As - Au), also, occurs over the area of the silicification/pyrite dissemination zone.

X-ray diffraction analysis shows three zones (SE/Mo, chlorite, sericite) of alteration minerals occur in a concentric distribution surrounding the silicified/pyrite dissemination zone.

From the above the mineralization in the area is characterized by Au - Ag type related to intrusion of diorite porphyry. Considering from the geological environment, mineral assemblages of ore minerals and alteration minerals, this mineralization is not an epithermal type. However, type of silver minerals occurring in the area and relatively high Ag compared to Au suggest temperature of mineralization to be relatively low. One of the possible is that this area is located at the outer margin of a porphyry copper type mineralization. The intrusion age of the diorite porphyry is contemporaneous to the intrusive rock of Mamut mine, which is Au rich porphyry copper type mine.

The distribution of IP anomalies obtain by the survey correspond well with distribution of silicified/pyrite dissemination zone in the central south of the area and anomaly seems to extend further south. The strongest anomaly is located from south end of Line D to central south of Line F in the silicified/pyrite dissemination zone. The Au anomaly of rock geochemical survey in the southern part of the area correspond to the medium to strong chargeability anomaly with more than 20mV/V. The strong chargeability anomaly with 30mV/V at the central south of Line F correspond to the location where Cu and S anomalies overlap. Consequently, there is strong indication of an existence of sulfide in the area surrounding central south of Line F is very high.

The potentiality of sulfide mineralization is very high and further detail survey in the area is awaited.

3-5-2 Soil geochemical survey (S. Imbak Sub-area South, Gunong Kuli)

Numerous intrusive bodies of diorite porphyry were found along both slopes of the ridge that runs in the center of the area. Dating shows their age of intrusion to be early Pliocene. The silicified/pyrite dissemination zones occur in the sedimentary rock along the slopes of the ridge, closely associated by intrusion of diorite porphyry. The most intensive silicified/pyrite dissemination zone occur in the northwestern part of the area and the central part of the area. The one in the central part of the area shows a chalcopyrite dissemination in the diorite porphyry, in addition to pyrite dissemination of the sedimentary rocks. The sample of this shows a small grain of native gold surrounded by chalcopyrite. The southern extension of the mineralization that occurs in the S. Imbak Sub-area was confirmed along the ridge of Gunong Kuli.

Geochemical survey shows distributions of overlapping Au, Cu, Hg, S anomalies and high value zones over the areas of silicified/pyrite dissemination zones northwestern and central parts of the area. These areas are also covered by high factor score zone of, respectively, Factor 2 and Factor 6. These area of high factor score have high potentiality of the mineralization.

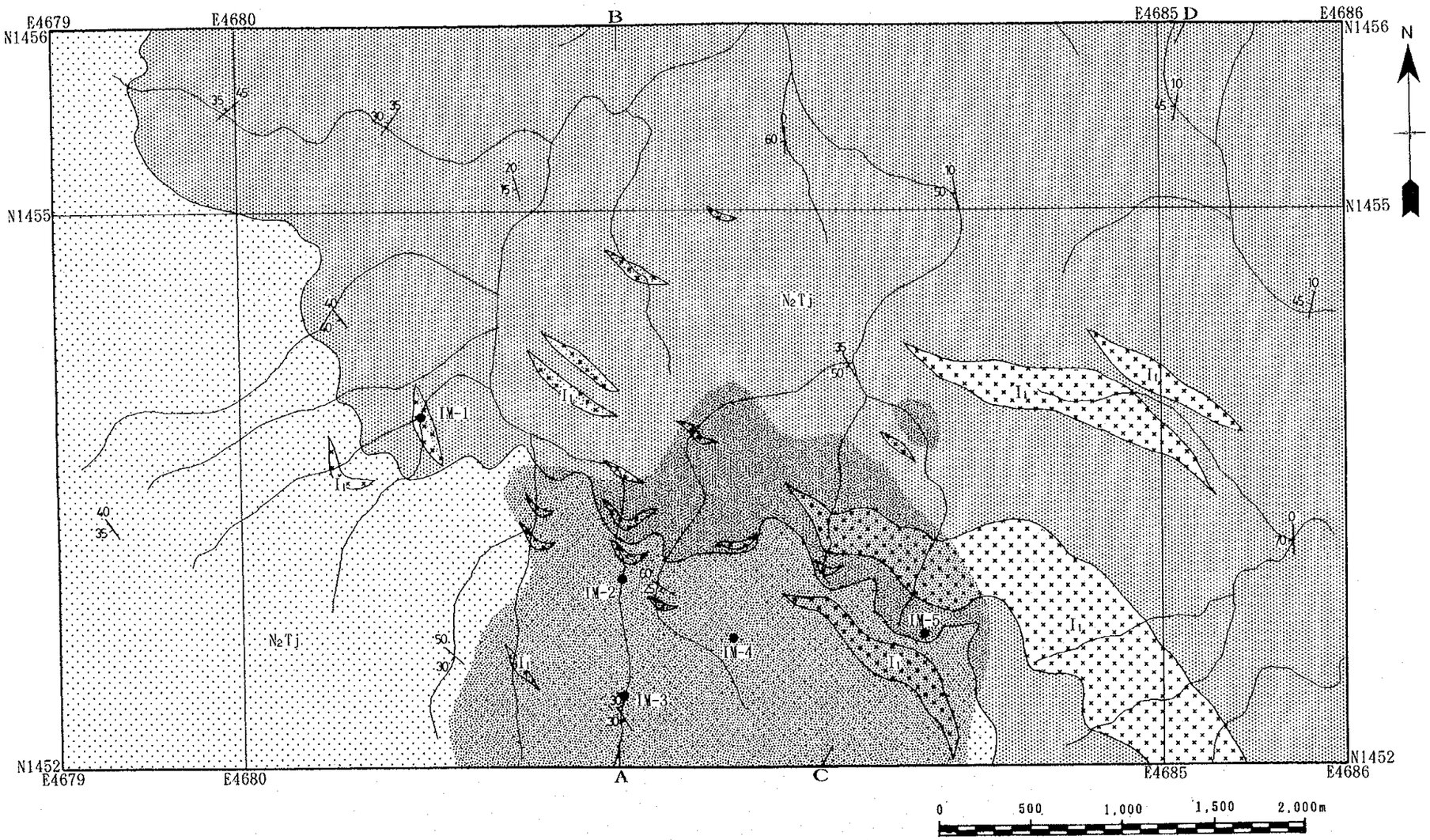


Fig. II -3-1 Geological map and cross sections of S. Imbak Sub-area (1)

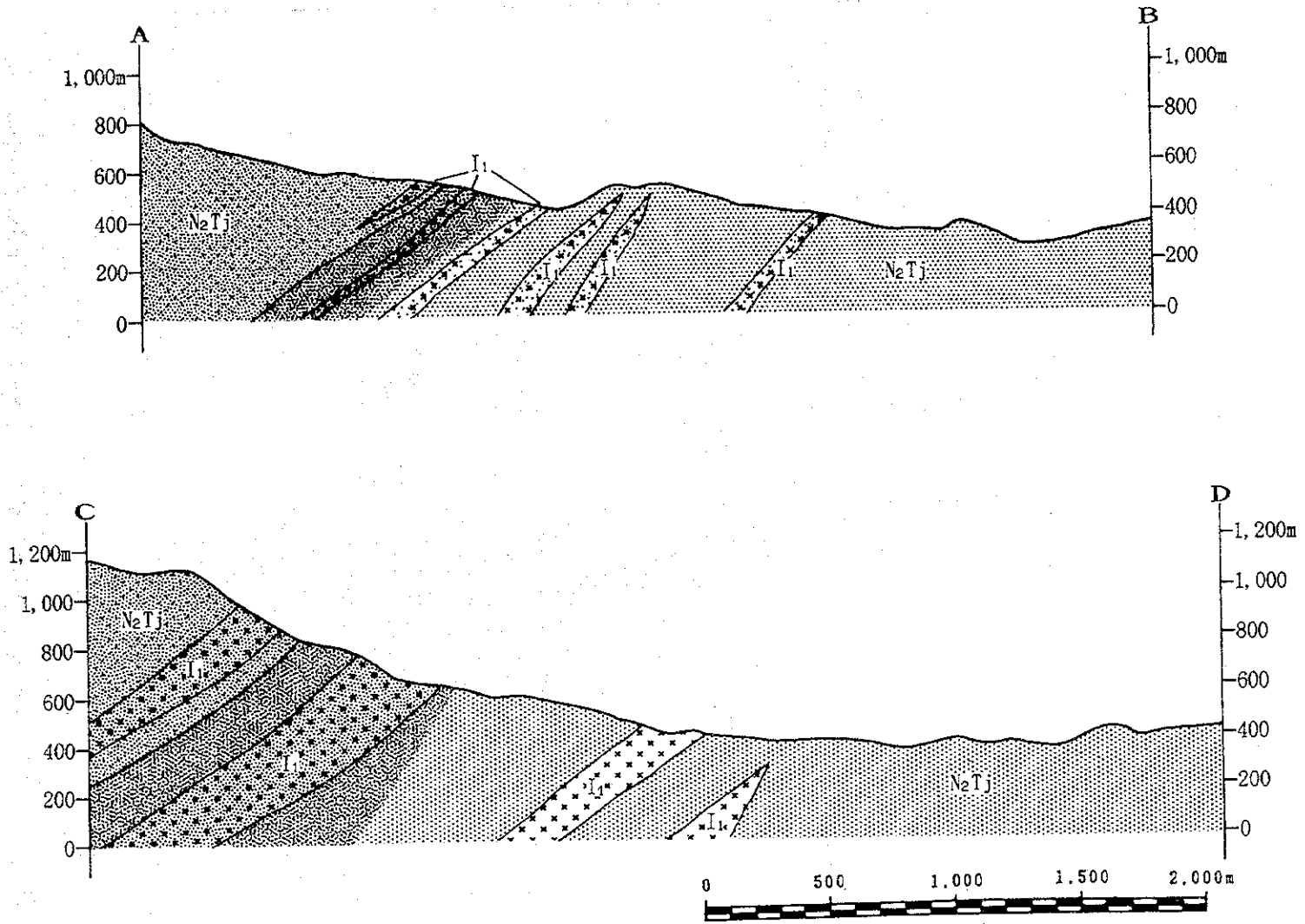


Fig. II -3-1 Geological map and cross sections of S. Imbak Sub-area (2)

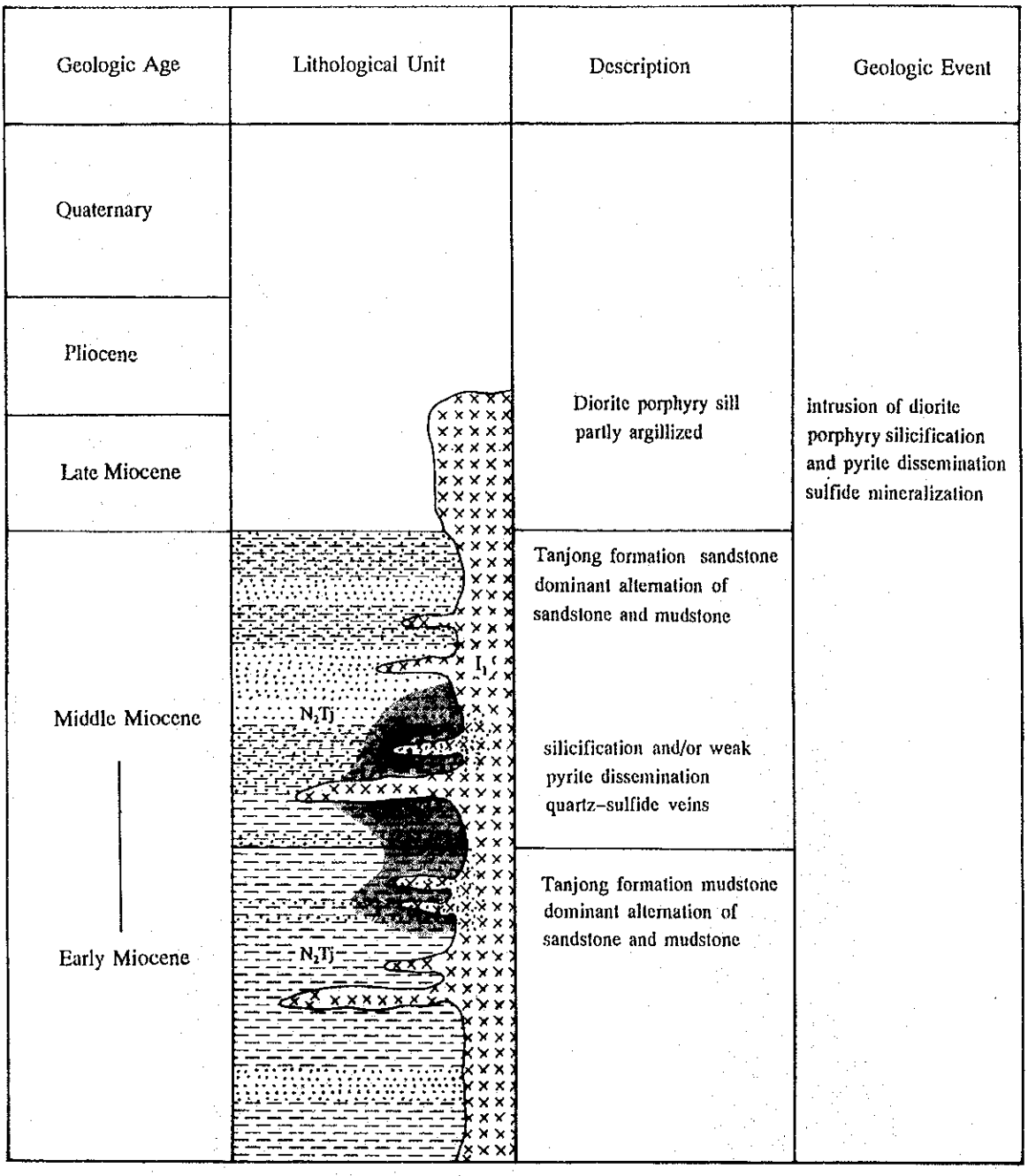
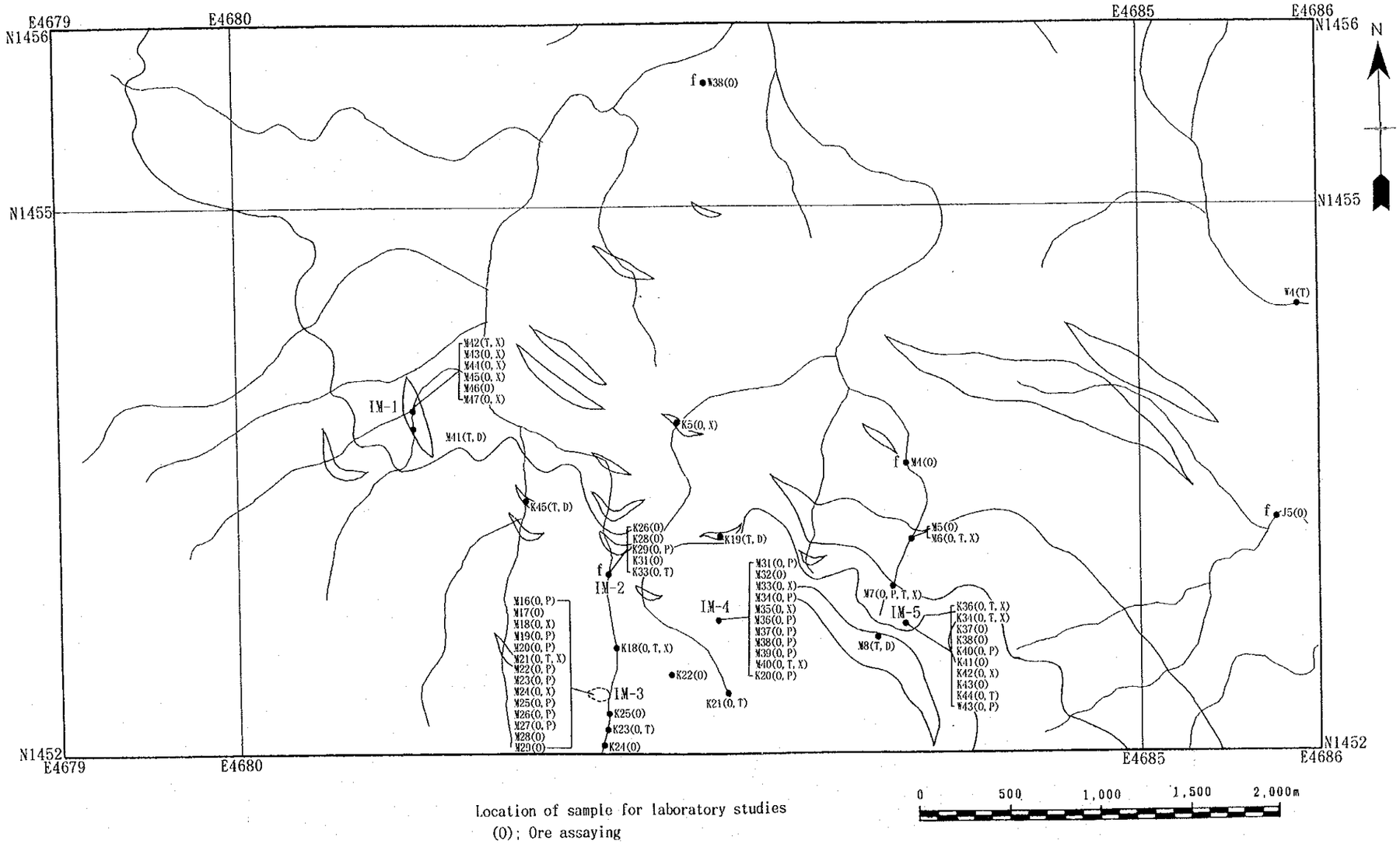


Fig. Ⅱ-3-2 Schematic lithological succession of S. Imbak Sub-area



Location of sample for laboratory studies

(0); Ore assaying

(P); Polished section

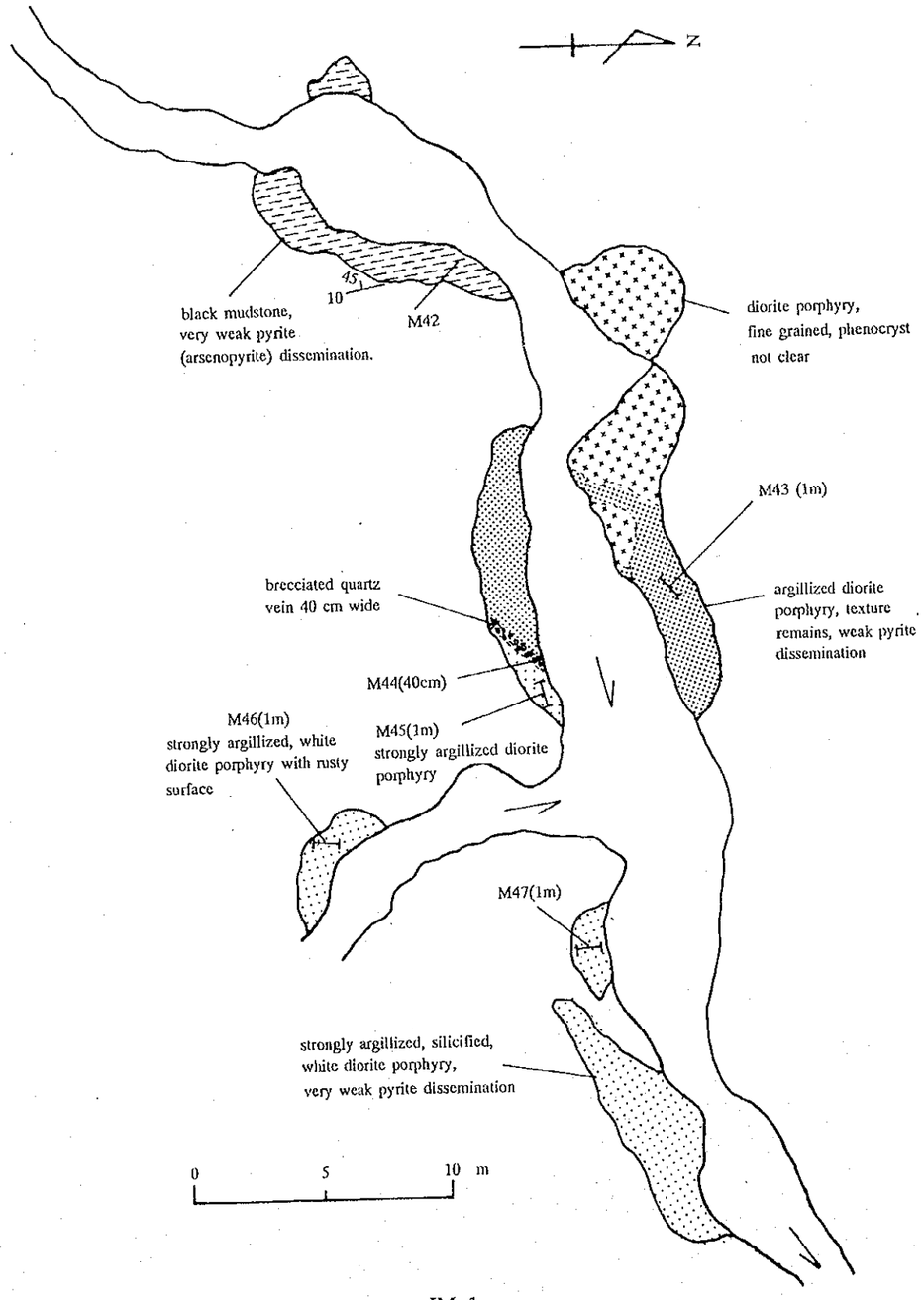
(T); Thin section

(X); X-ray diffraction analysis

(D); Dating and major element analysis

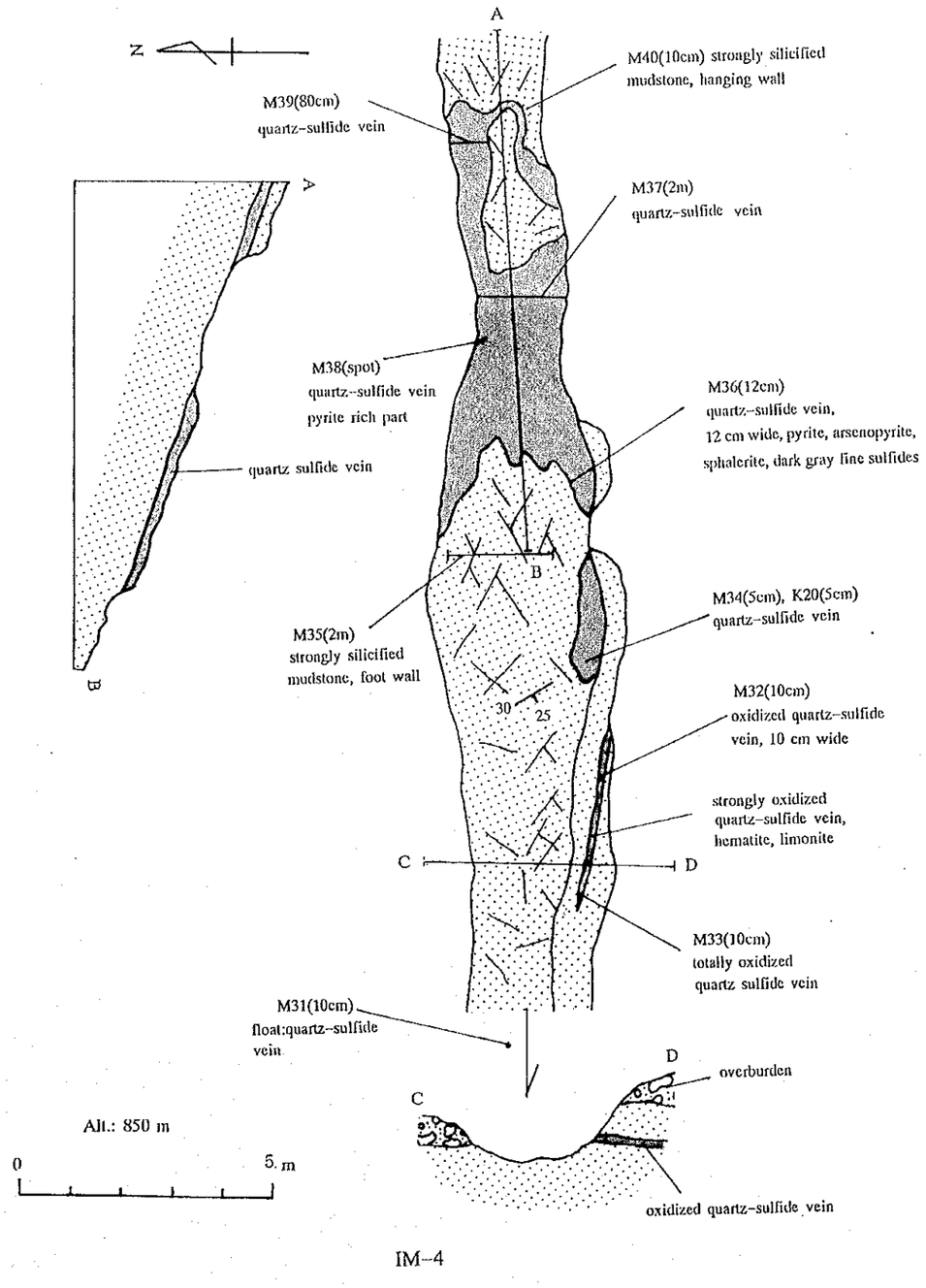
f ; float

Fig. Ⅱ-3-3 Location of mineral showings and laboratory work samples



IM-1

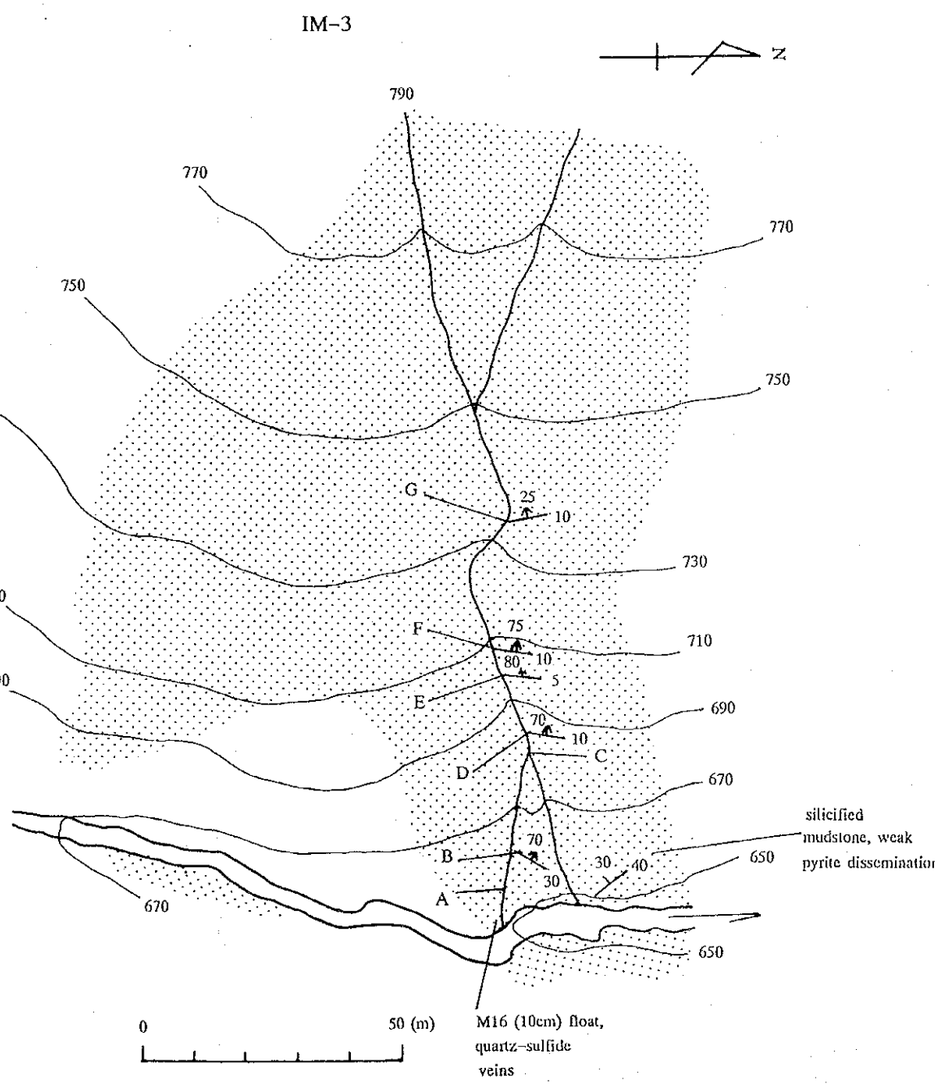
Sketch 1



IM-4

Sketch 3

Fig. Ⅱ-3-4 Occurrences of mineralization (1)



A: 1m across, rusty patch in silicified mudstone
M17 (1m)

B: light gray, argillized zone, 20 cm wide
M18 (20cm)

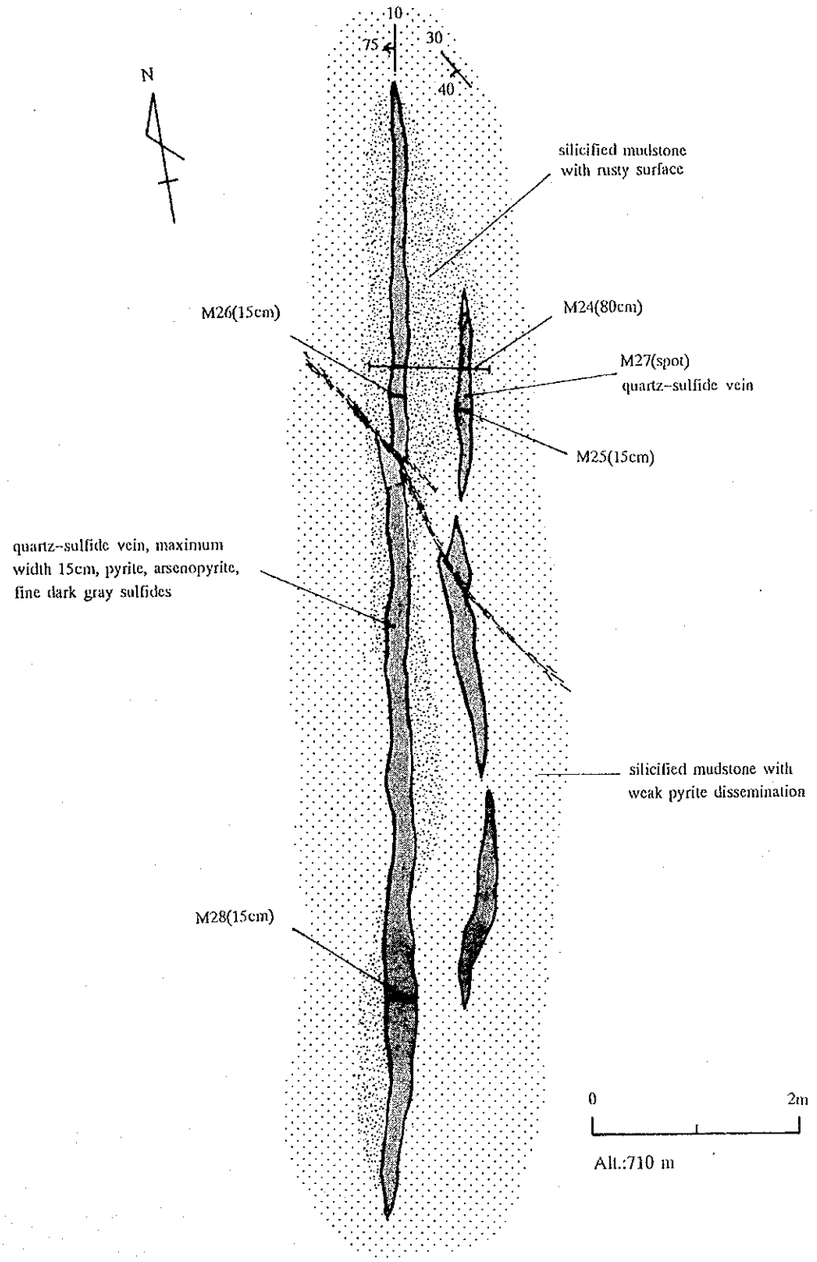
C: float: quartz vein with pyrite and arsenopyrite
M19 (5cm)

D: quartz-sulfide vein filling joint, 1 cm wide
M20 (1cm), M21 (1m, vein and wall rock)

E: quartz-sulfide (pyrite, arsenopyrite, fine dark gray sulfides) lens,
maximum 20cm × 1m, M22 (20cm), M23 (spot)

F: quartz-sulfide vein, 10m × 15 cm × 2,
see sketch IM-3 F

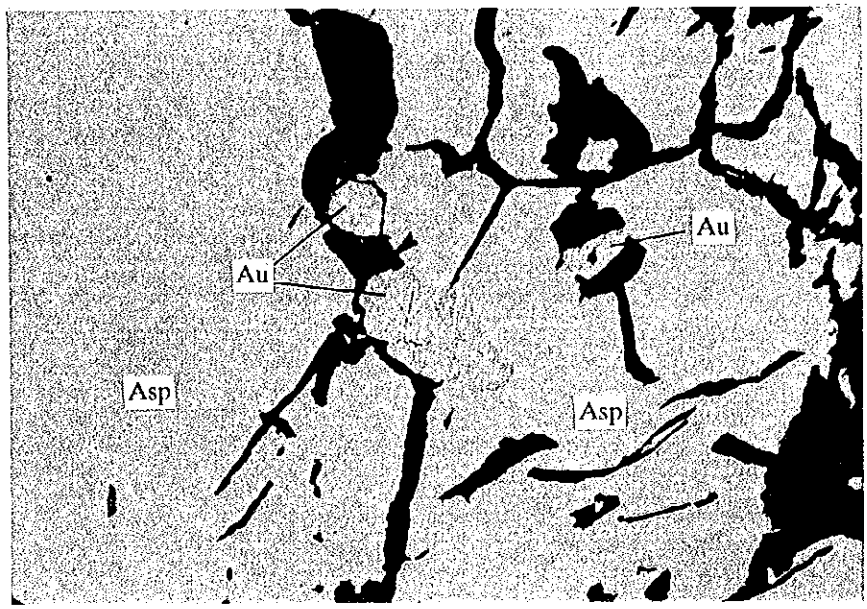
G: quartz-sulfide (pyrite, fine dark gray sulfides) vein, 5 cm wide
M29 (5cm)



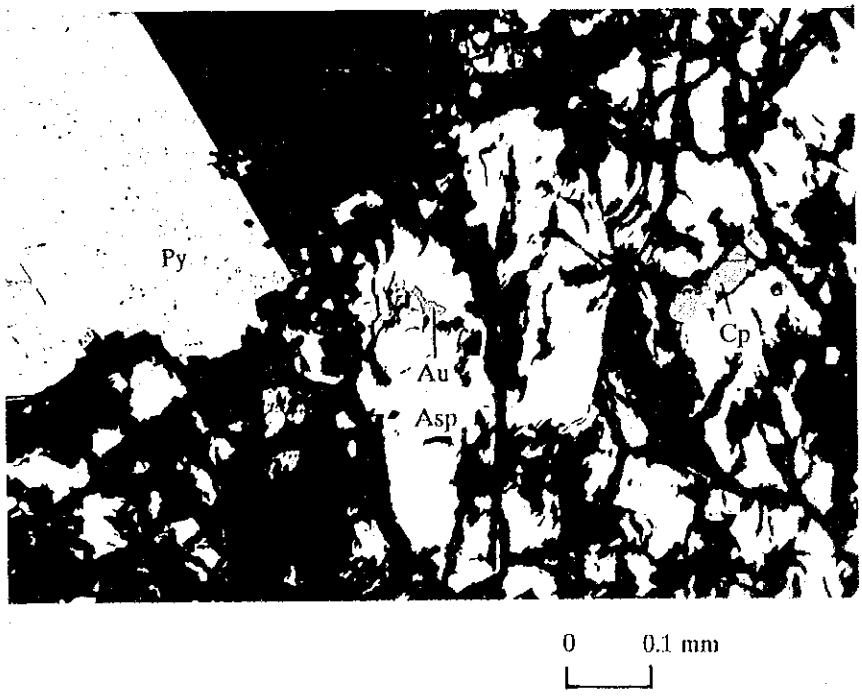
IM-3 F

Sketch 2

Fig. II-3-4 Occurrences of mineralization (2)



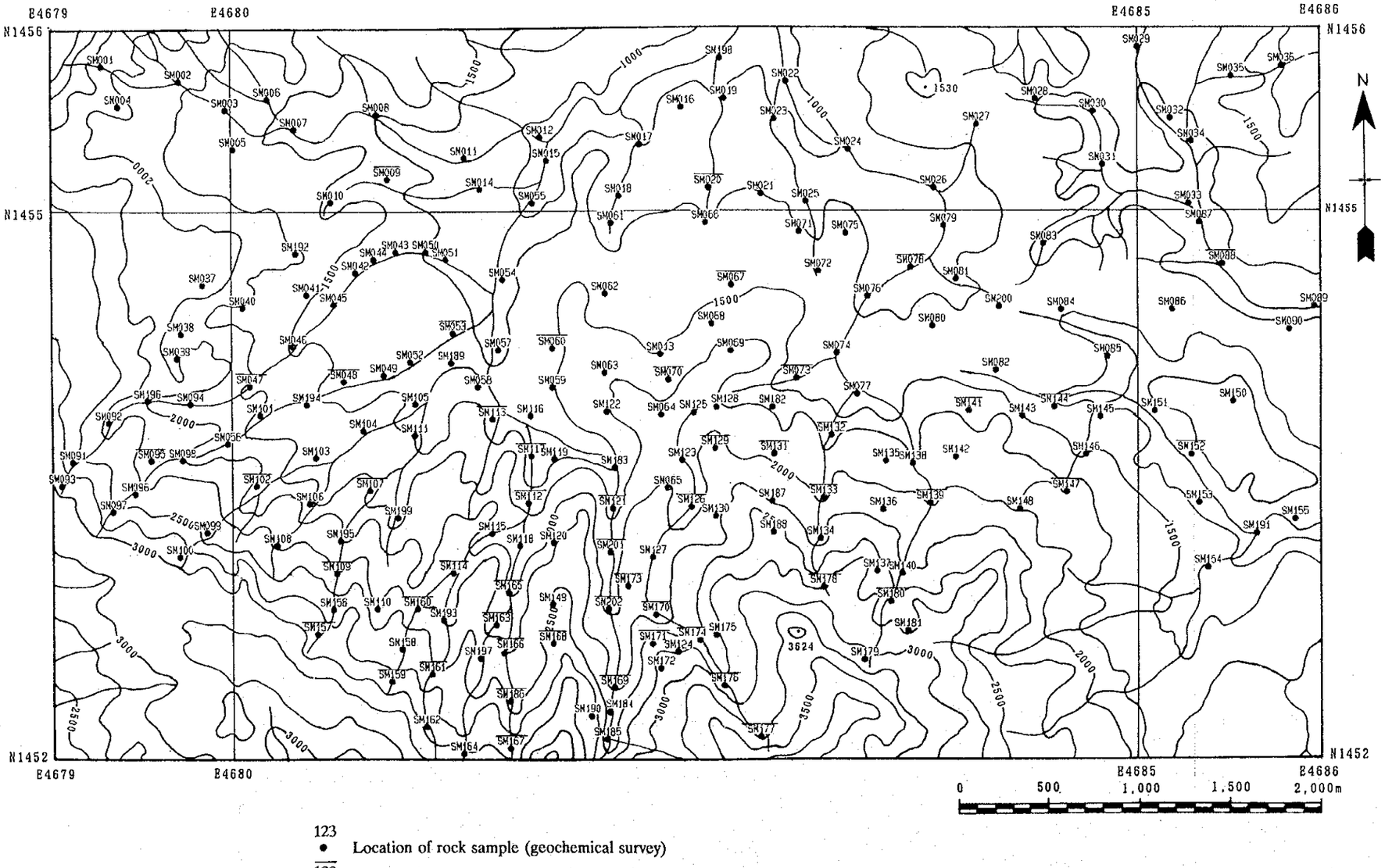
Native gold in arsenopyrite in M31



Native gold in arsenopyrite in M37

Au: Native gold
Asp: Arsenopyrite
Py: Pyrite
Cp: Calcopyrite

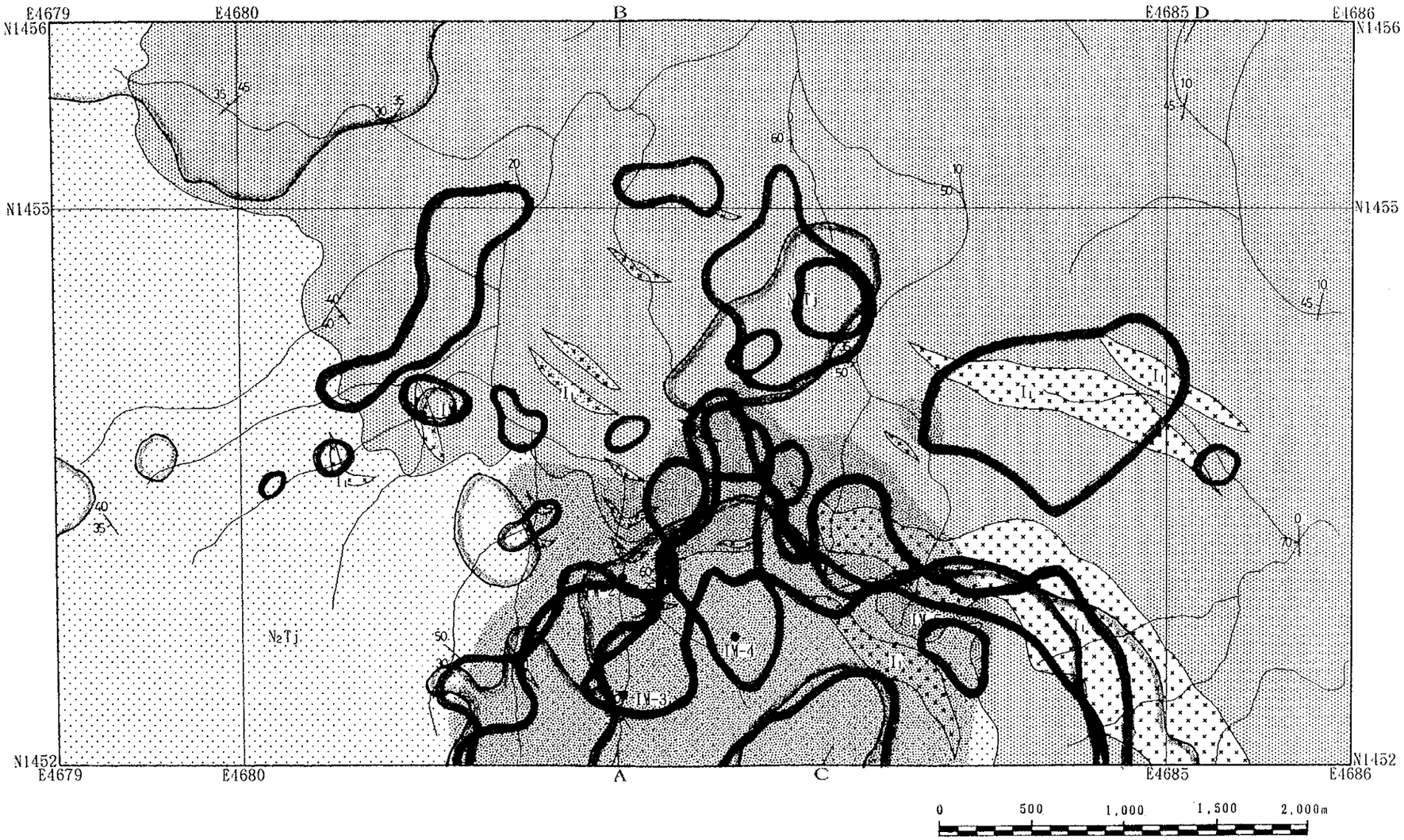
Fig. II -3-5 Occurrence of native gold



123
• Location of rock sample (geochemical survey)

123
• Location of rock samples (geochemical survey, X-ray diffraction analysis)

Fig. II-3-6 Location map of rock geochemical samples in S. Imbak Sub-area



Au > 5 ppb

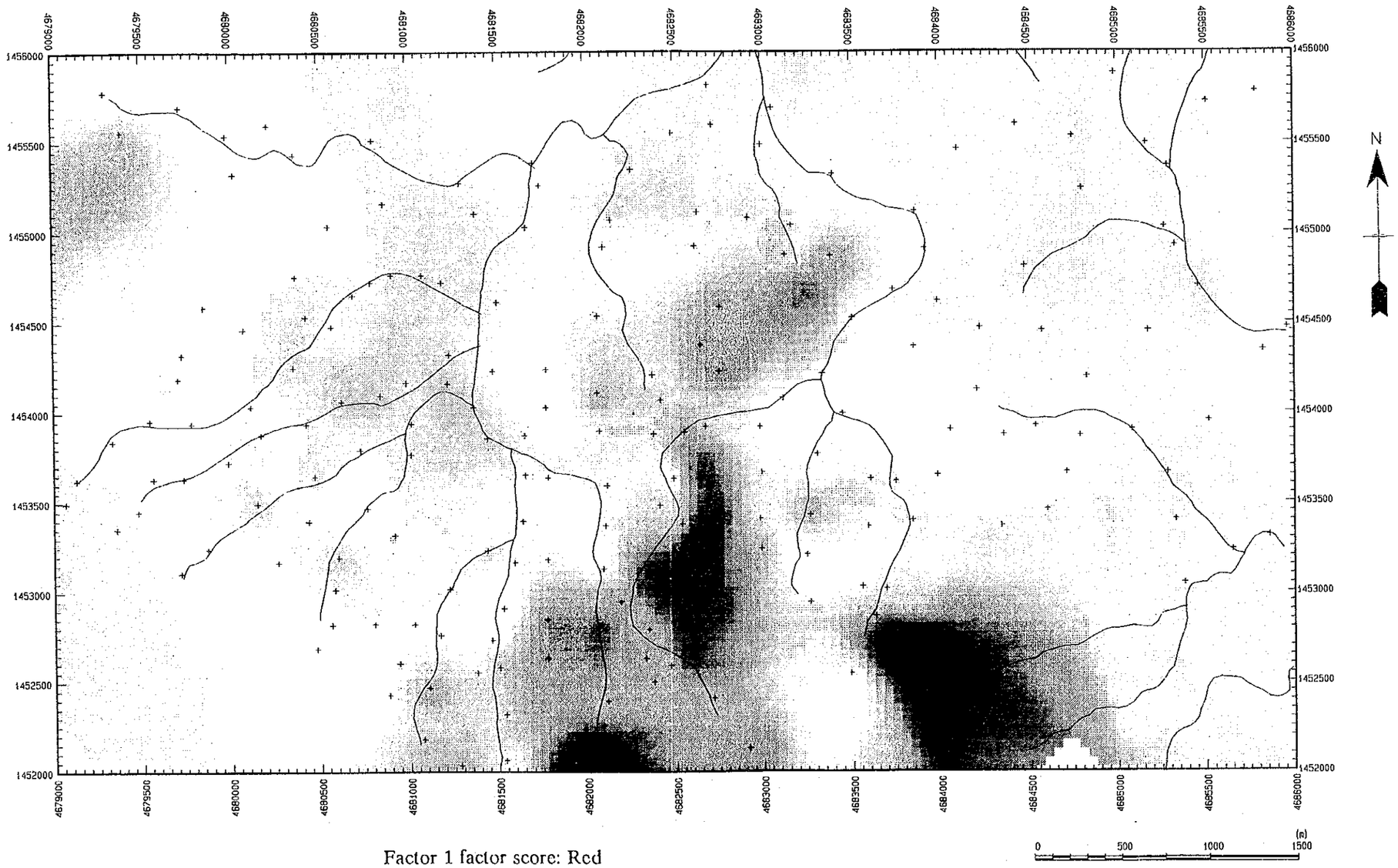
Cu > 33 ppm

Ag > 0.6 ppm

As > 23 ppm

S > 0.56 %

Fig. II-3-7 Distribution of geochemical anomalous zones in S. Imbak Sub-area



Factor 1 factor score: Red

Factor 2 factor score: Blue

Factor 5 factor score: Yellow

Fig. II-3-8 Distribution of factor scores in S. Imbak Sub-area

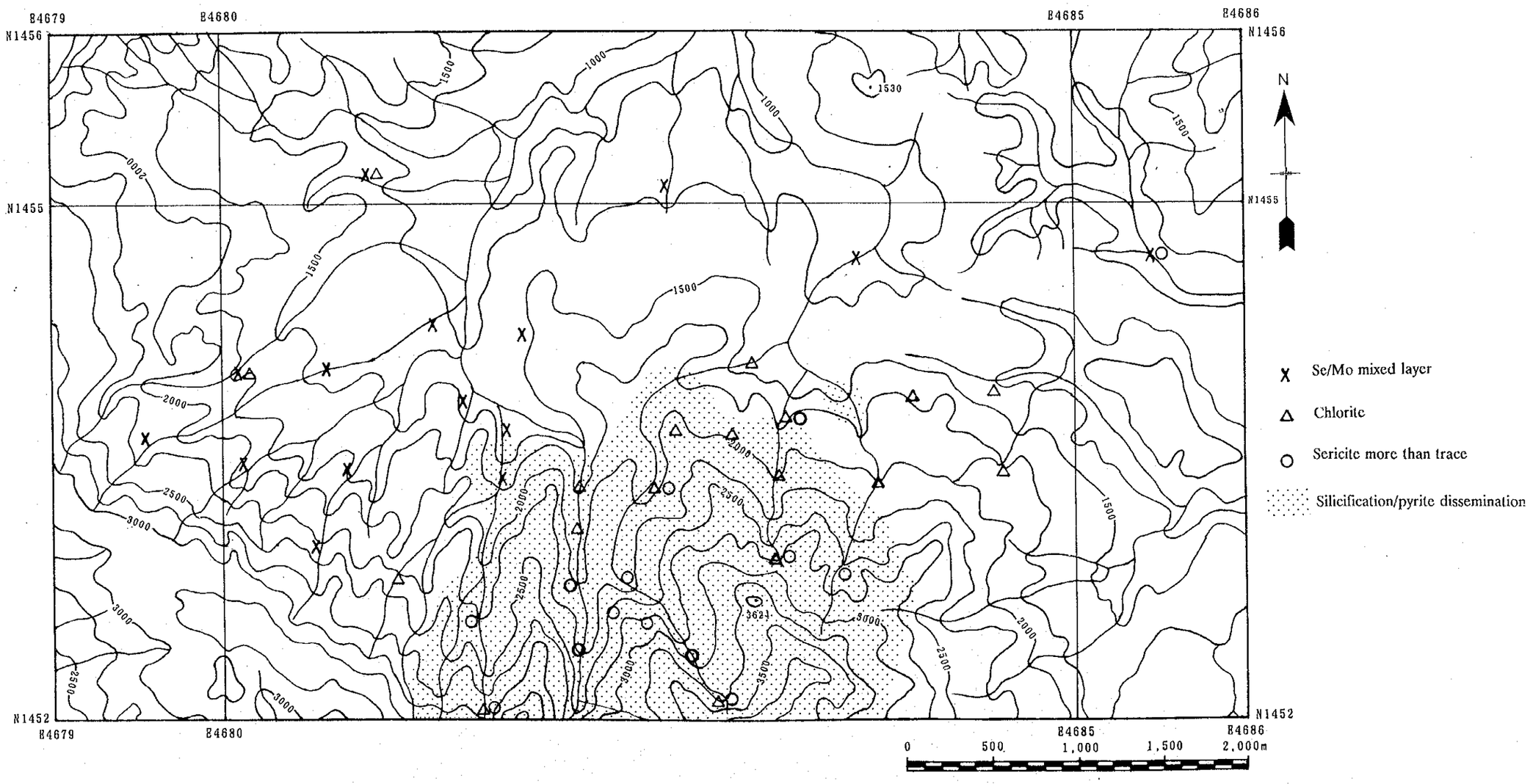


Fig. II-3-9 Results of X-ray diffraction analyses in S. Imbak Sub-area

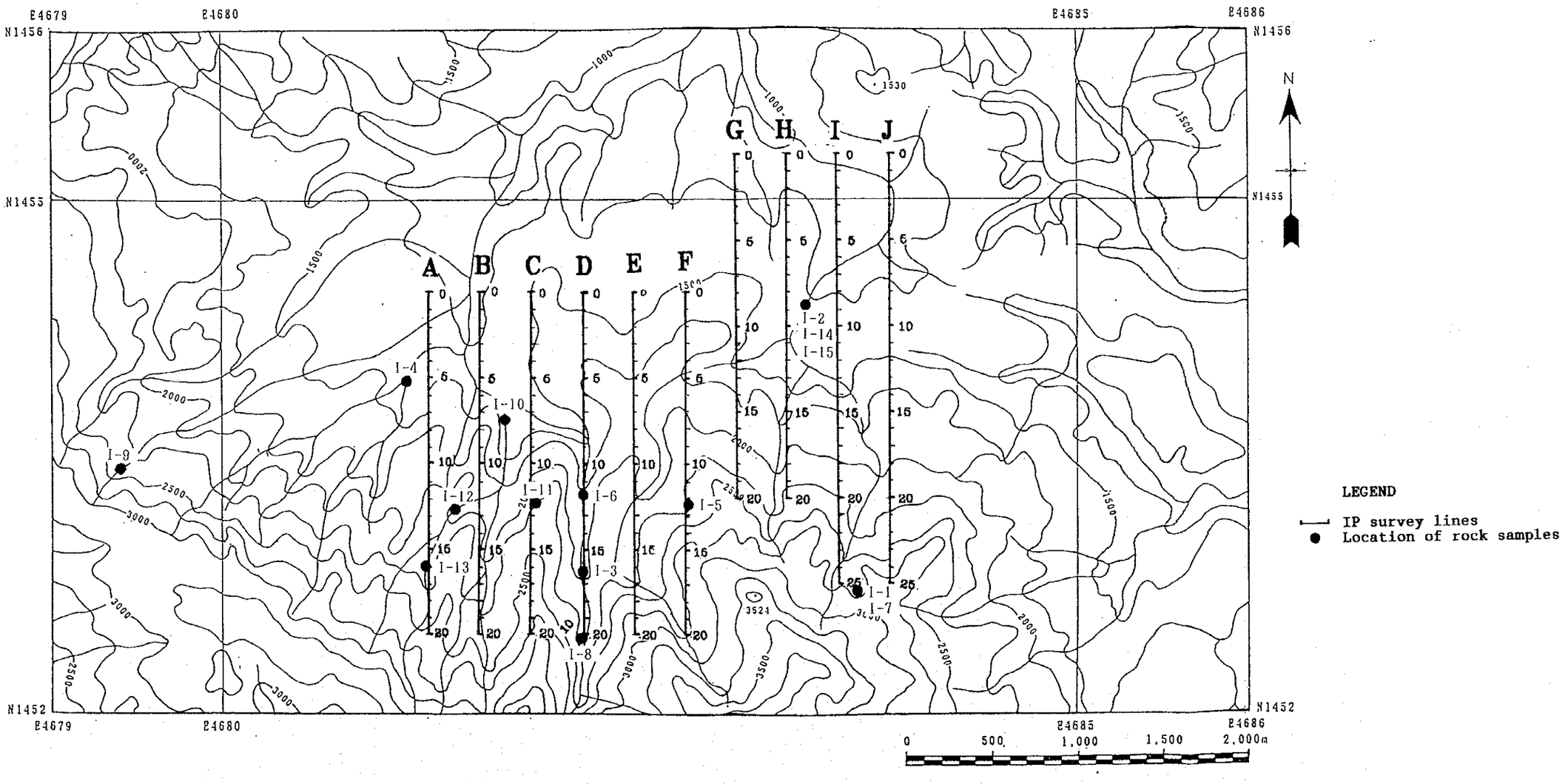


Fig. Ⅱ-3-10 Location of survey lines and rock sample

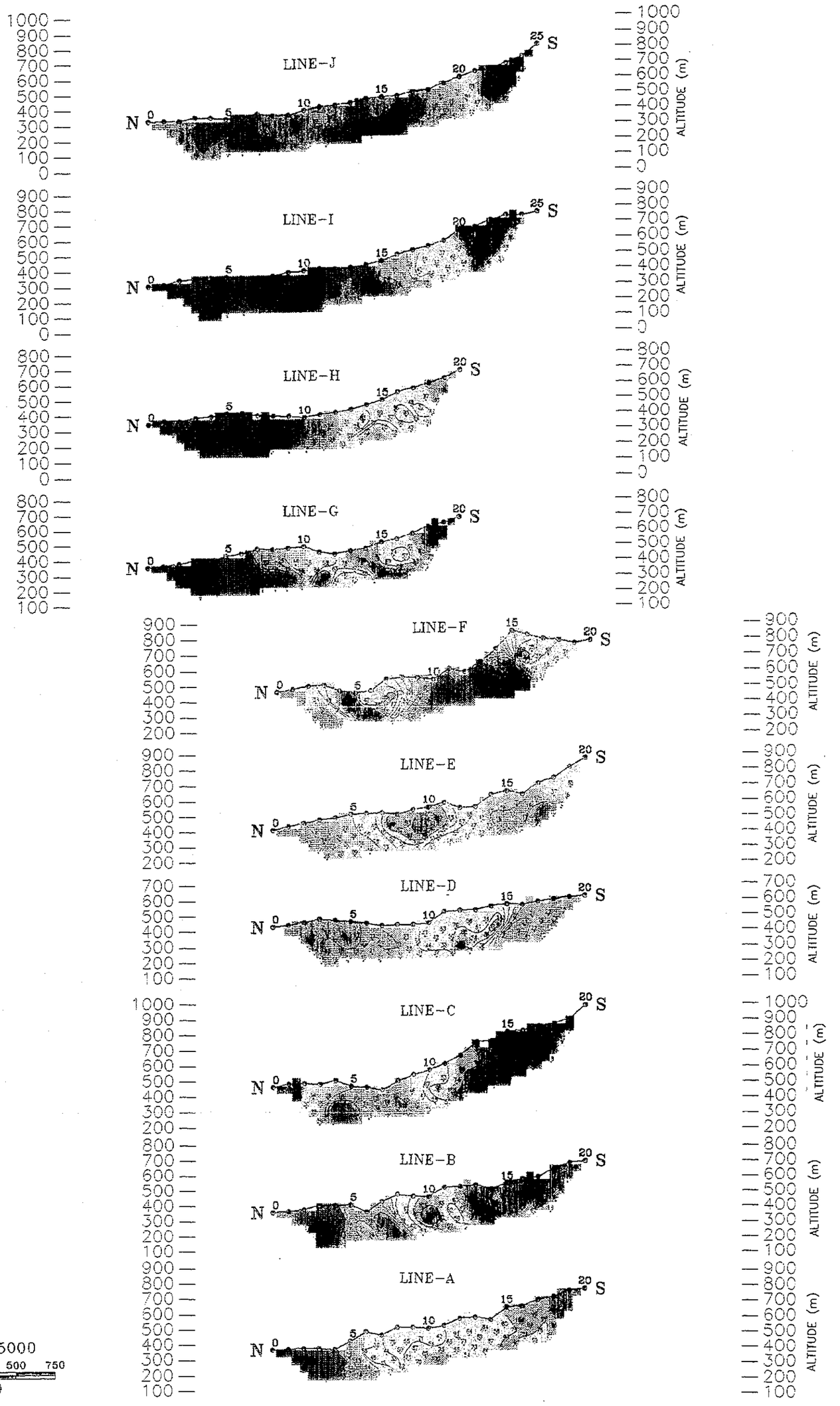


Fig. Ⅱ-3-11 Pseudo-section of apparent resistivity

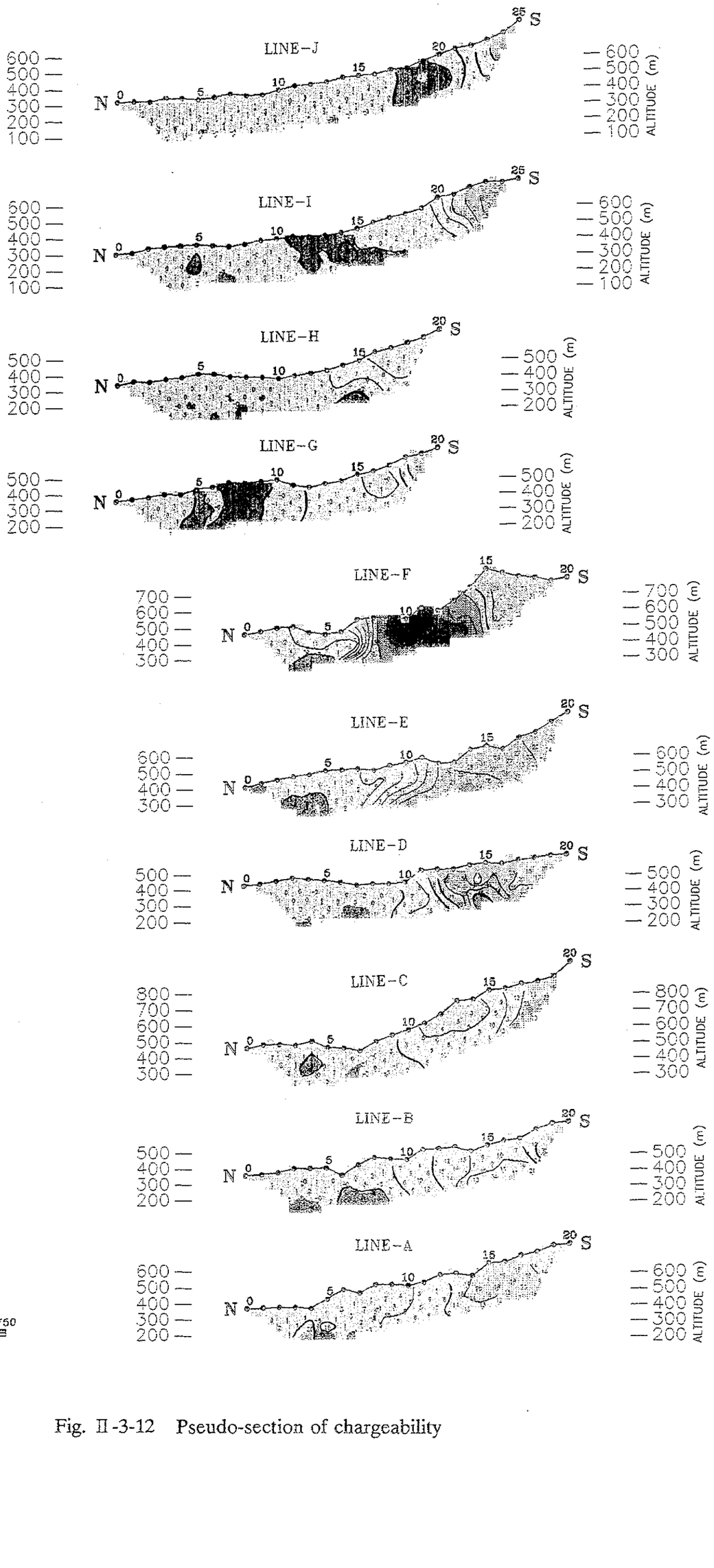


Fig. Ⅱ-3-12 Pseudo-section of chargeability

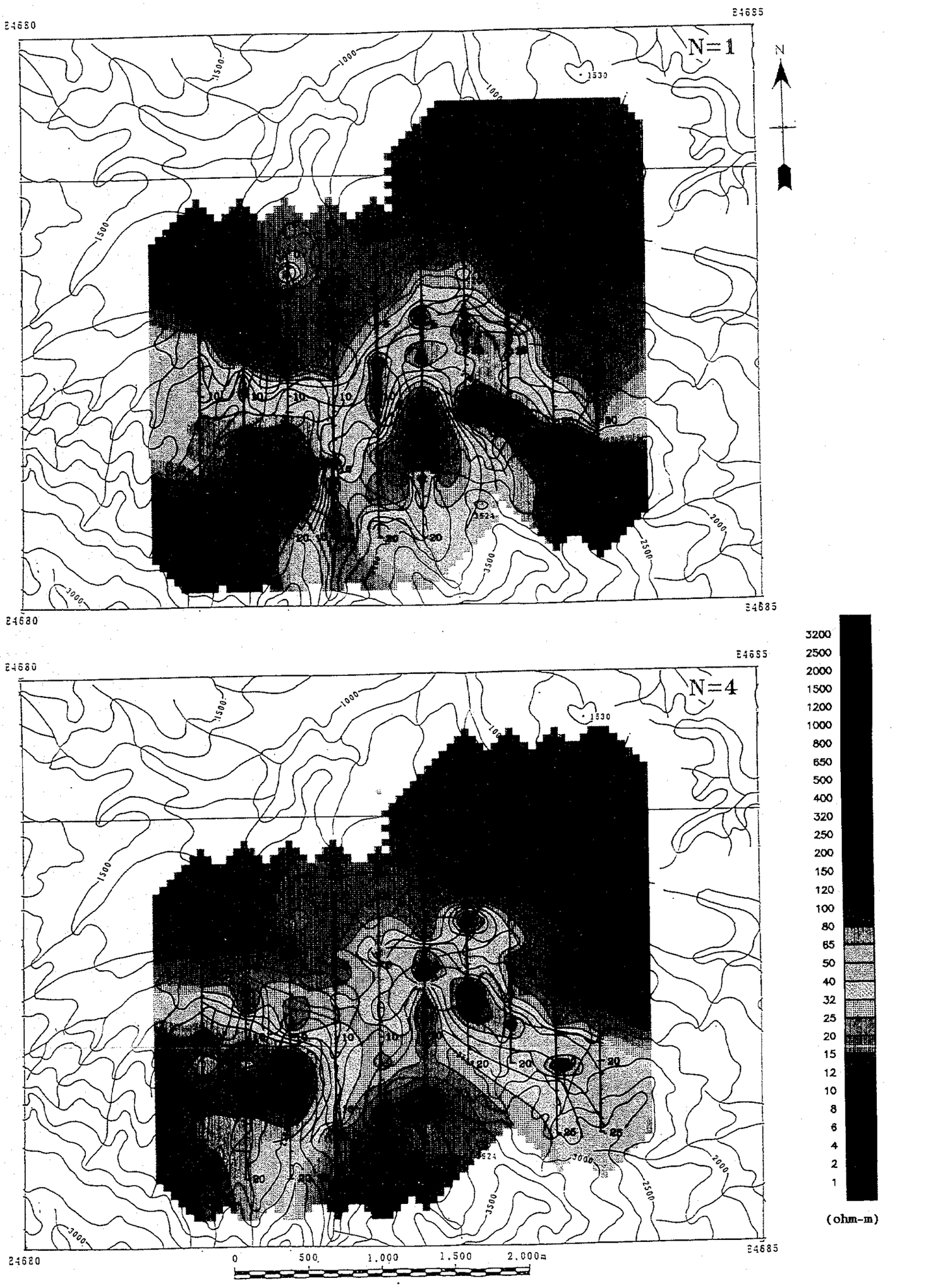


Fig. Ⅱ-3-13 Plan map of apparent resistivity (n=1 and n=4)

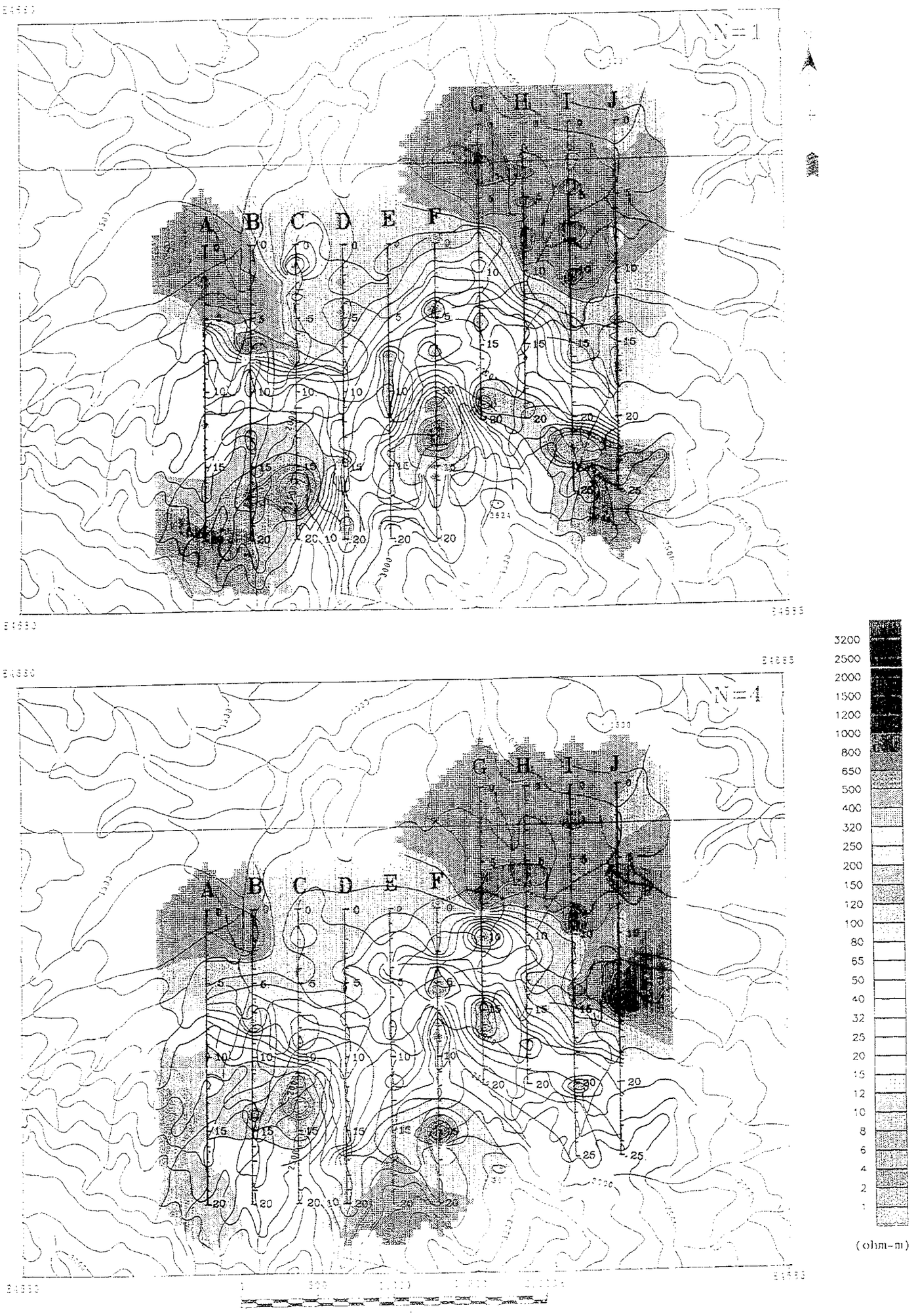


Fig. II-3-13 Plan map of apparent resistivity (n = 1 and n = 4)

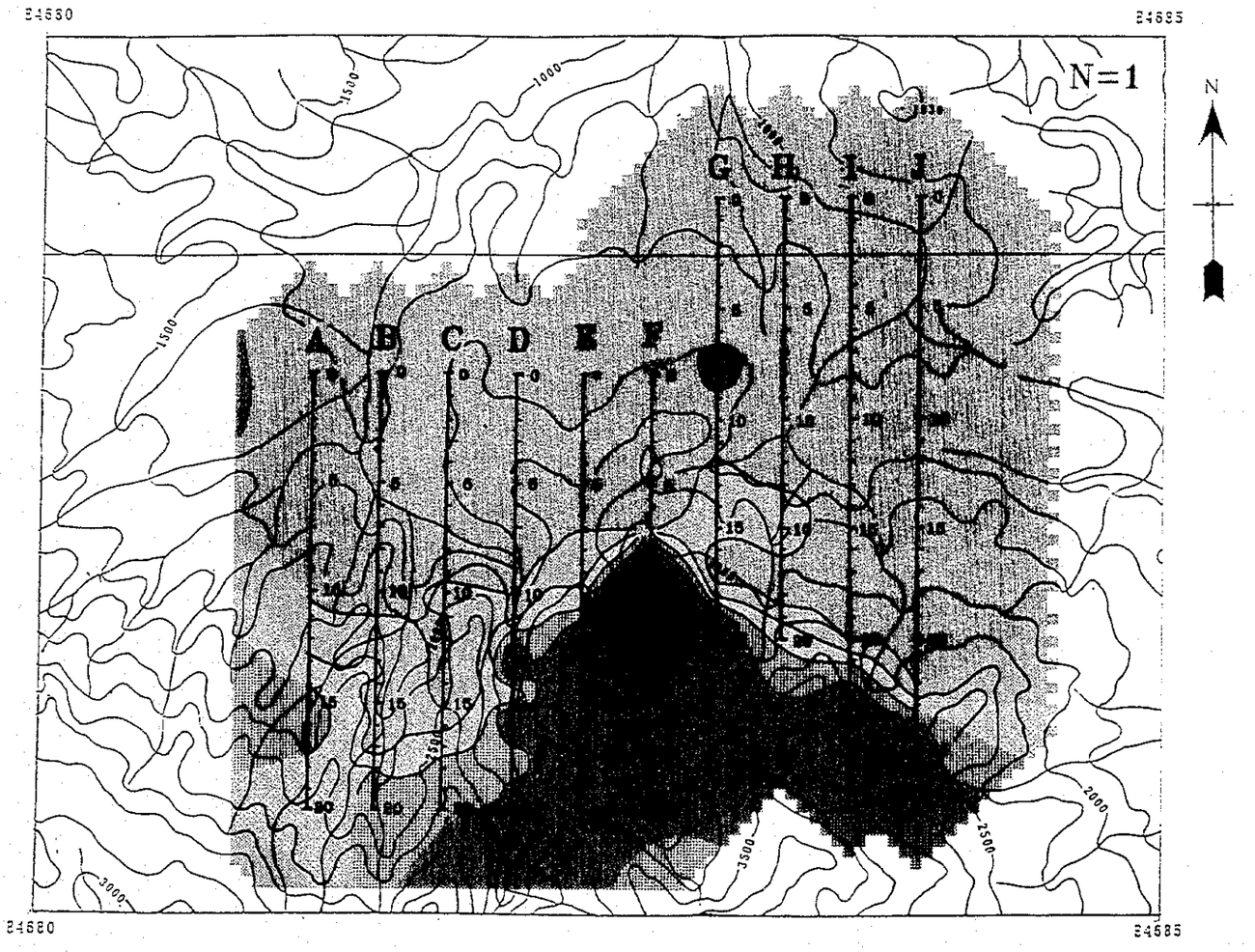
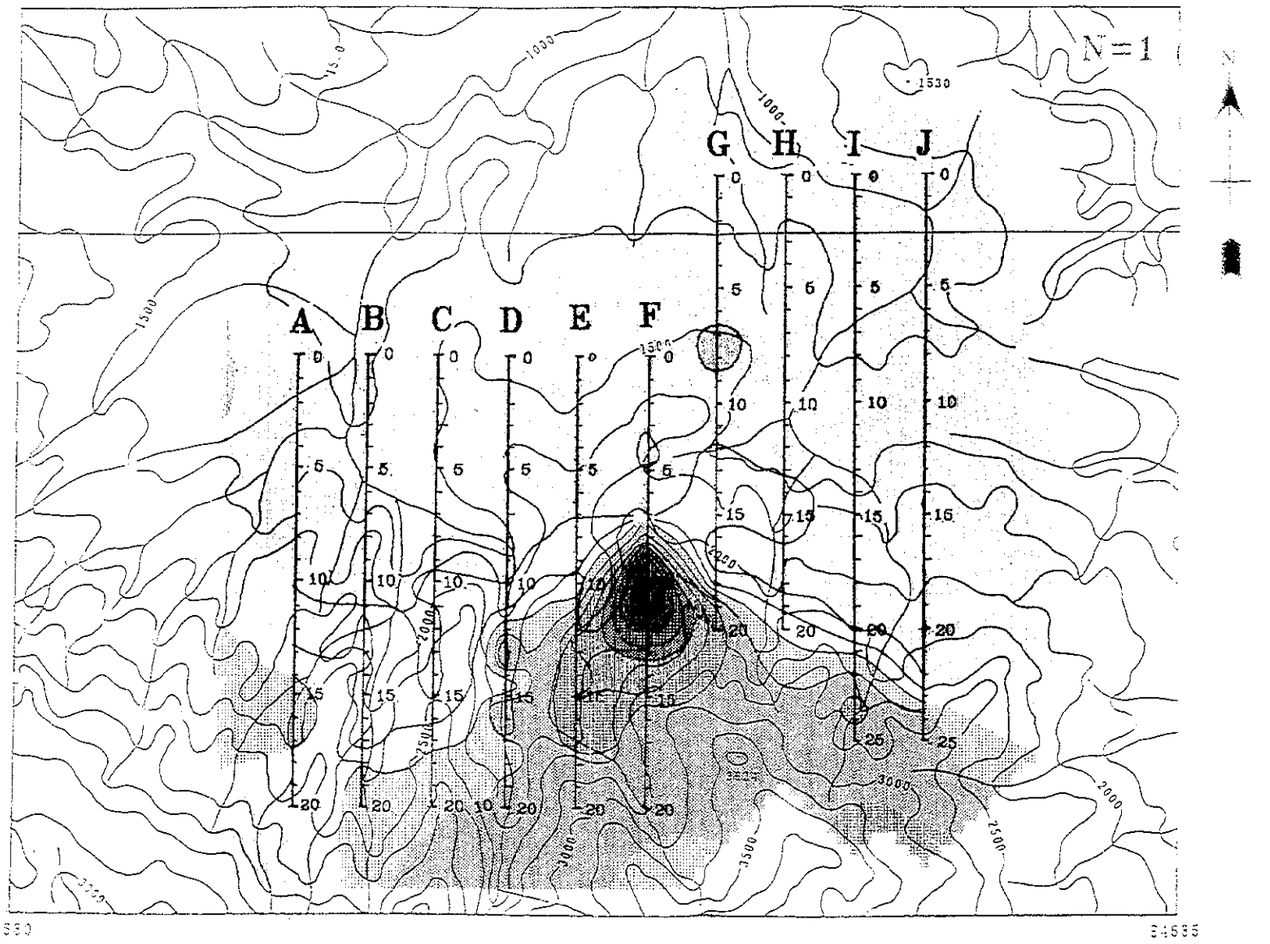


Fig. Ⅱ-3-14 Plan map of chargeability (n=1 and n=4)



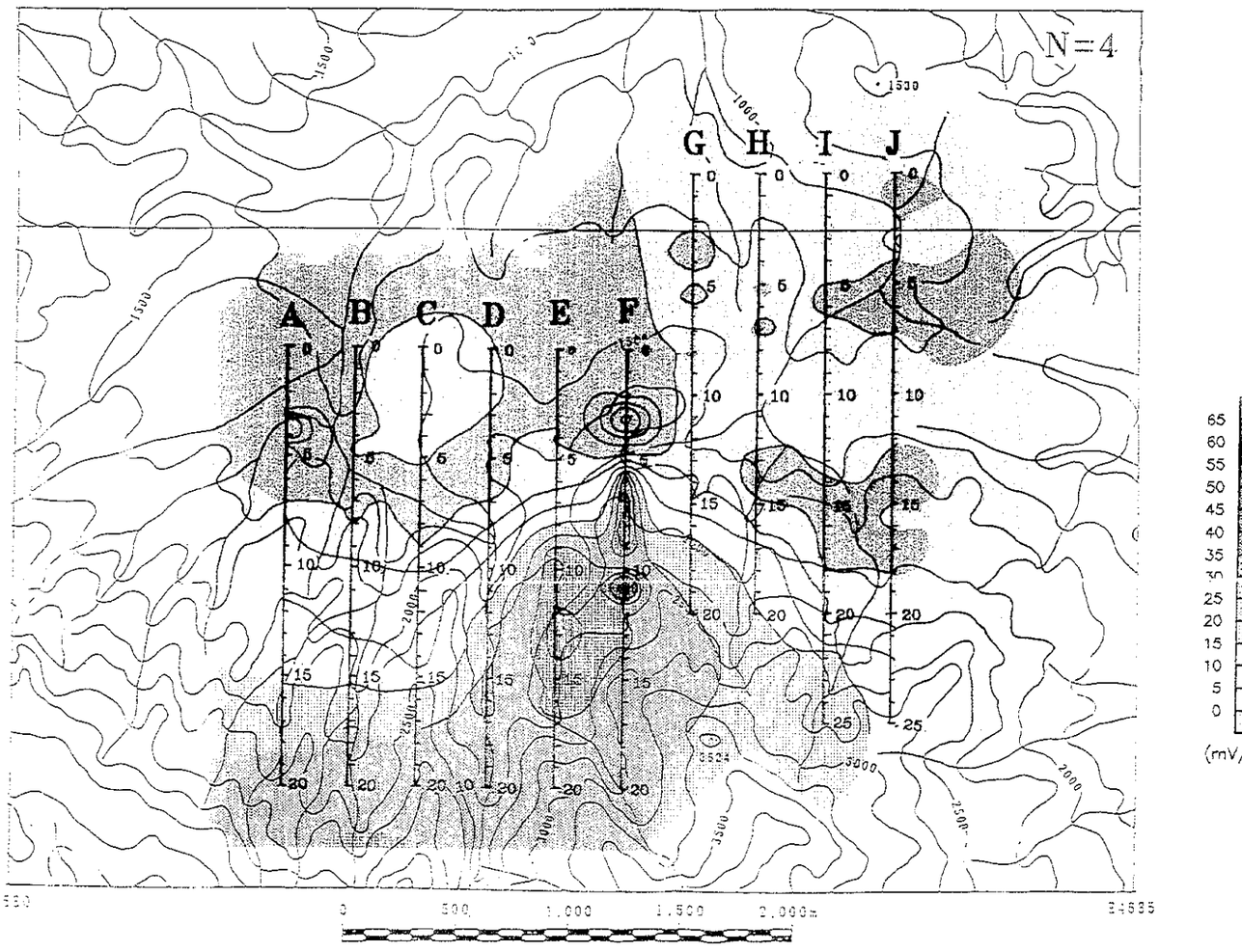


Fig. II -3-14 Plan map of chargeability (n=1 and n=4)

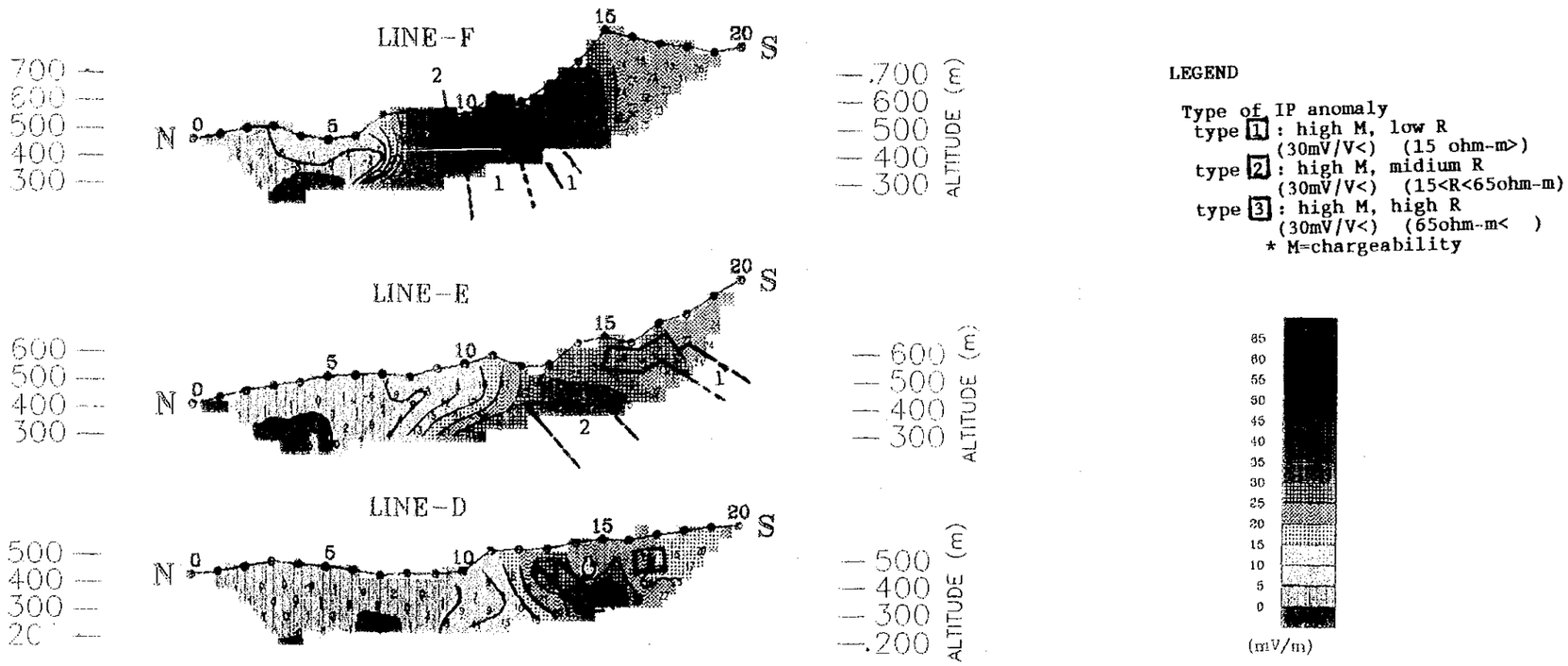


Fig. Ⅱ-3-15 Results of model simulation

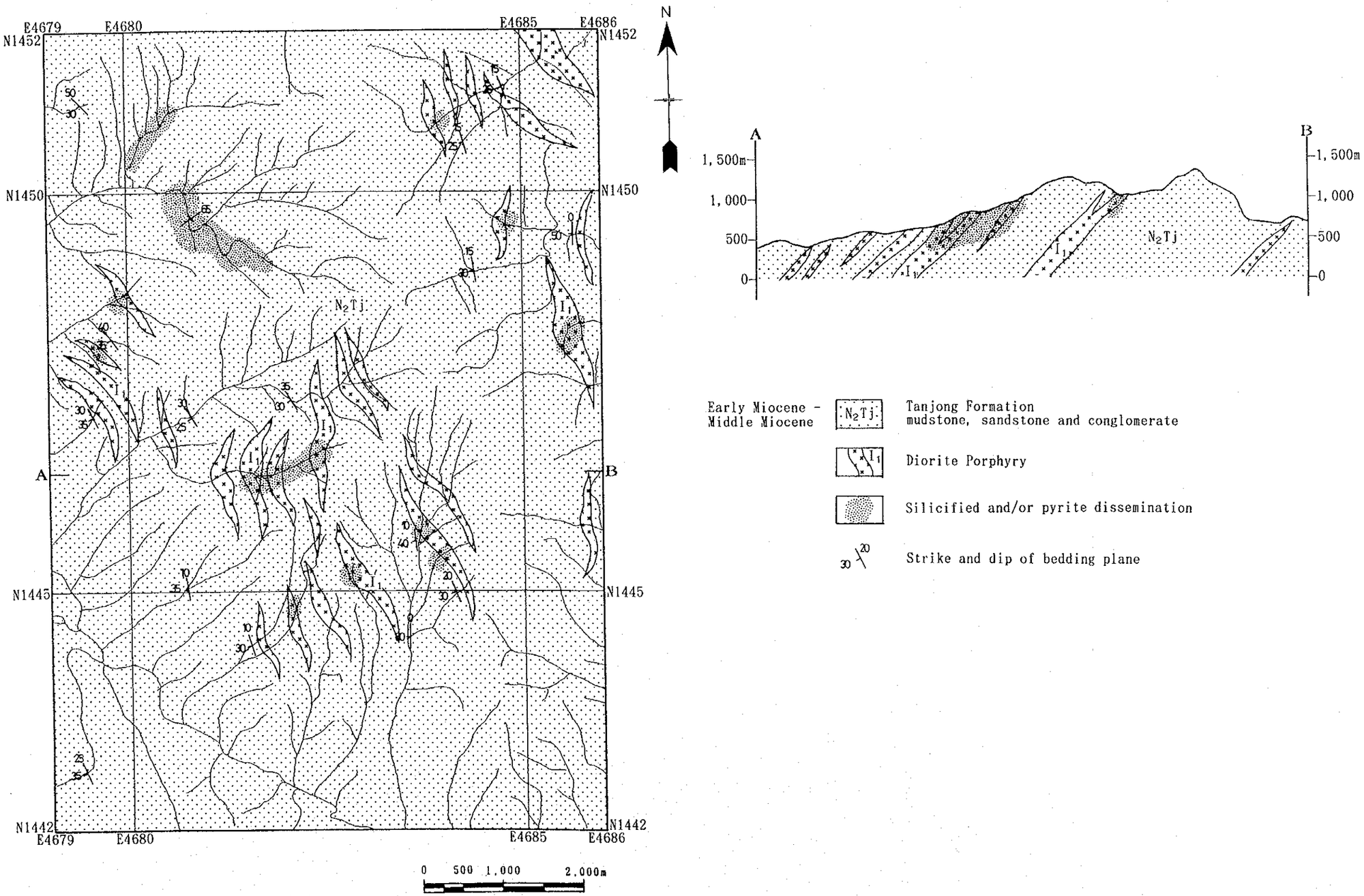
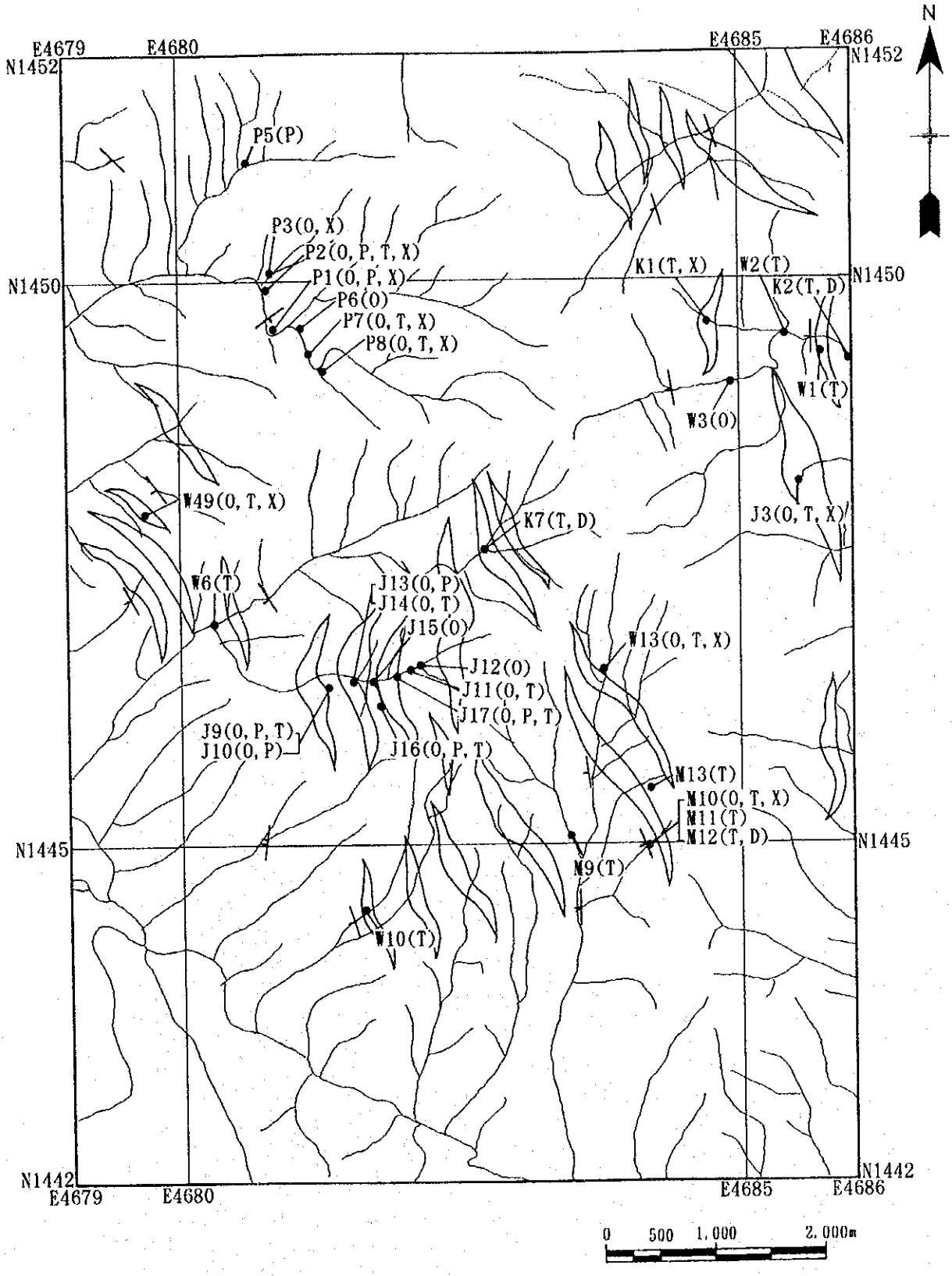


Fig. II-3-16 Geologic map and cross sections of S. Imbak Sub-Area (Gunong Kuli)



• Location of sample for laboratory studies
(0); Ore assaying
(P); Polished section
(T); Thin section
(X); X-ray diffraction analysis
(D); Dating and major element analysis

Fig. II-3-17 Location map of laboratory work samples in S. Imbak Sub-area (Gunong Kuli)

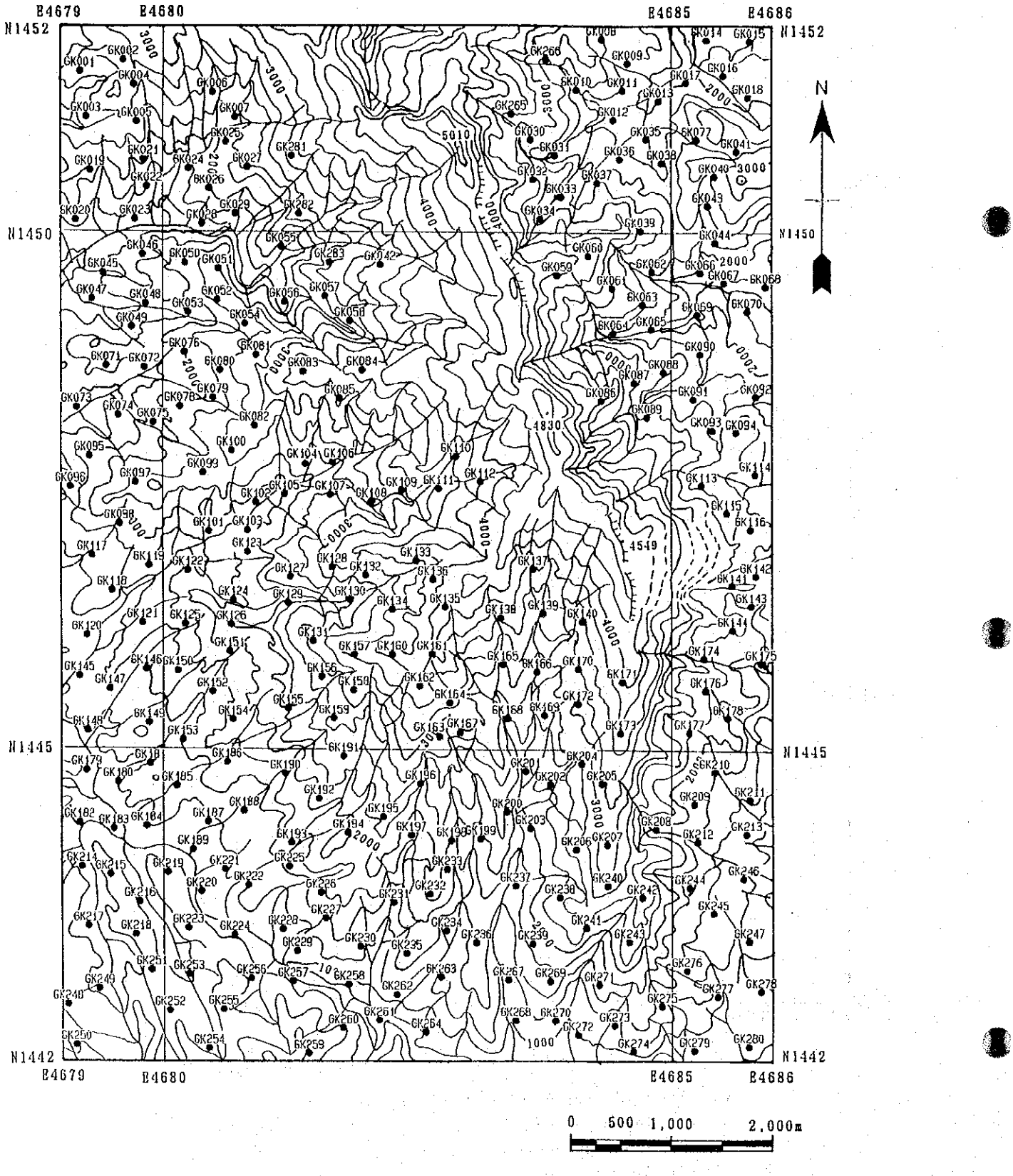


Fig. II -3-18 Location map of soil geochemical samples in S. Imbak Sub-area (Gunong Kuli)

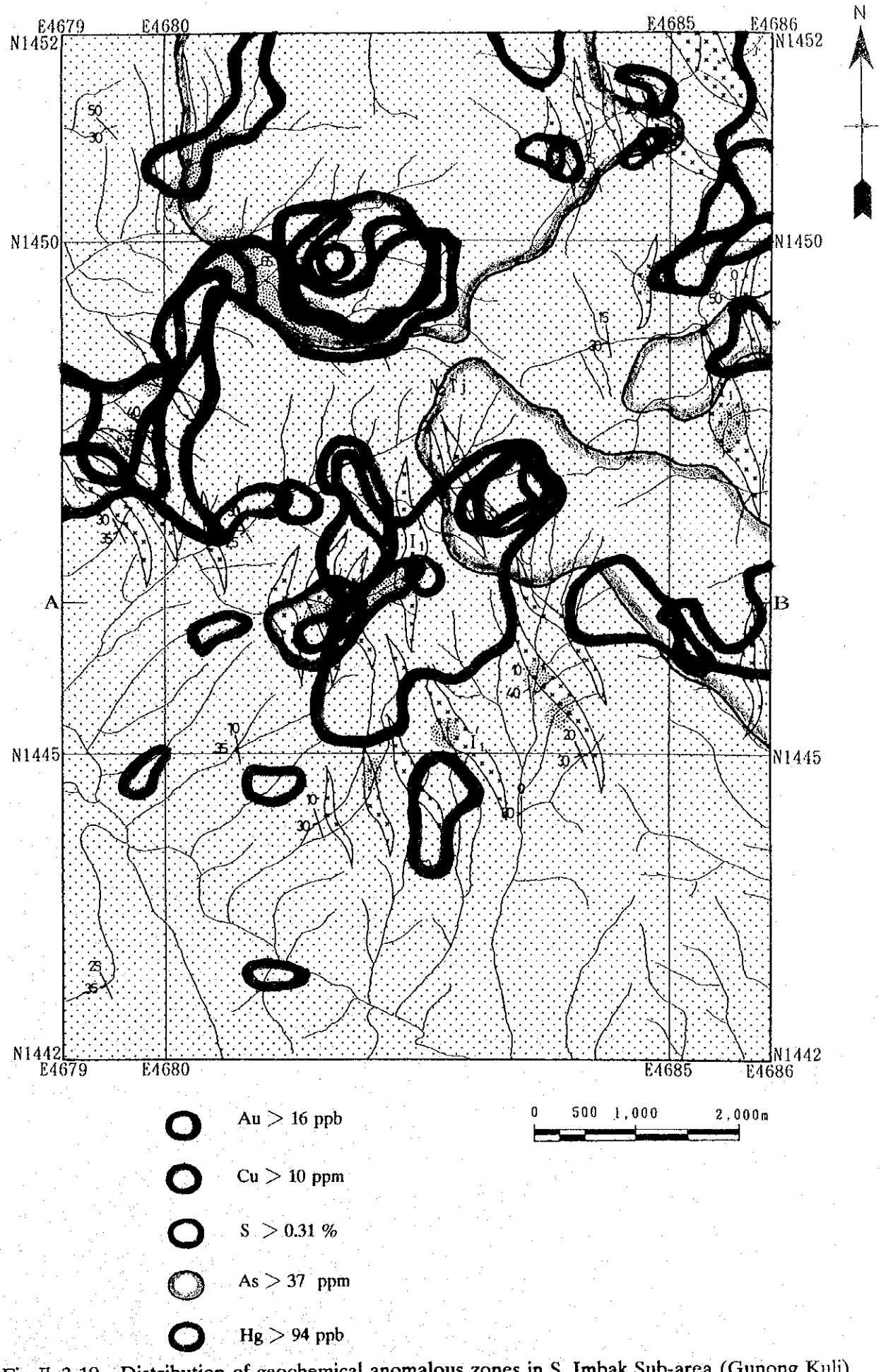
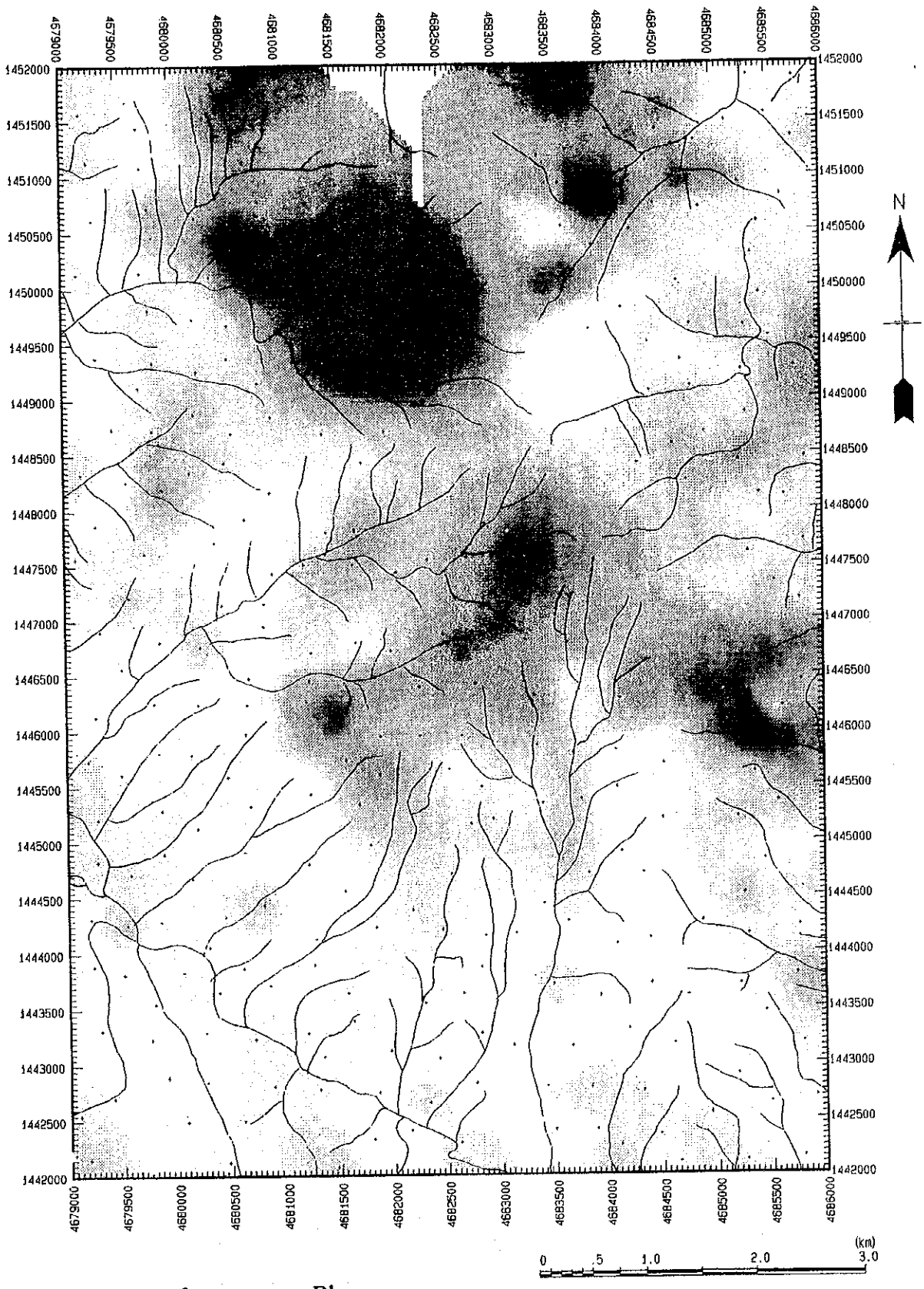


Fig. II -3-19 Distribution of geochemical anomalous zones in S. Imbak Sub-area (Gunong Kuli)



Factor 2 factor score: Blue

Factor 3 factor score: Yellow

Factor 6 factor score: Red

Fig. Ⅱ-3-20 Distribution of factor scores in S. Imbak Sub-area (Gunong Kuli)

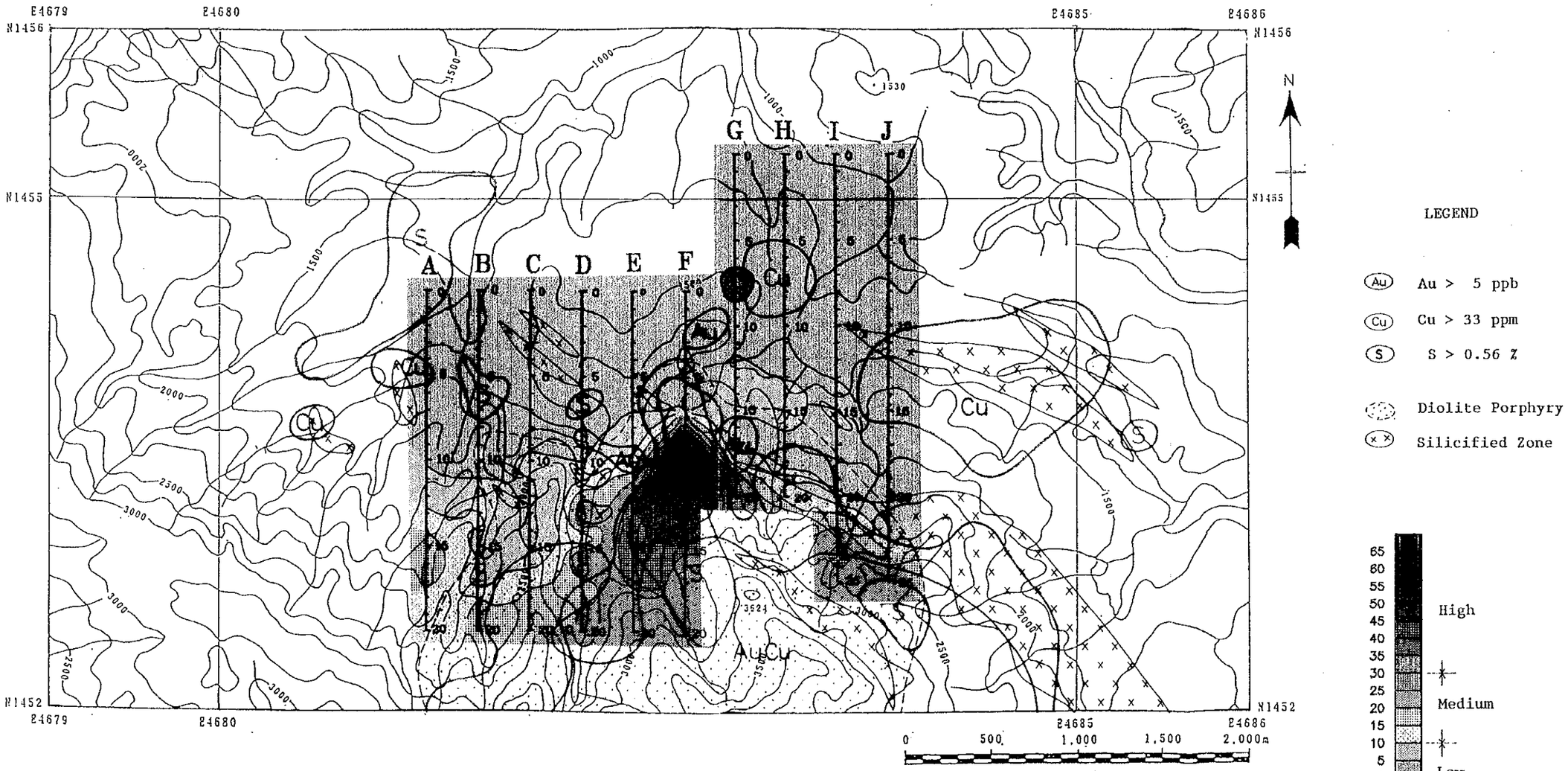


Fig. II-3-21 Compilation of survey resuilts in S.Imbak Sub-area

Table Ⅱ-3-1 Description of thin section of S. Imbak Sub-area (1)

Ser. No.	Sample No.	Coordinates		Rock Name	Texture	Phenocryst, crystal, & Rock Fragment							Groundmass, matrix, Accessory Minerals.								Secondary Minerals							Remarks
		N	E			Quartz	Plagioclase	K-feldspar	Hornblende	Biotite	Muscovite	Rock Fragment	Quartz	Plagioclase	Apatite	Sphene	Zircon	Tourmaline	Opaque minerals	Hematite	Quartz	Sericite	Calcite	Chlorite	Biolite	Kaolinite	Others	
1	K18	4682.09	1452.58	Sandstone	clastic	◎							○				+	·	○		○	○						silicified sandstone
2	K19	4682.68	1453.19	Diorite porphyry	porphyritic granoblastic				○					◎	·	+			+		·	+	○	+				altered diorite porphyry
3	K21	4682.72	1452.33	Sandstone	clastic	◎							○				·	·	+		+	○						weakly altered sandstone
4	K23	4682.04	1452.14	Sandstone	clastic	◎							○				·	·	+		○	○				·		weakly altered sandstone
5	K33	4682.05	1452.99	Mudstone	clastic	◎							○					·	○		○	◎						mudstone with sericite alteration
6	K34	4683.71	1452.71	Mudstone	clastic	◎	+						○				·	·	+	·	+	○		·		·	· *	* siderite, altered mudstone
7	K36	4683.71	1452.71	Mudstone	clastic	◎	+						○				·	·	+	·	+	◎		·				weakly altered mudstone
8	K44	4683.71	1452.71	Mudstone	clastic	◎	+						○				·	·	+		+	○	+	·		·	· *	* siderite, altered mudstone
9	K45	4681.60	1453.39	Diorite Porphyry	porphyritic intergranular		◎		○ *				◎		·				+		+	+	○	+				* only pseudomorph remains altered diorite porphyry
10	M 6	4683.74	1453.17	Mudstone	clastic	◎											·		+	+	○	◎		+		+		* albite, strongly altered mudstone
11	M 7	4683.63	1452.91	Mudstone	clastic	◎											·	·	+	·	○	◎		·		·		strongly altered mudstone
12	M 8	4683.55	1452.63	Diorite Porphyry	porphyritic intergranular		○		◎	+				◎	+				·		·	·	+	+			· *	* epidote, strongly altered, fine matrix
13	M21	4681.99	1452.32	Mudstone	clastic	◎							◎				·	·	·	·	+	○						sericified mudstone relatively weak alteration
14	M40	4682.67	1452.73	Mudstone	clastic	◎						· *	○				·	·	+	·		○						* mudstone, weak alteration with sericite

Table Ⅱ-3-1 Description of thin section of S. Imbak Sub-area (2)

Ser. No.	Sample No.	Coordinates N	Coordinates E	Rock Name	Texture	Phenocryst, crystal. & Rock Fragment: Quartz	Plagioclase	K-feldspar	Hornblende	Biotite	Muscovite	Rock Fragment	Groundmass, matrix, Accessory Minerals: Quartz	Plagioclase	Apatite	Sphene	Zircon	Tourmaline	Opaque mineral	Hematite	Secondary Minerals: Quartz	Sericite	Calcite	Chlorite	Biotite	Kaolinite	Others	Remarks
15	M41	4680.97	1453.80	Diorite Porphyry	porphyritic intergranular		◎		○ *					◎	·				+		+		○	+	·			* only pseudomorph remains weakly altered
16	M42	4680.97	1453.89	Mudstone	clastic	◎	·						◎				·	·	+			○	+	+				
17	W 4	4685.89	1454.45	Sandstone	clastic	◎	○	·			·	+ *	+	+	·		·	·			+	·	+	+		·		* mudstone) andesite) tuff fresh arkose sandstone

◎: abundant ○: common +: a little ·: rare

Table Ⅱ-3-2 Description of polished sections of S. Imbak Sub-area

Ser. No.	Sample No.	Coordinates N	Coordinates E	Descriptions	Ore minerals: Chalcopyrite	Bornite	Chalcocite	Covellite	Sphalerite	Galena	Arsenopyrite	Pyrite	Colloform Pyrite	Native Gold	Acanthite-Argentite	Magnetite	Hematite	Goethite	Gangue minerals	Remarks
1	K20	4682.67	1452.73	quartz-sulfide vein	·			·			◎	○							◎ q	cpy. occurs along fracture of apy.
2	K29	4682.05	1452.99	sili. sandstone with py. dissm.					·			○							◎	float
3	K40	4683.71	1452.71	mudstone with py. dissm.	·				·			+							◎ q	
4	M 7	4683.63	1452.91	mudstone with py. dissm.	·				·		+	+	○						◎ q	float
5	M16	4681.99	1452.32	quartz-sulfide vein	·						◎	+	○						◎ q	
6	M19	4681.99	1452.32	quartz-sulfide vein	·						◎	+	· ○						◎ q	float
7	M20	4681.99	1452.32	quartz-sulfide vein	·				·		· +	·	·						◎ q	
8	M22	4681.99	1452.32	quartz-sulfide lens	·				·		◎	○	○						◎ q	
9	M23	4681.99	1452.32	quartz-sulfide lens							+	◎							◎ q	
10	M25	4681.99	1452.32	quartz-sulfide vein	·															
11	M26	4681.99	1452.32	quartz-sulfide vein	·			·	·		◎	○	+						◎ q	
12	M27	4681.99	1452.32	quartz-sulfide vein	·				·	·	◎	○	·						○ q	
13	M31	4682.67	1452.73	quartz-sulfide vein	·				·		◎	○	○	·	·				· q	float
14	M34	4682.67	1452.73	quartz-sulfide vein	·			·	·		·	○	·						◎ q	
15	M36	4682.67	1452.73	quartz-sulfide vein	·	·		·	·		◎	·	·		·				+ q	
16	M37	4682.67	1452.73	quartz-sulfide vein	·			·	·		○	◎	·	·					· q	
17	M38	4682.67	1452.73	quartz-sulfide vein	+			·	·		◎	○	+						○ q	
18	M39	4682.67	1452.73	quartz-sulfide vein	·	·		·			+	◎							· q	
19	W43	4680.97	1453.89	quartz-sulfide vein	·				○	+	·	◎	+						· q	

◎: abundant ○: common +: a little ·: rare q : Quartz

Table Ⅱ-3-3 Results of X-ray diffraction analyses in S. Imbak Sub-area (1)

Ser. No.	Sample No.	Coordinates N	Coordinates E	Description	Identified Minerals: Se/Mo mixed layer	Kaolinit	Sericite	Quartz	Plagioclase	K-feldspar	Amphibole	Pyrite	Hematite	Chalcopyrite	Arsenopyrite	Goethite	Remarks
1	K 5	4682.44	1453.82	argillized diorite porphyry				·	◎	◎					·	·	
2	K18	4682.09	1452.58	silicified sandstone with py. dissm.				·	◎				+				float, Tourmaline+
3	K34	4683.71	1452.71	mudstone with py. dissm.	+	+	·	+	◎	+			·				near qz-sulf. vein
4	K36	4683.71	1452.71	mudstone with py. dissm.			+	·	◎	+			·				near qz-sulf. vein
5	K42	4683.71	1452.71	mudstone with py. dissm.			+	+	◎	+			·				near qz-sulf. vein
6	M 6	4683.74	1453.17	silicified mudstone with py. dissm.		+	·	+	◎	+							near dio. porphy.
7	M 7	4683.63	1452.91	silicified mudstone with py. dissm.		·		+	◎				·	·			near dio. porphy.
8	M18	4681.99	1452.32	light gray argillized zone			·	+	◎								
9	M21	4681.99	1452.32	silicified mudstone with py. dissm.				+	◎								near qz-sulf. vein
10	M24	4681,99	1452.32	silicified mudstone with py. dissm.	○			+	◎				+				near qz-sulf. vein
11	M33	4682.67	1452.73	oxidized quartz-sulfide vein	+			·	◎								
12	M35	4682.67	1452.73	silicified mudstone with py. dissm.				+	◎								near qz-sulf. vein
13	M40	4682.67	1452.73	silicified mudstone with py. dissm.				+	◎								near qz-sulf. vein
14	M42	4680.97	1453.89	mudstone with py. dissm.	+		·	·	◎	+							near dio. porphy.
15	M43	4680.97	1453.89	argillized diorite porphyry	+	○	·		◎					+			Apatite +
16	M44	4680.97	1453.89	brecciated quartz vein	·		·		◎								
17	M45	4680.97	1453.89	argillized diorite porphyry	○		·	+	◎								
18	M47	4680.97	1453.89	argillized diorite porphyry	+				◎	◎							

◎: abundant ○: common +: a little ·: rare

Table Ⅱ-3-3 Results of X-ray diffraction analyses in S. Imbak Sub-area (2)

Ser. No.	Sample No.	Coordinates N	Coordinates E	Description	Identified Minerals: Se/Mo mixed layer	Kaolinite	Chlorite	Sericite	Quartz	Plagioclase	K-feldspar	Amphibole	Pyrite	Hematite	Chalcopyrite	Arsenopyrite	Remarks
1	SM009	4680.87	1455.16	gray mudstone	+	○	·	·	◎	+			·				
2	SM020	4682.64	1455.11	dark gray mudtone	+	+		·	◎	◎			·				
3	SM047	4680.11	1454.04	gray, fine mudstone	·	+	·	·	◎	+							
4	SM048	4680.63	1454.06	gray mudstone	+	+		·	◎	+			·				
5	SM053	4681.23	1454.32	gray mudstone	+	+		·	◎	+			·				Apatite ○
6	SM060	4681.78	1454.24	argillized diorite porphyry	+	·		·	◎	○	+						
7	SM067	4682.76	1454.59	dark gray mudstone				·	◎								
8	SM070	4682.42	1454.07	light gray sandstone				·	◎								Tourmaline ○
9	SM073	4683.12	1454.08	dark gray mudstone		○	·	·	◎	+			·				
10	SM078	4683.74	1454.68	dark gray mudstone	+	+		·	◎	+							
11	SM088	4685.46	1454.70	dark gray mudstone	○	○		+	◎	+							
12	SM095	4679.56	1453.63	gray sandstone	·	·		·	◎	○							
13	SM102	4680.15	1453.49	gray sandstone	·	+		·	◎	·							
14	SM107	4680.77	1453.47	dark gray sandstone	+	·		·	◎	○							
15	SM109	4680.58	1453.02	sandstone with rusty surface	·	·		·	◎	○							
16	SM112	4681.64	1453.40	silicified sandstone	+				◎	◎					·		Epidote +
17	SM113	4681.44	1453.86	gray mudstone	+	+		·	◎	+			·				
18	SM114	4681.23	1453.02	gray sandstone		+		·	◎	○							
19	SM117	4681.66	1453.66	gray, cataclastic sandstone	+	·			◎	+							Apatite ○
20	SM121	4682.11	1453.37	dark gray mudstone		+	·	·	◎	○							

◎: abundant ○: common +: a little ·: rare

Table Ⅱ-3-3 Results of X-ray diffraction analyses in S. Imbak Sub-area (3)

Ser. No.	Sample No.	Coordinates N	Coordinates E	Description	Identified Minerals: Sc/Mo mixed layer	Kaolinite	Chlorite	Sericite	Quartz	Plagioclase	K-feldspar	Amphibole	Pyrite	Hematite	Chalcopyrite	Arsenopyrite	Remarks
21	SM126	4682.54	1453.38	mudstone with weak py. dissm.		○	·	+	◎	+			+				
22	SM129	4682.67	1453.70	mudstone with weak py. dissm.		○	·		◎				○		·		
23	SM131	4682.99	1453.67	dark gray mudstone		+	·	·	◎	○			·				
24	SM132	4683.31	1453.77	mudstone with weak py. dissm.		○	·	+	◎	+							
25	SM133	4683.27	1453.43	mudstone with weak py. dissm.		○	·		◎	+							
26	SM139	4683.85	1453.40	dark gray mudstone		○	·	·	◎	○			·	·			
27	SM141	4684.05	1453.90	diorite porphyry			+		+	○	○	·					
28	SM144	4684.53	1453.92	diorite porphyry			·		○	○	○	+	·				
29	SM147	4684.60	1453.46	dark gray mudstone	○		·	·	◎	+							
30	SM152	4685.29	1453.67	dark gray sandstone		·			◎	+			+				
31	SM157	4680.48	1452.69	gray sandstone	+	·			◎	○							
32	SM159	4680.89	1452.43	gray sandstone	·	·		·	◎	○							
33	SM160	4681.03	1452.82	silicified sandstone			+	·	◎	○							
34	SM161	4681.11	1452.47	gray sandstone		·		·	◎								
35	SM163	4681.46	1452.74	weakly silicified sandstone		+		·	◎	○							
36	SM165	4681.53	1452.91	weakly silicified sandstone	·	+		·	◎	○			·				Calcite +
37	SM166	4681.51	1452.58	argillized diorite porphyry		○		+	◎				○		·		Alunite · Molyb. +
38	SM167	4681.54	1452.06	gray mudstone with py. dissm.		○	·	+	◎	○			·				
39	SM168	4681.78	1452.63	silicified sandstone		·		·	◎								
40	SM169	4682.11	1452.39	silicified sandstone with py. dissm.		·		+	◎	·							

◎: abundant ○: common +: a little ·: rare

Table Ⅱ-3-3 Results of X-ray diffraction analyses in S. Imbak Sub-area (4)

Ser. No.	Sample No.	Coordinates N	Coordinates E	Description	Identified Minerals: Se/Mo mixed layer	Kaolinite	Chlorite	Sericite	Quartz	Plagioclase	K-feldspar	Amphibole	Pyrite	Hematite	Chalcopyrite	Arsenopyrite	Remarks
41	SM170	4682.35	1452.79	argillized diorite porphyry		·		○	◎	○							
42	SM171	4682.33	1452.64	gray sandstone		·		+	◎								
43	SM173	4682.19	1452.95	silicified conglomerate					◎								
44	SM174	4682.58	1452.66	silicified mudstone with py. dissm.				+	◎				·			·	
45	SM176	4682.72	1452.41	silicified sandstone with py. dissm.		·		+	◎	○							
46	SM177	4682.92	1452.13	silicified sandstone with py. dissm.			·	+	◎	○+							
47	SM178	4683.26	1452.94	mudstone with weak py. dissm.			+	+	◎	○							
48	SM180	4683.63	1452.87	silicified mudstone with py. dissm.		+		+	◎								
49	SM186	4681.54	1452.32	gray sandstone with weak py. dissm.		·		·	◎	○							
50	SM201	4682.09	1453.13	silicified sandstone with py. dissm.		+	·	·	◎	○							
51	SM202	4682.08	1452.82	silicified sandstone with py. dissm.		·		+	◎				·				

◎: abundant ○: common +: a little ·: rare

Table Ⅱ-3-4 Assay results of S. Imbak Sub-area (1)

Ser. No.	Sample No.	Coordinates		Descriptions	Assay results							Remarks and sampling width (m)
		N	E		Au (g/t)	Ag (g/t)	Cu (ppm)	Pb ppm)	Zn (ppm)	Mo (ppm)	S (%)	
1	J 5	4685.76	1453.29	quartz vein with pyrite	<0.1	10.6	969	7	7	3	0.14	float, w.0.1
2	K 5	4682.44	1453.82	argillized diorite porphyry	<0.1	<0.1	5	14	16	<1	<0.01	grab sample
3	K18	4682.09	1452.58	sandstone with py. dissm. and veinlet	<0.1	6.2	122	97	49	<1	1.59	float, w.0.1
4	K20	4682.67	1452.73	quartz-sulfide veins	17.5	27.6	2,913	13	30	<1	18.41	w.0.1
5	K21	4682.72	1452.33	silicified sandstone with py. dissm.	<0.1	<0.1	49	202	65	<1	0.22	grab sample
6	K22	4682.40	1452.44	quartz vein with pyrite	1.1	14.9	76	45	13	<1	0.66	float, w.0.2
7	K23	4682.04	1452.14	sandstone with pyrite veinlet	<0.1	6.4	159	392	90	<1	2.07	grab sample
8	K24	4682.02	1452.05	quartz vein with pyrite	2.9	62.5	343	325	68	<1	0.23	w. 0.1
9	K25	4682.05	1452.22	quartz vein with pyrite	2.5	14.6	353	75	44	<1	10.85	w. 0.02
10	K26	4682.05	1452.99	silicified sandstone with py. dissm.	<0.1	0.7	26	161	48	<1	0.28	float, w.0.6
11	K28	4682.05	1452.99	silicified sandstone with py. dissm.	<0.1	2.2	17	80	136	<1	0.96	float, w.0.7
12	K29	4682.05	1452.99	silicified sandstone with py. dissm.	<0.1	1.1	15	123	115	<1	0.96	float, grab
13	K31	4682.05	1452.99	silicified sandstone with py. dissm.	<0.1	4.4	71	116	835	<1	1.45	float, grab
14	K33	4682.05	1452.99	silicified sandstone with py. dissm.	<0.1	5.2	254	57	81	<1	3.67	float, grab
15	K34	4683.71	1452.71	mudstone with py. dissm.	<0.1	<0.1	14	72	275	<1	0.68	w.1.0
16	K36	4683.71	1452.71	mudstone with py. dissm.	<0.1	<0.1	27	50	191	<1	1.58	w.1.0
17	K37	4683.71	1452.71	mudstone with py. dissm.	<0.1	<0.1	21	101	210	<1	0.35	w.1.0
18	K38	4683.71	1452.71	mudstone with py. dissm.	<0.1	<0.1	24	25	296	<1	1.27	w.1.0
19	K40	4683.71	1452.71	mudstone with py. dissm.	<0.1	5.9	62	1,169	180	<1	3.26	w.1.0
20	K41	4683.71	1452.71	mudstone with py. dissm.	<0.1	<0.1	27	473	213	<1	1.50	w.1.0

Table Ⅱ-3-4 Assay results of S. Imbak Sub-area (2)

Ser. No.	Sample No.	Coordinates		Descriptions	Assay results							Remark sampl width
		N	E		Au (g/t)	Ag (g/t)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	S (%)	
21	K42	4683.71	1452.71	mudstone with py. dissm.	<0.1	<0.1	21	390	155	<1	0.90	w.1.0
22	K43	4683.71	1452.71	mudstone with py. dissm.	<0.1	<0.1	29	194	96	<1	1.56	w.1.0
23	K44	4683.71	1452.71	mudstone with py. dissm.	<0.1	<0.1	13	13	193	<1	0.69	w.1.0
24	M 4	4683.71	1453.59	rusty silicified rock, py. dissm.	<0.1	<0.1	8	12	139	<1	2.68	float, grab
25	M 5	4683.74	1453.17	argillized diorite porphyry	<0.1	<0.1	14	123	468	<1	0.11	w.0.1
26	M 6	4683.74	1453.17	silicified mudstone with py. dissm.	0.1	<0.1	31	204	119	3	0.76	w.0.1
27	M 7	4683.63	1452.91	silic.,argil. mudstone with py. dissm.	0.2	2.7	109	341	42	<1	0.90	w.0.1
28	M16	4681.99	1452.32	quartz-sulfide vein	3.4	67.9	900	181	183	<1	8.90	float. w.0.1
29	M17	4681.99	1452.32	silicified mudstone with py. dissm.	<0.1	<0.1	43	24	54	<1	0.23	w.1.0
30	M18	4681.99	1452.32	argillized zone in silic. mudstone	0.2	<0.1	7	87	24	<1	0.14	w.0.2
31	M19	4681.99	1452.32	quartz-sulfide vein	2.0	32.6	75	155	2,183	<1	5.45	float.w.0.05
32	M20	4681.99	1452.32	quartz-sulfide vein	0.5	41.1	1,663	501	35	<1	3.93	w.0.01
33	M21	4681.99	1452.32	silic. mudstone with qz.-sulfide vein	<0.1	<0.1	122	230	9	<1	0.13	w.1.0
34	M22	4681.99	1452.32	quartz-sulfide lens	7.5	196.2	1,483	1,511	325	<1	8.15	w.0.2
35	M23	4681.99	1452.32	quartz-sulfide lens	24.6	125.0	559	422	73	<1	12.24	grab sample
36	M24	4681.99	1452.32	silic. mudstone with qz.-sulfide vein	3.9	75.0	143	380	22	<1	5.06	w.0.8
37	M25	4681.99	1452.32	quartz-sulfide vein	9.0	116.4	422	350	47	<1	13.98	w.0.15
38	M26	4681.99	1452.32	quartz-sulfide vein	8.0	62.9	622	226	108	<1	13.96	w.0.15
39	M27	4681.99	1452.32	quartz-sulfide vein	8.0	105.5	386	318	81	<1	8.97	grab sample
40	M28	4681.99	1452.32	quartz-sulfide vein	9.5	101.9	206	178	40	<1	10.56	w.0.15

Table Ⅱ-3-4 Assay results of S. Imbak Sub-area (3)

Ser. No.	Sample No.	Coordinates		Descriptions	Assay results							Remarks and sampling width (m)
		N	E		Au (g/t)	Ag (g/t)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	S (%)	
41	M29	4681.99	1452.32	quartz-sulfide vein	7.2	22.0	413	121	40	<1	12.32	w.0.05
42	M31	4682.67	1452.73	quartz-sulfide vein	72.5	57.6	5,349	56	81	<1	24.65	float, w.0.1
43	M32	4682.67	1452.73	oxidized quartz-sulfide vein	29.0	38.1	1,874	180	56	<1	7.13	w.0.1
44	M33	4682.67	1452.73	oxidized quartz-sulfide vein	7.0	17.5	850	553	79	<1	0.20	w.0.1
45	M34	4682.67	1452.73	quartz-sulfide vein	33.3	36.3	2,216	43	33	<1	13.60	w.0.05
46	M35	4682.67	1452.73	silic. mudstone with py. dissm	0.3	2.5	310	71	17	<1	0.41	w.2.0
47	M36	4682.67	1452.73	quartz-sulfide vein	64.2	25.8	2,369	28	31	<1	20.65	w.0.12
48	M37	4682.67	1452.73	quartz-sulfide vein	33.3	64.0	4,560	132	202	<1	29.37	w.2.0
49	M38	4682.67	1452.73	quartz-sulfide vein	36.2	67.6	5,594	120	128	<1	30.72	grab sample
50	M39	4682.67	1452.73	quartz-sulfide vein	0.4	36.8	2,143	65	49	<1	26.80	w.0.8
51	M40	4682.67	1452.73	silicified mudstone with py. dissm.	0.3	<0.1	174	30	371	<1	0.28	w.0.01
52	M43	4680.97	1453.89	argillized diorite porphyry	<0.1	<0.1	110	37	118	<1	1.73	w.1.0
53	M44	4680.97	1453.89	brecciated quartz vein	<0.1	<0.1	34	25	45	<1	0.68	w.0.4
54	M45	4680.97	1453.89	argillized diorite porphyry	<0.1	<0.1	10	28	32	<1	0.02	w.1.0
55	M46	4680.97	1453.89	argil., silic. diorite porphyry	<0.1	<0.1	87	37	111	<1	0.73	w.1.0
56	M47	4680.97	1453.89	argil., silic. diorite porphyry	<0.1	<0.1	<1	29	78	<1	0.05	w.1.0
57	W38	4682.61	1455.68	diorite porphyry with py. dissm.	5.3	573.0	2,458	9,638	2,060	<1	7.08	float, grab
58	W43	4683.71	1452.71	quartz-sulfide vein	0.4	105.6	1,150	20,331	89,303	<1	32.67	w.0.2

Table Ⅱ-3-5 K-Ar ages of intrusive rocks in S. Imbak Sub-area

Ser. No.	Sample No.	Coordinates		Rock Name	Potassium (K wt%)	Rad. ^{40}Ar (10^{-6}cc/g)	K-Ar AGE (Ma)	AIR CONT. (%)
		N	E					
1	K19	4682.68	1453.19	Diorite Porphyry	2.77±0.06	84.0±1.4 84.1±1.4	7.81±0.20 7.82±0.20	33.4 32.9
2	K45	4681.60	1453.39	Diorite Porphyry	2.41±0.05	71.7±1.1 70.1±1.2	7.67±0.19 7.50±0.19	29.9 34.2
3	M 8	4683.55	1452.63	Diorite Porphyry	2.72±0.05	77.6±1.1 77.8±1.1	7.35±0.18 7.37±0.18	24.4 23.8
4	M41	4680.97	1453.80	Diorite Porphyry	2.67±0.05	75.2±1.2 75.3±1.2	7.25±0.18 7.25±0.18	29.8 30.9

Table Ⅱ-3-6 Occurrences of mineralization in S. Imbak Sub-area (1)

Mineral Showing No.	Descriptions of Mineralization	Host Rock	Alteration	Assay Results						
				Sample No.	Sampling width (m)	Au (g/t)	Ag (g/t)	Cu (ppm)	Zn (ppm)	S (%)
IM-1	stlongly argillized diorite porphyry, over an area of 40 m along stream, weak pyrite dissemination. (Sketch 1)	Diorite porhpyry	argillization	M43	1.0	<0.1	<0.1	110	118	1.37
				M44	0.4	<0.1	<0.1	34	45	0.68
				M45	1.0	<0.1	<0.1	10	32	0.02
				M46	1.0	<0.1	<0.1	87	111	0.73
				M47	1.0	<0.1	<0.1	<1	78	0.05
IM-2	distribution of abundant, silicified, oxidised boulders few m across with pyrite dissemination.	Mudstone Sandstone	silicification argillization	K26	0.6	<0.1	0.7	26	48	0.28
				K28	0.7	<0.1	2.2	17	136	0.96
				K29	grab	<0.1	1.1	15	115	0.96
				K31	grab	<0.1	4.4	71	835	1.45
				K33	grab	<0.1	5.2	254	81	3.67
IM-3	Quartz - sulfides (pyrite, arsenopyrite, sphalerite) veins and lenses, 1 cm to 20 cm wide in silicified mudstone, dominant trend: N-S, dip: 70° to 80° west, cutting structure of mudstone, maximum 15 cm × 11 m (Sketch 2)	Mudstone	silicification	M16	0.1	3.4	67.9	900	183	8.90
				M17	1.0	<0.1	<0.1	43	54	0.23
				M18	0.2	0.2	<0.1	7	24	0.14
				M19	0.05	2.0	32.6	75	2,183	5.45
				M20	0.01	0.5	41.1	1,663	35	3.93
				M21	1.0	<0.1	<0.1	122	9	0.13
				M22	0.2	7.5	196.2	1,483	325	8.15
				M23	grab	24.6	125.0	559	73	12.24
				M24	0.8	3.9	75.0	143	22	5.06
				M25	0.15	9.0	116.4	422	47	13.98
				M26	0.15	8.0	62.9	622	108	13.96
				M27	grab	8.0	105.5	386	81	8.97
				M28	0.15	9.5	101.9	206	40	10.56
				M29	0.05	7.2	22.0	413	40	12.32

Table Ⅱ-3-6 Occurrences of mineralization in S. Imbak Sub-area (2)

Mineral Showing No.	Descriptions of Mineralization	Host Rock	Alteration	Assay Results						
				Sample No.	Sampling width (m)	Au (g/t)	Ag (g/t)	Cu (ppm)	Zn (ppm)	S (%)
IM-4	Quartz - sulfides (pyrite, arseno-pyrite) veins, 12cm and 10 cm wide concordant to bedding of mudstone N 30° , 25° W (Sketch 3)	Mudstone	silicified	K20	0.1	17.5	27.6	2,913	30	18.41
				M31	0.1	72.5	57.6	5,349	81	24.65
				M32	0.1	29.0	38.1	1,874	56	7.13
				M33	0.1	7.0	17.5	850	79	0.20
				M34	0.05	33.3	36.3	2,216	33	13.60
				M35	2.0	0.3	2.5	310	17	0.41
				M36	0.12	64.2	25.8	2,396	31	20.65
				M37	2.0	33.3	64.0	4,560	202	29.37
				M38	grab	36.2	67.6	5,594	128	30.72
				M39	0.8	0.4	36.8	2,143	49	26.80
				M40	0.01	0.3	<0.1	174	371	0.28
IM-5	Quartz - sulfides (pyrite, galena sphalerite) lens, 25cm × 2m in silicified mudstone, N10° W, 90°	Mudstone	silicification	K34	1.0	<0.1	<0.1	14	275	0.68
				K36	1.0	<0.1	<0.1	27	191	1.58
				K37	1.0	<0.1	<0.1	21	210	0.35
				K38	1.0	<0.1	<0.1	24	296	1.27
				K40	1.0	<0.1	5.9	62	180	3.26
				K41	1.0	<0.1	<0.1	27	213	1.50
				K42	1.0	<0.1	<0.1	21	155	0.90
				K43	1.0	<0.1	<0.1	29	96	1.56
				K44	1.0	<0.1	<0.1	13	193	0.69
				W43	0.2	0.4	105.6	1150	89,303	32.67

Table Ⅱ-3-7 Statistics of rock geochemical survey in S. Imbak Sub-area

Element	Statistics						EDA method*4		
	Below detection limit (%)	Maximum value	Minimum value	Mean*1 value (b)	Standard*2 deviation	b + 2S.D. *3	Median	Upper Wisker	Upper Fence
Ag (ppm)	—	17.37	0.21	0.471	0.244	1.452	0.440	0.55	0.90
As (ppm)	13.9	13,675	< 1	9.7	0.766	331.3	12.0	23.0	223.6
Au (ppb)	71.6	6,920	< 1	1.0	0.675	23.0	0.5	2.0	2.8
Ca (%)	12.9	5.58	< 0.01	0.10	0.746	13.12	0.12	0.290	2.795
Cu (ppm)	0.5	505	< 1	21.8	0.360	114.5	23.0	33.0	94.1
Hg (ppb)	27.9	2,290	< 10	20	0.500	203	22	47	850
K (%)	—	4.21	0.06	1.013	0.295	3.941	1.140	1.660	—
Mg (%)	1.0	2.51	< 0.01	0.624	0.404	—	0.760	1.220	—
Na (%)	—	4.20	0.02	0.582	0.457	—	0.800	1.080	2.900
Pb (ppm)	—	5,846	3	20.6	0.373	114.8	20.0	28.0	65.8
Rb (ppm)	—	319	2	78.3	0.302	314.4	95.0	134.0	—
S (%)	—	11.154	0.009	0.171	0.633	3.161	0.206	0.560	9.698
Sb (ppm)	17.4	59.9	< 0.2	1.60	0.688	38.10	2.70	5.80	114.4
Sr (ppm)	—	570	4	62.1	0.362	328.4	69.0	89.0	213.5
Zn (ppm)	—	2,950	4	66.8	0.329	304.4	73.0	106.0	268.9

*1: geometric mean *2: shown in logarithm *3: background value + 2 x standard deviation
*4: Exploratory Data Analysis (Kurzl H., 1988)

Table II-3-8 Results of factor analyses for rock samples in S. Imbak Sub-area

Element	Factor loading (Varimax rotation)					Commu-nality
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	
Ag	-0.475	-0.212	0.058	-0.534	-0.185	0.5924
As	-0.599	-0.153	0.191	-0.270	-0.329	0.6004
Au	-0.565	-0.169	0.255	-0.467	-0.125	0.6464
Ca	0.876	-0.152	-0.058	-0.188	0.002	0.8289
Cu	0.080	-0.638	0.256	-0.114	-0.124	0.5068
Hg	-0.065	-0.415	0.277	-0.163	-0.027	0.2806
K	0.181	-0.191	0.868	0.113	-0.139	0.8551
Mg	0.710	-0.439	0.202	0.175	-0.144	0.7888
Na	0.854	0.046	0.135	0.144	-0.103	0.7802
Pb	-0.174	-0.168	0.209	-0.185	-0.551	0.4391
Rb	0.039	-0.277	0.829	0.094	-0.224	0.8245
S	0.029	-0.692	0.029	-0.050	-0.167	0.5109
Sb	0.077	-0.050	-0.136	-0.433	-0.034	0.2153
Sr	0.839	-0.081	0.285	-0.154	0.054	0.8181
Zn	0.379	-0.409	0.183	0.034	-0.565	0.6652
F.C.*1	41.0 %	18.1 %	20.6 %	10.4 %	10.0 %	—

*1: Factor contribution

Table Ⅱ-3-10 Resistivity and chargeability of rock samples

Sample No	Resis. (ohm-m)	Charge. (mV/V)	Rock Name	Alt./Mineral	Remarks
I-1	90.7	31.9	Ms	Py-diss.	
I-2	4040.0	4.7	Dp		
I-3	10.0	49.0	Qv	Qtz,Py,Sulf.	
I-4	2950.0	10.5	Dp		
I-5	592.0	6.9	Dp		
I-6	389.0	6.6	Dp	Argilli.	
I-7	3.0	124.2	Sulf.V.	Py,Sulf.	
I-8	1670.0	11.1	Ss		
I-9	38.1	1.7	Ms		Many crack
I-10	192.0	2.9	Ms		
I-11	120.0	3.1	Ms		
I-12	218.0	4.5	Ss	Weak sili.	
I-13	58.7	3.8	Ms	Weak sili.	Many crack
I-14	1280.0	6.1	Ss	Sili.,Py-diss.	
I-15	32.5	7.6	Ss	Sili.,sulf.spot	

Ms : Mudstone Dp: Diorite Porphyry Qv : Quartz vein
Ss : Sandstone Py: Pyrite diss: dissemination
Qtz : Quartz Sulf: Sulfidation Argilli: Argillization
Alt : Alteration sili: silicification Mineral: Mineralization
Resis : Resistivity Charge: Chargeability

Table Ⅱ-3-11 Description of thin section of S. Imbak Sub-area (Gunong Kuli) (1)

Ser. No.	Sample No.	Coordinates N	Coordinates E	Rock Name	Texture	Phenocryst, crystal. & Rock Fragment: Quartz	Plagioclase	Clinopyroxene	Hornblende	Biotite	Rock Fragment	Others	Groundmass, matrix, Accessory Minerals: Quartz	Plagioclase	Apatite	Sphene	Zircon	Tourmaline	Opaque minerals	Hematite	Others	Secondary Minerals: Quartz	Sericite	Calcite	Chlorite	Kaolinite	Epidote	Others	Remarks
1	J 3	4685.54	1448.19	Diorite Porphyry	porphyritic granoblastic		○			+				+	·				·	·		◎	◎		+				argillized diorite porphyry phenocrysts are pseudomorph
2	J 9	4681.34	1446.40	Diorite Porphyry	porphyritic		○		○	○				○	·	·			+			○	+		+		+	○ *	* biotite phenocrysts are pseudomorph
3	J11	4682.06	1446.56	Mudstone	clastic								◎						+			○	◎		+				sericitized, silicified mudstone
4	J14	4681.55	1446.46	Mudstone	clastic	◎	○						◎			·	·	·	+			+	+		+		·	· *	* biotite, fine mudstone weakly metamorphosed
5	J16	4681.79	1446.24	Diorite Porphyry	porphyritic, hypidiomorphic granular		◎	○	○	○			+	◎	·	·			+			+		+					abundant phenocryst, weakly altered
6	J17	4681.94	1446.50	Diorite Porphyry	porphyritic, hypidiomorphic granular		◎	+	○	○			+	◎	·	·			+			+			+			+ *	* biotite, weakly altered
7	K 1	4684.73	1449.62	Diorite Porphyry	porphyritic granoblastic												·		·			◎	+			○	+		no primary mineral remains, silicified
8	K 2	4685.99	1449.27	Diorite Porphyry	porphyritic orthophyric		○		◎	+			◎		·				·			·	·	+					slightly altered
9	K 7	4682.74	1447.61	Diorite Porphyry	porphyritic intergranular		◎		○ *					◎	·	·			·			+		+	+		+		* pseudomorph altered diorite porphyry
10	M 9	4683.47	1445.07	Sandstone	clastic	◎	+			·	· *	· **	+	+			·	·					·		·				* mudstone, ** K-feldspar, well sorted arkose sandstone
11	M10	4684.18	1444.99	Diorite Porphyry	porphyritic		◎		+	+				◎	+				+			+	◎	+	○	+		· *	* K-feldspar, horb. and bio. phenocrysts are pseudomorph
12	M11	4684.18	1444.99	Mudstone	clastic	◎	+					· *	◎				·	·	·	·			○						* muscovite
13	M12	4684.18	1444.99	Diorite Porphyry	porphyritic intergranular		◎	+	○	+				◎	·	·			·			+		+	+				slightly altered
14	M13	4684.19	1445.49	Sandstone	clastic	◎					+ *	· **	○				·						·		·				* mudstone) chert) tuff ** muscovite, quartz arenite

Table Ⅱ-3-11 Description of thin section of S. Imbak Sub-area (Gunong Kuli) (2)

Ser. No.	Sample No.	Coordinates N	Coordinates E	Rock Name	Texture	Phenocryst, crystal. & Rock Fragment: Quartz	Plagioclase	Clinopyroxene	Hornblende	Biotite	Rock Fragment	Others	Groundmass, matrix, Accessory Minerals: Quartz	Plagioclase	Apatite	Sphene	Zircon	Tourmaline	Opaque minerals	Hematite	Others	Secondary Minerals: Quartz	Sericite	Calcite	Chlorite	Kaolinite	Epidote	Others	Remarks
15	P 2	4680.82	1449.92	Sandstone	clastic	◎					+ *						·	·	+			+	+			·			* mudstone, quartz arenite
16	P 5	4680.65	1451.05	Sandstone	clastic	◎	·				+ *		+				·	·	+	·		·	·						* mudstone, quartz arenite almost no matrix
17	P 7	4681.19	1449.36	Sandstone	clastic	◎							○				·	·	+				○		+				fine sandstone
18	P 8	4681.31	1449.19	Diorite Porphyry	porphyritic granoblastic	○								○	·				+	+		◎	◎		○				phenocryst remains as pseudomorph, strongly altered
19	W 1	4685.74	1449.34	Andesite	aphyric									◎	·				+			+	+	○	◎				aphyric, carbonated, chloritized andesite
20	W 2	4685.43	1449.50	Diorite Porphyry	porphyritic gronoblastic		◎			+				◎			·	·				+	+		○				altered diorite porphyry
21	W 6	4680.32	1446.97	Andesite	porphyritic intergranular			○	◎	+				◎	·				+		· *			+	+				* biotite, clinopyroxene fresh andesite
22	W10	4681.64	1444.42	Andesite	porphyritic intergranular			○	◎					◎	·	·			-		· *			+	·				* biotite, relatively fresh andesite
23	W13	4683.79	1446.55	Diorite Porphyry	porphyritic		○		◎	○				◎	·				-		· *	·	+		○		·		* K-feldspar, altered diorite porphyry
24	W49	4679.70	1447.94	Quartz Porphyry	porphyritic	○	○			○		+ *		◎	+				-	·	+ **	+	+	+	+				* K-feldspar, ** biotite altered quartz porphyry

◎: abundant ○: common +: a little ·: rare

Table Ⅱ-3-12 Description of polished sections of S. Imbak Sub-area (Gunong Kuli)

Ser. No.	Sample No.	Coordinates N	Coordinates E	Descriptions	Ore minerals: Chalcopyrite	Bornite	Chalcocite	Covellite	Sphalerite	Galena	Arsenopyrite	Pyrite	Colloform Pyrite	Native Gold	Acanthite-Argentite	Magnetite	Hematite	Goethite	Gangue minerals	Remarks
1	J 9	4681.34	1446.40	diorite porphyry with py. dissm.					·			○							◎	float
2	J10	4681.34	1446.40	silicified rock with py. dissm.	·				·			+					·	·	◎	float
3	J13	4681.55	1446.46	diorite porphyry with py. dissm.	+				·			+				+			◎ °	
4	J16	4681.79	1446.24	diorite porphyry with py., cpy.	○							·		·			·		◎ °	
5	J17	4681.94	1446.50	diorite porphyry with py., cpy.	·				·							+			◎	
6	P 1	4680.88	1449.57	sandstone with py. dissm.	·			·	·			+							◎	
7	P 2	4680.82	1449.92	sandstone with py. dissm.					·			·							◎	

◎: abundant ○: common +: a little ·: rare °: Quartz

Table Ⅱ-3-13 Results of X-ray diffraction analyses in S. Imbak Sub-area (Gunong Kuli)

Ser. No.	Sample No.	Coordinates N	Coordinates E	Description	Identified Minerals: Se/Mo mixed layer	Kaolinite	Chlorite	Sericite	Quartz	Plagioclase	K-feldspar	Amphibole	Pyrite	Hematite	Chalcopyrite	Arsenopyrite	Remarks
1	J 3	4685.54	1448.19	argillized diorite porphyry				○	◎	○							
2	K 1	4684.73	1449.62	diorite porphyry with py. dissm.	+	○		·	◎					·			
3	M10	4684.18	1444.99	diorite porphyry with py. dissm.		○	+	·	◎	○	+				·		
4	P 1	4680.88	1449.57	sandstone with py. dissm.		○	·	·	◎				+				
5	P 2	4680.82	1449.92	sandstone with py. dissm.		·		·	◎				+				
6	P 3	4680.86	1450.07	sandstone with py. dissm.		+	·	·	◎				·				
7	P 7	4681.19	1449.36	sandstone with py. dissm.			+	+	◎				·				
8	P 8	4681.31	1449.19	diorite porphyry with py. dissm.			○	○	◎	○							
9	W13	4683.79	1446.55	diorite porphyry with py. dissm.			○		◎	○	○	+	+	+			
10	W49	4679.70	1447.94	diorite porphyry with py. dissm.			+		◎	○	○						

◎: abundant ○: common +: a little ·: rare

Table Ⅱ-3-14 Assay results of S. Imbak Sub-area (Gunong Kuli)

Ser. No.	Sample No.	Coordinates		Descriptions	Assay results							Remarks and sampling width (m)
		N	E		Au (g/t)	Ag (g/t)	Cu (ppm)	Pb ppm)	Zn (ppm)	Mo (ppm)	S (%)	
1	J 3	4685.54	1448.19	argl. diorite porphyry with py. dissm.	<0.1	<0.1	24	33	46	<1	0.20	grab sample
2	J 9	4681.34	1446.40	sili. diorite porphyry with py. dissm.	<0.1	<0.1	963	21	25	41	3.83	grab sample
3	J10	4681.34	1446.40	sili. mudstone with py. dissm.	<0.1	<0.1	1,053	22	15	10	1.66	float, grab
4	J11	4682.06	1446.56	sili. mudstone with py. dissm.	<0.1	<0.1	538	15	19	95	0.43	grab sample
5	J12	4682.15	1446.60	sili. mudstone with py. dissm.	<0.1	<0.1	117	9	15	1	2.31	grab sample
6	J13	4681.55	1446.46	diorite porphyry with py. dissm.	<0.1	<0.1	186	14	23	4	3.04	grab sample
7	J14	4681.55	1446.46	diorite porphyry with py. dissm.	<0.1	<0.1	478	17	17	<1	0.74	grab sample
8	J15	4681.73	1446.46	diorite porphyry with py. dissm.	<0.1	<0.1	1,350	24	54	17	1.21	grab sample
9	J16	4681.79	1446.24	diorite porphyry with py., cpy. dissm.	0.9	1.9	6,422	14	24	45	1.27	grab sample
10	J17	4681.94	1446.50	diorite porphyry with py, cpy. dissm.	<0.1	<0.1	1,445	21	38	3	0.16	grab sample
11	M10	4684.18	1444.99	diorite porphyry with weak py. dissm.	<0.1	<0.1	23	20	77	<1	0.66	grab sample
12	P 1	4680.88	1449.57	sandstone with py. dissm.	0.2	0.8	93	39	57	<1	2.93	grab sample
13	P 2	4680.82	1449.92	sandstone with py. dissm.	<0.1	<0.1	158	35	62	1	0.66	grab sample
14	P 3	4680.86	1450.07	sandstone with py. dissm.	<0.1	1.1	228	25	55	2	2.07	grab sample
15	P 6	4681.12	1449.58	sandstone with py. dissm.	0.2	1.5	18	74	69	<1	6.01	grab sample
16	P 7	4681.19	1449.36	sandstone with py. dissm.	0.2	<0.1	156	17	243	<1	2.15	grab sample
17	P 8	4681.31	1449.19	diorite porphyry with py. dissm.	<0.1	<0.1	83	116	166	<1	2.00	grab sample
18	W 3	4684.94	1449.07	sandstone with py. dissm.	<0.1	<0.1	35	21	147	<1	1.08	grab sample
19	W13	4683.79	1446.55	diorite porphyry with py. dissm.	<0.1	<0.1	39	70	213	<1	0.90	grab sample
20	W49	4679.70	1447.94	diorite porphyry with py. dissm.	<0.1	0.4	11	140	352	<1	0.22	garb sample

Table Ⅱ-3-15 K-Ar ages of intrusive rocks in S. Imbak Sub-area (Gunong Kuli)

Ser. No.	Sample No.	Coordinates		Rock Name	Potassium (K wt%)	Rad. ^{40}Ar (10^{-5}cc/g)	K-Ar AGE (Ma)	AIR CONT. (%)
		N	E					
1	K 2	4685.99	1449.27	Diorite Porphyry	2.68±0.05	91.3±1.5 91.6±1.5	8.76±0.23 8.78±0.23	32.8 33.9
2	K 7	4682.74	1447.61	Diorite Porphyry	2.30±0.05	93.9±1.6 93.8±1.5	10.5±0.27 10.5±0.27	34.6 32.9
3	M12	4684.18	1444.99	Diorite Porphyry	2.63±0.05	74.2±1.1 75.2±1.1	7.27±0.18 7.37±0.18	27.2 26.7

Table Ⅱ-3-16 Statistics of soil geochemical survey in S. Imbak Sub-area (Gunong Kuli)

Element	Statistics						EDA method*4		
	Below detection limit (%)	Maximum value	Minimum value	Mean*1 value (b)	Standard*2 deviation	b + 2S.D. *3	Median	Upper Wisker	Upper Fence
As (ppm)	22.3	724	< 1	7.43	0.800	295.5	9.0	37.0	—
Au (ppb)	66.1	234	< 1	1.1	0.565	14.6	0.5	3.0	16.0
Ba (ppm)	—	1,309	12	116.0	0.352	587.1	108.0	167.0	396.5
Co (ppm)	17.0	70	< 1	3.5	0.515	37.6	4.0	10.0	64.0
Cr (ppm)	—	1,540	13	75.3	0.170	165.1	76.0	91.0	138.6
Cu (ppm)	—	1,999	1	16.0	0.448	125.7	15.0	27.0	94.0
Hg (ppb)	0.4	1,755	< 10	66.8	0.258	219.3	66.0	104.0	223.4
K (%)	—	1.86	0.40	0.499	0.295	—	0.560	0.870	—
Mg (%)	2.1	1.00	< 0.01	0.204	0.364	—	0.220	0.380	—
Mn (ppm)	1.1	2,895	< 5	68.6	0.524	766.1	57.0	229.0	2,308.1
Mo (ppm)	87.3	37	< 1	0.6	0.324	2.9	0.5	0.5	0.5
Na (%)	—	2.14	0.01	0.121	0.327	0.546	0.120	0.210	0.610
Ni (ppm)	0.4	249	< 1	23.2	0.263	77.9	25.0	36.0	89.3
Pb (ppm)	1.4	116	< 2	18.9	0.302	76.1	18.0	31.0	72.3
S (%)	—	0.064	0.012	0.024	0.133	0.044	0.023	0.031	0.050
Sb (ppm)	8.1	52.3	< 0.2	2.36	0.541	28.6	3.10	6.00	28.9
Sr (ppm)	—	317	3	28.0	0.272	98.2	29.0	43.0	122.2
Ti (%)	—	0.66	0.11	0.342	0.107	0.559	0.360	0.410	0.616
U (ppm)	—	7.8	0.8	2.79	0.128	5.03	2.60	3.20	4.19
W (ppm)	84.8	57	< 2	1.2	0.246	3.8	1.0	1.0	1.0
Zn (ppm)	—	161	2	37.9	0.264	127.9	41.0	60.0	—

*1: geometric mean *2: shown in logarithm *3: background value + 2 x standard deviation
*4: Exploratory Data Analysis (Kurzl H., 1988)

Table II-3-17 Results of factor analyses for soil samples in S. Imbak Sub-area (Gunong Kuli)

Element	Factor loading (Varimax rotation)						Commu-nality
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	
As	0.262	-0.377	-0.275	-0.122	-0.039	0.551	0.6063
Au	-0.010	-0.647	-0.109	-0.154	-0.129	0.438	0.6638
Ba	-0.105	-0.160	-0.784	0.117	-0.166	0.100	0.7031
Co	-0.771	0.005	-0.282	0.065	-0.056	0.006	0.6821
Cr	-0.213	-0.051	-0.198	0.753	-0.020	0.238	0.7112
Cu	-0.432	-0.471	-0.181	0.164	-0.462	0.305	0.7751
Hg	-0.072	-0.059	0.004	0.223	-0.109	0.531	0.3519
K	-0.305	-0.131	-0.732	0.175	-0.193	0.027	0.7149
Mg	-0.594	0.081	-0.474	0.431	-0.187	-0.025	0.8051
Mn	-0.774	-0.096	-0.308	0.133	-0.228	0.191	0.8088
Mo	-0.010	-0.427	0.155	-0.086	-0.114	0.280	0.3053
Na	-0.487	0.042	-0.689	0.159	-0.083	0.153	0.7695
Ni	-0.643	0.038	-0.247	0.572	-0.068	0.126	0.8232
Pb	-0.233	-0.284	-0.288	0.225	-0.507	0.392	0.6795
S	-0.213	-0.126	0.015	0.082	-0.126	0.578	0.4180
Sb	0.063	-0.489	-0.106	0.117	-0.015	0.037	0.2696
Sr	-0.312	0.024	-0.664	0.090	0.053	-0.073	0.5548
Ti	-0.281	0.240	-0.357	0.510	-0.425	-0.049	0.7076
U	-0.120	-0.091	-0.077	0.009	-0.727	0.171	0.5869
W	-0.039	-0.599	0.000	-0.043	0.002	0.002	0.3618
Zn	-0.622	0.127	-0.367	0.345	-0.350	0.219	0.8274
F.C.*1	25.1 %	13.8 %	23.4 %	13.4 %	11.7 %	12.7 %	—

*1: Factor contribution