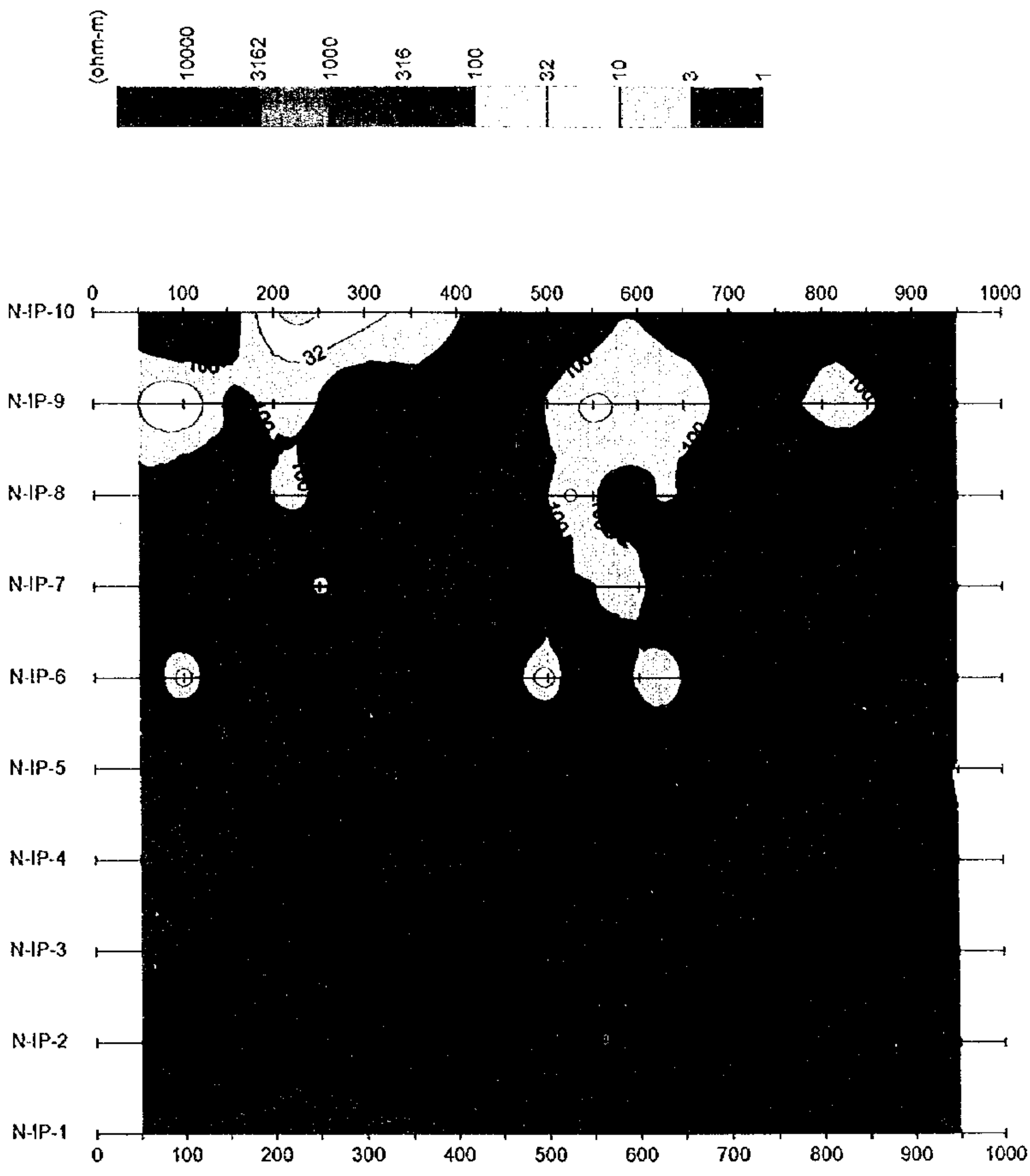


Fig. 2-57 Resistivity Map in the Ngan Me Area (SL 150m)

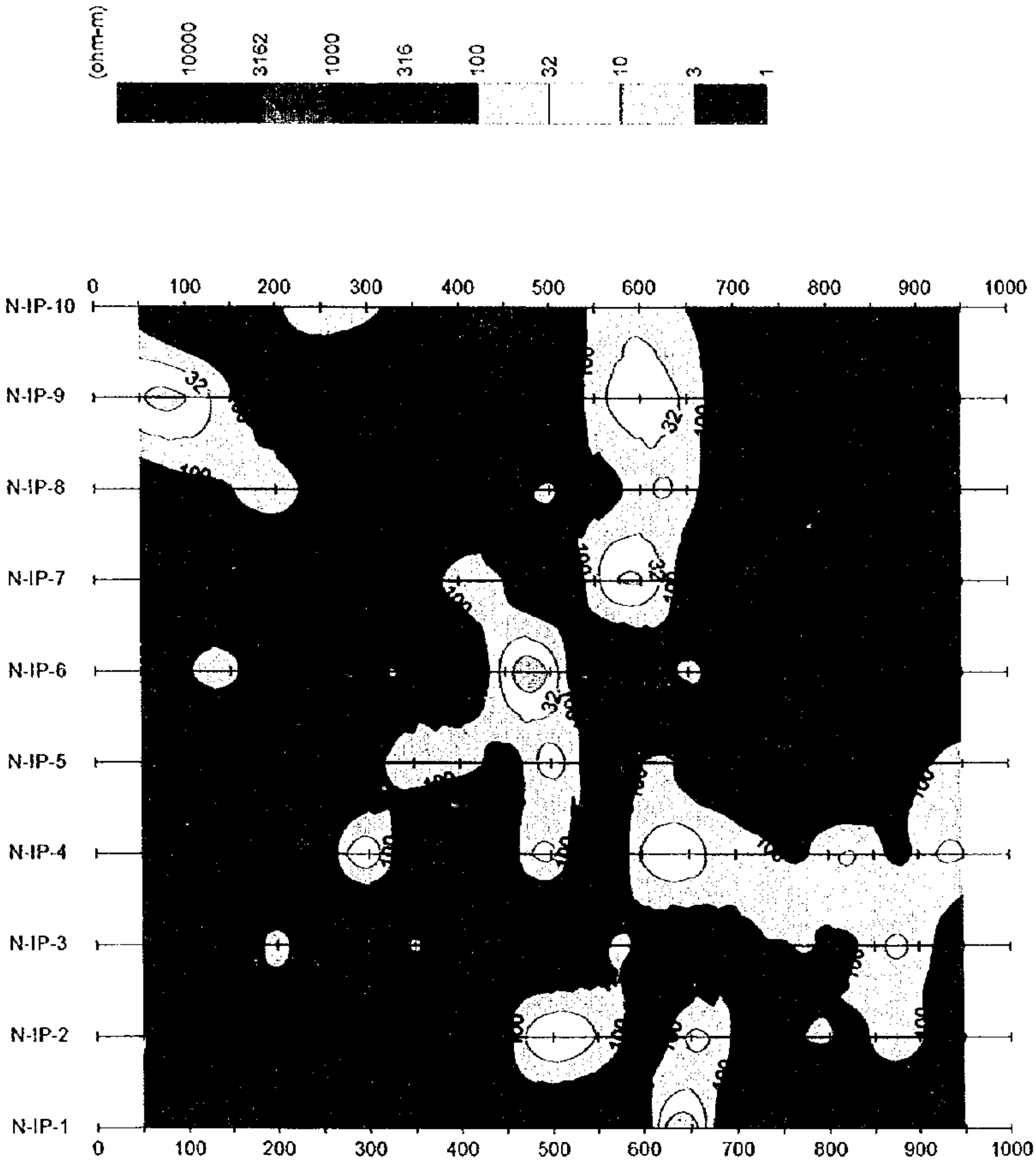


Fig. 2-58 Resistivity Map in the Ngan Me Area (SL 100m)

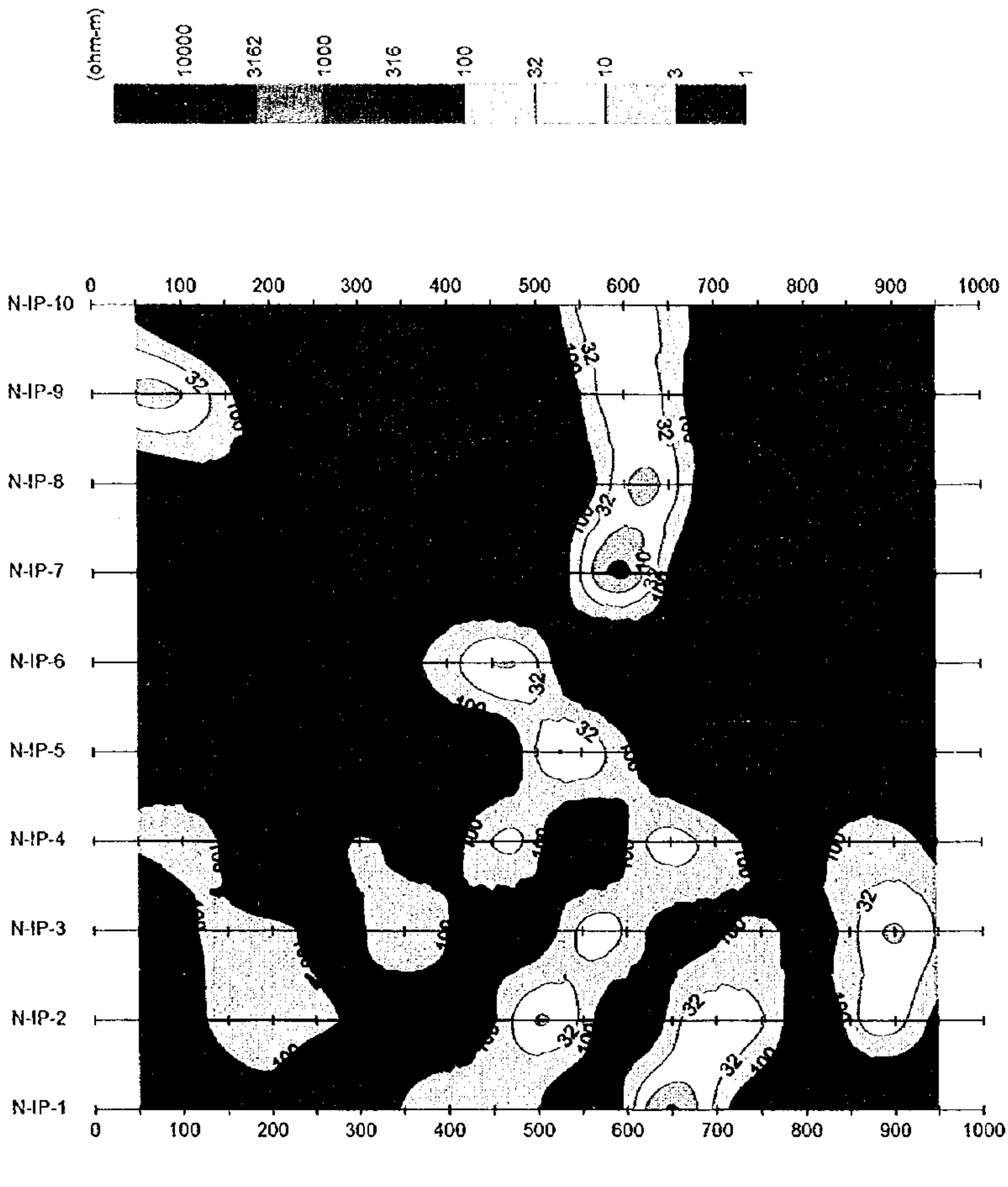


Fig. 2-59 Resistivity Map in the Ngan Me Area (SL 50m)

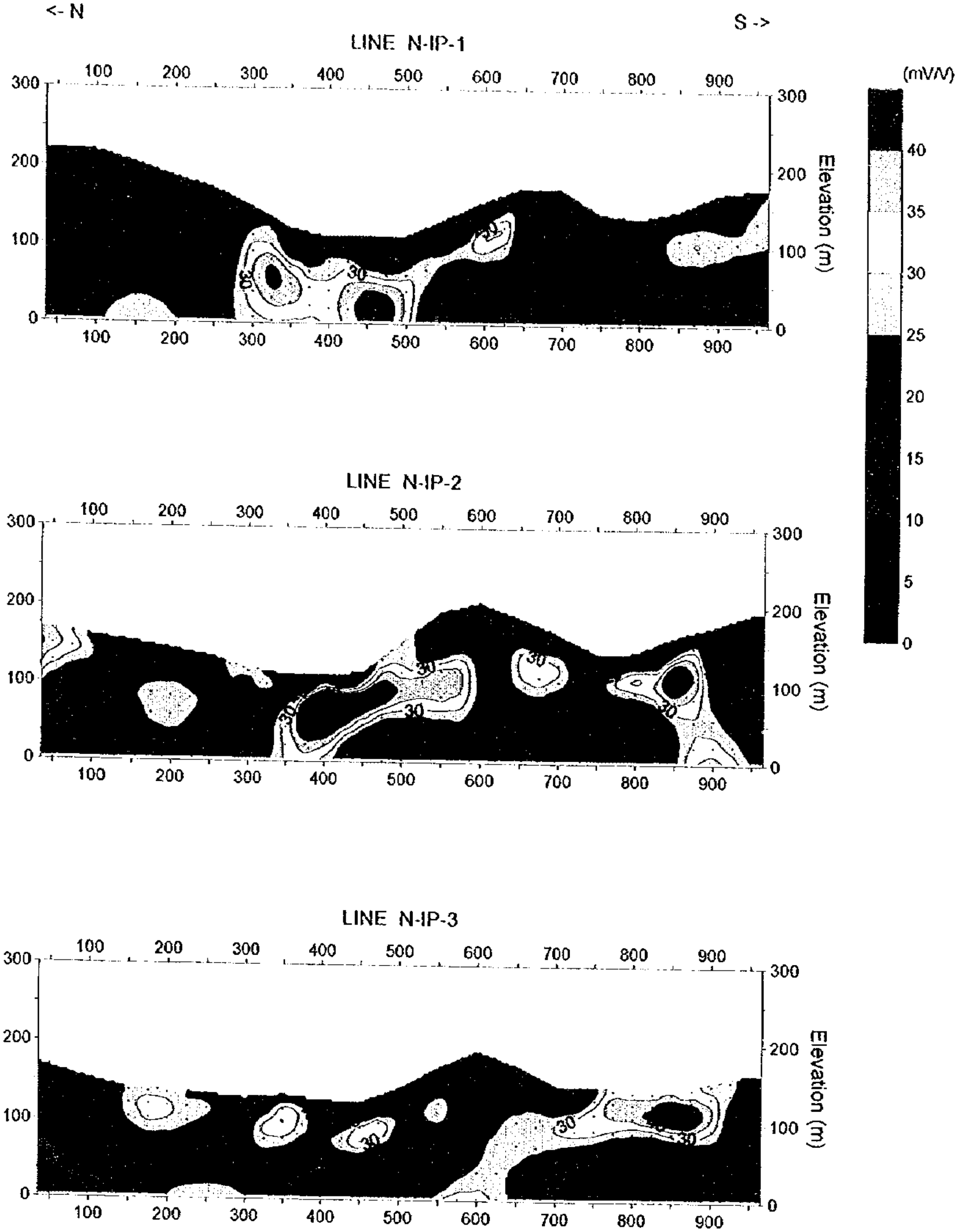


Fig. 2-60 Chargeability Sections (Lines N-IP-1 to N-IP-3)

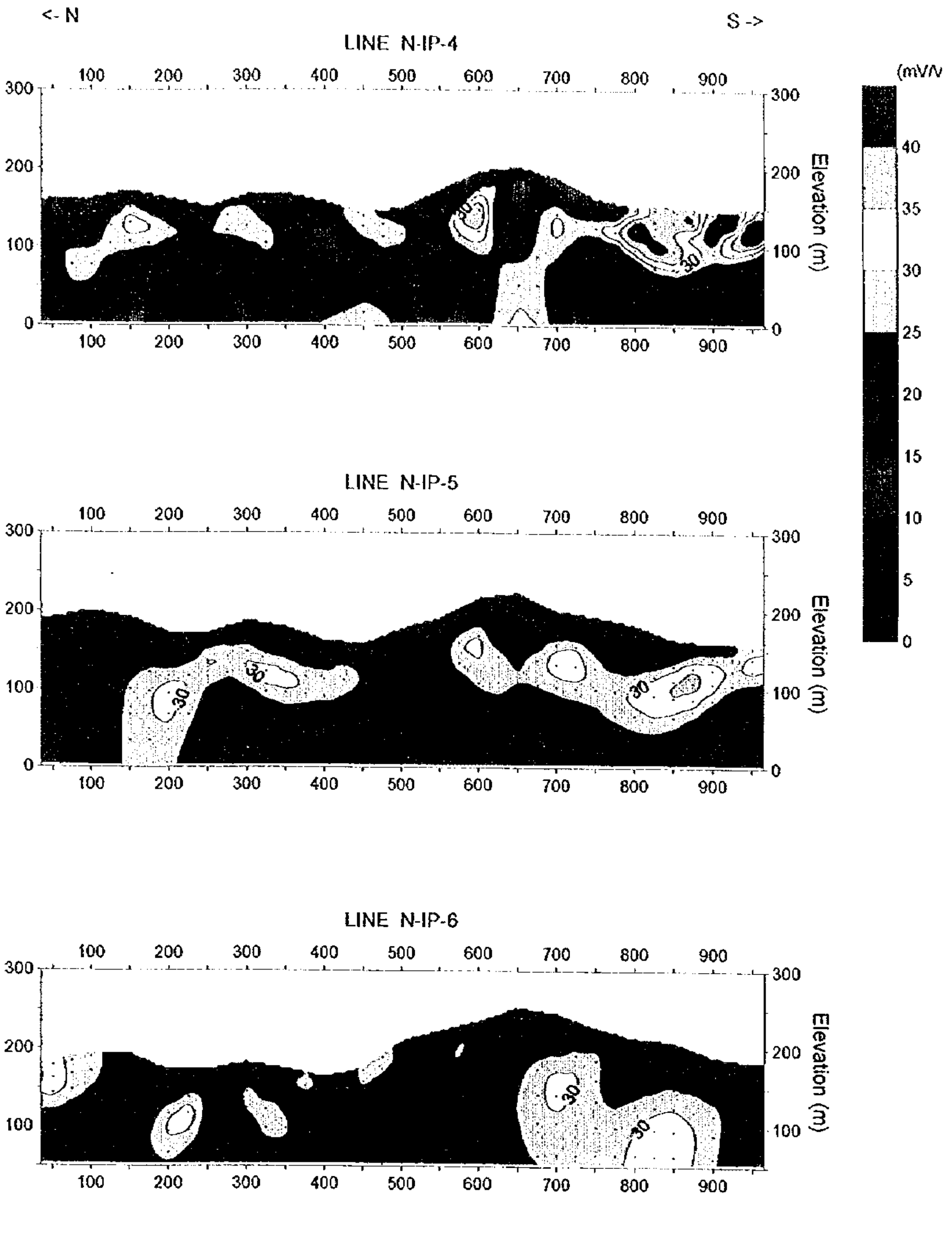


Fig. 2-61 Chargeability Sections (Lines N-IP-4 to N-IP-6)

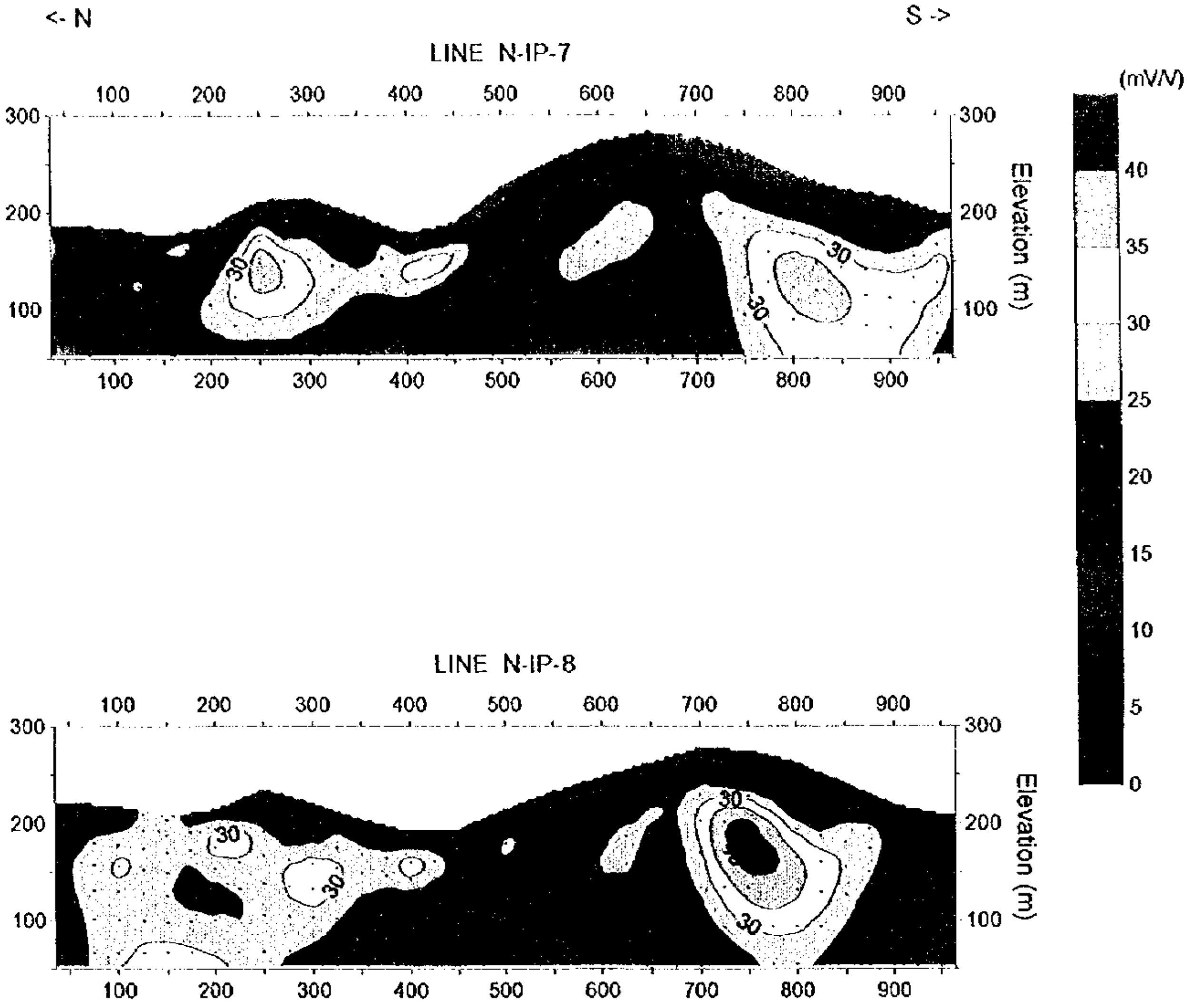


Fig. 2-62 Chargeability Sections (Lines N-IP-7 to N-IP-8)

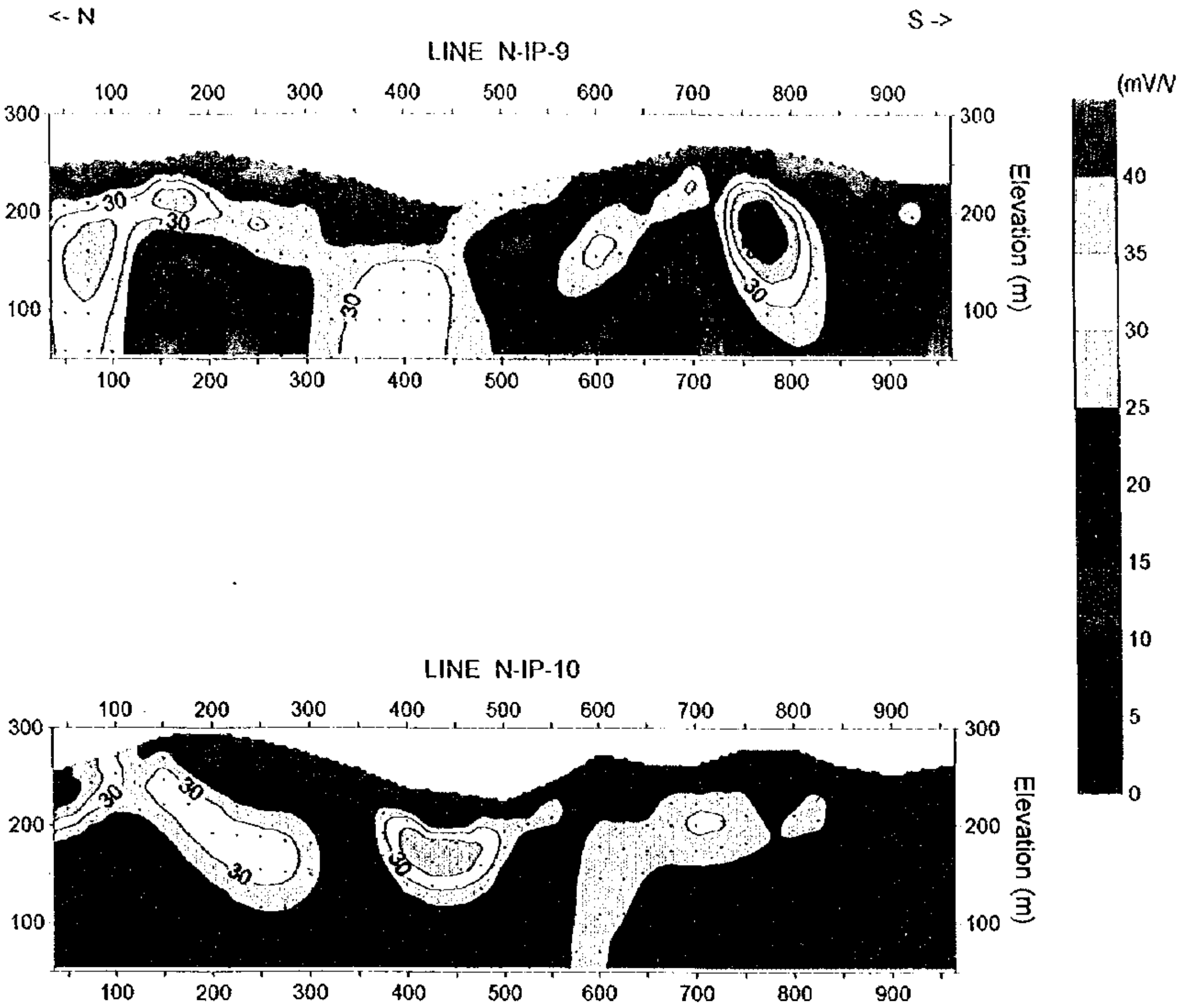


Fig. 2-63 Chargeability Sections (Lines N-IP-9 to N-IP-10)

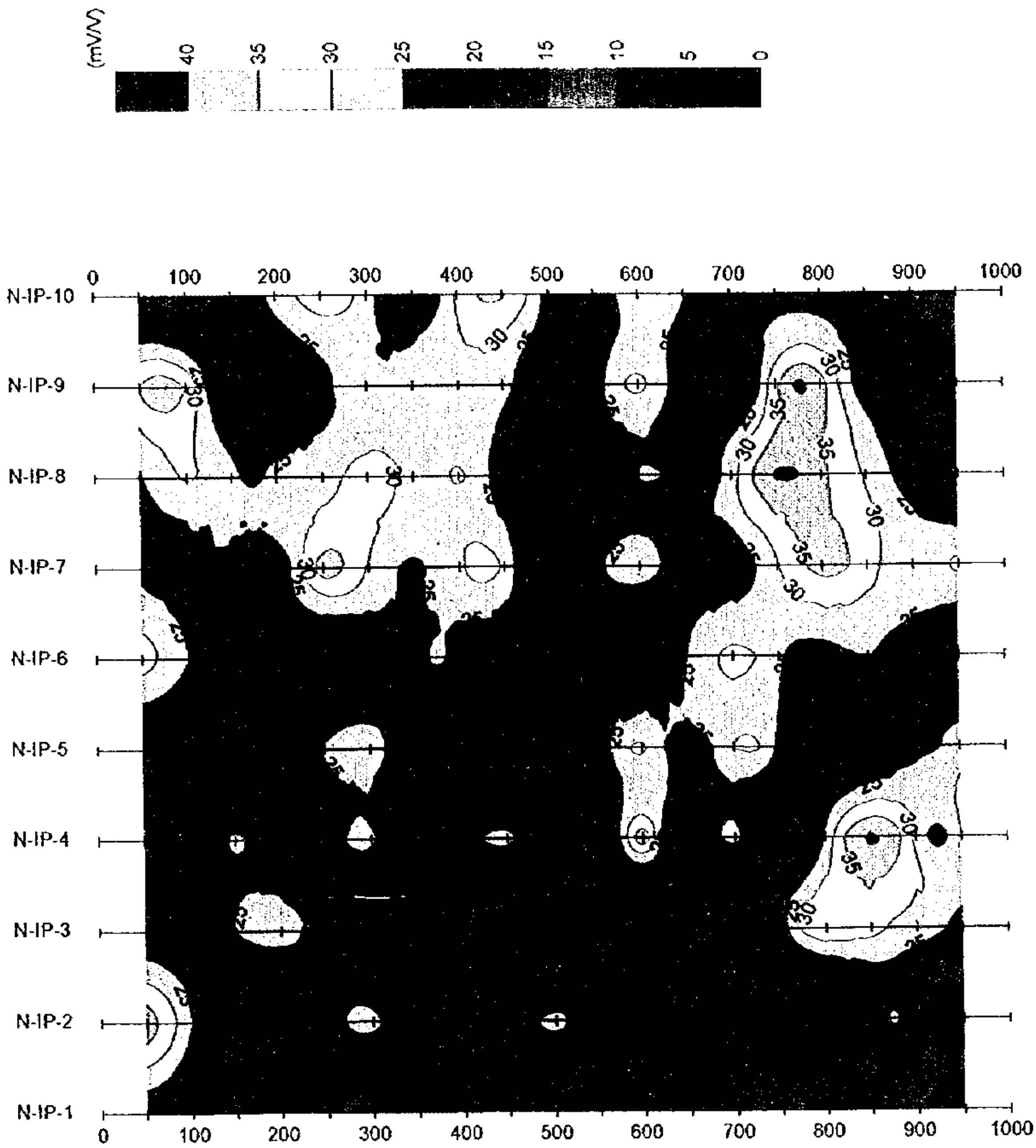


Fig. 2-64 Chargeability Map in the Ngan Me Area (SL 150m)

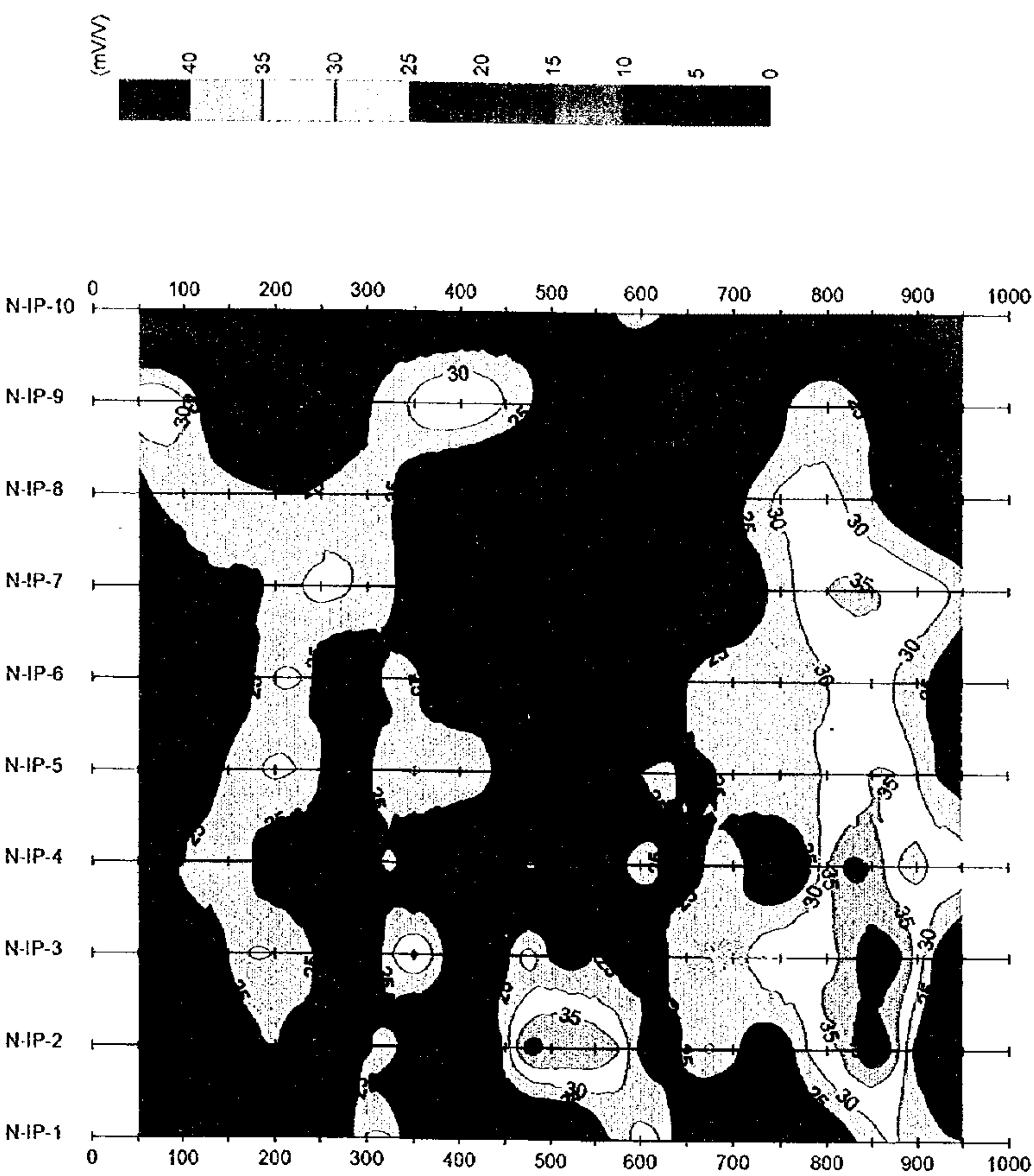


Fig. 2-65 Chargeability Map in the Ngan Me Area (SL 100m)

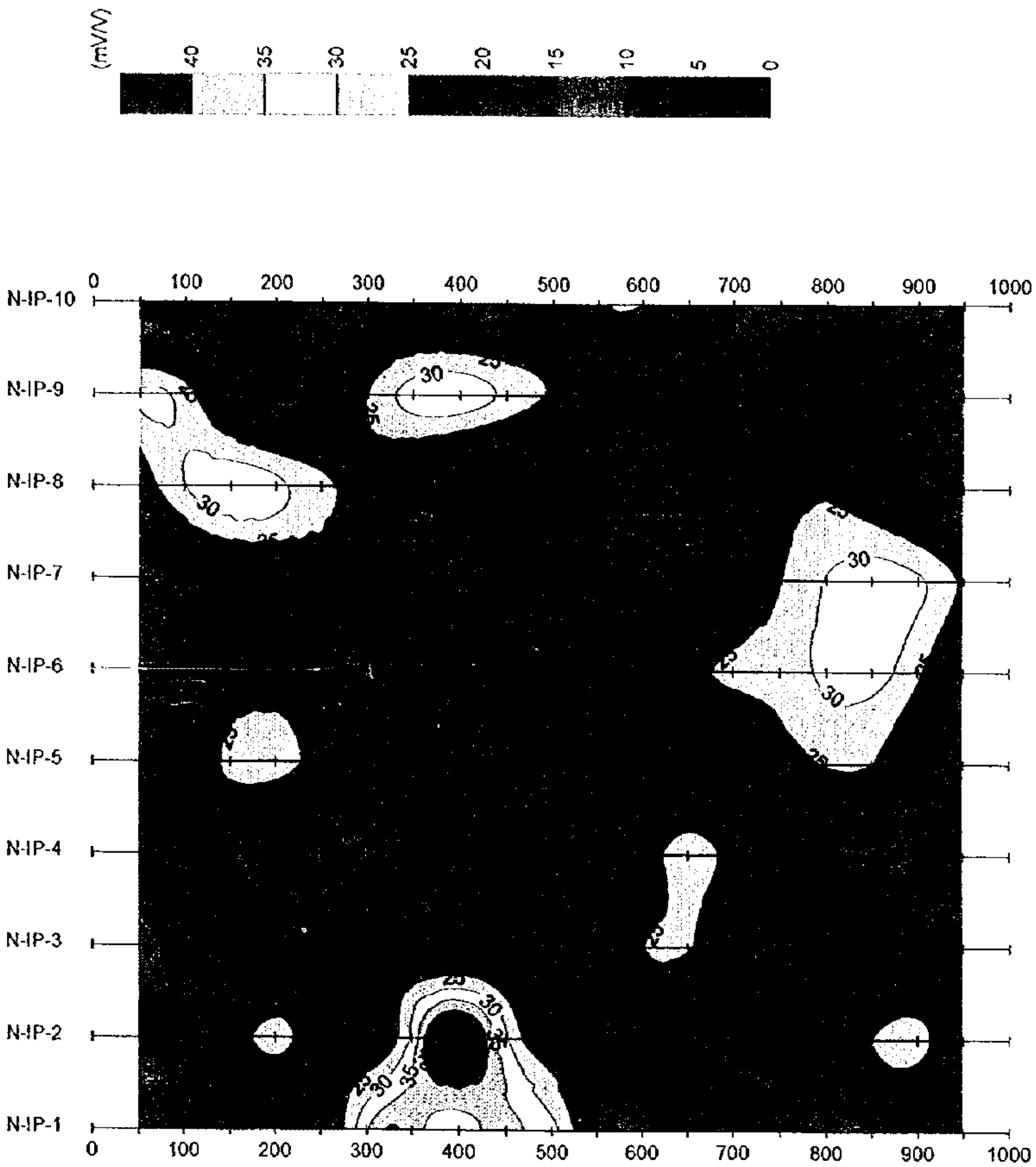


Fig. 2-66 Chargeability Map in the Ngan Me Area (SL 50m)

3-3-3 Laboratory Test

The results of the laboratory test are shown in Table 2-12. The mean values of resistivity and chargeability for each rock including the samples measured on the first phase are as follows.

Rock	Resistivity (ohm-m)	Chargeability (mV/V)
Quartz vein	16,919	25.9
Claystone · Siltstone	646	3.9
Shale	1,389	9.8
Sandstone	2,602	13.6
Phyllite	1,726	12.1
Schists	1,716	12.1
Granite	1,734	13.5

The mean value of the resistivity of the rock samples are higher than 1,000 ohm-m except the claystone · siltstone. Especially, the resistivity of the quartz vein is remarkably higher (more than 10,000 ohm-m) than that of the other rocks. However, the resistivity of the quartz vein varies widely, depending on the condition of fissures and the content of sulfide minerals (mainly pyrite). The samples containing remarkable fissures measured lower value of about 2,000 ohm-m. Furthermore, as the content of sulfide minerals increases, the resistivity of quartz vein shows a tendency to be lower. The sandstone of the host rock had the second highest resistivity. Especially, quartzitic sandstone (MJVB-1 core) exhibits high resistivity more than 5,000 ohm-m. The claystone · siltstone was the lowest (about 600 ohm-m) of the rocks in the survey areas. A low resistivity of about 200 ohm-m existed in the shale and the schists.

The chargeability of the quartz vein shows the highest value. However, it is clear that its value is correlated with the content of sulfide minerals (mainly pyrite). The samples containing no pyrite measured extremely low less than several mV/V, while a sample containing pyrite measured the largest of 96 ms. Relatively high chargeability of about 20 mV/V existed in the phyllite, schists and sandstone. In the case of containing no sulfide minerals, the rocks of the survey areas seem to be from a few mV/V to 20 mV/V. The drilling core samples measured extremely low chargeability less than several mV/V except quartz vein. This accords with the low background value of the chargeability in the Da Mai area.

The characteristic relationship between resistivity and chargeability is not found out, except for the quartz vein.

Table 2-12 Results of the Laboratory Test

No.	Rock	Resistivity (ohm-m)	Chargeability (mV/V)	Remarks
97-1	Quartz Vein	1,311	75.5	Py diss., Porous
97-2	Quartz Vein	4,542	17.2	Py diss.
97-3	Quartz Vein	11,416	1.2	
97-4	Quartz Vein	10,232	1.4	
97-5	Quartz Vein	15,183	2.3	
97-6	Quartz Vein	7,021	5.6	MJVB-1 Core, Py diss.
97-7	Quartz Vein	4,722	9.3	MJVB-2 Core, Py diss.
97-8	Quartz Vein	4,759	13.8	MJVB-2 Core, Cp diss.
97-9	Black Shale	239	3.0	
97-10	Sandstone	2,256	7.8	
97-11	Sandstone	779	13.4	Reddish Brown
97-12	Sandstone	3,847	6.8	Limonite & Hematite diss.
97-13	Quartzitic Sandstone	5,906	1.8	MJVB-1 Core
97-14	Quartzitic Sandstone	6,070	2.1	MJVB-1 Core
97-15	Phyllite	2,352	14.0	
97-16	Phyllite	1,069	6.5	
97-17	Schist	988	2.8	
97-18	Schist	160	1.9	
97-19	Black Schist	2,836	2.2	MJVB-1 Core
97-20	Black Schist	1,553	0.2	MJVB-1 Core

3-4 Discussion

(1) Relationship between Resistivity and Mineralization

The analytic results, laboratory test results and geologic information led to the following relationship between resistivity and mineralization in the survey areas.

The quartz vein is extremely high (more than 10,000 ohm-m) in resistivity. However, it is very difficult to extract a narrow quartz vein in width by this measurement system. In case where a group of quartz veins is large in size, it is possible to extract a high resistivity zone related to quartz veins.

The development of fractures and content of sulfide minerals lower the resistivity of a zone where quartz veins are distributed, as shown in the laboratory test results. In many cases, small quartz veins contribute to increasing the resistivity obtained by this measurement system. Therefore, the resistivity of a zone where quartz veins are distributed seems to be almost the same as or higher that in the host rock, that is, from medium to high in the survey areas.

(2) Relationship between Chargeability and Mineralization

The analytic results, laboratory test results and geologic information led to the following the relationship between chargeability and mineralization in the survey areas.

In the survey areas, sulfide minerals (mainly pyrite) and graphite are assumed to cause chargeability anomalies. From a geological viewpoint, the rocks in the survey areas contain few amounts of graphite. Therefore, chargeability anomalies result from sulfide minerals (mainly pyrite) accompanying quartz veins. The laboratory test results show that the chargeability value is obviously correlated with the content of sulfide minerals (mainly pyrite).

In the survey areas, it follows from these that a strong chargeability anomaly zone is connected with the zone where quartz veins containing a considerable amount of sulfide minerals are distributed. In case where the chargeability of the host rocks is low, there is a high possibility that a weak chargeability anomaly is the zone where quartz veins containing a small amount of sulfide minerals are distributed.

(3) Relationship between Geophysical Anomaly and Mineralization

In the survey areas, the above discussion gives the followings to the IP anomalies extracted in a zone where quartz veins are distributed.

- Strong chargeability anomaly
- Weak chageability anomaly

・ High resistivity anomaly

Strong chargeability anomaly is highly related to a distribution of quartz veins and connected with a distribution of quartz veins containing a considerable amount of sulfide minerals. Weak chargeability anomaly is expected that quartz veins containing a small amount of sulfide minerals are distributed, in case where the chargeability of the host rocks is low. High resistivity anomaly may be expected that a large group of quartz veins is distributed.

In the following, the relationship between these anomalies extracted in the Da Mai and Ngan Me areas and the known prospects are discussed.

1) Da Mai area

The distributions of the strong chargeability anomaly zone, weak chargeability anomaly zone and known quartz veins are shown in Fig.2-67. The strong chargeability anomaly was regarded as more than 30 mV/V. The weak chargeability anomaly was regarded as more than 15 mV/V, since the background value in the Da Mai area is more than 10 mV/V. These anomaly zones were plotted with the chargeability maps of 3 levels (SL 250 m, SL 200 m and SL 150 m). The high resistivity zone was not done, because the resistivity distribution is little changeful and there is no characteristic anomaly in the Da Mai area. The locations and features of anomaly zones, and the relation to the known prospects are as follows.

Strong Chargeability Anomaly

・ Northern part of lines D-IP-8 to D-IP-10

This anomaly zone has a WNW-ESE direction and is composed of two parallel anomalies. It tends to further continue to the east of the survey area and extend to the deeper zone. It seems to reflect the prospect around Khe Dui stream. It suggests that the prospect around the Khe Dui stream contains a large amount of sulfide minerals and continues to the east.

Weak Chargeability Anomaly

・ Central part of the survey area

This anomaly zone has a WNW-ESE. However, it tends not to extend to the deeper zone. It seems to be attributed to the prospect around the Da Mai stream. In this year, the drilling exploration was carried out in the western part of this anomaly zone and caught the groups of quartz veins containing a small amount of sulfide minerals. This result is matched with the geophysical survey results.

2) Ngan Me area

The distributions of the strong chargeability anomaly zone, high resistivity zone and known quartz veins are shown in Fig.2-68. The strong chargeability anomaly was regarded as more than 30 mV/V. The high resistivity anomaly was regarded as more than 3,162 ohm-m. The strong chargeability anomaly zones were plotted with the chargeability maps of 3 levels (SL 150 m, SL 100 m and SL 50 m). The high resistivity zones were plotted with the resistivity distribution of the surface, since high resistivity is mostly distributed in the surface. The weak chargeability anomaly zone was not done, because the background value (10 to 20 mV/V) of chargeability in this is relatively high. The locations and features of anomaly zones, and the relation to the known prospects are as follows.

Strong Chargeability Anomaly

・ Southern part of lines N-IP-2 to N-IP-9

This anomaly zone is the broadest in the Ngan Me area. It includes high chargeability more than 40 mV/V in lines N-IP-1 to N-IP-2 and lines N-IP-8 to N-IP-9. It has a E-W direction, and tends to incline to the south and disappear in the deep zone below SL 50m. It seems to be attributed to groups of quartz veins containing a large amount of sulfide minerals in the Ba Khe prospect around the Na Hon stream. It shifts slightly toward the south of the known quartz veins.

・ Central part of lines N-IP-1 to N-IP-2.

This anomaly zone is the second broadest in this area and includes high chargeability more than 40 mV/V. It tends not to extend in the deep zone below SL 0m. It seems to be attributed to groups of quartz veins containing a large amount of sulfide minerals in the Ba Khe prospect around the Ba Khe stream. The known quartz veins are distributed around this anomaly zone.

・ Northeastern part of the survey area

Small anomaly zones are scattered. It seems to be attributed to groups of quartz veins containing a large amount of sulfide minerals in the Middle Ba Khe - Left Ba Khe prospect.

High Resistivity Anomaly

Broad high resistivity anomaly zones are distributed in the ridge parts located a little to the south of the survey area. They are distributed up to 50 m from the surface in depth. Their distributions could not conform to those of the known quartz veins.

(4) Relations to Geologic Structure

In the Da Mai area, the resistivity distribution is little changeful. The geophysical survey results suggest that there are few geologic structures such as fracture zone inducing change of resistivity in the Da Mai area.

In the Ngan Me area, the resistivity structure is complex and vertical low resistivity zones were extracted in all the lines. These low resistivity zones tend not to continue clearly. It seems that the resistivity structure reflects the complex geologic structure and the low resistivity zones result from fracture zones.

The chargeability distribution in these areas tends not to be related to the geologic structure specifically, except for the distribution of quartz veins.

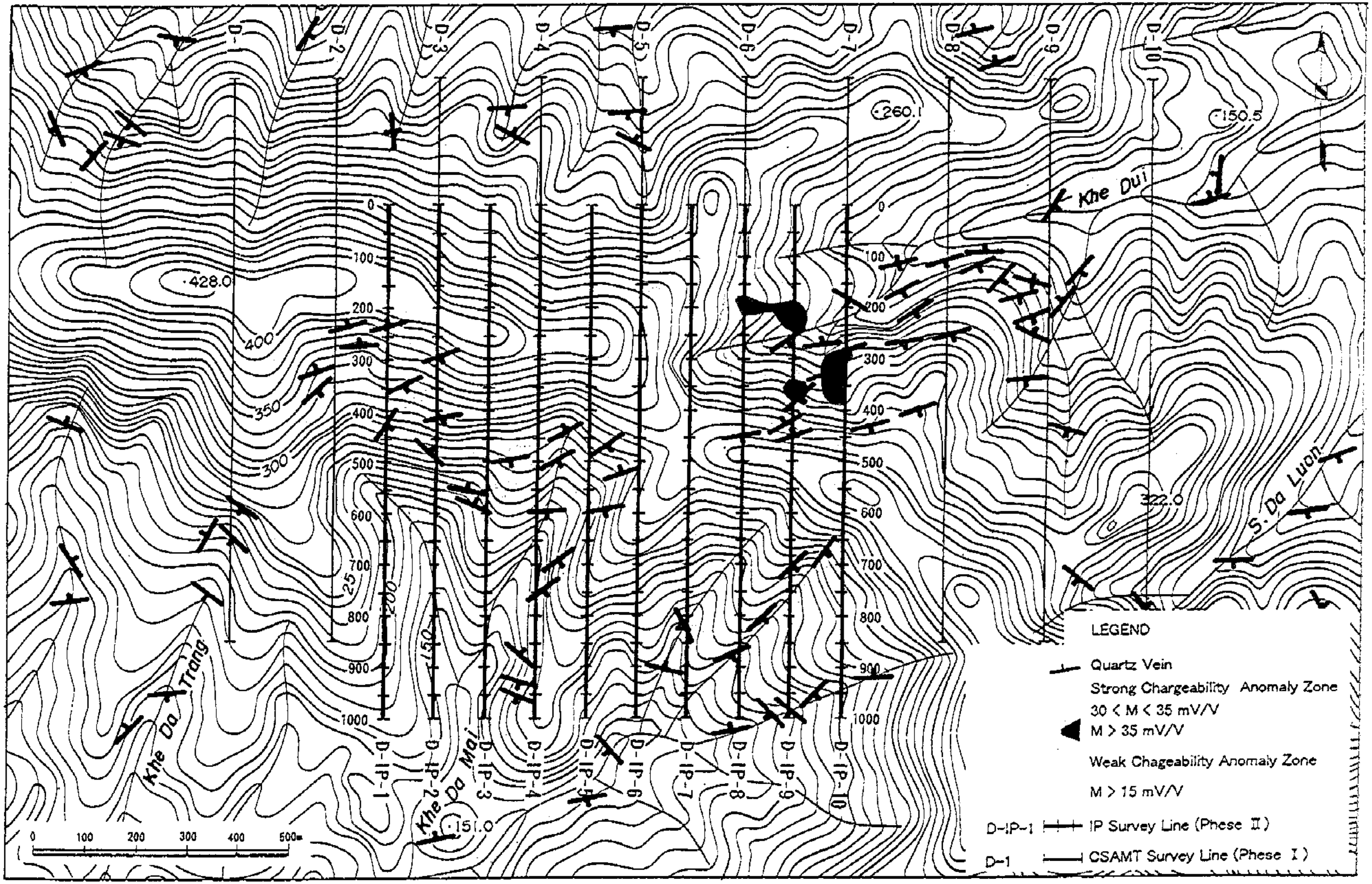


Fig. 2-67 Geophysical Integrated Interpretation Map in the Da Mai Area

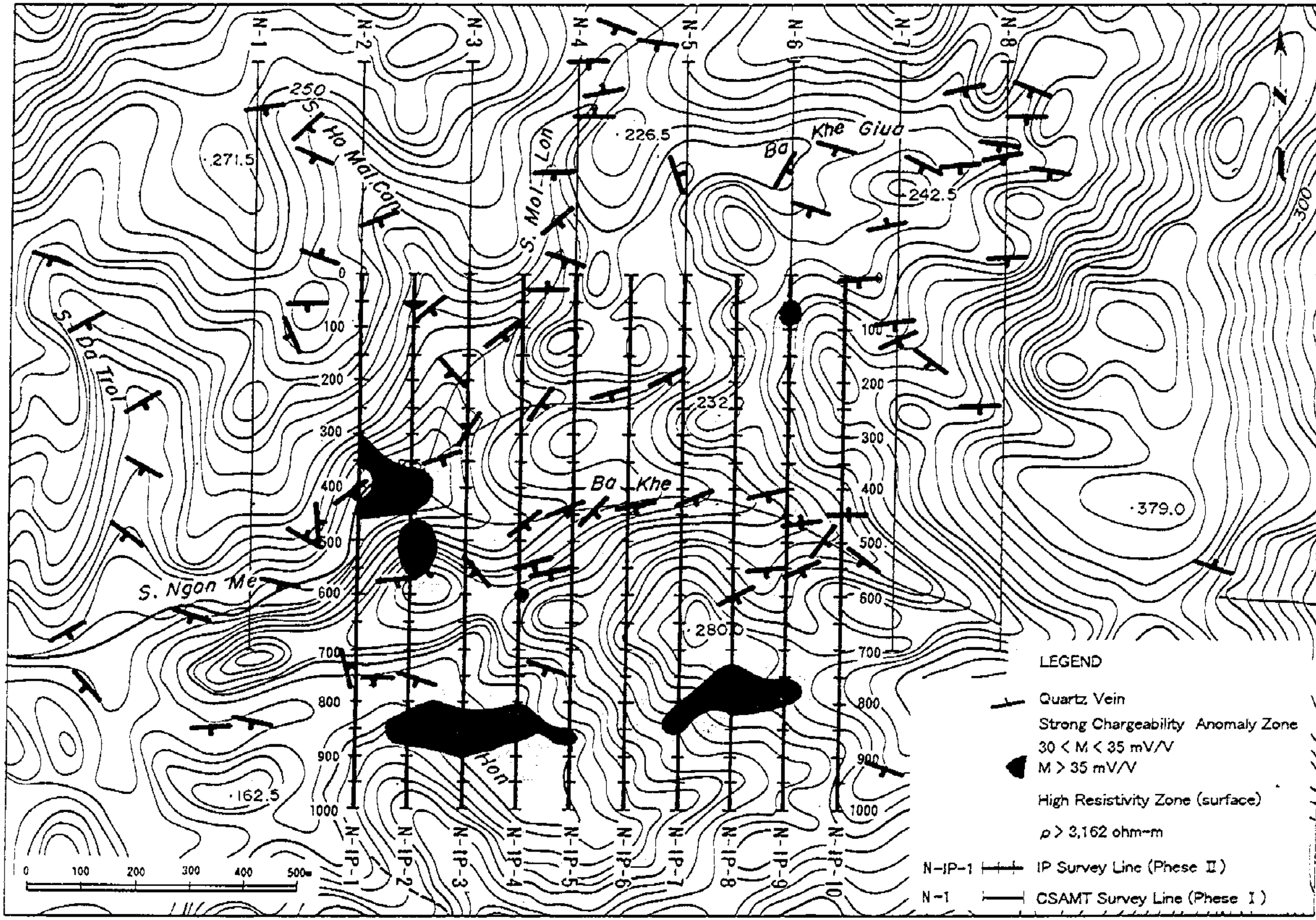


Fig. 2-68 Geophysical Integrated Interpretation Map in the Ngan Me Area

Chapter 4 Drilling

4-1 Outline of Drilling

In the second phase, a reconnaissance diamond drilling program comprising two holes totaling 600 m was planned in the Da Mai area. These holes were directed towards the significant geological/geochemical and geophysical anomalous zones. Significant gold mineralized zones at the Da Mai- Khe Dui prospect, which were defined by geological/geochemical and IP geophysical surveys were targeted by two holes -- MJVB-1 and 2.

The drilling program was composed of two inclined holes of 300 m deep each. Target depths were set at 50 to 250 m from the surface. Two holes of 600.00 m in total length have been drilled in this phase. Details of each hole are summarized in the table below. The location map of drill holes is shown in Fig. 2-69.

Hole No	Prospect	Location	Elevation	Azimuth	Inclination	Length
MJVB-1	Da Mai-Khe Dui	Da Mai creek	210 m	N	-45°	300.00 m
MJVB-2	Ditto	W-Da Mai creek	300 m	N	-45°	300.00 m
Total	2 holes					600.00 m

A series of drill logs of 1:200 scale was prepared, and the whole drill cores were photographed in color. Fifty-three samples for ore assay were obtained. Six elements (Au, Ag, Cu, Pb, Zn and Fe) were analyzed for ore assay. Twelve polished sections for ore microscopy and ten thin sections for petrography were produced from the cores. Twenty altered rock and quartz samples were examined for X-ray powder diffraction analysis. Ten quartz samples were provided for fluid inclusion studies.

4-2 Method and Equipment

Method

For the near-surface weathered zone (2 to 4 m), drilling was done by PQ size metal bit (132 mm in diameter) with inserting of PW drive pipes. Weak-weathered bedrock and the upper part of bedrock zone (down to 100 to 150 m) were drilled by the conventional drilling method using HQ size diamond bit (91 mm in diameter). The weak-weathered bedrock continued to 20 to 30 m deep. Reaming at 117 mm in diameter was done by using diamond or metal bit, and HW casing pipes (108 mm in inner diameter) were inserted in this zone. For the upper part of bedrock zone, NW casing

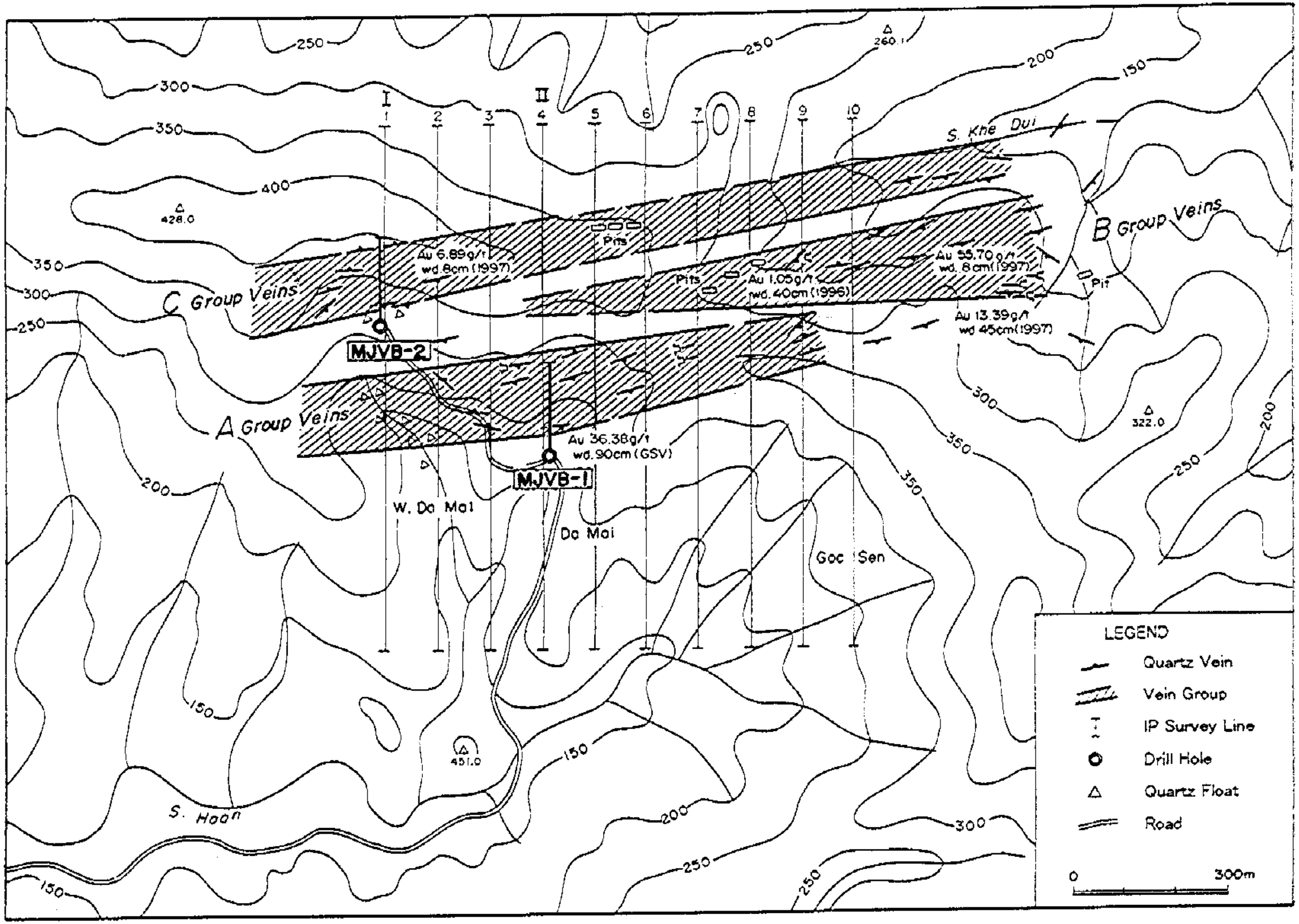


Fig. 2-69 Location Map of Drill Holes in the Da Mai Area

pipes (89 mm in inner diameter) were inserted down to approximately 100/150 m. From 100/150 m to 300 m (the end of hole), drilling was made with NQ size diamond bit (76 mm in diameter) and NQ-WL core tube. Bentonite clay, polymer (CMC) and NaOH (pH adjustment agent) were usually mixed in the circulating drilling water. When the water was lost in the hole where fractures were developed, a natural fibrous material (commercial name is GPC made in China) was injected to recover the trouble.

Equipment

Two sets of Russian ZIF-650M drilling machines and two sets of Russian NB-3 drilling pumps were brought into operation in this exploration. Drill rigs were Vietnamese domestic made tripod-type angled ones. Specifications of drilling machine and equipment are shown in Table 2-13. Diamond bits and expendable items used during the drilling are listed in Tables 2-14 and 2-15 respectively.

Working System

Drilling operation was carried out by three shifts per day (8 hours per shift), while the appurtenant works, such as rig construction, mobilization and demobilization, were done by one shift per day (8 to 10 hours). A shift crew consisted of one drilling engineer and three to four workers normally. Additional twenty workers (round figures) were involved in case of the appurtenant work. A series of base camps for drilling operation were built at the foot of Da Mai creek.

Transportation

The drilling machine and equipment were transported to the Da Mai area by a convoy of 7-ton trucks and 5-ton trucks. A couple of 4-WD trucks (2 to 5 tons in capacity) and a bulldozer were chartered for the transportation of drilling machine and equipment from the main road to the drilling sites through a series of roads which was constructed for this drilling purpose for about 2 km.

Supply for the camp was made once in a week. Fuel and foods were bought at Thai Nguyen, and were transported by chartered cars.

Drilling Water

Water for drilling was pumped up from the middle reaches of Da Mai creek to the drilling sites via pipelines whose length was about 2 km in total. The difference of altitudes between pumping

Table 2-13 Specifications of Drilling Machine and Equipment

Drilling Machine : Model ZIF-650M (Russian)	2 sets
Capacity	800 m (BQ nominal)
Dimensions (L, W, H)	3,400 - 1,050 - 1,950 mm
Weight	3,800 kg (+ engine 1,500 kg)
Hoisting Capacity	5,000 kg
Spindle Speed	100, 200, 400, 800 rpm
Engine : Model A41 (Russian)	54.0 ps/1,800 rpm
Drilling Pump : Model NB-3	2 sets
Plunger Type	3 plunger lateral
Capacity	90 l/min (discharge)
Dimensions (L, W, H)	1,800 - 700 - 900 mm
Weight	500 kg (+ engine 120 kg)
Engine : Model S1100AN (Chinese)	12.1 kw/2,200 rpm
Wireline Hoist : Model Zabog	1 set
Drum Diameter	120 mm
Rope Capacity	1,200 m (6 mm diameter rope)
Dimensions (L, W, H)	870 - 1,030 - 780 mm
Weight	530 kg (including motor)
Motor : Model 4A112MY3	5.5 kw/1,450 rpm
Water Supply Pump: Model BW250/50 (Russian)	2 sets
Plunger Type	3 plunger lateral
Capacity	250 l/min (discharge)
Dimensions (L, W, H)	1,100 - 1,100 - 900 mm
Weight	500 kg (excluding engine)
Engine : Model H1105WAN (Chinese)	18.0 ps/1,800 rpm
Derrick : Model INTERGEO	2 sets
Height	10.4 m
Maximum Load Capacity	5,000 kg
Mud Mixer : Model INTERGEO	1 set
Capacity	0.75 m^3/800 rpm
Engine : Model S1100AN (Chinese)	12.1 kw/2,200 rpm
Generator : Model ESS5 (Russian)	2 sets
Capacity	10 kw (220 V)
Drilling Tools	
Drilling Rods	HQ 6.2 m - 57 pcs
	NQ-WL 4.8 m - 70 pcs
Casing Pipes	146 mm 1.5 m - 4 pcs
	HW CP 3.0 m - 32 pcs
	NW CP 3.0 m - 71 pcs
Core Tubes	HQ 3.0 m - 10 pcs
	NQ-WL 3.0 m - 10 pcs

Table 2-14 Drilling Meterage and Diamond Bit Consumption

Item	Size	Bit No.	Drilling Meterage/Each Bit MJVB-1	MJVB-2	Total (m)
Diamond Bit	HQ	#71142	22.35		22.35
		#71143	14.05		14.05
		#38012	13.10		13.10
		#38317	35.60		35.60
		#38307	2.00		2.00
		#38315	39.55		39.55
		#38313		8.00	8.00
		#38306		37.25	37.25
		#38314		21.55	21.55
		Subtotal	126.65	66.80	193.45
		Average			21.49
	NQ	#38284	10.85		10.85
		#28290	10.40		10.40
		#38287	4.20		4.20
		#38293	5.90		5.90
		#301189	18.50		18.50
		#301190	20.65		20.65
		#681	13.80		13.80
		#692	11.30		11.30
		#686	16.20		16.20
		#8	16.45		16.45
		#596	7.00		7.00
		#589	10.30		10.30
		#590	2.20		2.20
		#630	2.90		2.90
		#184	6.75		6.75
		#588	2.40		2.40
		#682	1.20		1.20
		#38296	4.45		4.45
		#676	2.90		2.90
		#38321		6.15	6.15
		#165		4.00	4.00
		#630		3.35	3.35
		#63891		9.65	9.65
		#683		2.20	2.20
		#38274		45.70	45.70
		#402884		76.95	76.95
		#74615		45.15	45.15
		Subtotal	168.35	193.15	361.50
		Average			13.39
Metal Bit	PQ	M1	5.00		5.00
		M2		2.50	2.50
		Subtotal	5.00	2.50	7.50
		Average			3.75
	HQ	M3		21.50	21.50
		M4		16.05	16.05
		Subtotal		37.55	37.55
		Average			18.78

Table 2-15 Consumption of Expendable Items

Expendable Items	Spec.	Unit	Drill Hole No.		Total Amount
			MJVB-1	MJVB-2	
Diesel Fuel		l	3,613	4,570	8,183
Hydraulic Oil		l	20	30	50
Engine Oil		l	58	60	118
Grease		l	42	41	83
Bentonite		kg	16,700	20,200	36,900
Polymer		kg	250	246	496
NaOH		kg	109	115	224
Diamond Bit	HQ	pcs	6	3	9
Diamond Bit	NQ	pcs	19	8	27
Metal Bit	PQ	pcs	1	1	2
Metal Bit	HQ	pcs	0	2	2
Reamer	PQ	pcs	2	0	2
Reamer	HQ	pcs	3	3	6
Reamer	NQ	pcs	6	4	10
Core Assembly	HQ	pcs	3	1	4
Core Assembly	NQ	pcs	4	1	5
Core Lifter	HQ	pcs	6	3	9
Core Lifter	NQ	pcs	11	5	16
Inner Tube	HQ	pcs	0	3	3
Inner Tube	NQ	pcs	2	4	6
Wireline Cable		m	321	30	351
Core Box		pcs	60	60	120

Table 2-16 Summary of Working Time

			Drill Hole No.		Total
			MJVB-1	MJVB-2	
Drilling	Bit Size		PQ/HQ/NQ	PQ/HQ/NQ	PQ/HQ/NQ
	Drilling Length	(m)	300.00	300.00	300.00
	Core Length	(m)	293.55	296.90	590.45
Shift	Drilling Shift	(shift)	83	81	164
	Total Shift**	(shift)	89	86	175
Man Working*	Engineer**	(man)	211	159	370
	Worker**	(man)	821	483	1304
Working Time	Drilling	(h)	263.10	272.30	535.40
	Other Work	(h)	400.50	375.30	776.20
	Subtotal	(h)	664.00	648.00	1,312.00
	Assemblage	(h)	30.00	16.00	46.00
	Dismantlement	(h)	10.00	10.00	20.00
	Transportation & Others*	(h)	20.00	20.00	40.00
	Grand Total	(h)	724.00	694.00	1,418.00

*Geological logging inclusive
**Road construction exclusive

station to the drilling sites was nearly 200 m. Mud water was also prepared in that pumping station, and sent through the pipeline to the drilling sites.

<u>Withdrawal</u>

After the completion of drilling program, the machine and equipment were withdrawn by trucks through the same route to Hanoi. The drill holes were capped, and drilling sites were cleaned and reclaimed. The drilling cores, of which the half was taken for assay samples in some part, were kept in the storage house in the office of Division NE of DGMV, Thai Nguyen.

4-3 Progress of Drilling

The progress of each drill hole is described below. The summary of working time (Table 2-16), records of drilling operation (Tables 2-17 and 2-18), records of drilling performance (Tables 2-19 and 2-20), and charts of drilling progress (Figs. 2-70 and 2-71) are shown in tables and figures.

MJVB-1: For the near-surface weathered zone (2.40 m), drilling was done by PQ size metal bit (132 mm in diameter) with inserting of drive pipes (146 mm in inner diameter). Weak-weathered bedrock and the upper part of bedrock zone (down to 150 m) were drilled by the conventional drilling method using HQ size diamond bit (91 mm in diameter) for the maximum core recovery. The weak-weathered bedrock continued to 17 m deep. Circulating water escaped from the hole at 6 m through cracks. Reaming at 117 mm in diameter was done by using diamond and metal bits, and HW casing pipes (108 mm in inner diameter) were inserted in this zone. For the upper part of bedrock zone, NW casing pipes (89 mm in inner diameter) were inserted down to 150 m.

From 150 m to 300 m (the end of hole), drilling was made with NQ size diamond bit (76 mm in diameter) and NQ-WL core tube. However, in some part of the drill hole where was made up of very hard rocks comparatively easy to be broken in a wedge-shaped fragment, the drilling method was switched into the conventional one for the requirement of core recovery.

Bentonite clay, polymer (CMC) and NaOH (pH adjustment agent) were usually mixed in the circulating drilling water. The drilling water was lost in the hole at 270 m where fractures were developed.

Drill hole survey was made using a Toropali survey instrument. The results of survey for inclination were: -45° at 0 m and 100 m, -41° at 200 m, and -32° at 300 m. The recovery of cores was 98 % in total because of careful drilling operation.

MJVB-2: For the near-surface weathered zone (2.50 m), drilling was done by PQ size metal bit (132 mm in diameter) with inserting of drive pipes (146 mm in inner diameter). Weak-weathered bedrock and the upper part of bedrock zone (down to 106.85 m) were drilled by the conventional drilling method using HQ size diamond bit (91 mm in diameter) for the maximum core recovery. The weak-weathered bedrock continued to 30 m deep. Circulating water escaped from the hole at around 18 m through cracks. Reaming at 117 mm in diameter was done by using diamond and metal bits, and HW casing pipes (108 mm in inner diameter) were inserted in this zone. For the upper part of bedrock zone, NW casing pipes (89 mm in inner diameter) were inserted down to 106.85 m.

From 106.85 m to 300 m (the end of hole), drilling was made with NQ size diamond bit (76 mm in diameter) and NQ-WL core tube. However, in some part of the drill hole where was made up of very hard rocks and quartz vein zones, the drilling method was switched into the conventional one to keep the core recovery in a certain level.

Bentonite clay, polymer (CMC) and NaOH were usually mixed in the circulating drilling water. The drilling water was lost in the hole at 60.50, 160.00 and 283.50 m where fractures were developed. GPC (Telstop) was added to the mud water to prevent the water loss.

Drill hole survey was made using a Toropali survey instrument. The results of survey for inclination were: -45° at 0 m, -42° at 100 m, -38° at 200 m, and -35° at 300 m. The overall core recovery was 99 % in this hole.

Table 2-17 Record of Drilling Operation (MJVB-1)

Date		Hole No.	Drilling Length			Drilling Total				Shift		Man Working	
						Drilling		Core					
M	D		Shift 1 (m)	Shift 2 (m)	Shift 3 (m)	(m)	(cum m)	(m)	(cum m)	Drilling (shift)	Total (shift)	Engineer (man)	Worker (man)
11	5	MJVB-1	Transportation										
	6		Assemblage										
	7		Assemblage										
	8		Assemblage										
	9		5.00	7.60		12.60	12.60	12.45	12.45				
	10		4.40	3.60	6.75	14.75	27.35	14.75	27.20				
	11		2.50	6.55	5.00	14.05	41.40	14.05	41.25				
	12		2.90	6.20	4.00	13.10	54.50	13.10	54.35				
	13		4.30	5.55	3.85	13.70	68.20	13.50	67.85				
	14		0.90	0.00	0.00	0.90	69.10	0.90	68.75				
	15		0.00	1.90	2.85	4.75	73.85	4.40	73.15				
	16		3.15	5.35	3.20	11.70	85.55	10.85	84.00				
	17		1.20	0.95	2.40	4.55	90.10	4.15	88.15				
	18		2.00	2.90	4.65	9.55	99.65	8.75	96.90				
	19		3.30	4.65	5.15	13.10	112.75	12.10	109.00				
	20		4.50	5.05	4.60	14.15	126.90	13.40	122.40				
	21		3.10	2.60	2.60	8.30	135.20	7.95	130.35				
	22		3.15	4.15	6.15	13.45	148.65	13.10	143.45				
	23		4.25	4.20	4.50	12.95	161.60	12.80	156.25				
	24		Reaming/Casing	Reaming/Casing	Reaming/Casing	0.00	161.60	0.00	156.25				
	25		1.40	5.80	4.95	12.15	173.75	12.15	168.40				
	26		3.45	4.30	7.80	15.55	189.30	15.55	183.95				
	27		6.40	6.45	4.80	17.65	206.95	17.55	201.50				
	28		4.80	4.20	4.75	13.75	220.70	13.75	215.25				
	29		1.10	5.45	4.00	10.55	231.25	10.40	225.65				
	30		1.95	10.25	7.95	20.15	251.40	20.15	245.80				
12	1		3.70	4.80	1.85	10.35	261.75	10.20	256.00				
	2		1.15	4.00	5.65	10.80	272.55	10.70	266.70				
	3		4.65	2.20	2.90	9.75	282.30	9.75	276.45				
	4		0.00	4.15	2.60	6.75	289.05	6.65	283.10				
	5		0.00	2.40	1.20	3.60	292.65	3.10	286.20				
	6		0.00	4.45	2.90	7.35	300.00	7.35	293.55				
	7		Dismantlement										
	8		Transportation										
Total							300.00		293.55	83	89	211	821

Table 2-18 Record of Drilling Operation (MJVB-2)

Date		Hole No.	Drilling Length			Drilling Total				Shift		Man Working	
						Drilling		Core					
M	D		Shift 1 (m)	Shift 2 (m)	Shift 3 (m)	(m)	(cum m)	(m)	(cum m)	Drilling (shift)	Total (shift)	Engineer (man)	Worker (man)
11	15	MJVB-2	Transportation										
	16		(Waiting*)										
	17		(Waiting*)										
	18		(Waiting*)										
	19		(Waiting*)										
	20		(Waiting*)										
	21		(Waiting*)										
	22		(Waiting*)										
	23		(Waiting*)										
	24		(Waiting*)										
	25		(Waiting*)										
	26		(Waiting*)										
	27		Assemblage										
	28		2.50			2.50	2.50	1.95	1.95				
	29		5.50	9.75	1.05	16.30	18.80	16.25	18.20				
	30		5.20	4.20	4.80	14.20	33.00	14.10	32.30				
12	1		3.25	3.80	1.40	8.45	41.45	8.35	40.65				
	2		3.45	3.15	3.90	10.50	51.95	10.35	51.00				
	3		5.65	2.45	2.00	10.10	62.05	9.80	60.80				
	4		4.00	2.45	3.30	9.75	71.80	9.70	70.50				
	5		6.40	Reaming Casing	Reaming Casing	6.40	78.20	6.40	76.90				
	6		Reaming Casing	4.20	2.90	7.10	85.30	7.00	83.90				
	7		1.00	1.45	4.40	6.85	92.15	6.85	90.75				
	8		2.30	4.50	3.55	10.35	102.50	10.25	101.00				
	9		4.35	Reaming Casing	Reaming Casing	4.35	106.85	4.35	105.35				
	10		6.15	4.00	3.35	13.50	120.35	13.25	118.60				
	11		3.95	5.70	2.20	11.85	132.20	11.75	130.35				
	12		2.70	4.30	2.55	9.55	141.75	9.45	139.80				
	13		4.20	2.20	0.00	6.40	148.15	6.10	145.90				
	14		0.35	1.95	3.90	6.20	154.35	5.90	151.80				
	15		5.50	5.00	6.00	16.50	170.85	16.10	167.90				
	16		2.15	4.90	6.10	13.15	184.00	13.05	180.95				
	17		10.40	5.60	3.30	19.30	203.30	19.30	200.25				
	18		4.20	8.50	3.20	15.90	219.20	15.90	216.15				
	19		0.00	7.45	4.85	12.30	231.50	12.25	228.40				
	20		5.50	5.60	8.75	19.85	251.35	19.85	248.25				
	21		3.50	2.50	7.95	13.95	265.30	13.95	262.20				
	22		4.85	6.20	8.45	19.50	284.80	19.50	281.70				
	23		1.90	2.50	1.65	6.05	290.85	6.05	287.75				
	24		0.85	8.10	0.20	9.15	300.00	9.15	296.90				
	25		Casing take out	Casing take out									
	26		Dismantlement										
	27		Transportation										
Total							300.00		296.90	81	86	159	483

Table 2-19 Record of Drilling Performance (MJVB-1)

MJVB-1

Operation	Survey Period: Period	Day	Work Day	Off Day	Total Manday: Engineer	Worker
Preparation	Nov. 5 to 8, 1997	4.0	4.0	0.0	20.0	144.0
Drilling	Nov. 9 to Dec. 6	28.0	28.0	0.0	181.0	641.0
Removing	Dec. 7 to 8	2.0	2.0	0.0	10.0	36.0
Total		34.0	34.0	0.0	211.0	821.0

Drilling Length	(m)		(m)
Length Planned	300.00	Over-burden	0.00
Increase/Decrease in Length	0.00	Core Length	293.55
Length Drilled	300.00	Core Recovery (%)	97.9

Core Recovery of 300 m Hole (%)

Depth of Hole	Core Recovery	Cumulative Core Recoery
0.00 to 100.00 m	97.2	97.2
100.00 to 200.00 m	97.5	97.4
200.00 to 300.00 m	98.9	97.9

Working Hours	(h)	(%)	(%)
Drilling	263.10	39.7	36.4
Other Work	364.00	54.8	50.3
Recovering	36.50	5.5	5.1
Subtotal	664.00	100.0	91.7
Assemblage	30.00		4.1
Dismantlement	10.00		1.4
Water Transportation	0.00		0.0
Transportation	20.00		2.8
Grand Total	724.00		100.0

Efficiency of Drilling

Total Length/ Total Work Days	(m/day)	8.82
Total Length/ Total Shifts	(m/shift)	3.37

Drilling Length/Each Bit (m)

Bit Size	Drilled Length	Core Length
PQ	5.00	5.00
HQ	126.65	122.75
NQ	168.35	165.80

Casing Pipe Inserted

Size	Meterage (m)	Meterage/ Drilling Length x 100 (%)	Recovery (%)
PW	2.40	0.8	100.0
HW	17.00	5.7	99.1
NW	150.00	50.0	96.5

Table 2-20 Record of Drilling Performance (MJVB-2)

MJVB-2

	Survey Period				Total Manday	
	Period	Day	Work Day	Off Day	Engineer	Worker
Operation						
Preparation*	Nov. 15 to 27, 1997	2.0	2.0	0.0	6.0	24.0
Drilling	Nov. 28 to Dec. 24	27.0	27.0	0.0	138.0	411.0
Removing	Dec. 25 to 27	3.0	3.0	0.0	15.0	48.0
Total		32.0	32.0	0.0	159.0	483.0

Drilling Length	(m)		(m)
Length Planned	300.00	Over-burden	0.00
Increase/Decrease in Length	0.00	Core Length	296.9
Length Drilled	300.00	Core Recovery (%)	99.0

Core Recovery of 300 m Hole (%)		
Depth of Hole	Core Recovery	Cumulative Core Recoery
0.00 to 100.00 m	98.5	98.5
100.00 to 200.00 m	98.5	98.5
200.00 to 300.00 m	99.9	99.0

Working Hours	(h)	(%)	(%)
Drilling	272.30	42.1	39.3
Other Work	375.30	57.9	54.1
Recovering	0.00	0.0	0.0
Subtotal	648.00	100.0	93.4
Assemblage	16.00		2.4
Dismantlement	10.00		1.4
Water Transportation	0.00		0.0
Transportation	20.00		2.8
Grand Total	694.00		100.0

Efficiency of Drilling	
Total Length/ Total Work Days	(m/day) 9.38
Total Length/ Total Shifts	(m/shift) 3.49

Drilling Length/Each Bit (m)		
Bit Size	Drilled Length	Core Length
PQ	2.50	1.95
HQ	104.35	103.40
NQ	193.15	191.55

Casing Pipe Inserted			
Size	Meterage (m)	Meterage/ Drilling Length x 100 (%)	Recovery (%)
PW	2.50	0.8	78.0
HW	30.00	5.7	97.7
NW	106.85	50.0	98.6

*Waiting time excluded

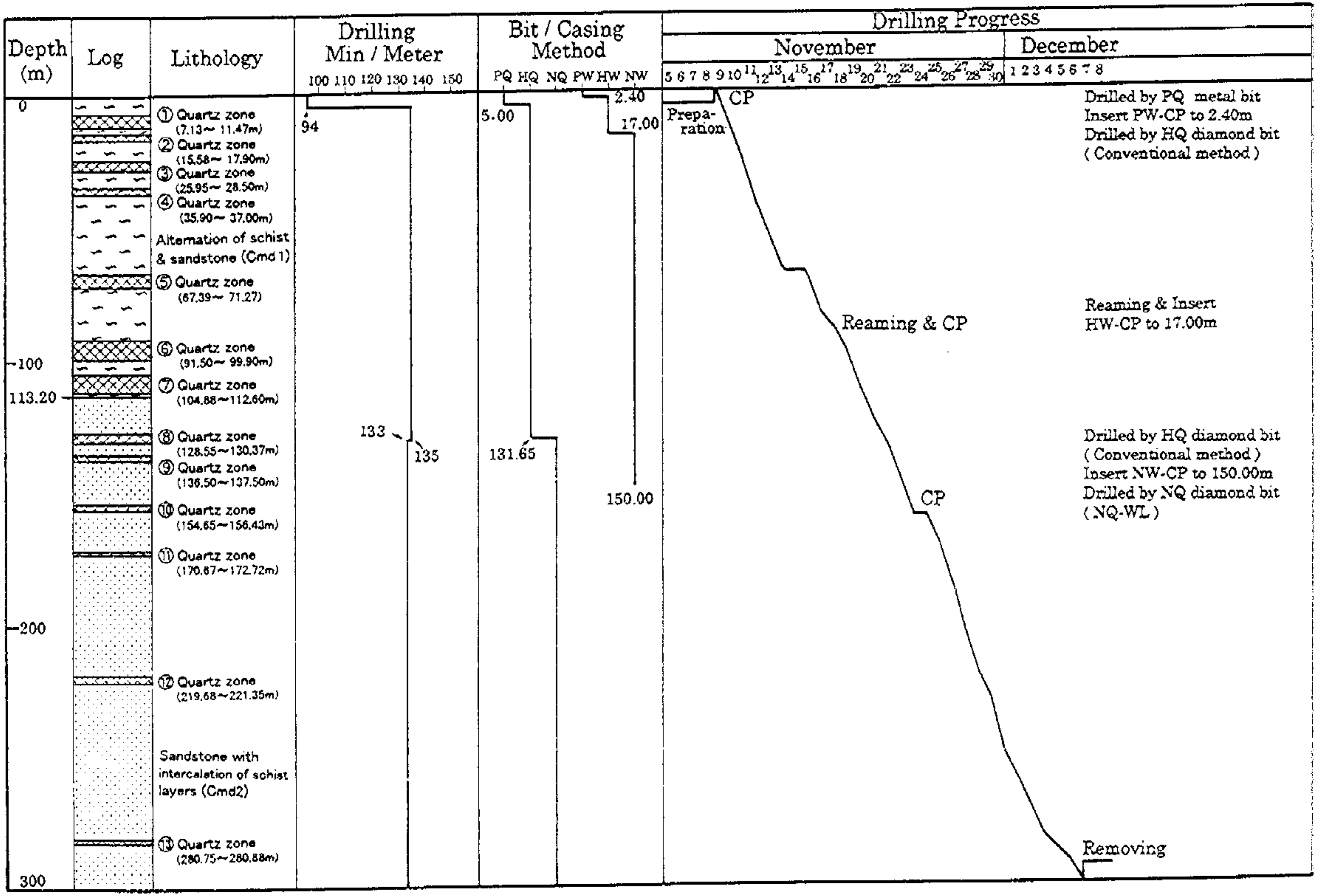


Fig. 2-70 Chart of Drilling Progress (MJVB-1)

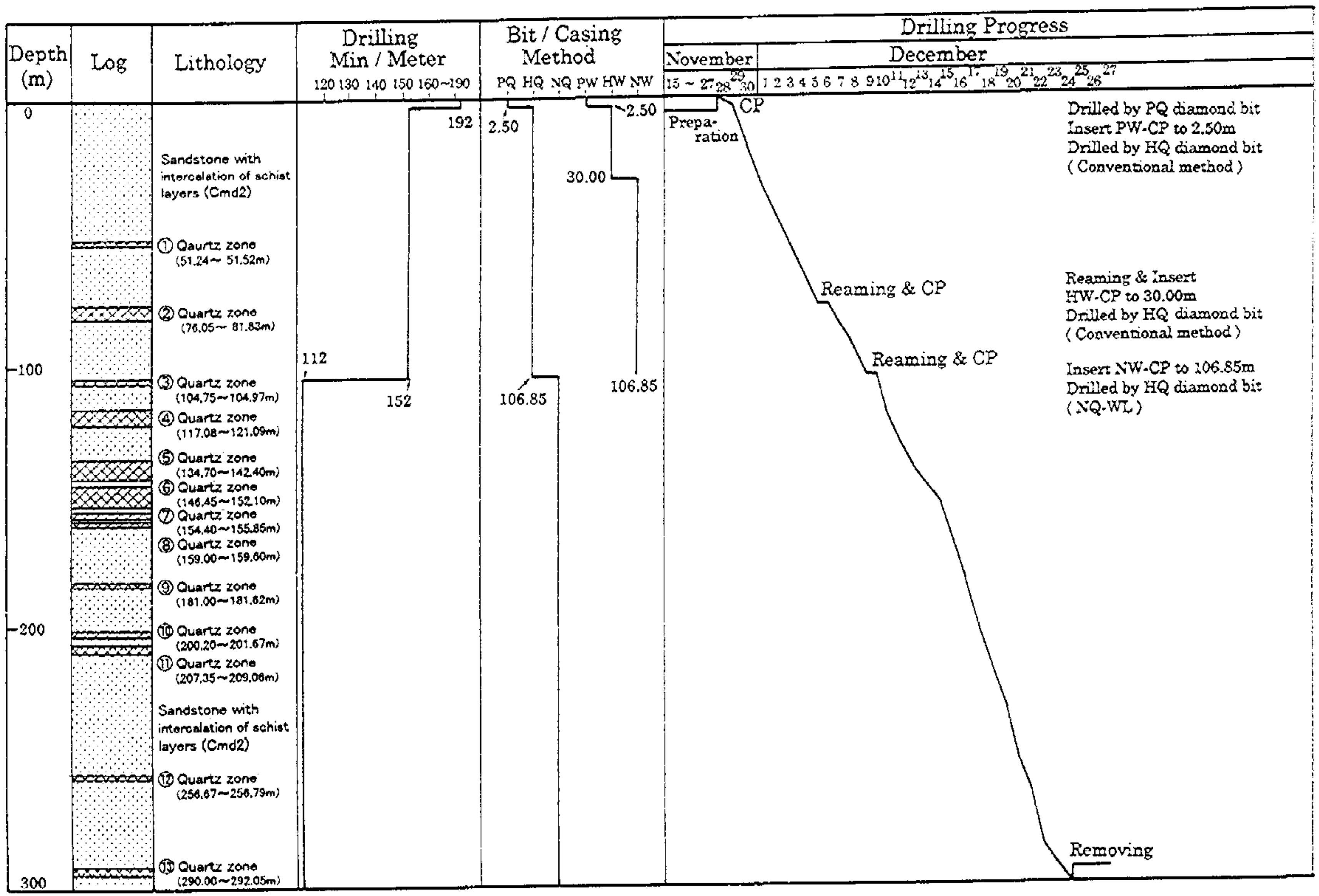


Fig. 2-71 Chart of Drilling Progress (MJVB-2)

4-4 Geology of Drill Holes

4-4-1 Outline of Geology

The geology of the area where drilling exploration was carried out this year is composed of schist and sandstone of the Mo Dong Formation.

Weathered schist and sandstone occur below the surface soil (a few to 30 cm thick), and extends to nearly 2 to 3 m deep along the drill hole (every hole has drilled at an angle of -45 degrees). Fresh bedrock appears below a few to 30 m in depth. The results of laboratory works and assaying of drill cores are briefly listed in Tables 2-21 to 2-24. Drill hole sections are shown in Figs. 2-72 and 73.

4-4-2 Drill Hole Description

MJVB-1: The geology around the drill hole MJVB-1 is composed of schist and sandstone of the Mo Dong Formation. It is located at the upper reaches of Da Mai creek. The altitude of the drill hole is about 210 m above sea level. The purpose of this hole was to investigate the lower extension of gold mineralization in the central part of the Da Mai-Khe Dui prospect. It mainly targeted at the Group A veins in the Da Mai-Khe Dui prospect. The geology of the drill hole is divided into two series: alternation of schist and sandstone (0 to 113.20 m), and sandstone with intercalation of schist layers (113.20 to EOH=300.00 m). The details of geology of the drill hole are described as follows.

0.00 - 7.15 m: Yellowish gray, weathered, fine-banded, broken schist, quartz contained in some place.

7.15 - 10.70 m: Several white - light gray quartz veins/veinlets (thickness 1 - 10 cm) in light gray fine-grain sandstone and gray schist; lower sandstone is cut by some quartz veinlets.

10.70 - 14.70 m: Fine-grain light gray sandstone, cut by several quartz veinlets.

14.70 - 17.00 m: Sandstone, containing some quartz veins/veinlets (thickness 0.5 - 10 cm).

19.20 - 21.80 m: Dark gray schist, containing thin layer of sandstone (19.80 - 20.20 m) and injected by several quartz veinlets.

21.80 - 26.30 m: Fine-grain light gray sandstone, cut by several quartz veinlets.

26.30 - 28.10 m: Dark gray schist, containing white quartz vein/veinlet at 26.30 & 27.15 m.

28.10 - 28.40 m: Quartz zone, mixture of quartz, schist and white quartz vein (28.40 - 28.55 m).

28.55 - 35.90 m: Dark gray schist, injected by several quartz veinlets.

35.90 - 37.00 m: Quartz zone in dark gray schist, consisting of quartz, quartz breccia and dark gray schist.

37.00 - 42.00 m: Dark gray/black schist, injected by quartz veinlets (41.40, 2cm).

42.00 - 60.25 m: Light gray quartzitic sandstone, injected by several quartz veinlets (1 - 5 mm). Two quartz veinlets of 1.5 and 1.0 cm thick at 42.15 m and 44.70 m. Quartz zone 42.56 - 43.00 m; mixture of quartzitic sandstone, quartz and quartz breccia. Quartzitic sandstone containing several white/light gray quartz veins/veinlets (50.23 m, thickness 3 cm; 50.70 and 52.50 m, 1 cm; 53.40 m, 2 quartz veinlets thickness 0.1 cm/1 cm; 56.37 m, 1~3 cm; 59.07 m, 1 cm and 59.58 - 59.63 m, thickness 5 cm).

60.25 - 64.85 m: Alternation of fine-grain light gray sandstone and black schist, cut by quartz veinlets (60.42 m, 4 cm).

64.85 - 67.20 m: Dark gray/black locally dark green schist, containing some white/light gray quartz veinlets (64.85 and 65.5 m, thickness 1 cm and 65.80 m, 5 cm).

67.20 - 70.45 m: Quartz zone; mixture of quartz, quartz network, quartz breccia (white/light gray) and quartzitic sandstone.

70.45 - 82.45 m: Dark gray schist, injected by several quartz veinlets in schistosity. (71.25 m - quartz network thickness 5 cm in schistosity).

82.45 - 86.00 m: Dark gray schist, containing several white/light gray quartz veins/veinlets and quartz zone (82.45 m, quartz zone, thickness 25 cm: mixture of quartz, schist and quartz breccia; 83.43, 84.21, 84.60 and 85.15 m, quartz veinlets 5 cm).

86.00 - 87.85 m: Alternation of fine-grain light gray sandstone and black schist, cut by quartz veinlets (1 cm).

87.85 - 91.50 m: Dark gray/black (some place greenish gray) schist, injected by quartz veinlets.

91.50 - 99.00 m: Dark gray/black (some place greenish gray) schist, injected by quartz veinlets and contain several white/light gray quartz veins and quartz zones (91.60, 92.15 and 92.45 m - quartz veins of complicated form, thickness 10 cm; 93.20 - 93.45 m quartz zone 25 cm. 94.15 - 94.37 m quartz zone, 94.50 - 94.76 m quartz zone, 95.52 - 95.58 m quartz veinlet, 95.65 m quartz veinlet 3 cm, 96.00 - 96.15 m quartz zone, 96.40 - 96.54 m quartz veinlet 3 cm, 97.10 - 97.85 m quartz zone, 98.40 - 98.70 m quartz zone).

99.00 - 100.00 m: Quartz zone: mixture of psammitic sandstone, quartz, quartz network and quartz breccia.

100.00 - 102.10 m: Gray/greenish gray psammitic sandstone, containing 2 quartz veinlets (101.80 m, thickness 2 - 4 cm).

102.10 - 110.90 m: Gray/greenish gray/dark gray/black schist, some place psammitic, containing several white/light gray quartz zones, quartz veins/veinlets (102.92, 103.23 and 112.55 m, veinlets 2 - 5 cm; 104.88 - 105.33 m quartz vein 20 cm, 105.55 - 105.85 m, 105.90 - 106.02, 106.30 - 106.80 m, 107.62 - 108.40, 108.56 - 108.85, and 110.35 - 110.80 quartz zones 10 - 80 cm: mixture of quartz, quartz veins, quartz network, schist and quartz breccia).

110.90 - 112.37 m: Dark gray psammitic sandstone, cut by several quartz veinlets.

112.37 - 113.20 m: Dark gray/green schist, injected by several quartz veinlets (112.55 m thickness 5 cm).

113.20 - 126.00 m: Dark gray/green psammitic schist, containing some white/light gray quartz vein/veinlet (121.25 m thickness 10 cm), 124.80 m calcite veinlet.

126.00 - 128.60 m: Dark gray/green schist, injected by several quartz veinlets in schistosity.

128.60 - 130.00 m: Quartz zone: mixture of quartz, quartz network, quartz breccia (white/light gray) and black schist.

130.00 - 131.65 m: Brecciated dark gray/green/ black schist, some place containing brecciated light/gray quartz.

131.65 - 136.50 m: Dark gray/black quartzitic sandstone/psammite, injected by quartz veinlets.

136.50 - 137.50 m: Quartz zone: mixture of sandstone, quartz, quartz network and quartz breccia.

137.50 - 139.40 m: Dark gray/black (some place grayish green) schist, injected by quartz veinlets.

139.40 - 170.60 m: Gray/light gray quartzitic sandstone/psammite, injected by quartz veinlets (141.20 m, 0.5 cm; 153.60 and 155.75 m, veinlets 1cm and 5cm; 155.17 - 155.52 m, quartz vein 35 cm; 155.63 and 156.40 m veinlets 3 cm and 2 cm).

170.60 - 172.00 m: Mainly gray psammitic sandstone; some place quartzitic sandstone with black schist, cut by some gray/light gray quartz veinlets.

172.00 - 238.70 m: Dark gray/black quartzitic sandstone/psammite, injected by several quartz veinlets (181.30, 181.58, 195.50 and 198.40 m, thickness 1 cm each; 190.30 m, 5 cm; 191.55 m, 3 cm and 199.20 m, 0.7 cm; 213.40, 213.65, 216.30, 219.70, 220.00, 220.10, 220.40, 220.60, 220.90, 221.14 and 221.35 m, 1- 5 cm each).

238.70 - 239.53 m: Dark gray schist, injected by some gray/light gray quartz veinlets.

239.53 - 249.53 m: Gray/light gray quartzitic sandstone/psammite, injected by some white/light gray quartz vein/veinlets (241.80, 246.20 and 246.90 m, 0.5- 1.5 cm each).

249.53 - 251.20 m: Dark gray schist, injected by several white/light gray quartz veinlets.

251.20 - 255.20 m: Gray/light gray quartzitic sandstone/psammite, some place containing schist, injected by some white/light gray quartz veins/veinlets.

255.20 - 256.80 m: Dark gray schist, cut by several white/light gray quartz veinlets.

256.80 - 258.95 m: Gray fine-grain psammitic/quartzitic sandstone, injected by some white/light gray quartz veins/veinlets.

258.95 - 266.10 m: Dark gray schist, cut by several white/light gray quartz veinlets (261.90 m, thickness 1cm).

266.10 - 267.45 m: Mainly gray psammitic sandstone, partly quartzitic sandstone with schist layer.

267.45 - 275.50 m: Dark gray schist, cut by several white/light gray quartz veinlets (270.20 m, thickness 2cm; 273.45 and 273.80 m, thickness 1 and 1.5 cm).

275.50 - 300.00 m (=EOH): Mainly gray fine-grain psammitic/quartzitic sandstone; some place intercalating dark gray schist (277.00 - 278.70, 280.30 - 280.95, 281.75 - 282.30 and 289.90 - 290.60 m), injected by several white/light gray quartz veinlets (280.80 m, thickness 10cm; 283.80, 285.45 and 288.95 m, thickness 1 cm).

MJVB-2: The geology around the drill hole MJVB-2 is composed of schist and sandstone of the Mo Dong Formation. It is located at the upper reaches of West Da Mai creek. The altitude of the drill hole is about 300 m above sea level. The purpose of this hole was to investigate the lower extension of gold mineralization in the western part of the Da Mai-Khe Dui prospect. It mainly targeted at the Group C veins in the DaMai-Khe Dui prospect. The geology of the drill hole is mostly composed of massive sandstone. It partly contains thin layers of schist (0 to 66.50 m and 240.00 to 247.70 m). The details of geology of the drill hole are described as follows.

0.00 - 16.00 m: Mixture of yellow/light brown/gray broken weathered sandstone/schist, some place with broken quartz.
16.00 - 25.00 m: Mainly light gray psammitic sandstone, some place with schist, containing quartz veinlets.
25.00 - 64.20 m: Mainly gray fine-grain psammitic/quartzitic sandstone, some place with dark gray schist (25.00 - 26.20 m, 44.20 - 44.80 m), injected by several light gray/gray quartz veins/veinlets (29.60 m thickness 1.5 cm; 40.40 - 40.50 m thickness 0.5cm; 42.30, 47.25, 48.15 and 48.40 m thickness 2cm; 47.58 and 47.90 m thickness 5 cm; 44.90 and 45.30 m thickness 10 cm; 48.95 m thickness 1 cm; 51.24 - 51.52 m thickness 28 cm; 51.84, 51.20, 53.47, 53.48, and 56.00 m thickness 1 - 3 cm; 53.40, 54.84, 59.40 and 60.45 m thickness 4 - 6 cm, 58.45 m thickness 8 cm).
64.20 - 66.50 m: Dark gray schist.

66.50 - 76.88 m: Mainly gray/light gray quartzitic sandstone/psammite, some place with schist, containing some gray quartz veinlets (73.30 m thickness 3 cm, 76.05 m thickness 1 cm).
76.88 - 77.43 m: Quartz zone, mixture of light gray/gray quartz, sandstone, quartz breccia and quartz veinlets.
77.43 - 114.00 m: Mainly gray fine-grain psammitic/quartzitic sandstone, some place with siliceous schist, injected by several light gray/gray quartz veins/veinlets (77.80 m thickness 1 cm; 79.84 - 79.97 and 86.78 - 86.87 m thickness10 cm; 81.13 - 81.33 m thickness 20 cm; 80.80, 81.77 - 81.83, 82.12, 82.68, 84.30, 86.52, 94.25 - 94.40, 95.20 - 95.40, and 97.30 m thickness 1 - 15cm, 100.55 m thickness 5 cm; 101.48, 101.95, 102.72, 105.87, 106.30, 107.55, 107.90, 108.64, 109.02, 109.55 - 109.70, 110.20, 110.83, 110.90 and 111.40 m thickness 1 - 2 cm; 104.75 - 104.90 m thickness 15 cm; 109.37 - 109.44 thickness 7 cm).
114.00 - 118.00 m: Mainly light gray psammitic/quartzitic sandstone, some place with schist, cut by several gray quartz veins/veinlets (110.20, 110.48, 110.83, 110.90, 111.48, 115.12, 115.45, 115.55, 115.70 - 115.85, 116.00, 116.30 - 117.00, 117.30, 117.40 and 117.85 m quartz veinlets/networks thickness 1 - 2 cm; 114.40 - 114.50 and 117.00 - 117.10 m quartz vein thickness 10 cm).
118.00 - 122.00 m: Mainly gray/light gray quartzitic sandstone/psammite, containing gray quartz veinlets/quartz zones (118.02 - 118.62, 119.13 - 119.42, 120.15 - 120.36 and 120.81 - 121.09 m quartz zones 60, 25, 18 and 25 cm: mixture of quartz, quartz breccias, quartz veins/veinlets and sandstone; 118.77, 119.56 - 119.75 and 121.46 m quartz veinlets/networks 1 - 5 cm).

122.00 - 134.70 m:Mainly gray fine-grain psammitic/quartzitic sandstone, injected by several gray quartz veins/veinlets (122.66, 123.05 - 123.15, 126.25, 129.68, 131.00 and 133.80 - 133.88 m quartz veinlets and networks 1 - 2.5 cm; 124.30 - 124.41 m quartz vein 10 cm).

134.80 - 139.30 m:Quartz zone (134.70 - 135.40 m and 136.59 - 139.30 m) in quartzitic sandstone; mixture of gray quartz, sandstone, quartz breccia and quartz network.

139.30 - 146.30 m:Mainly gray fine-grain psammitic/quartzitic sandstone, injected by some gray/light gray quartz veins/veinlets (140.70, 142.40 quartz veinlets 2 cm and 3.5 cm; 141.30 - 141.46 m quartz vein thickness 15 cm).

146.30 – 152.10 m:Quartz zone and quartz veinlets in quartzitic sandstone (146.30 - 146.70 m and 148.20 - 152.10 m) quartz zones; mixture of gray quartz, sandstone, quartz breccia and quartz network; 146.86, 147.15, 147.28, 147.55 and 147.82 m quartz veinlets thickness 1 - 6 cm).

152.10 - 170.00 m:Mainly light gray psammitic/quartzitic sandstone, some place with psammitic schist, containing several gray quartz zone, quartz vein/veinlets (154.40 - 155.85 m quartz zone: quartz, quartz breccia, quartz network and sandstone; 156.30, 157.30, 158.40, 158.63, 158.80, 158.90 - 159.00, 162.18, 162.52, 165.70, 167.00, 167.25, 167.40, 168.48 and 169.29 m thickness 1 - 3 cm, 159.00 - 159.60 m quartz vein thickness 60 cm).

170.00 - 190.00 m:Mainly gray/dark gray or greenish gray fine-grain psammitic schist, some place quartzitic sandstone, injected by several gray quartz veins/veinlets and networks (181.00, 181.11 - 181.22, 181.22 - 181.32, 181.40, 181.57 - 181.62, 183.30 - 183.35, 184.80 - 184.90, 185.80 - 185.90, 186.10, 187.70, 188.17, 188.60, and 189.75 m thickness 1 - 8 cm).

190.00 -216.60 m: Mainly light gray to gray fine-grain psammitic quartzitic sandstone, injected by some gray/light gray quartz zones, veins/veinlets and networks (200.20 - 200.30, 201.35 - 201.67, 202.10 - 202.30, 207.35 - 208.20 and 208.40 - 209.06 m quartz zones; quartz, quartz breccia, quartz network and sandstone, 190.40, 190.90, 195.10, 195.40, 195.95, 197.30, 199.45 204.05, 205.85, 206.50, 206.70, 206.90, 213.47, 213.53 and 215.30 m veinlets thickness 1~3 cm; 199.60, 199.92, 207.20 - 207.35 and 216.50 - 216.60 m networks thickness 10 cm; 215.00, 215.35 and 216.32 m quartz veins thickness 10 cm).

216.60 - 240.00 m:Mainly gray/dark gray fine-grain quartzitic/psammitic schist, some place quartzitic sandstone, injected by several gray quartz zones, quartz veins/veinlets and quartz networks (231.60 - 231.85 and 232.70 -233.00 m networks, 233.55, 233.76, 234.15 and 235.35 m veinlets thickness 2~5 cm, 234.90 - 235.00 m quartz zone; quartz network, quarts breccia and quartzitic/psammitic sandstone).

240.00 - 247.70 m:Mainly dark gray schist, some place psammitic/quartzitic sandstone, injected by some gray/light gray quartz veinlets (thickness 1~3 cm).

247.70 - 261.50 m:Mainly light gray psammitic/quartzitic sandstone, some place with schist, containing several gray/white quartz zones, quartz veinlets (251.30 - 251.60, 252.28 - 252.60 and 254.16 - 254.80 and 256.67 - 256.79 m quartz zone; quartz, quartz breccia, quartz network, parallel quartz veinlets and psammite, 250.00, 251.95, 252.00 and 253.76 m veinlets thickness 1 - 3 cm).

261.50 - 267.45 m:Mainly gray/dark gray fine-grain schist, some place quartzitic sandstone, injected by some gray quartz zone and quartz veinlets (264.35 m veinlet thickness 2 cm).

267.45 - 273.70 m:Mainly light gray psammitic/quartzitic sandstone, some place with psammite, containing gray/White quartz veinlets (268.23 m veinlets thickness 1 cm).

273.70 - 282.80 m:Alternation of gray/dark gray fine-grain quartzitic/psammitic sandstone and psammite, containing several white/gray quartz veins/veinlets and quartz network (277.05, 277.34, 277.70, 278.37, 280.06, 280.05 and 281.40 m veinlets thickness 1 - 6 cm,278.90 - 279.10 m quartz vein thickness 15 cm).

282.80 - 296.35 m:Mainly dark gray schist, some place psammitic/quartzitic sandstone, containing several gray/light gray quartz zone, quartz veinlets and networks (283.33 - 283.52, 290.00 - 290.72 and 291.45 - 292.05 m quartz zones; quartz, quartz breccia, quartz veinlets, quartz networks and schist, 288.10 - 288.15 and 288.35 - 288.40 m networks 0.5 - 1 cm, 292.41, 292.87, 23.05, 293.40 and 294.28 m veinlets thickness 1 - 7 cm).

296.35 - 300.00 m (=EOH): Mainly psammite and quartzitic sandstone, some place schist, injected by quartz veinlets (297.45 m veinlet thickness 1 cm).

4-5 Mineralization and Hydrothermal Alteration

Two holes totaling 600.00 m were drilled in the central to the western part of the Da Mai-Khe Dui prospect in the second phase. As was described in the previous section, a significant amount of gold-bearing quartz veins were intersected in these drill holes. They were classified into tens groups of veins in each hole on the basis of the vein nature (similarity of ore, gangue and alteration mineralogy, morphological and spatial closeness).

MJVB-1: This drill hole is located at the upper reaches of Da Mai creek in the Da Mai-Khe Dui prospect. The main purpose of this hole was to investigate the lower extension of the Group A veins of the Da Mai-Khe Dui prospect. Thirteen major groups of veins were caught in this hole in total. The outline of the mineralization and hydrothermal alteration is summarized as follows.

(1) 7.13 – 11.47 m:Quartz vein/veinlet zone, consisting of more than 10 white/light gray quartz veins/veinlets (0.5 to 10 cm wide each) with small amount of limonite.
(2) 15.58 – 17.90 m:Quartz veinlet/network zone, consisting of 3 white milky quartz veinlets (2 to 90 cm each). No sulfide mineral was observed.
(3) 25.95 – 28.50 m:Quartz vein/veinlet zone, consisting of white milky quartz veins/veinlets (1 to 55 cm wide each). Partly chloritized.
(4) 35.90 – 37.00 m:Two white quartz veins, 33 cm and 45 cm. No sulfide mineral was observed.
(5) 67.39 – 71.27 m:Quartz vein/veinlet zone, consisting of 6 white/gray quartz veins/veinlets (6 to 67 cm wide each) with weak pyrite dissemination. The host rock was strongly silicified. Two categories of quartz were distinguished; earlier deposited gray quartz and later white quartz. The former contains a small amount of sulfide minerals such as pyrite, arsenopyrite and chalcopyrite.
(6) 91.50 – 99.90 m:Quartz vein/breccia zone, consisting of 13 white/gray quartz veinlets/breccias (2 to 90 cm wide each). Pyrite, arsenopyrite and chalcopyrite were disseminated partly. Quartz is cut by calcite veinlets. Chloritization and sericitization were observed in some part. Several gold grains were found in slime of drilling, and a very small gold grain was observed in drill cores by naked eye.
(7) 104.88 – 112.60 m:Quartz vein/breccia zone, consisting of 7 white/gray quartz veins/breccias (10 to 60 cm wide each). Pyrite was disseminated partly. Pyrite, arsenopyrite, pyrrhotite, chalcopyrite, sphalerite, galena and anglesite were found under the microscope. Chloritization was observed in some part. Several gold grains were found in slime of drilling, and a couple of tiny free gold were observed in drill cores by naked eye.
(8) 128.55 – 130.37 m:Quartz vein/veinlet zone, consisting of 6 white quartz veins/veinlets (5 to 30 cm wide each). Pyrite was slightly disseminated. Chloritization was observed in some part.
(9) 136.50 – 137.50 m: Quartz vein/veinlet zone, consisting of 2 white quartz veins (31 and 53 cm wide each). Pyrite, chalcopyrite and sphalerite were disseminated partly. Chloritization was observed in some part. A couple of free gold was observed in drill cores by naked eye.
(10) 154.65 – 156.43 m:Quartz vein/veinlet zone, consisting of 4 gray quartz veins/veinlets (4 to 35 cm

wide each) with small amount of pyrite. Chloritization was observed in some part. A couple of gold grains were observed in drill cores by naked eye.
(11) 170.67 – 172.72 m:White to light gray quartz vein of about 20 cm in true width running nearly parallel to the drill hole. Chloritization was observed partly. Sulfide minerals such as pyrite and arsenopyrite are weakly disseminated.
(12) 219.68 – 221.35 m:Quartz veinlet zone, consisting of 10 gray quartz veinlets (2 to 5 cm wide each). No sulfide mineral was observed.
(13) 280.75 – 280.88 m:Ligtht gray quartz vein of 13 cm wide. Host rock is strongly silicified. A couple of gold grains were detected in slime of drilling.

MJVB-2: This drill hole is located at the upper reaches of West Da Mai creek in the Da Mai-Khe Dui prospect. The main purpose of this hole was to investigate the lower extension of the Group C veins of the Da Mai-Khe Dui prospect. Thirteen major groups of veins were caught in this hole in total. Several significant assay results of Au and Ag were obtained in this drill hole. The outline of the mineralization and hydrothermal alteration is summarized as follows.

(1) 51.24 – 51.52 m:Gay quartz vein/silicified zone (28 cm wide). Quartz is coarse grain and porous (drusy). Limonite and pyrite are disseminated in quartz. Host sandstone is strongly silicified. A couple of gold grains were found from slime of drilling. An assay result of **56.640 g/t Au** and **9.0 g/t Ag** was obtained from this zone. The content of galena is also significant up to **1,130 ppm Pb.**
(2) 76.05 – 81.83 m:Gray quartz vein/veinlet zone, consisting of 9 gray to light gray quartz veins/veinlets (1 to 55 cm wide each). The thickest (76.88 – 77.43 m) among them is light gray quartz vein, which contains a small amount of pyrite and arsenopyrite. Quartz sometimes shows a brecciated texture. Chloritization was observed. Several gold grains (medium to fine or very fine carat) were detected in slime of drilling.
(3) 104.75 – 104.97 m:A gray quartz vein (15 cm wide) occurs. The boundary of footwall is irregular (brecciated).
(4) 117.08 – 121.09 m:Gray quartz vein/network zone, consisting of 9 gray to light gray quartz veins/networks (1 to 57 cm wide each). Three significant quartz networks were caught in this zone: 118.02 – 118.62 m, 119.13 – 119.42 m, and 120.81 – 121.09 m. A small amount of pyrite is disseminated. Several gold grains (medium to fine or very fine carat) were found from slime of drilling.
(5) 134.70 – 142.40 m:Gray/white quartz vein/network zone, consisting of more than 8 gray to light gray and white quartz veins/networks (3 to 50 cm wide each). Four significant quartz networks were caught in this zone: 135.00 – 135.40 m, 137.38 – 137.87 m, 138.90 – 139.30 m, and 141.30 – 141.46 m. In these quartz veins/networks, a small amount of sulfide minerals such as pyrite, arsenopyrite, pyrrhotite and chalcopyrite were observed. Both white and gray quartz contains sulfide minerals. Several gold grains (medium to fine or very fine carat) were returned from slime of drilling. An assay result of **1.880 g/t Au** and **2.0 g/t Ag** was returned from one of quartz networks (137.38 – 137.87 m).

(6) 146.45 – 152.10 m:Gray quartz vein/network zone, consisting of more than 8 light gray/gray quartz veins/veinlets and networks (1 to 195 cm wide each). Three significant quartz veins/networks were caught in this zone: 146.45 – 146.66 m, 148.20 – 150.00, and 150.00 – 152.10 m. In these quartz veins/networks, a small amount of sulfide minerals such as pyrite, arsenopyrite, pyrrhotite and chalcopyrite were observed. There were two kinds of quartz – white and gray/light gray -- were distinguished; the former cut the latter. Chlorite is contained in some part of quartz near the fragments of host rock in quartz. A couple of tiny gold grains were observed in drill cores by naked eye. Several gold grains (medium to fine or very fine carat) were returned from slime of drilling.

(7) 154.40 – 155.85 m:Gray quartz veinlet zone, consisting of several gray to light gray quartz veinlets (0.5 to 1 cm wide each). Silicified and decolorized.

(8) 159.00 – 159.60 m:Gray/white quartz vein (60 cm wide). Pyrite is weakly disseminated. The surrounding host rock (sandstone, 20 to 90 cm) is decolorized by strong silicification.

(9) 181.00 – 181.62 m:Gray quartz veinlet zone, consisting of 5 gray quartz veinlets (1 to 10 cm wide each). Pyrite and chalcopyrite are disseminated. Chlorite is contained in quartz. Several small grains of native gold (up to 0.5 mm long) were observed by naked eye. Gold assays such as **1.020 g/t Au** (181.00 – 181.11 m) and **10.815 g/t Au** (181.22 – 181.32 m) were obtained.

(10) 200.20 – 201.67 m:Light gray quartz vein zone, consisting of 2 light gray quartz veins (10 and 32 cm). Quartz is brecciated. Pyrite and pyrrhotite are disseminated (spotted). The content of sulfide minerals is significant up to **5.57 % Fe** (200.20 – 200.30 m). Strong silicification and chloritization were observed.

(11) 206.68 – 209.06 m: White/light gray quartz vein zone, consisting of 2 white/light gray quartz veins (66 and 85 cm). Light gray quartz is cut by white quartz vein. Pyrite, arsenopyrite, pyrrhotite and chalcopyrite are disseminated. The dissemination of chalcopyrite was significant up to **1,180 ppm Cu** (207.35 – 208.20 m). Strong silicification, chloritization and sericitization were observed.

(12) 256.67 – 256.79 m:Gray silicified zone, consisting of gray silicified sandstone cut by white quartz veinlet (1 to 2 cm wide). Pyrite, arsenopyrite and galena are disseminated. The dissemination of galena is significant up to **1,600 ppm Pb** (256.67 – 256.79 m). A couple of tiny gold grains were found in this silicified zone near a white quartz veinlet. Gold assay was **1.400 g/t Au** in this zone.

(13) 290.00 – 292.05 m: Gray quartz vein zone, consisting of 2 gray to light gray quartz veins (72 and 60 cm). Quartz is brecciated. Pyrite and chalcopyrite are disseminated. Strong silicification and chloritization were observed.

Table 2-21 Results of Microscopic Observation of Thin Sections (Drill Cores)

Sample No.	Depth	Rock Name	Formation	Texture	Phenocryst/Crystal Fragment Qz	Kf	Pl	Bi	Hb	Px	Ol	Ep	Op	Groundmas/Matrix Qz	Kf	Pl	Hb	Px	Gl	Alteration & Remarks
	MJVB-1																			
105T	97.48 m	Qz Vein (White)	--	--	●		·						·							Some Ca, Ch, Se
108T	104.05 m	Black Schist	Cmd	Lepb	○		△						·							Mainly composed of clay,Se,Ch
118T	136.75 m	Qz Vein (White)	--	--	●								·							Some Ca, Ch, Se
120T	150.05 m	Quartzitic Sandstone	Cmd	Clas	●		·						·							Mainly composed of Ms,Se,Ch,Ca
122T	155.45 m	Qz Vein (L-gray)	--	--	●		·						·							Some Ca
123T	250.05 m	Black Schist	Cmd	Lepb	○		△						·							Mainly composed of clay,Se,Ch
	MJVB-2																			
202T	77.15 m	Qz Vein (L-gray)	--	--	●		·						·							Some Se,clay,Ch,Ca
209T	137.63 m	Qz Vein (White/L-gray)	--	--	●		·						·							Some Se,clay,Ch
214T	149.58 m	Qz Vein (L-gray)	--	--	●		·						·							Some Se,clay,Ch,Ca
218T	159.30 m	Qz Vein (White/L-gray)	--	--	●		·						·							Some Se,Ch,Ca,clay

Abundance of Minerals: ● ;Abundant, ○ ;Common, △ ;Rare, · ;Trace

Formation Names : Cmd;Mo Dong, C3ts1;Than Sa Lower, Onm;Na Mo, D1bb;Bac Bun, D1ml;Mia Le, D2nq;Na Quan, C-Pbs;Bac Son, P2dd;Dong Dang, T1ls;Lang Son, T1-2sh;Song Hiem, T2nk;Na Khuat, T-Cg;Granite Intrusive

Textures : Pycl;Pyroclastic, Clas;Clastic, Porp;Porphyritic, Lepb;Lepidoblastic, Glom-gr;Glomerophyric granular, Hypd-gr;Hypidiomorphic granular, Ophi;Ophitic, Int-gr;Inter-granular, Hol-pp;Holocrystalline-porphyritic, Comp;Compressed, Gran;Granular

Minerals : Qz;Quartz, Kf;Potash Feldspar, Pl;Plagioclase, Bi;Biotite, Hb;Hornblende, Px;Pyroxene, Ol;Olivine, Ep;Epidote, Op;Opaque Minerals, Gl;Glass, Ch;Chlorite, Se;Sericite, Ca;Carbonates, Ms;Muscovite

Table 2-22 Results of X-Ray Diffraction Analysis (Drill Cores)

Sample No.	Remarks	Rock Unit	Depth (m)	Clay Minerals								Zeolites				S-Salts			Carbonates			Silicates			Fldsp		Miscellaneous Minerals								
				Mo	Ch	Se	Mu	Ka	Ha	Pr	Mx	Cp	Md	Lm	An	Al	Gy	Ja	Ca	Ak	Si	Cr	Tr	Qz	Pl	Kf	Py	Go	He	Sp	Gn	Ep	Rd	Ho	At
	MJVB-1																																		
101X	White/gray Qz vein	--	10.65																					◎		·?									
103X	White Qz vein	--	28.33		○	△													·	·				◎	·	·									
104X	L-gray Qz vein	--	69.34		·	·													·	○				◎	·	·		·							
105X	White Qz vein/breccia	--	97.48		△	△													△	△				◎	·		·								
106X	White Qz vein/breccia	--	98.62		△	△																		◎	○										
107X	White Qz vein/breccia	--	99.45		△	○																		◎	△		△								
109X	White Qz vein/breccia	--	105.11		△	○																		○	△										
112X	White Qz vein/breccia	--	106.60		○	△													△	·				◎	○	·									
114X	White Qz vein/breccia	--	108.79		△	·																		◎		·									
116X	White Qz vein/veinlet	--	128.93		△	△														△				◎		△	·								
119X	White Qz vein/veinlet	--	137.25		·	·														○				◎		·									
121X	L-gray Qz vein/veinlet	--	154.93		·	△													△	△				◎	△			·							
122X	L-gray Qz vein/veinlet	--	155.46																·	·				◎	·?										
	MJVB-2																																		
202X	L-gray Qz vein	--	77.15		·	△													·	○				◎	·	·									
205X	L-gray Qz vein	--	118.32			·													△	·				◎	·	·									
208X	L-gray Qz vein/network	--	135.20		△	△													△	·				◎	·	·									
209X	White/gray Qz vein/network	--	137.63			·													·	△				◎		·?									
213X	L-gray Qz vein/network	--	148.68			·													○	○				◎		·?									
218X	White/L-gray Qz vein	--	159.30		·?	·													·	△				◎											
220X	Gray Qz veinlet	--	181.27			·													·	○				◎				·							

Abundance of Minerals : ◎;Abundant, ○;Common, △;Few, · ;Rare

Abbreviations : Mo;Montmorillonite, Ch;Chlorite, Se;Sericite, Mu;Muscovite, Ka;Kaolin, Pr;Pyrophyllite, Mx;Mixed-Layer Mineral, Ha;Halloysite, Cp;Clinoptilolite, Md;Mordenite, Lm;Laumontite, An;Analcime, Al;Alunite, Gy;Gypsum, Ja;Jarosite, Ca;Calcite, Ak;Ankerite, Si;Siderite, Cr;α -Cristobalite, Tr;Toridymite, Qz;Quartz, Pl;Plagio-clase, Kf;Potash Feldspar, Py;Pyrite, Go;Goethite, He;Hematite, Sp;Sphalerite, Gn;Galena, Ep;Epidote, Rd;Rhodochrosite, Ho;Hornblende, At;Anatase HW;Hanging Wall, FW;Footwall, Sch;Schist, SS;Sandstone (The name of Rock Unit is explained in Table 2-1.)

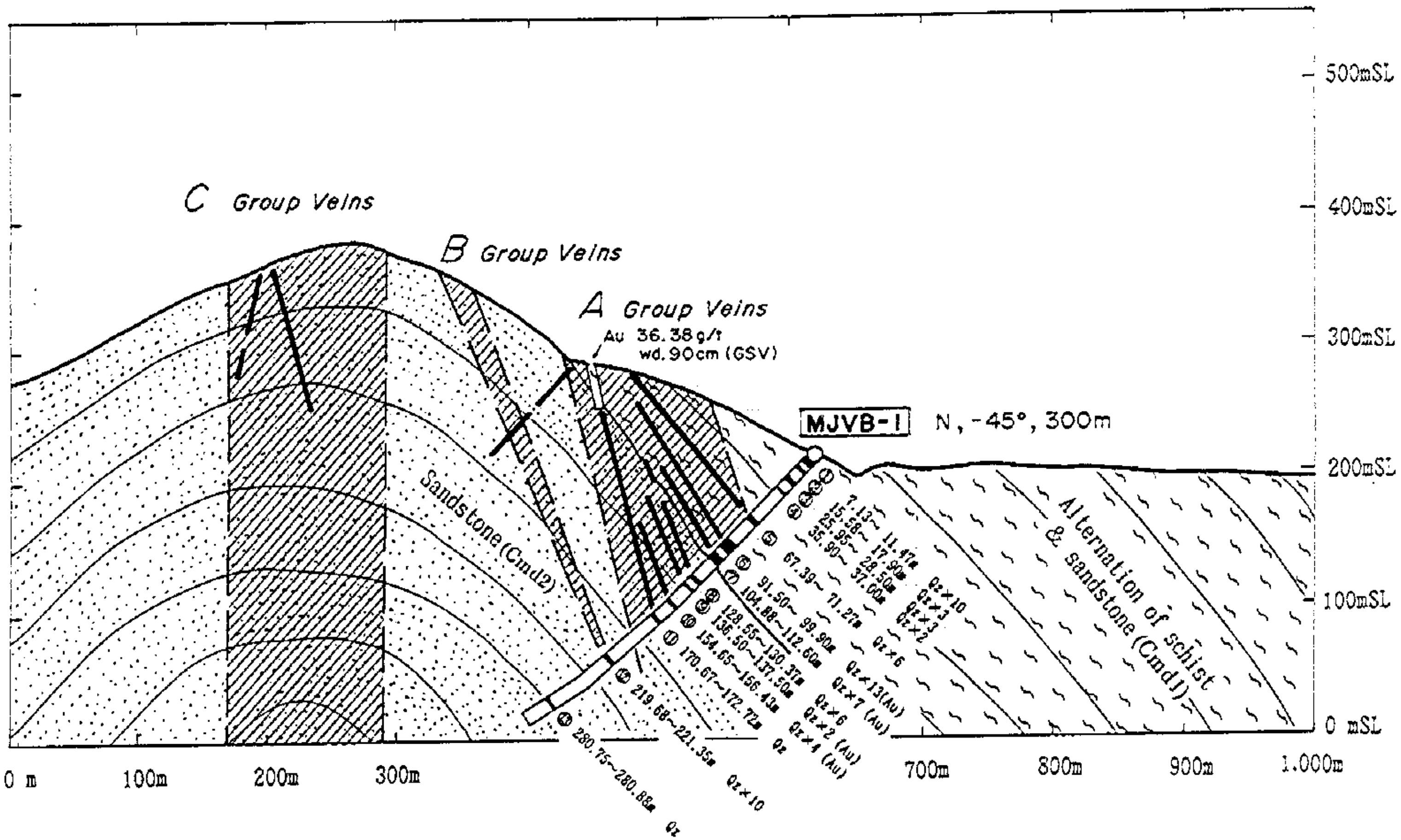
Table 2-23 Results of Ore Microscopy (Drill Cores)

Sample No.	Depth	Minerals										Remarks
		Py	As	Cp	Sp	Gn	Cv	Au	Tt	Po	Io	
	MJVB-1											
104P	69.34 m	△	·	·								Qz vein (L-gray), Py diss.
105P	97.47 m	△	·	·								Qz vein/breccia (White), Py diss.
110P	105.70 m	·		·	·	·						Qz vein/breccia (White), Py diss. Anglesite was found.
113P	108.00 m	·	·	·		·						Qz vein/breccia (White), Py diss, visible Au.
115P	110.55 m	·	·	·	·					·		Qz vein/breccia (White/gray), Py diss.
118P	136.75 m	△		·	·							Qz vein/veinlet (White), visible Au.
121P	154.93 m	·										Qz vein/veinlet (L-gray), Py diss, visible Au. Magnetite was found.
	MJVB-2											
205P	118.32 m	·										Qz vein (L-gray), Py diss.
208P	135.20 m	·	·	·						·		Qz vein (L-gray), Py,As diss.
213P	148.68 m	·		·						·		Qz vein/network (L-gray), Py,As diss, visible Au.
220P	181.27 m	·		·				·				Qz veinlet (Gray), Py diss, visible Au. A grain of native gold (0.5 mm) was observed.
224P	207.83 m	·	·	△						·		Qz vein (White/gray), Py,As,Cp diss.

Abbreviations : Py;Pyrite, As;Arsenopyrite, Cp;Chalcopyrite, Sp;Sphalerite, Gn;Galena, Cv;Covelline, Au;Native Gold, Tt;Tetrahedrite-Tennantite, Po;Pyrrhotite, Io;Iron Oxide

Table 2-24 Assay Results of Ore Samples (Drill Cores)

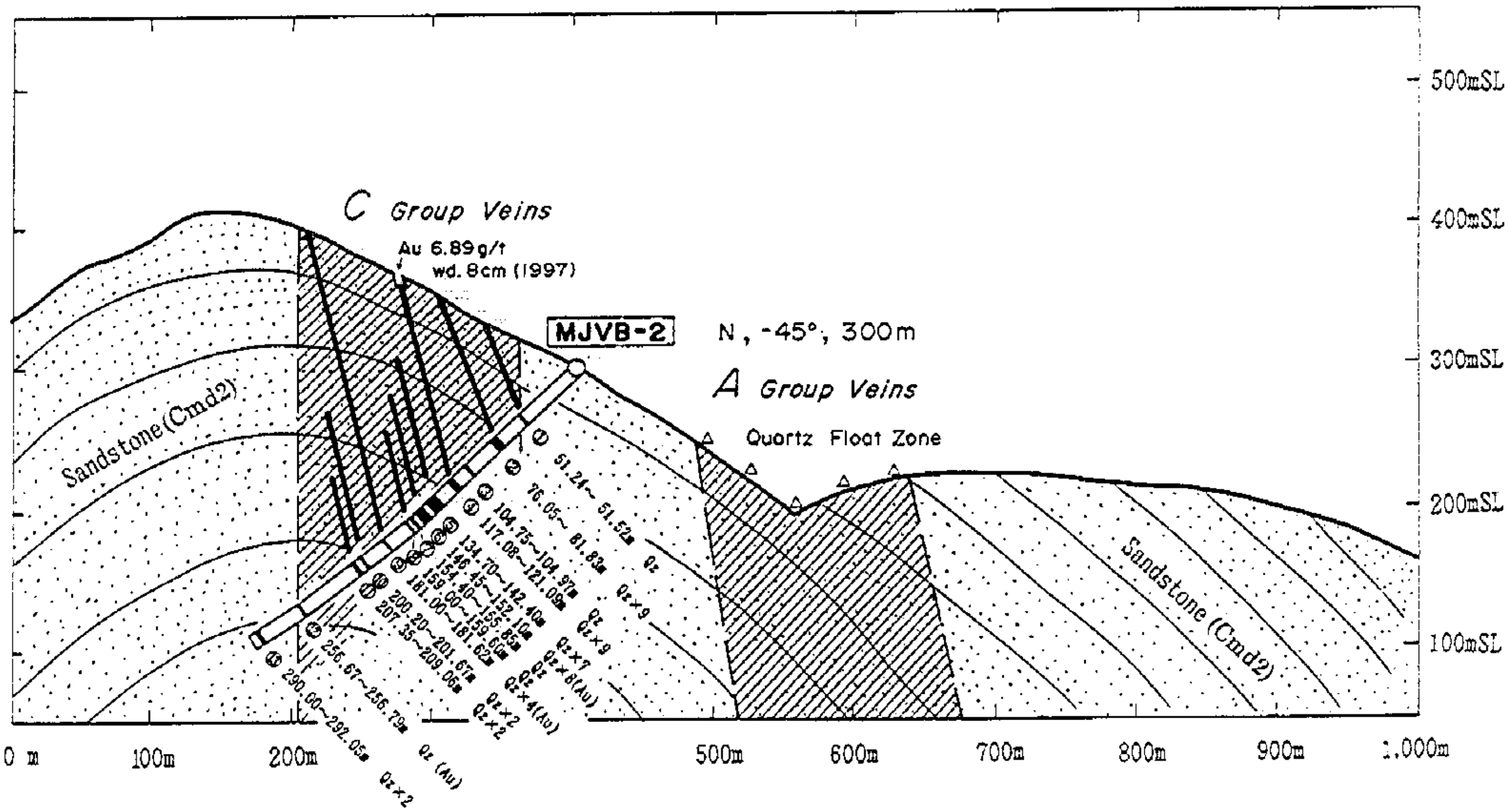
Ser No.	Sample No.	Depth (m) From	Depth (m) To	Sample Width (cm)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Fe (%)	Remarks
	MJVB-1										
1	101A	10.60	10.70	10	0.008	<0.5	0.001	<0.001	<0.001	0.30	White partly gray Qz vein, Limo (Py) diss
2	102A	17.00	17.90	90	0.004	<0.5	0.001	<0.001	0.001	2.06	White Qz netwk zone
3	103A	28.00	28.65	65	0.004	<0.5	0.001	0.001	0.007	4.51	White Qz vein
4	104A	69.10	69.58	48	0.005	<0.5	0.001	<0.001	0.001	3.15	L-gray Qz vein, Py diss.
5	124A	96.00	97.00	100	0.005	<0.5	0.006	0.004	0.004	3.92	White Qz vein/breccia zone
6	105A	97.10	97.85	75	0.010	<0.5	0.001	0.001	0.004	3.10	White Qz vein/breccia, Py diss
7	106A	98.30	98.94	64	0.008	<0.5	0.002	0.001	0.004	2.82	White Qz vein/breccia, Py diss, visible Au(?
8	107A	99.00	99.90	90	0.003	<0.5	0.004	0.003	0.004	2.90	White Qz vein/breccia, Py diss.
9	109A	104.88	105.35	47	<0.001	<0.5	0.001	0.002	0.004	3.10	White Qz vein/breccia, Py diss.
10	110A	105.55	105.85	30	<0.001	<0.5	0.002	0.003	0.004	2.95	White Qz vein/breccia, Py diss.
11	112A	106.40	106.80	40	0.002	<0.5	0.001	0.002	0.004	2.85	White Qz vein/breccia, Py diss.
12	113A	107.62	108.40	78	0.004	<0.5	0.001	0.002	0.003	2.90	White Qz vein/breccia, Py diss, visible Au
13	114A	108.58	109.00	42	<0.001	<0.5	0.002	0.004	0.004	3.58	White Qz vein/breccia, Py diss.
14	115A	110.25	110.85	60	<0.001	<0.5	0.001	0.001	0.002	2.15	White partly gray Qz vein/breccia, Py diss
15	116A	128.55	129.30	75	0.011	<0.5	0.003	0.001	0.005	2.91	White Qz vein/Veinlet
16	117A	129.30	130.37	107	0.001	<0.5	0.001	0.005	0.005	3.24	White Qz vein/Veinlet
17	118A	136.50	137.00	50	0.002	<0.5	0.013	0.003	0.008	3.60	White Qz vein/veinlet, visible Au.
18	119A	137.00	137.50	50	0.003	<0.5	0.002	0.009	0.003	2.15	White Qz vein/Veinlet
19	121A	154.65	155.21	56	0.008	<0.5	0.001	0.001	0.002	2.27	L-gray Qz vein/veinlet, Py diss, visible Au
20	122A	155.28	155.63	35	0.004	<0.5	0.001	<0.001	<0.001	0.99	L-gray Qz vein/Veinlet, Py diss.
21	235A	170.67	172.72	205	0.010	<0.5	0.031	0.031	0.051	3.30	White/L-gray Qz vein, Py. As diss.
22	125A	220.00	221.35	135	0.011	<0.5	0.003	0.002	0.006	2.97	White Qz veinlet
23	126A	280.75	280.88	13	0.016	<0.5	0.004	0.003	0.006	2.93	L-gray Qz vein, Py diss.
	MJVB-2										
24	201A	51.24	51.52	28	56.640	9.0	0.009	0.113	0.016	1.88	Gray Qz vein, Limo diss.
25	202A	76.88	77.43	55	0.182	<0.5	0.002	0.001	0.001	2.41	L-gray Qz vein, Py, As diss.
26	203A	81.13	81.33	20	0.440	<0.5	0.015	0.000	0.001	2.78	L-gray Qz vein
27	204A	104.75	104.97	22	0.070	<0.5	0.002	0.001	0.001	2.06	Gray Qz vein
28	205A	118.02	118.62	60	0.140	<0.5	0.001	0.001	0.001	1.32	L-gray Qz vein, Py diss.
29	206A	119.13	119.42	29	0.110	<0.5	0.001	0.001	0.001	1.34	L-gray Qz vein, Py diss.
30	207A	120.81	121.09	28	0.430	<0.5	<0.001	<0.001	0.001	3.26	L-gray Qz network, Py diss.
31	208A	135.00	135.40	40	0.138	<0.5	0.002	0.001	0.001	1.47	L-gray Qz vein/network, Py, As diss.
32	209A	137.38	137.87	49	1.880	2.0	0.012	0.008	0.001	3.10	White/gray Qz vein/network, Py, Cp diss.
33	210A	138.90	139.30	40	0.112	<0.5	0.003	0.001	0.003	3.61	White/gray Qz vein/network, Py, As diss.
34	211A	141.30	141.46	16	0.185	<0.5	0.001	0.001	0.002	2.83	L-gray Qz vein, Py diss.
35	212A	146.45	146.66	21	0.039	1.0	0.003	0.006	0.034	2.64	L-gray Qz vein, Py diss.
36	213A	148.20	149.15	95	0.007	<0.5	0.003	0.001	0.001	1.63	L-gray Qz vein/network, Py, As diss, visible Au
37	214A	149.15	150.00	85	0.011	<0.5	0.001	<0.001	0.001	1.31	L-gray Qz vein/network, Py, As diss
38	215A	150.00	151.05	105	0.035	<0.5	0.001	<0.001	0.001	2.38	Gray Qz network, Py, As diss.
39	216A	151.05	152.10	105	0.040	<0.5	0.001	<0.001	0.001	1.84	Gray Qz network, Py As diss, visible Au
40	217A	154.40	155.85	145	0.039	<0.5	0.001	0.002	0.011	2.13	L-gray Qz veinlet
41	218A	159.00	159.60	60	0.067	1.0	0.001	0.005	0.007	3.39	White/L-grey Qz vein, Py diss
42	241A	181.00	181.11	11	1.020	<0.5	0.009	<0.005	0.013	4.42	Gray Qz veinlet, Py diss.
43	242A	181.11	181.22	11	0.120	<0.5	0.010	0.006	0.021	2.60	Gray Qz veinlet, Py diss
44	220A	181.22	181.32	10	10.815	<0.5	0.001	0.001	0.002	2.54	Gray Qz veinlet, Py diss, visible Au
45	244A	181.32	181.57	25	0.020	<0.5	0.006	<0.005	0.014	2.42	Gray Qz veinlet
46	245A	181.57	181.80	23	0.050	<0.5	0.005	<0.005	0.010	3.78	Gray Qz veinlet
47	222A	200.20	200.30	10	0.136	<0.5	<0.001	<0.001	0.001	5.57	L-gray Qz veinlet, Py, Po diss.
48	223A	201.35	201.67	32	0.104	<0.5	0.001	<0.001	0.001	4.00	L-gray Qz veinlet, Py, Po diss.
49	224A	207.35	208.20	85	0.055	<0.5	0.118	0.001	0.001	1.86	White/gray Qz vein, Py, As, Cp diss.
50	225A	208.40	209.06	66	0.072	<0.5	0.001	<0.001	0.001	2.69	White/gray Qz vein, Py, As diss
51	226A	256.67	256.79	12	1.400	<0.5	0.016	0.160	0.031	3.14	Silicified zone with white Qz veinlet, visible Au
52	227A	290.00	290.72	72	0.030	<0.5	0.012	0.006	0.029	2.90	L-gray Qz vein/breccia Py, Cp diss
53	228A	291.45	292.05	60	0.010	<0.5	0.010	0.008	0.032	2.28	White/L-gray Qz vein, Cp diss



Ser No.	Sample No.	Depth (m) From	Depth (m) To	Sample Width (cm)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Fe (%)
1	101A	10.60	10.70	10	0.006	<0.5	0.001	<0.001	<0.001	0.30
2	102A	17.00	17.90	90	0.004	<0.5	0.001	<0.001	0.001	2.06
3	103A	28.00	28.65	65	0.004	<0.5	0.001	0.001	0.007	4.51
4	104A	69.10	69.58	48	0.005	<0.5	0.001	<0.001	0.001	3.15
5	124A	96.00	97.00	100	0.005	<0.5	0.006	0.004	0.004	3.92
6	105A	97.10	97.85	75	0.010	<0.5	0.001	0.001	0.004	3.10
7	106A	98.30	98.94	64	0.008	<0.5	0.002	0.001	0.004	2.82
8	107A	99.00	99.90	90	0.003	<0.5	0.004	0.003	0.004	2.90
9	109A	104.88	105.35	47	<0.001	<0.5	0.001	0.002	0.004	3.10
10	110A	105.55	105.85	30	<0.001	<0.5	0.002	0.003	0.004	2.95
11	112A	106.40	106.80	40	0.002	<0.5	0.001	0.002	0.004	2.85
12	113A	107.62	108.40	78	0.004	<0.5	0.001	0.002	0.003	2.90

Ser No.	Sample No.	Depth (m) From	Depth (m) To	Sample Width (cm)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Fe (%)
13	114A	108.58	109.00	42	<0.001	<0.5	0.002	0.004	0.004	3.58
14	115A	110.25	110.85	60	<0.001	<0.5	0.001	0.001	0.002	2.15
15	116A	128.55	129.30	75	0.011	<0.5	0.003	0.001	0.005	2.91
16	117A	129.30	130.37	107	0.001	<0.5	0.001	0.005	0.005	3.24
17	118A	136.50	137.00	50	0.002	<0.5	0.013	0.003	0.008	3.60
18	119A	137.00	137.50	50	0.003	<0.5	0.002	0.009	0.003	2.15
19	121A	154.65	155.21	56	0.008	<0.5	0.001	0.001	0.002	2.27
20	122A	155.28	155.63	35	0.004	<0.5	0.001	<0.001	<0.001	0.99
21	235A	170.67	172.72	205	0.010	<0.5	0.031	0.031	0.051	3.30
22	125A	220.00	221.36	135	0.011	<0.5	0.003	0.002	0.006	2.97
23	126A	280.75	280.88	13	0.016	<0.5	0.004	0.003	0.006	2.93

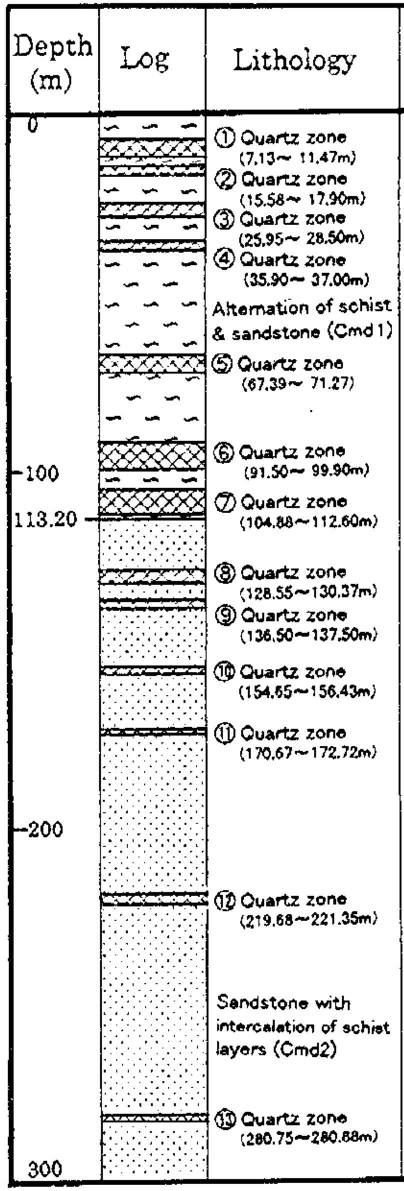
Fig. 2-72 Geologic Section along the Drill Hole (MJVB-1)



Ser No.	Sample No.	Depth (m) From	Depth (m) To	Sample Width (cm)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Fe (%)
1	201A	51.24	51.52	28	56.640	9.0	0.009	0.113	0.016	1.88
2	202A	76.88	77.43	55	0.182	<0.5	0.002	0.001	0.001	2.41
3	203A	81.13	81.33	20	0.440	<0.5	0.015	0.000	0.001	2.78
4	204A	104.75	104.97	22	0.070	<0.5	0.002	0.001	0.001	2.06
5	205A	118.02	118.62	60	0.140	<0.5	0.001	0.001	0.001	1.32
6	206A	119.13	119.42	29	0.110	<0.5	0.001	0.001	0.001	1.34
7	207A	120.81	121.09	28	0.430	<0.5	<0.001	<0.001	0.001	3.26
8	208A	135.00	135.40	40	0.138	<0.5	0.002	0.001	0.001	1.47
9	209A	137.38	137.87	49	1.880	2.0	0.012	0.008	0.001	3.10
10	210A	138.90	139.30	40	0.112	<0.5	0.003	0.001	0.003	3.61
11	211A	141.30	141.46	16	0.185	<0.5	0.001	0.001	0.002	2.83
12	212A	146.45	146.66	21	0.039	1.0	0.003	0.006	0.034	2.64
13	213A	148.20	149.15	95	0.007	<0.5	0.003	0.001	0.001	1.63
14	214A	149.15	150.00	85	0.011	<0.5	0.001	<0.001	0.001	1.31
15	215A	150.00	151.05	105	0.035	<0.5	0.001	<0.001	0.001	2.38

Ser No.	Sample No.	Depth (m) From	Depth (m) To	Sample Width (cm)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Fe (%)
16	216A	151.05	152.10	105	0.040	<0.5	0.001	<0.001	0.001	1.64
17	217A	154.40	155.85	145	0.039	<0.5	0.001	0.002	0.011	2.13
18	218A	159.00	159.60	60	0.067	1.0	0.001	0.005	0.007	3.39
19	241A	181.00	181.11	11	1.020	<0.5	0.009	<0.005	0.013	4.42
20	242A	181.11	181.22	11	0.120	<0.5	0.010	0.006	0.021	2.60
21	220A	181.22	181.32	10	10.815	<0.5	0.001	0.001	0.002	2.54
22	244A	181.32	181.57	25	0.020	<0.5	0.006	<0.005	0.014	2.42
23	245A	181.57	181.80	23	0.050	<0.5	0.005	<0.005	0.010	3.78
24	222A	200.20	200.30	10	0.136	<0.5	<0.001	<0.001	0.001	5.67
25	223A	201.35	201.67	32	0.104	<0.5	0.001	<0.001	0.001	4.00
26	224A	207.35	208.20	85	0.055	<0.5	0.118	0.001	0.001	1.86
27	225A	208.40	209.06	66	0.072	<0.5	0.001	<0.001	0.001	2.69
28	226A	256.67	256.79	12	1.400	<0.5	0.016	0.160	0.031	3.14
29	227A	290.00	290.72	72	0.030	<0.5	0.012	0.006	0.029	2.90
30	228A	291.45	292.05	60	0.010	<0.5	0.010	0.008	0.032	2.28

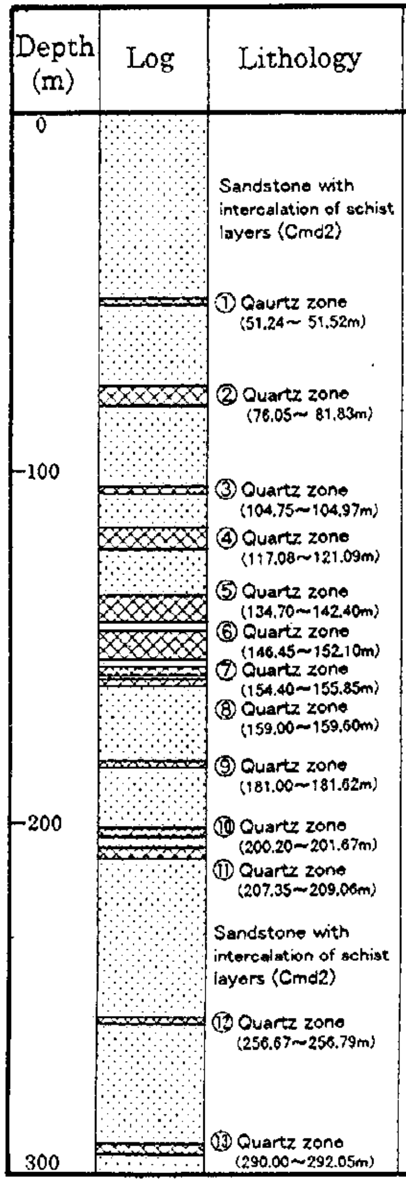
Fig. 2-73 Geologic Section along the Drill Hole (MJVB-2)



Assay Results

Ser No.	Sample No.	Depth (m) From	Depth (m) To	Sample Width (cm)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Fe (%)
	MJVB-1									
1	101A	10.60	10.70	10	0.008	<0.5	0.001	<0.001	<0.001	0.30
2	102A	17.00	17.90	90	0.004	<0.5	0.001	<0.001	0.001	2.06
3	103A	28.00	28.65	65	0.004	<0.5	0.001	0.001	0.007	4.51
4	104A	69.10	69.58	48	0.005	<0.5	0.001	<0.001	0.001	3.15
5	124A	96.00	97.00	100	0.005	<0.5	0.006	0.004	0.004	3.92
6	105A	97.10	97.85	75	0.010	<0.5	0.001	0.001	0.004	3.10
7	106A	98.30	98.94	64	0.008	<0.5	0.002	0.001	0.004	2.82
8	107A	99.00	99.90	90	0.003	<0.5	0.004	0.003	0.004	2.90
9	109A	104.88	105.35	47	<0.001	<0.5	0.001	0.002	0.004	3.10
10	110A	105.55	105.85	30	<0.001	<0.5	0.002	0.003	0.004	2.95
11	112A	106.40	106.80	40	0.002	<0.5	0.001	0.002	0.004	2.85
12	113A	107.62	108.40	78	0.004	<0.5	0.001	0.002	0.003	2.90
13	114A	108.58	109.00	42	<0.001	<0.5	0.002	0.004	0.004	3.58
14	115A	110.25	110.85	60	<0.001	<0.5	0.001	0.001	0.002	2.15
15	116A	128.55	129.30	75	0.011	<0.5	0.003	0.001	0.005	2.91
16	117A	129.30	130.37	107	0.001	<0.5	0.001	0.005	0.005	3.24
17	118A	136.50	137.00	50	0.002	<0.5	0.013	0.003	0.008	3.60
18	119A	137.00	137.50	50	0.003	<0.5	0.002	0.009	0.003	2.15
19	121A	154.65	155.21	56	0.008	<0.5	0.001	0.001	0.002	2.27
20	122A	155.28	155.63	35	0.004	<0.5	0.001	<0.001	<0.001	0.99
21	235A	170.67	172.72	205	0.010	<0.5	0.031	0.031	0.051	3.30
22	125A	220.00	221.35	135	0.011	<0.5	0.003	0.002	0.006	2.97
23	126A	280.75	280.88	13	0.016	<0.5	0.004	0.003	0.006	2.93

Fig. 2-74 Summary of Drill Log and Analytical Results of Core Samples (MJVB-1)



Assay Results

Ser No.	Sample No.	Depth (m) From	Depth (m) To	Sample Width (cm)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Fe (%)
	MJVB-2									
1	201A	51.24	51.52	28	56.640	9.0	0.009	0.113	0.016	1.88
2	202A	76.88	77.43	55	0.182	<0.5	0.002	0.001	0.001	2.41
3	203A	81.13	81.33	20	0.440	<0.5	0.015	0.000	0.001	2.78
4	204A	104.75	104.97	22	0.070	<0.5	0.002	0.001	0.001	2.06
5	205A	118.02	118.62	60	0.140	<0.5	0.001	0.001	0.001	1.32
6	206A	119.13	119.42	29	0.110	<0.5	0.001	0.001	0.001	1.34
7	207A	120.81	121.09	28	0.430	<0.5	<0.001	<0.001	0.001	3.26
8	208A	135.00	135.40	40	0.138	<0.5	0.002	0.001	0.001	1.47
9	209A	137.38	137.87	49	1.880	2.0	0.012	0.008	0.001	3.10
10	210A	138.90	139.30	40	0.112	<0.5	0.003	0.001	0.003	3.61
11	211A	141.30	141.46	16	0.185	<0.5	0.001	0.001	0.002	2.83
12	212A	146.45	146.66	21	0.039	1.0	0.003	0.006	0.034	2.64
13	213A	148.20	149.15	95	0.007	<0.5	0.003	0.001	0.001	1.63
14	214A	149.15	150.00	85	0.011	<0.5	0.001	<0.001	0.001	1.31
15	215A	150.00	151.05	105	0.035	<0.5	0.001	<0.001	0.001	2.38
16	216A	151.05	152.10	105	0.040	<0.5	0.001	<0.001	0.001	1.84
17	217A	154.40	155.85	145	0.039	<0.5	0.001	0.002	0.011	2.13
18	218A	159.00	159.60	60	0.067	1.0	0.001	0.005	0.007	3.39
19	241A	181.00	181.11	11	1.020	<0.5	0.009	<0.005	0.013	4.42
20	242A	181.11	181.22	11	0.120	<0.5	0.010	0.006	0.021	2.60
21	220A	181.22	181.32	10	10.815	<0.5	0.001	0.001	0.002	2.54
22	244A	181.32	181.57	25	0.020	<0.5	0.006	<0.005	0.014	2.42
23	245A	181.57	181.80	23	0.050	<0.5	0.005	<0.005	0.010	3.78
24	222A	200.20	200.30	10	0.136	<0.5	<0.001	<0.001	0.001	5.57
25	223A	201.35	201.67	32	0.104	<0.5	0.001	<0.001	0.001	4.00
26	224A	207.35	208.20	85	0.055	<0.5	0.118	0.001	0.001	1.86
27	225A	208.40	209.06	66	0.072	<0.5	0.001	<0.001	0.001	2.69
28	226A	256.67	256.79	12	1.400	<0.5	0.016	0.160	0.031	3.14
29	227A	290.00	290.72	72	0.030	<0.5	0.012	0.006	0.029	2.90
30	228A	291.45	292.05	60	0.010	<0.5	0.010	0.008	0.032	2.28

Fig. 2-75 Summary of Drill Log and Analytical Results of Core Samples (MJVB-2)

4-6 Fluid Inclusion Studies

4-6-1 Methodology

Quartz chips were collected, and provided for fluid inclusion studies. Eleven quartz chips were sampled from drill cores. The breakdown is: 7 from MJVB-1, and 4 from MJVB-2. All samples were taken from quartz veins. The same methods and measurements as in the detailed geological survey were made for the studies.

4-6-2 Results of Studies

The total number of fluid inclusions which were investigated under the microscope was 103. More than eighty percents of them are liquid-rich two-phase inclusions. Gas-rich two-phase inclusions are less than 20 % of them. This result may indicate that the boiling of fluid has occurred locally during the formation of quartz vein.

Polyphase inclusions were found in 5 samples. Halite was distinguished as a daughter mineral.

Homogenization Temperature

Values of homogenization temperature of each fluid inclusion are distributed from 145°C to 340°C. Most of them fall into a range of 160° ~ 300°C with a peak value of 210°C.

Salinity

Samples for the measurement of freezing temperature were selected from quartz chips of which homogenization temperature was measured. Three measurements on salinity for 2 fluid inclusions from the drill core MJVB-1 were carried out in this study.

Salinity calculated from the freezing temperatures of fluid inclusions ranges from 4.1 to 5.7 NaCl equivalent %. The arithmetic mean of three salinity values is 4.8 NaCl %.

Table 2-25 Results of Fluid Inclusion Studies (Drill Cores)

Ser. No.	Sample No.	Drill Hole No. & Depth (m)	Number of Measured Inclusions	Homogenization Temperature Minimum (℃)	Homogenization Temperature Maximum (℃)	Homogenization Temperature Mean (℃)	Salinity (1) (NaCl eq.%)	Salinity (2) (NaCl eq.%)	Kind of Inclusions (Liquid-rich/Gas-rich/Polyphase)	Remarks
		MJVB-1								
1	102F	17.45	6	165	285	218			L+G	White Qz network
2	106F	98.62	7	152	295	213			L+G+P	White Qz vein/breccia, Py diss, visible Au(?)
3	110F	105.70	8	165	260	224			L+G+P	White Qz vein/brecoia, Py diss.
4	113F	108.00	8	180	340	265	Too small to measure		L+G	White Qz vein/breccia, Py diss, visible Au.
5	117F	129.85	7	180	305	241			L+G+P	White Qz vein/veintet.
6	119F	137.25	29	152	282	207	4.7		L+G	White Qz vein/veinlet.
7	122F	155.46	27	165	295	219	4.1	5.7	L+G+P	L-gray Qz vein/veinlet, Py diss.
		MJVB-2								
8	205F	118.32	0	Too small to measure						L-gray Qz vein, Py diss.
9	208F	135.20	3	145	185	167			L	L-gray Qz vein/network, Py, As diss.
10	213F	148.68	8	156	292	208			L+G+P	L-gray Qz vein/network, Py, As diss, visible Au.
11	224F	207.78	0	Too small to measure						White/gray Qz vein, Py, As, Co diss.

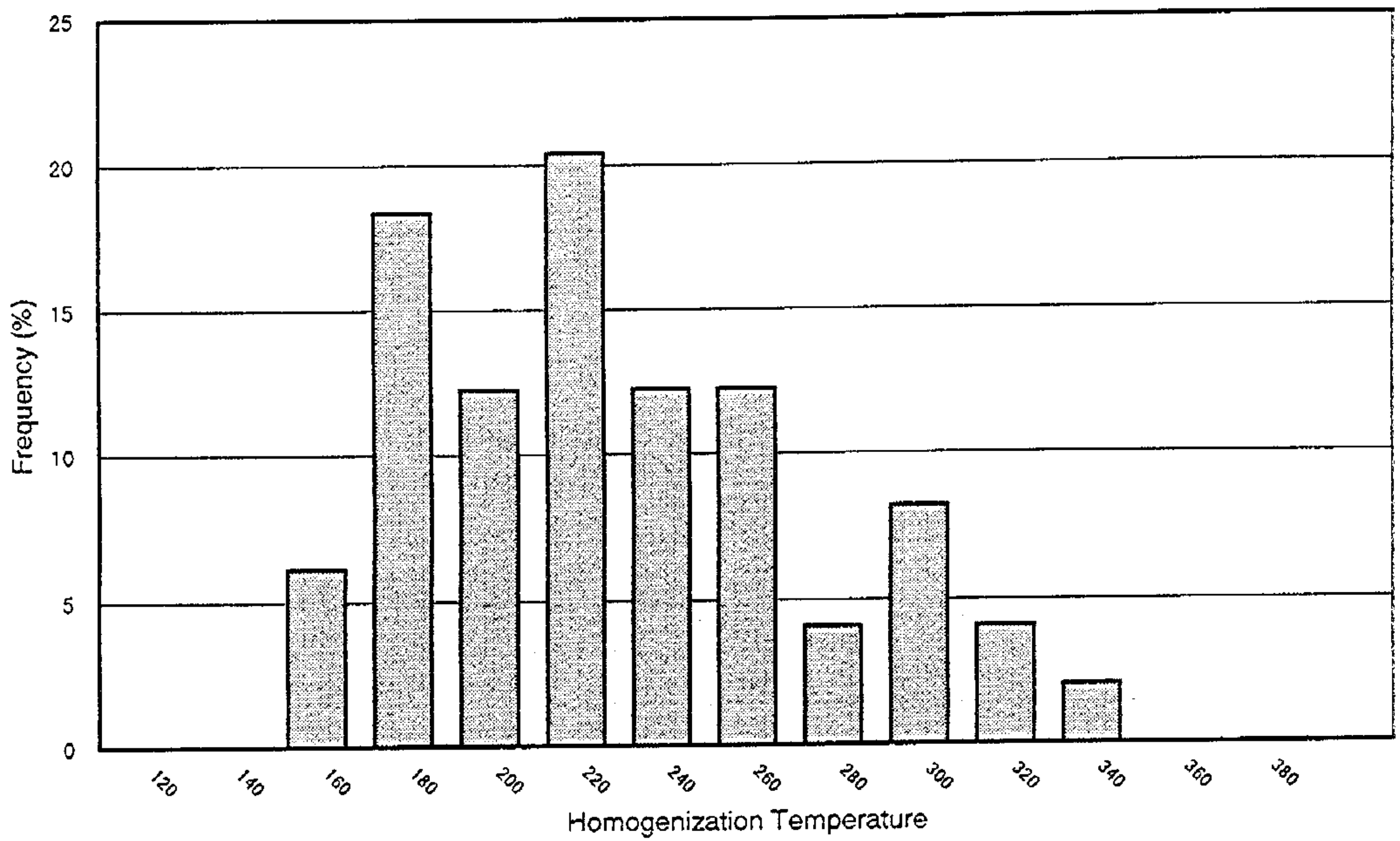


Fig. 2-76 Histogram of Homogenization Temperature of Fluid Inclusions (Drill Cores)

4-7 Discussion

In the Da Mai-Khe Dui prospect, two holes totaling 600.00 m were drilled in the second phase. Many significant intersections of gold-bearing quartz veins were caught in these reconnaissance drill holes, although some of the targeted extensions of veins on the surface have been appeared to be insignificant in the depth.

The geology of drill holes is composed of sandstone and schist of the Mo Dong Formation. In MJVB-1, the upper part of the drill hole consists of an alternating bed of sandstone and schist. The lower part, however, consists mainly of sandstone. In MJVB-2, geology of whole drill hole consists of sandstone. Structurally, the drill hole MJVB-1 is situated at the lower horizon of the Mo Dong Formation than the drill hole MJVB-2. An alternating bed of sandstone and schist occurs within thick sandstone strata of the Mo Dong Formation. It occurs within the upper part of the formation in the stratigraphic column.

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

In MJVB-2, thirteen major groups of quartz veins were intersected, and several significant intersections were returned as follows: 56.640 g/t Au and 9.0 g/t Ag (51.24 – 51.52 m), 1.880 g/t Au and 2.0 g/t Ag (137.38 – 137.87 m), 1.020 g/t Au (181.00 – 181.11 m), 10.815 g/t Au (181.22 – 181.32 m), and 1.400 g/t Au (256.67 – 256.79 m).

Two kinds of quartz veins were observed in drill cores: light gray to gray quartz vein and white quartz vein. The former is cut by the latter. It was considered that the gray color quartz veins were formed earlier than the white color ones. Brecciated texture of gray quartz was recognized to be common in drill cores. Most of quartz veins in MJVB-1 is composed of white quartz. On the contrary, those in MJVB-2 consist of gray one. Sulfide minerals were found in both quartz veins. Gold is returned from both kinds of quartz. Gray quartz, however, showed slightly richer in gold content than white quartz.

Gold occurs mainly as free native gold in quartz vein in this area. This is the main reason why the gold grade exhibits an very erratic nature in drill cores; very high grades of Au were returned from some part, while other part showed no significant value of Au even where visible gold was observed on the core and gold grains were recovered from slime of drilling. Gold grade tends to be higher in a part where is relatively rich in sulfide minerals. Two most common sulfide minerals thought to be related to the gold mineralization are: pyrite and arsenopyrite. The occurrence of chalcopyrite and pyrrhotite tend to be increased in the depth in drill hole.

Silicification, chloritization, sericitization and carbonitization were frequently observed in and around quartz veins. Quartz veins of a certain size always accompany strong silicification, chloritization and sericitization in drill cores. In MJVB-1, in which white quartz occurs frequently, intensive chloritization and sericitization were recognized. In MJVB-2, in which gray quartz occurs together with a small amount of white quartz, sericitization is slightly weaker than in MJVB-1, and chloritization is significantly weaker than in MJVB-1. Carbonate minerals such as calcite and ankerite were found mainly in gray quartz; therefore, gray quartz veins sometimes contain a significant amount of carbonate minerals. Values of homogenization temperature of fluid inclusions in drill cores change from 145°C to 340°C with a peak value of 210°C. Salinity of fluid inclusions ranges from 4.1 to 5.7 NaCl equivalent %. These data do not indicate a significant difference from the results of geological samples; wide range of homogenization temperature and moderately thick salinity.