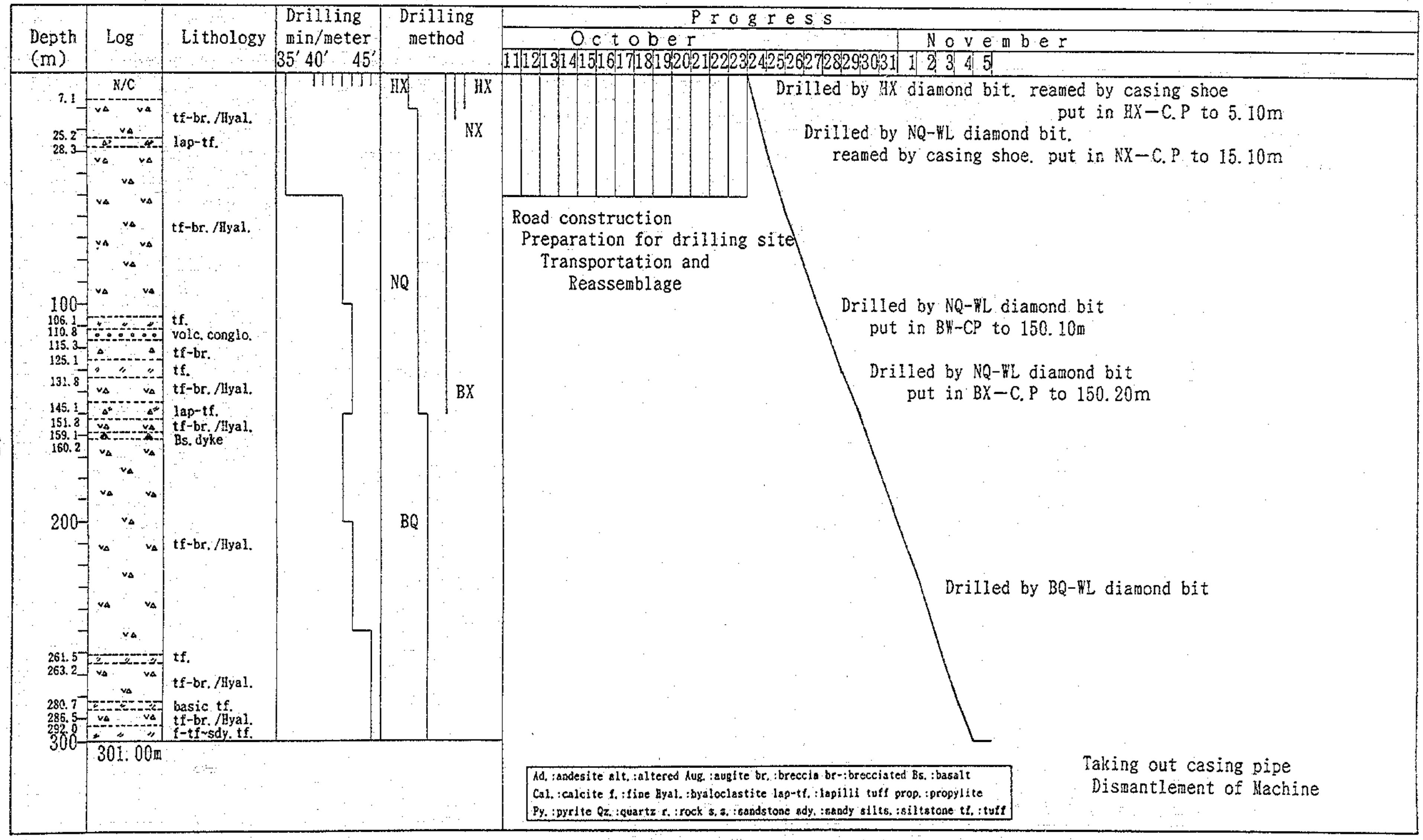


Fig. 2-3-2 Drilling Progress of MJF-5

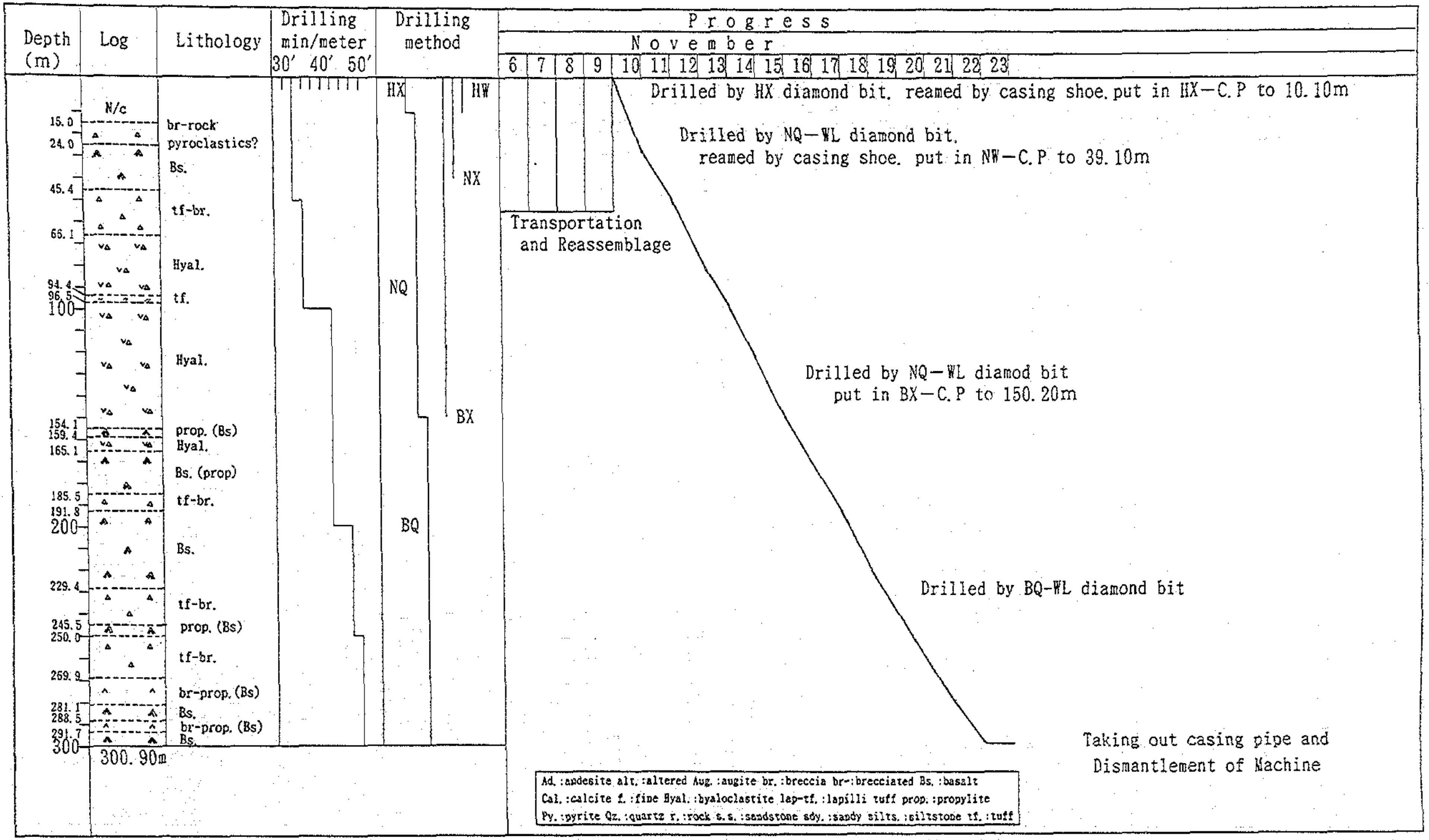


Fig. 2-3-3 Drilling Progress of MJF-6

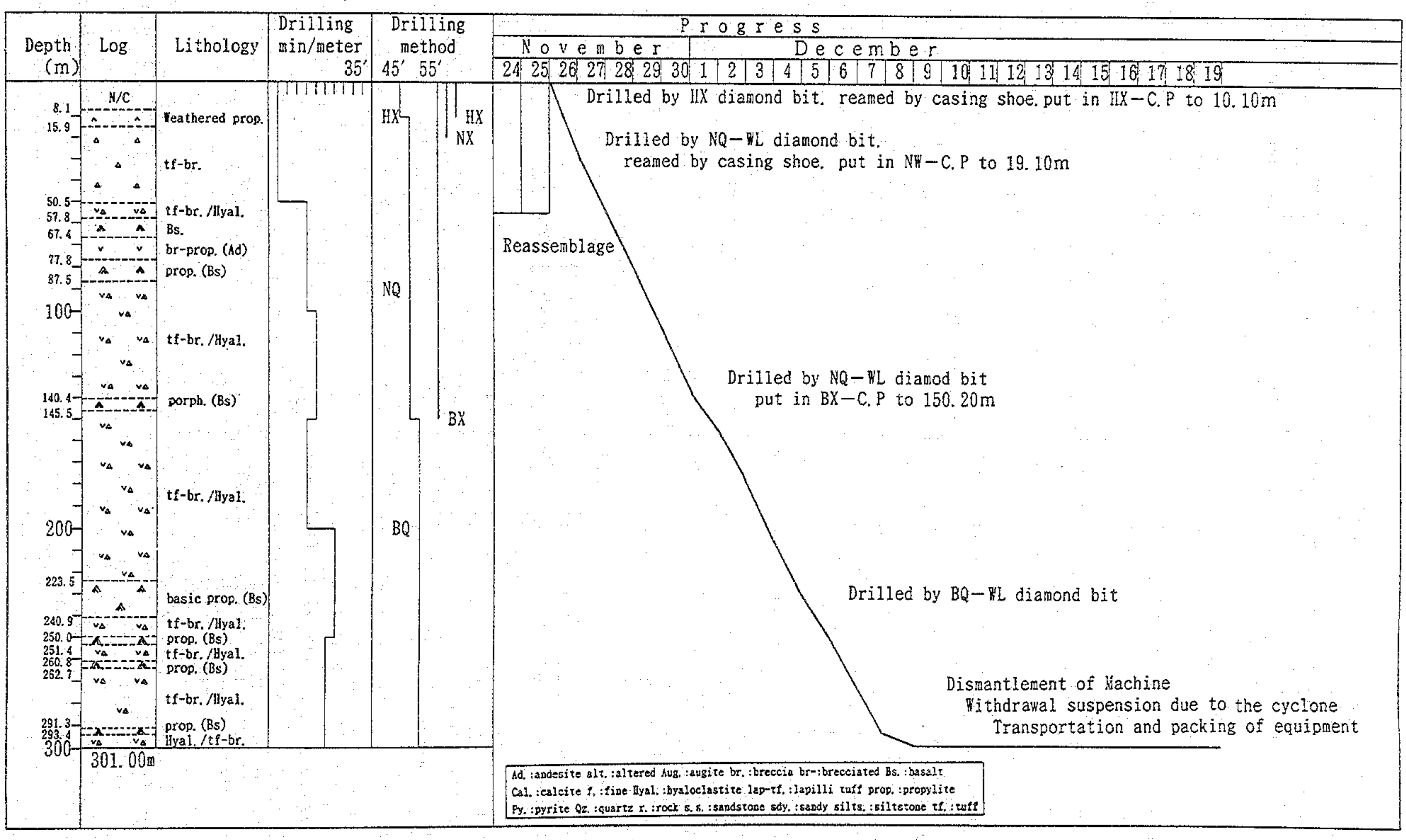


Fig. 2-3-4 Drilling Progress of MJF-7

Table 2-3-1 Summary of the Drilling Operation on MJF−5

Operation	Period	Days	Work day	Off day	Engineer	Worker
	Survey Period				Total Men	
			days	days	men	men
Preparation	11.10.1992~23.10.1992	13	11	2	44	105
Drilling	24.10.1992~04.11.1992	12	Drilling 12	0	48	144
			Recovering 0	0	-	-
Removing	05.11.1992	1	1	0	4	12
Total	11.10.1992~05.11.1992	26	24	2	96	261

Drilling length			
Length planed	300.00m	Overburden	7.10m
Increase or Decrease in length	-m	Core length	293.70m
Length drilled	301.00m	Core recovery	% 99.9

Core recovery of 100 m hole

Depth of hole (m)	Core recovery (%)	Core recovery cumulated (%)
0.00 ~ 100.00	99.7	99.7
100.00 ~ 200.00	100.0	99.8
200.00 ~ 301.00	100.0	99.9

Working hours	h	%	%
210°20′	70.8	53.4	
Other working	86°40′	29.2	22.0
Recovering			
Total	297°00′	100.0	75.4
Reassemblage	42°00′		10.6
Dismantlement	7°00′		1.8
Water transportation			
Road construction and transportation	48°00′		12.2
G.Total	394°00′		100.0

Efficiency of Drilling	Drilling
Total m/work period(m/day)	301.00m/12 days (25.08m/day)
Total m/work shift (m/shift)	301.00m/36 shifts (8.36m/shift)

Drilling length/bit(each sized bit)

Bit size	HX	NQ	BQ
Drilled length	5.10m	145.10m	150.80m
Core length	-	142.90m	150.80m

Casing pipe inserted

Size	Meterage (m)	Meterage drilling length × 100 (%)	Recovery (%)
H W	5.10	1.7	100
N W	15.10	5.0	100
B W	150.20	49.9	100

Table 2-3-2 Summary of the Drilling Operation on MJF-6

	Survey Period: Period	Days	Work day	Off day	Total Men: Engineer	Worker
Operation			days	days	men	men
Preparation	06.11.1992~09.11.1992	4	4	0	16	50
Drilling	10.11.1992~22.11.1992	13	Drilling 13	0	52	156
			Recovering 0	0	-	-
Removing	23.11.1992	1	1	0	4	9
Total	06.11.1992~23.11.1992	18	18	0	72	215

Drilling length			
Length planed	300.00m	Overburden	15.00m
Increase or Decrease in length	-m	Core length	277.10m
Length drilled	300.90m	Core recovery	% 96.9

Core recovery of 100 m hole

Depth of hole (m)	Core recovery (%)	Core recovery cumulated (%)
0.00 ~ 100.00	89.6	89.6
100.00 ~ 200.00	100.0	95.2
200.00 ~ 300.90	100.0	96.9

Working hours	h	%	%
207°10′	66.4	58.2	
Other working	97°50′	31.4	27.5
Recovering	7°00′	2.2	2.0
Total	312°00′	100.0	87.7
Reassemblage	35°00′		9.8
Dismantlement	9°00′		2.5
Water transportation			
Road construction and transportation			
G.Total	356°00′		100.0

Drilling

Efficiency of Drilling

Total m/work period(m/day)	300.90m/13 days (23.15m/day)
Total m/work shift (m/shift)	300.90m/39 shifts (7.72m/shift)

Drilling length/bit(each sized bit)

Bit size	HX	NQ	BQ
Drilled length	12.10m	138.10m	150.70m
Core length	-	126.40m	150.70m

Casing pipe inserted

Size	Meterage (m)	Meterage drilling length × 100 (%)	Recovery (%)
H W	10.10	3.4	100
N W	39.10	13.0	100
B W	150.20	49.9	100

Table 2-3-3 Summary of the Drilling Operation on MJF-7

	Survey Period				Total Men	
	Period	Days	Work day	Off day	Engineer	Worker
Operation			days	days	men	men
Preparation	24.11.1992~25.11.1992	2	2	0	8	24
Drilling	26.11.1992~08.12.1992	13	Drilling 13	0	52	152
			Recovering 0	0	-	-
Removing	09.12.1992~19.12.1992	11	10	1	40	94
Total	24.11.1992~19.12.1992	26	25	1	100	270

Drilling length			
Length planed	300.00m	Overburden	8.10m
Increase or Decrease in length	-m	Core length	285.80m
Length drilled	301.00m	Core recovery	% 97.5

Core recovery of 100 m hole		
Depth of hole (m)	Core recovery (%)	Core recovery cumulated (%)
0.00 ~ 100.00	92.2	92.2
100.00 ~ 200.00	100.0	96.3
200.00 ~ 300.90	100.0	97.5

Working hours	h	%	%
Drilling	217°40′	73.5	54.6
Other working	78°20′	26.5	19.6
Recovering			
Total	296°00′	100.0	74.2
Reassemblage	18°00′		4.5
Dismantlement	8°00′		2.0
Water transportation			
Road construction and transportation	77°00′		19.3
G.Total	399°00′		100.0

Efficiency of Drilling	
Total m/work period(m/day)	301.00m/13 days (23.15m/day)
Total m/work shift (m/shift)	301.00m/37 shifts (8.14m/shift)

Drilling length/bit(each sized bit)

Bit size	HX	NQ	BQ
Drilled length	11.10m	139.10m	150.80m
Core length	-m	135.00m	150.80m

Casing pipe inserted

Size	Meterage (m)	Meterage drilling length × 100 (%)	Recovery (%)
H W	10.10	3.4	100.0
N W	19.10	6.3	100.0
B W	150.20	49.0	100.0

Table 2-3-4 Record of the Drilling Operation on MJF-5

	Drilling length			Total		Shift		Working Men	
	shift 1	shift 2	shift 3	Drilling	Core length	Drilling	Total	Engineer	Worker
October	m	m	m	m	m	shift	shift	men	men
11	Holiday								
12	Road con								
13	Road con								
14	Road con								
15	Road-Tra								
16	Road-Tra								
17	Road-Tra						6	24	45
18	Holiday								
19	Road con								
20	Tra-Reas								
21	Tra-Reas								
22	Reassemb								
23	Reassemb								
24	12.10	5.50	11.70	29.30	22.00	3	8	24	72
25	8.30	9.10	8.80	26.20	26.20				
26	9.00	9.00	9.00	27.00	27.00				
27	7.00	8.00	7.50	22.50	22.50				
28	7.50	7.90	10.10	25.50	25.50				
29	9.00	6.00	4.70	19.70	19.70				
30	9.00	9.60	9.30	27.90	27.90				
31	9.30	9.00	6.00	24.30	24.30	21	21	28	84
November									
1	8.00	7.00	9.00	24.00	24.00				
2	9.00	7.30	9.20	25.50	25.50				
3	9.30	7.20	8.30	24.80	24.80				
4	8.70	8.80	6.80	24.30	24.30				
5	Reassmb					12	14	20	60
Total	106.20	94.40	100.40	301.00	293.70	36	49	96	261

Table 2-3-5 Record of the Drilling Operation on MJF-6

	Drilling length			Total		Shift		Working Men	
	shift 1	shift 2	shift 3	Drilling	Core length	Drilling	Total	Engineer	Worker
November	m	m	m	m	m	shift	shift	men	men
6	Tra-Reas								
7	Tra-Reas						2	8	26
8	Tra-Reas								
9	Reassmb								
10	12.10	10.30	6.40	28.80	8.50				
11	5.90	5.70	8.30	19.90	16.40				
12	9.20	9.50	7.30	26.00	26.00				
13	7.70	9.00	7.50	24.20	24.20				
14	7.50	8.30	9.10	24.90	24.90	15	17	28	84
15	9.30	9.30	7.80	26.40	26.40				
16	4.90	8.20	9.00	22.10	22.10				
17	9.00	8.40	6.60	24.00	24.00				
18	9.00	7.50	8.00	24.50	24.50				
19	5.00	7.50	6.50	19.00	19.00				
20	6.20	8.30	6.80	21.30	21.30				
21	7.20	7.20	6.50	20.90	20.90	21	21	28	84
22	6.20	7.80	4.90	18.90	18.90				
23	Dismant					3	4	8	21
Total	99.20	107.00	94.70	300.90	277.10	39	44	72	215

Table 2-3-6 Record of the Drilling Operation on MJF-7

	Drilling length			Total		Shift		Working Men	
	shift 1	shift 2	shift 3	Core Drilling	length	Drilling	Total	Engineer	Worker
November	m	m	m	m	m	shift	shift	men	men
24	Reassemb								
25	Reassemb								
26	11.10	8.00	9.20	28.30	13.10				
27	9.10	10.50	7.50	27.10	27.10				
28	10.00	8.00	7.50	25.50	25.50	9	11	20	60
29	10.50	9.00	9.00	28.50	28.50				
30	9.00	9.00	7.40	25.40	25.40				
December			(Ins-C.P)						
1	7.60	7.80	1.10	16.50	16.50				
2	9.00	7.30	7.60	23.90	23.90				
3	9.10	9.00	9.00	27.10	27.10				
4	9.00	8.10	7.70	24.80	24.80				
5	8.30	5.50	8.20	22.00	22.00	21	21	28	84
6	8.70	8.20	8.10	25.00	25.00				
7	7.30	7.90	8.70	23.90	23.90				
8	3.00			3.00	3.00				
9	Dismant								
10	With-cyc								
11	With-cyc								
12	With-cyc					7	11	28	62
13	Holiday								
14	Repair								
15	Trans								
16	Tra-pack								
17	Tra-pack								
18	Tra-pack								
19	Tra-pack					-	6	24	64
Total	111.70	98.30	91.00	301.00	285.80	37	49	100	270

[MJF-6]

HX single bit was used to the depth of 12.10m through surface soil and weathered zone, HX casing pipe was inserted after reaming to 10.10m by HX casing metal shoe. Further drilling to 39.10m was done by NQ wireline method with bentonite BX mud. Simultaneously, reaming was done by NX casing diamond shoe and NX casing pipe was inserted at 39.10m. Further drilling to 150.20m was carried out with bentonite mud and mud oil, and BX casing pipe was inserted. To the target depth of 300.90m, BQ wireline with bentonite mud and mud oil were used, some circulation was lost often and concentrated mud with mixture of TELSTOP and mud seal was used for the mitigation of loss and the work was completed (Fig. 2-3-3, Table 2-3-2 & 2-3-5).

[MJF-7]

HX single bit was used to the depth of 11.10m through surface soil and weathered zone, HX casing pipe was inserted after reaming to 10.10m by HX casing metal shoe. Further drilling to 150.20m was done by NQ wireline method with bentonite BX mud. Simultaneously reaming was done by NX casing diamond shoe to 19.10m and NX casing pipe was inserted. BX casing pipe was inserted to 150.20m. To the target depth of 301.00m, BQ wireline with bentonite mud and mud oil were used, some circulation was often lost, but the operation continued with mitigation measures to the planned depth (Fig. 2-3-4, Table 2-3-3 & 2-3-6).

3-4 Geology, Mineralization, and Alteration of the Drill Holes

MJF-5 (Appendix-columns, Table 2-3-7, 2-3-10, 2-3-11 and 2-3-13, Photo 3)

<u>Geology:</u> The geologic units of this borehole consists of alternation of andesite lava and andesitic pyroclastics (tuff breccia, lapilli tuff, tuff, fine tuff) belonging to Sabeto Volcanics and basalt dykes.

In this hole, there are many intercalations of fine pyroclastics with gentle bedding. The andesite lava is hyaloclastite with appearance resembling tuff breccia. There is only one small basalt dyke. Thus, hard and compact rocks are not well developed in this hole.

<u>Mineralization and alteration:</u> Many veins were encountered in this borehole. Many of them are veinlets of 0.5-10cm width. They are; calcite veins, quartz-calcite veins, and clay-pyrite veins. The amount of pyrite in the veins is very small. In places, there are narrow (several centimeters wide)

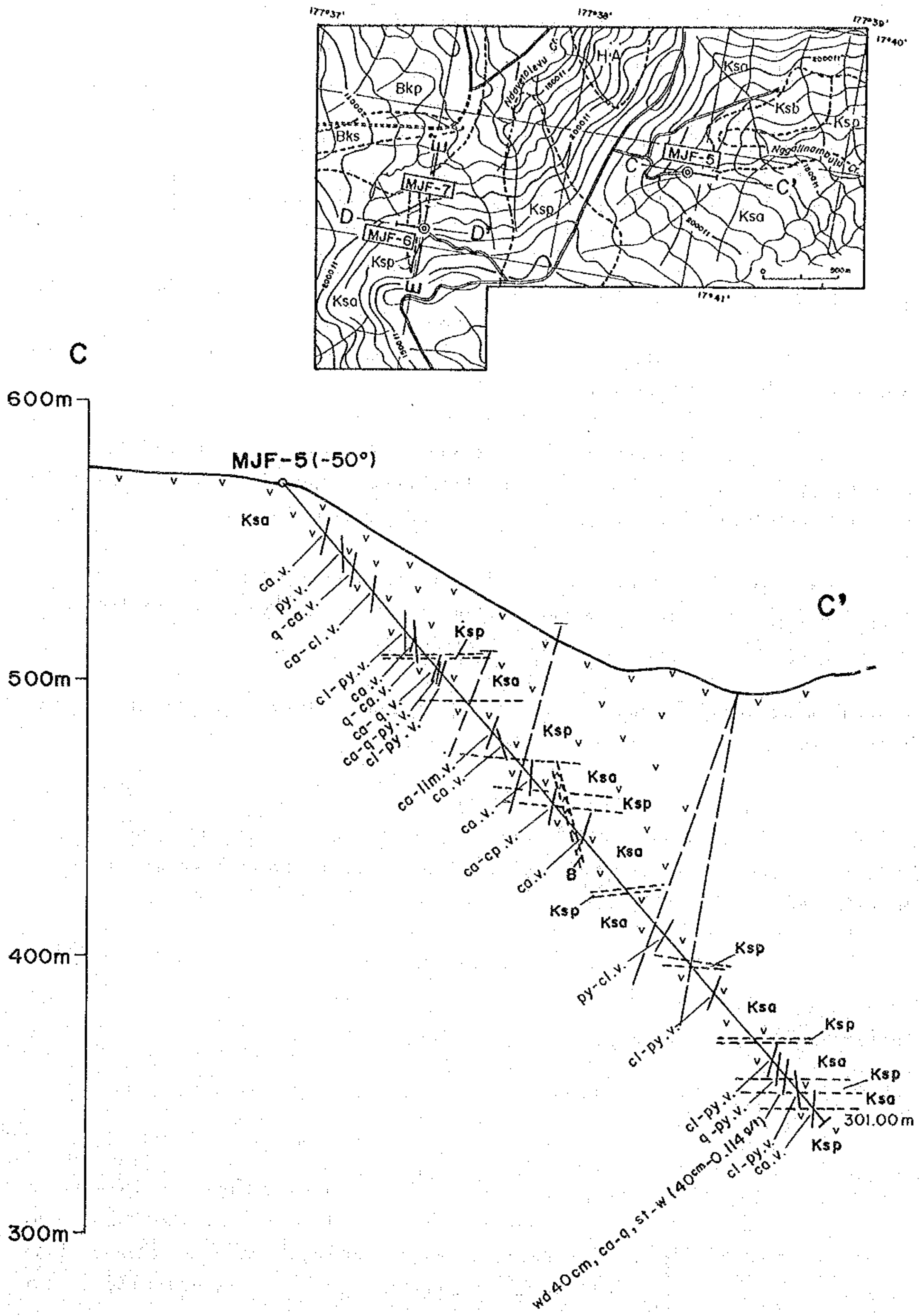


Fig. 2-3-5 Geological Profile of Drilling Hole (MJF-5)

weakly disseminated zones of pyrite adjacent to the veins. The ores which were confirmed in this borehole to have Au grade over 0.05g/t are as follows.

Depth(m)	Width(m)	Au g/t	Description
278.7-279.1	0.4	0.114	Calcite-quartz veinlet

X-ray diffraction studies (XRD) of the veins showed that quartz, smectite, chlorite, and calcite are common, at times associated with sericite and pyrite. A small amount of potash feldspar was identified (75.6m) by sodium cobaltinitrite staining test.

Bleached zones (several centimeters to 4.5m wide) occur often in the host rocks adjacent to the veins and the common constituents were found to be quartz, chlorite, sericite, calcite, and smectite by XRD.

The host rock is generally strongly propylitized and quartz, chlorite, calcite, and smectite are commonly found. Sericite occur in zones deeper than 200m.

[MJF-6] (Appendix-columns, Table 2-3-7, 2-3-8, 2-3-10, 2-3-11 and 2-3-13, Photo 2 to 3)

Geology:The geologic units of this borehole consists of andesite lava - andesitic pyroclastics (tuff breccia, lapilli tuff, tuff) alternation (0-269.9m), basalt lava (269.9-300.9m) belonging to Sabeto Volcanics, and basalt dykes.

The andesite lava is hyaloclastite and the andesitic pyroclastics consist mainly of tuff breccia with intercalations of lapilli tuff and thin tuff beds.

There are many basalt dykes consisting mainly of compact and hard alkali basalt.

Mineralization and alteration: Many veins were encountered in this borehole. They are 0.5~400cm wide and relatively wide veins of 15-400cm occur at 163.93-181.9m. They are; calcite veins, quartz-calcite veins, clay-calcite-dolomite veins, pyrite-calcite-dolomite veins, and dolomite-pyrite

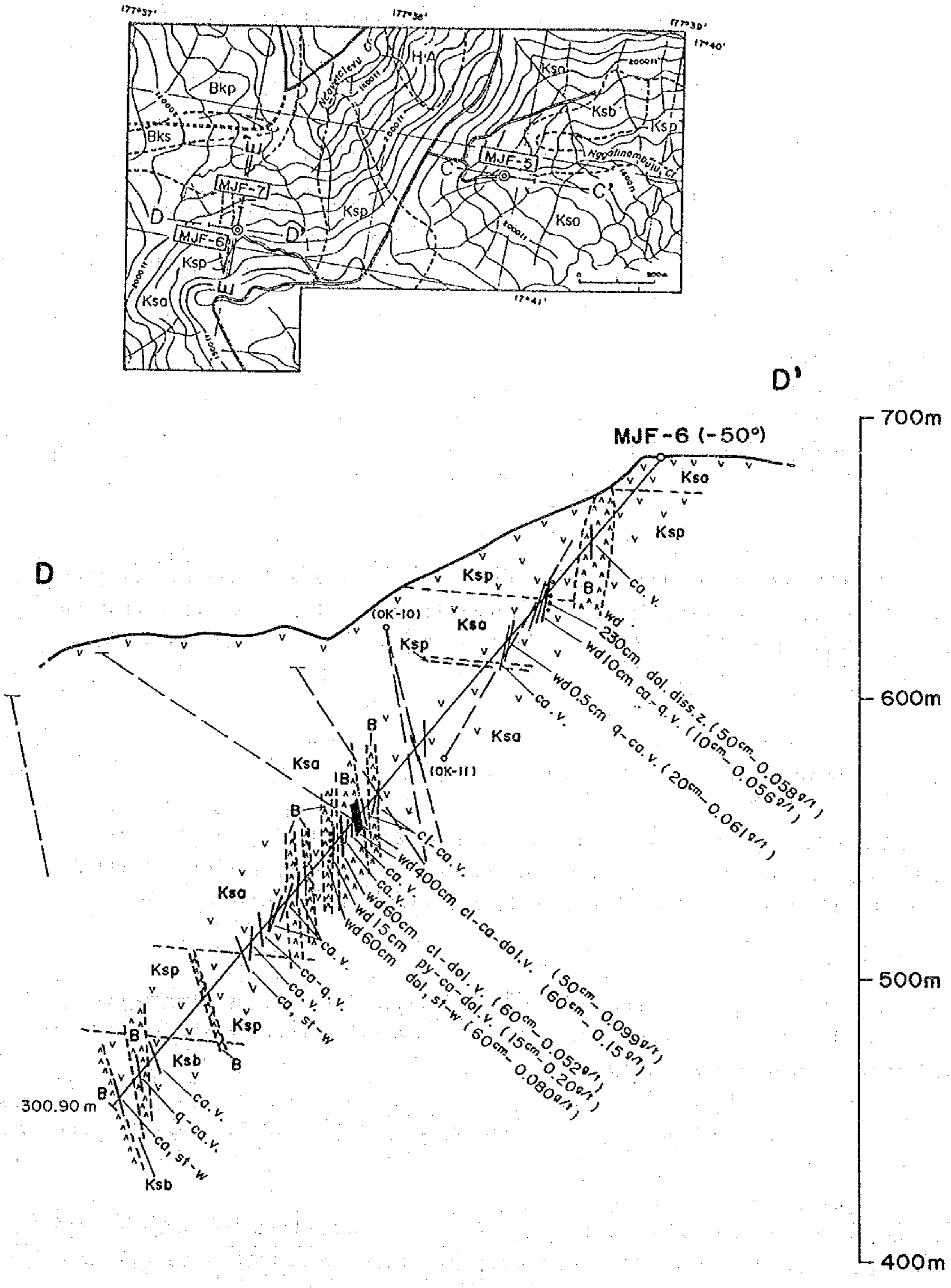


Fig. 2-3-6 Geological Profile of Drilling Hole (MJF-6)

network veins. In places, there are narrow (several centimeters wide) weakly disseminated zones of pyrite adjacent to the veins. The ores which were confirmed in this borehole to have Au grade over 0.05g/t are as follows.

Depth(m)	Width(m)	Au g/t	Description
63.7- 64.1	0.6	0.058	Calcite-quartz vein, pyrite dissemination
86.2- 86.4	0.2	0.061	Calcite vein
154.7-155.0	0.3	0.072	ditto
156.0-157.0	1.0	0.086	calcite veinlet
165.0-169.0	4.0	0.055	Clay-calcite-dolomite vein
175.6-176.2	0.6	0.052	clay vein
180.4-180.55	0.15	0.200	Pyrite-calcite-dolomite vein
181.3-181.9	0.6	0.080	Dolomite-pyrite veinlet
195.3-195.35	0.05	0.059	Quartz-calcite vein

XRD of the veins showed that quartz and adularia are common, at times associated with chlorite, sericite, smectite, dolomite and calcite. Potash feldspar was identified (166.0m and 219.4m) by sodium cobaltinitrite staining test.

Pyrite and chalcopyrite were found to be the common ore mineral with association of magnetite and molybdenite by ore microscopy.

Bleached zones (several centimeters to 2.5m wide) occur often in the host rocks adjacent to the veins and the common constituents were found to be quartz, smectite and adularia, with occasional association of chlorite, calcite, and pyrite by XRD.

The host rocks are generally strongly propylitized and quartz, sericite, adularia, calcite and smectite are commonly found by XRD. Chlorite and pyrite occur occasionally.

[MJF-7] (Appendix-columns, Table 2-3-7, 2-3-8, 2-3-10, 2-3-11 and 2-3-13, Photo 2 and 3)

Geology: The geologic units of this borehole consists of andesite lava (67.4-291.3m) and andesitic tuff breccia (16.0-57.8m), and basalt lava (293.4-301.0m) belonging to Sabeto Volcanics and basalt dykes. The andesite

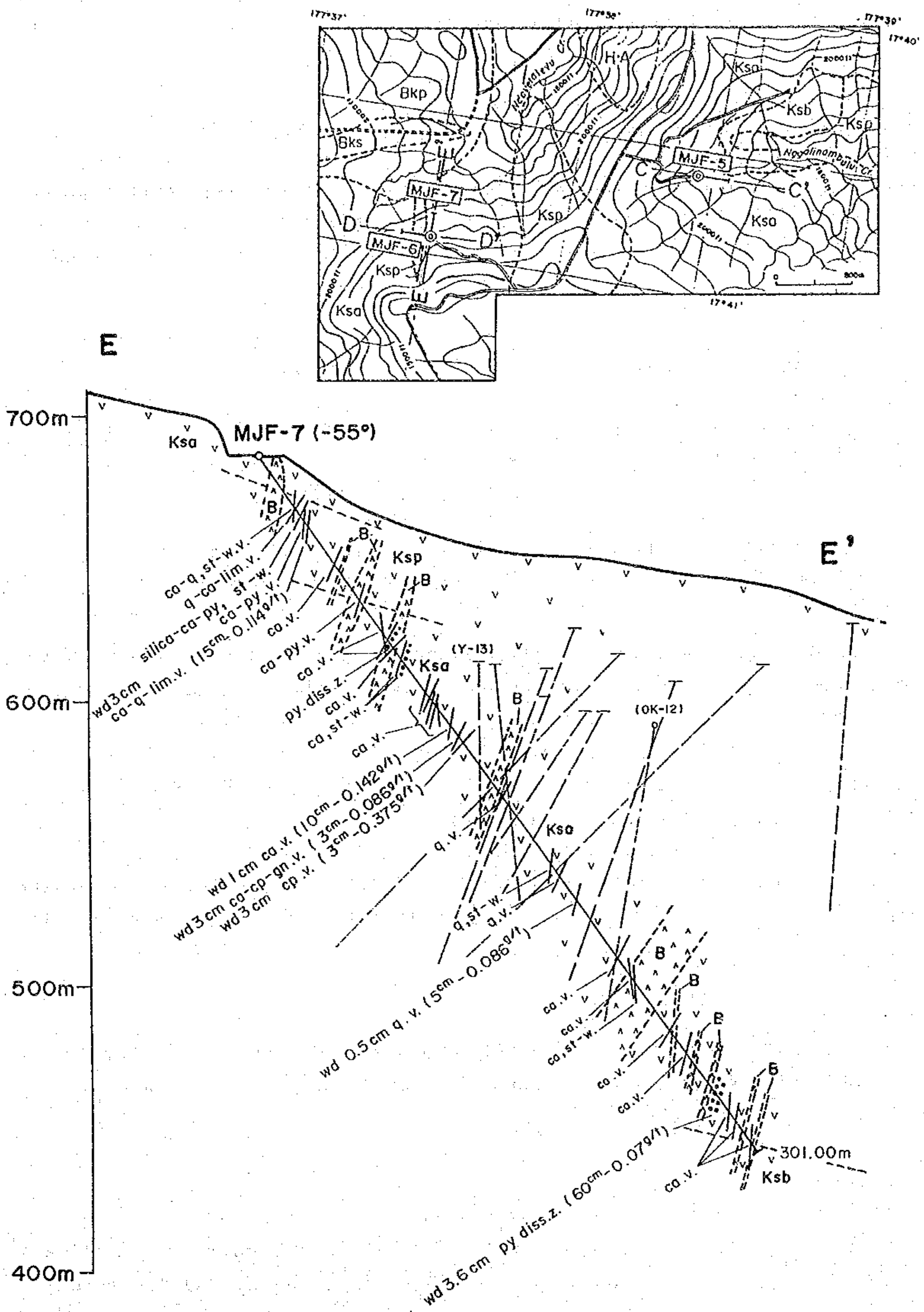


Fig. 2-3-7 Geological Profile of Drilling Hole (MJF-7)

lava is hyaloclastite with appearance resembling tuff breccia. There are many basalt dykes and they consist of hard and compact basalt.

<u>Mineralization and alteration:</u> Many veins were encountered in this borehole. They are thin veinlets of 0.5-25cm in width. They are mostly calcite veins, quartz-calcite veins, and quartz veins. Calcite-chalcopyrite-galena veins and chalcopyrite veins are rarely observed. There are a small number of weakly disseminated zones of pyrite. The ores which are confirmed in this borehole to have Au grade over 0.05g/t are as follows.

Depth(m)	Width(m)	Au g/t	Description
29.1 - 29.25	0.15	0.114	calcite-quartz-limonite vein
121.0 -121.1	0.1	0.142	Calcite vein
121.93-121.96	0.03	0.086	Calcite-chalcopyrite-galena vein
123.50-123.53	0.03	0.375	Chalcopyrite vein
191.4 -191.45	0.05	0.086	Quartz vein
277.0 -277.6	0.6	0.071	Pyrite dissemination zone

XRD of the veins showed that chlorite is common and in places the veins are associated with sericite, dolomite, adularia, calcite, marcasite, and pyrite. Potash feldspar was identified (26.8m, 82.35m and 275.7m) by sodium cobaltinitrite staining test in the veins. Chalcopyrite was found to be the common ore mineral with association of pyrite, bornite, galena, and stromeyerite by ore microscopy.

Bleached zones (several centimeters to 2m wide) occur often at the margin of the veins and the common constituents were found to be quartz, chlorite, adularia and calcite, with occasional association of smectite by XRD.

The host rock is generally strongly propylitized and quartz, chlorite, and calcite, are commonly found by XRD. Smectite, adularia and dolomite occur occasionally.

3-5 Discussions

Of the three boreholes drilled in this zone, MJF-5 is the least interesting in terms of number of veins, width of veins and the grade of ores. It was drilled through pyroclastics and fractured lava, and hard and compact dykes are not developed. On the other hand, wide veins occur concentrated between 163.93m and 181.9m depth of in Borehole MJF-6, and dykes are also concentrated in this part. It is, thus, evident that development of dykes and the veins are closely related in this zone as in the case of Nalotawa Zone.

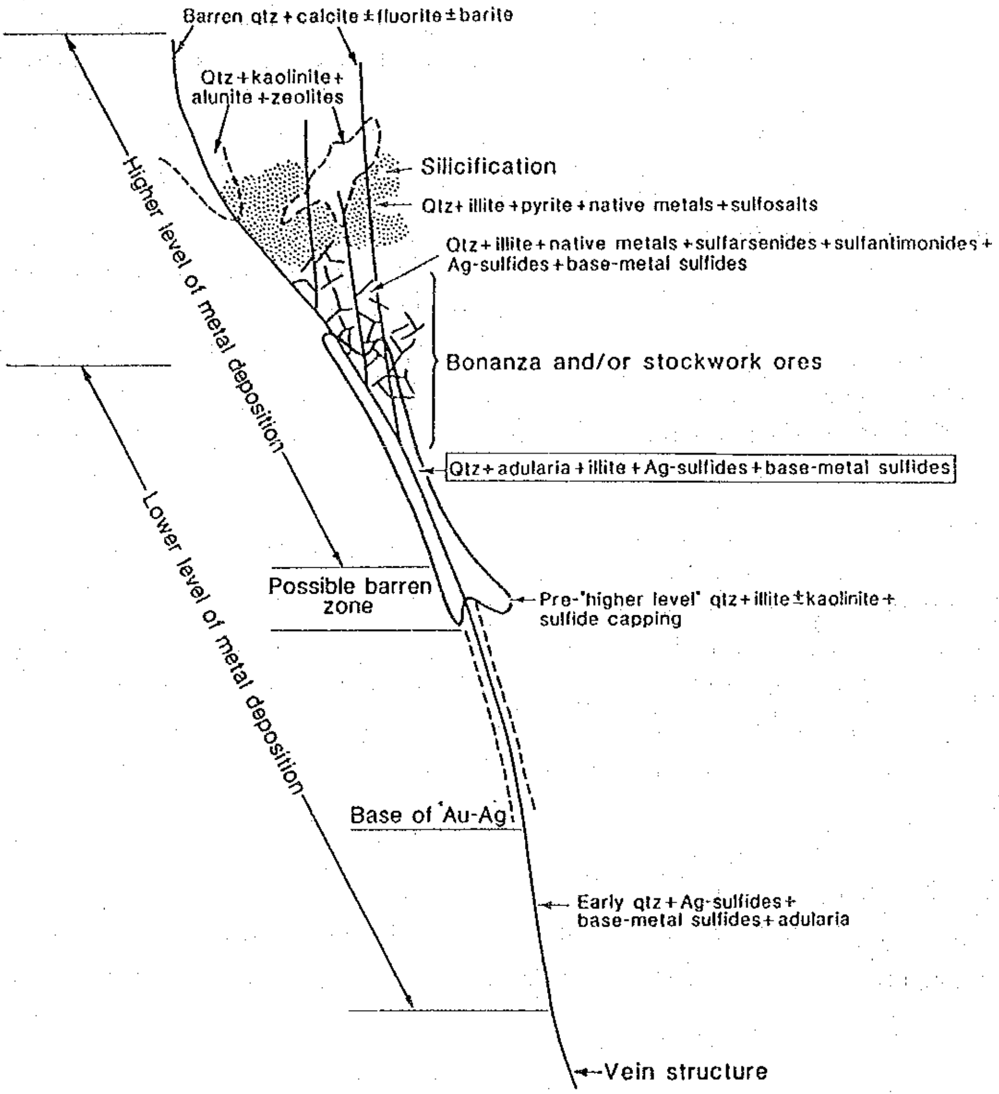
The common ore minerals of this zone are chalcopyrite and pyrite with rare occurrence of molybdenite, bornite, galena, and stromeyerite. Molybdenite usually occur in mesothermal to hypothermal deposits and not in epithermal environment. But it is reported from Cripple Creek (Colorado, USA) which is a Au-Ag-Te vein deposit and considered to be of epithermal or subvolcanic type. Stromeyerite is reported from epithermal Goldfield (Nevada, USA). It is concluded with the above examples, that the mineral assemblage of this borehole was formed under relatively deep epithermal environment.

The assemblage of major gangue minerals differ between those in the east (MJF-5) and west (MJF-6, 7). Those common to both groups are quartz, smectite, chlorite, sericite, calcite, and adularia. In the western veins, dolomite occur in addition to the above. The major assemblage is quartz-smectite-chlorite-calcite in the eastern veins while quartz-adularia in those of the west.

The assemblage of main alteration minerals near the veins also differ in the two groups (MJF-5 and MJF-6, 7). That common for both groups is quartz-chlorite-calcite-smectite with addition of sericite in the east and adularia in the west.

The assemblage of gangue and alteration minerals indicate low sulfidation epithermal environment of formation, and the western veins were probably formed under higher temperatures.

The mode of occurrence of the veins confirmed by drilling in this zone corresponds to the " quartz + adularia + illite + Ag sulfides + base metal sulfide zone" of the low sulfidation (quartz-adularia type) epithermal model (Berger and Eimon, 1983).



Schematic cross section of quartz-adularia or low sulfur bonanza deposit, Bonanza-IA model, showing alteration mineralogy and two zones of mineralization from the "closed cell convection" model of Berger and Eimon (1983).

Fig. 2-3-8 Schematic Cross Section of Low Sulfur Bonanza Deposit

Table 2-3-7 Results of Microscopic Observation of Thin Section (Drilling Cores)

Sample	Locality	Rock Name	Formation	Texture	Phenocryst/ Crystal Fragment							Groundmass/ Matrix										Altered Mineral
					Pl	Bi	Hb	Au	Ol	Ap	Op	Qz	Kf	Pl	Bi	Hb	Au	Ap	Op	Hem	Gl	
S3-1	MJF-3 39.4m	Ol-Bs	Bnb	Porph.	◎			◎	○		○			◎			△		○			Clay(Ol), dev(Gl)
S3-2	133.6	T-Br(Ol-Bs)	Bsp	(Porph.)	◎			◎	○		○			◎			△		○			Clay(Ol), dev(Gl)
S4-1	MJF-4 51.0m	Qz-Cal-Py Vein		—								◎										Pyrite-Clay common
S4-2	65.3	T-Br (Hb-Ad,	Bkp	(Porph.)	△		◎	○											○		◎	Clay(Pl), Ca(Hb), Ca(Gl)
		Ol-Bs)		(Porph.)	◎			○	○		○								○			Ca(Ol), dev(Gl), Ca-Clay(Gl)
S4-3	79.1	Hb-Ad	HA	Porph.	○		◎	○			○			○		○			○			Ca(Hb), dev(Gl), Ca(Gl)
S4-4	110.0	Alt Ad	HA	Porph.	○		○												○			Ca-Clay(Hb), Ca-Ab-Clay(Pl), Ca-Clay(Gl)
S4-5	145.8	Hb-Ad	HA	Porph.	◎		○	○			○			○	○				○			Op(Hb), Ca(Au), dev(Gl), Ca(Gl)
S4-6	163.4	Alt Ad	A	Porph.	◎		○															Ab(Pl), Act-Qz-Ca(Hb), Kf-Clay-Ca-Ap(Gl)
		Qz Vein	—	—								○	○									Clay
S4-7	238.5	T-Br (Hb-Ad)	Bkp	(Porph.)	○		○				○			○					○			Chl-Se(Hb), dev(Gl), Chl-Clay-Ca(Gl)
S4-8	263.0	Hb-Ad	HA	Porph.	◎		○	○			○			○					○			Chl(Au), dev(Gl), Cal(Gl)
S4-9	391.0	Bs	Bkb	Hialo.	◎			○						◎		△	△		○		○	Ca-Clay(Gl)
S5-1	MJF-5 35.7m	T-Br (Alt Ad)	Ksp	(Porph.)	◎			○?			○											Ca-Chl(Mf), Clay(Pl), Ca-Chl-Clay(Gl)
S5-2	236.6	T-Br (Alt Ad)	Ksp	(Porph.)	◎			○?			○											Ca-Chl(Mf), Se(Pl), Ca-Clay(Gl)
S6-1	MJF-6 33.1m	Alkali Bs	B	Porph.	○	○		◎		△	○											Clay(Au), Se-Clay(Pl), dev(Gl), Clay-Ca(Gl)
S6-2	64.0	Cal-Qz Vein	—	—								◎										Ca abundant
S6-3	141.8	Ad	Ksa	Porph.	○			○			○			○					△		◎	Ca-Clay(Au), Zeo or Clay(Pl), Clay(Gl)
S6-4	281.9	Alkali Bs	B	Porph.	◎	○		○		△	○							△	△			Ca(Pl), Ca-Clay(Au), dev(Gl), Clay-Ca(Gl)
S6-5	299.2	Bs	B	Porph.	○			◎			○							△	△			Ca-Clay(Au), Clay(Pl), dev(Gl)
S7-1	MJF-7 50.4m	Alt Bs	B	Porph.	○			◎			○			◎	△	△	○	△	○	△	○	Ca-Op-Smc(Au), Ca-Kao(Pl), Kao(Gl)
S7-2	236.4	Alt Bs	B	Porph.	◎			◎	○		○	○		◎	△		◎	△	○		△	Ca-Kao(Pl), Ca-Ill-Qz-Op(Au), Sep-Chl-Op-Hem(Ol), Kao(Gl), Ca Vein
S7-3	299.9	T-Br (Alt Bs)	Ksb	(Porph.)	◎		○	◎			○	○		◎		○	○	△		○		Ca-Kao(Pl), Ca-Op-Chl-Ill(Au), Qz-Ca-Bi-Hem(Hb), Ca Vein, Ca-Qz Vein

Abundance of minerals ◎:abundant, ○:common, △:few

Abbreviation Texture Porph.:Porphyritic, Hialo.:Hialopiritic

Mineral Pl:Plagioclase, Bi:Biotite, Hb:Hornblende, Au:Augite, Ol:Olivine, Ap:Apatite, Op:Opaque mineral, Kf:K-feldspar, Gl:Glass, Qz:Quartz, Hem:Hematite, Mf:Mafic minerals, Ca:Carbonate minerals, Ab:Albite, Clay:Clay minerals, Chl:Chlorite, Se:Sericite, Act:Actinolite, Ill:Illite, Smc:Smectite, Sep:Serpentine, Zeo:Zeolite, dev:devitrified

Rock Ad:Andesite, Bs:Basalt, T-Br:Tuff Breccia, Alt:Altered

Table 2-3-8 Results of Microscopic Observation of Polished Section (Drilling Cores)

No.	Location	Description	Cp	Bo	Po	Py	Mg	Iℓ	Goe	Hem	Sph	Gn	Mo	Str	Remarks (*)
P4-1	**MJF-4** 51.0m	Qtz-Cal-Py vein				○									
P4-2	100.5	Clay-Py network				○									
P4-3	117.0	Clay-Cal-Py network				*○			△						partly replaced by Goe
P4-4	119.4	Clay-Cal-Py network				*○			△						partly replaced by Goe
P4-5	144.9	Cal vein				○									
P4-6	146.0	Py-Cp dis rock	▲			○	○	○							
P4-7	163.4	Silica-Cal-Py vein with black band	△			○	○	○			△				
P4-8	196.5	Reddish gray mineral dis rock			*△	◎	△		△						only inclusions in Py
P4-9	250.0	Cal-Py-Clay vein				*○			△						partly replaced by Goe
P4-10	349.0	Cal-Py-Lim vein				○	△	△							
P6-1	**MJF-6** 180.5m	Py vein	△			◎									
P6-2	181.8	Cal-Cp vein (network)	○			△	△						△		
P7-1	**MJF-7** 121.95m	Cal-Cp-Gn vein (network)	◎	△		△						○		▲	
P7-2	123.5	Cp dis massive ore	◎											▲	
P7-3	276.2	Py dis alt. rock	△			◎									

Abbreviations:

◎:Abundant ○:Common △:Few ▲:Rare

Cp:Chalcopyrite, Bo:Bornite, Po:Pyrrhotite, Py:Pyrite, Mg:Magnetite, Iℓ:Ilmenite, Goe:Goethite, Hem:Hematite, Sph:Sphalerite, Gn:Galena, Mo:Molybdenite, Str:Stromeyerite

Qtz:Quartz, Lim:Limonite, Cal:Calcite, dis:disseminated, alt.:altered

Table 2-3-9 Results of X-ray Diffraction Analysis (Outcrops)

Location : Yaloku

Sample	Clay minerals											Silica m.			Feld.		Sulfates			Carbon.		Oxides, Hydroxides					Sulfides			Others		
No.	SME	CHL	SER	KAO	HA	PYP	TAL	S/M	C/M	K/M	ZEO	QTZ	ACR	TRI	PLA	KFL	ALU	JAR	GYP	CAL	DOL	DIA	GB	GOE	HEM	MAG	MAR	PYR	SPH	OLI	AMP	PX
YX- 1	○	▲										○			○	△A				△								▲?				
YX- 2		△	△									○				○A												▲				
YX- 3		△	△									○				○A					○											
RX- 3	○	△	△									○			○					○												
RX- 6		△	○									○								△												

Location : Nalotawa

Sample	Clay minerals											Silica m.			Feld.		Sulfates			Carbon.		Oxides, Hydroxides					Sulfides			Others		
No.	SME	CHL	SER	KAO	HA	PYP	TAL	S/M	C/M	K/M	ZEO	QTZ	ACR	TRI	PLA	KFL	ALU	JAR	GYP	CAL	DOL	DIA	GB	GOE	HEM	MAG	MAR	PYR	SPH	OLI	AMP	PX
SM401	○			▲								◎			△													○				
SM415-1	○			▲								○			△	○												○				

Abbreviations: ◎:Abundant ○:Common △:Few ▲:Rare

SME : Smectite, CHL : Chlorite, SER : Sericite, KAO : Kaolinite, HA : Halloysite, PYP : Pyrophyllite, TAL : Talc, Mon : Montmorillonite, S/M : Ser/Mon mixed layer mineral, C/M : Chl/Mon mixed layer mineral, K/M : Kao/Mon mixed layer mineral, ZEO : Zeolite, QTZ : Quartz, ACR : *d*-Cristobalite, TRI : Tridymite, PLA : Plagioclase, KFL : Potassium feldspar, ALU : Alunite, JAR : Jarosite, GYP : Gypsum, CAL : Calcite, DOL : Dolomite, DIA : Diaspore, GB : Gibbsite, GOE : Goethite, HEM : Hematite, MAG : Magnetite, MAR : Marcasite, PYR : Pyrite, SPH : Sphalerite, OLI : Olivine, AMP : Amphibole, PX : Pyroxene A:Adularia

Table 2-3-10 Results of X-Ray Diffraction Analysis (Drilling Cores)

Sample No.	Location	Clay minerals								Silica		Feldspar		Carbon.		Oxides		Sulfides		Others			
		SME	CHL	SER	KAO	HLS	TC	C/M	S/M	QTZ	TRI	PLA	KFL	CAL	DOL	MAG	CRM	PYR	MCS	AMP	BIO	ZEO	GYP
X3- 1	MJF-3, 61.4m	○												◎									
X3- 2	195.0	○		△?			△?				○	○		△								△?	
X4- 1	MJF-4, 28.0m					○				○			△A					○					
X4- 2	50.2	○					○			○		○		○				○					
X4- 3	51.0									◎				○				○					
X4- 4	70.0	△				△				○		○		△			○?	△		▲?	△?		
X4- 5	100.5	○		△					○?	◎				○				○					
X4- 6	117.5	○		○						◎				○				○					
X4- 7	136.8	○								○		◎	○					△					
X4- 8	160.0	○	▲?				▲?			○		○	△	○				△		▲			
X4- 9	190.0	○	▲				△			○		○	△	△				△					
X4-10	228.0	△	△							◎		○	△	△				△					
X4-11	250.0			○						◎								○					
X4-12	285.0	○	△?	▲?						◎		◎		○				△					
X4-13	315.0	△	▲							○		○	△A	○				△					
X4-14	355.0	○								○		◎		○				○					
X4-15	391.0	△					△			○		◎	○?	△				△?					
X4-16	396.3	△	▲?							○				◎	◎								◎
X5- 1	MJF-5, 24.0m	△	△					△?		○		○		○									
X5- 2	39.7	△	○							○		○		○				▲?					
X5- 3	75.55	○	○	△?				○?		◎		○		○				▲					
X5- 4	75.6	○	△?							◎				◎				▲					
X5- 5	120.5	△	△							○		○		◎				○					
X5- 6	173.4		△							◎		○											
X5- 7	211.2	△	△	○						○		△		◎									
X5- 8	219.0	○	△	△						○		○		○									
X5- 9	249.0		△	△						◎		○		◎									
X5-10	278.9	○	△	▲						◎		○		○									
X5-11	285.0	◎	▲	△						◎		○											
X5-12	294.0		△	▲						◎		○		○									
X5-13	299.6		△	△						◎		○		○									
X6- 1	MJF-6, 50.0m			△						○			△A	△									
X6- 2	64.0		▲							◎		△			◎			▲					
X6- 3	65.5	△		▲	△?					○		○	○A					△					
X6- 4	137.4	△	△							○		○	△A	○									
X6- 5	166.0		▲	○						◎			○A					○					
X6- 6	168.7	○		△?	△					○			○A	△	○								
X6- 7	176.0		△	△						○		△	○A		○			△					
X6- 8	180.5		▲	▲						○			○A	○	○			△					
X6- 9	181.4		▲	○						○			○A		○			△					
X6-10	228.0		△	△						○			○A		○			△					
X6-11	285.3	△	△	▲?						○			○A	◎									
X6-12	298.3	△	△	△						○		○	○A	○				○					
X7- 1	MJF-7, 28.1m		▲	○						◎					○								
X7- 2	50.4	○	△	▲?						○		○	○A	○	○				○?				
X7- 3	82.9		△	△						○			○A	○	○	△			○				
X7- 4	104.1		△							○			○A	◎									
X7- 5	123.4	○	△							○			○A	○									
X7- 6	176.2		○							○		○	○A	△					○				
X7- 7	275.0		△	△?						○		○	△	○				△					
X7- 8	297.0		△							○		○		◎									

Abbreviations: ◎:Abundant ○:Common △:Few ▲:Rare
SME:Smectite, CHL:Chlorite, SER:Sericite, KAO:Kaolinite, HLS:Halloysite, TC:Talc,
C/M:CHL/SME mixed layer mineral, S/M:SER/SME mixed layer mineral, QTZ:Quartz, TRI:Tridymite,
PLA:Plagioclase, KFL:Potassium feldspar, CAL:Calcite, DOL:Dolomite, MAG:Magnetite, CRM:Corundum,
PYR:Pyrite, MCS:Marcasite, AMP:Amphibole, BIO:Biotite, ZEO:Zeolite, GYP:Gypsum A:Adularia

Table 2-3-11 Assemblage of Ore, Gangue and Alteration Minerals

Area		Nayanggali	Nalotawa		Eastern part* of Yaloku		Western part of Yaloku		
		MJF-3	Outcrops	MJF-4	Outcrops	MJF-5	Outcrops	MJF-6	MJF-7
Host Rock	Name	Ol-Bs	Bs	Hb-Ad, Bs	Ad	Ad	Ad	Ad, Bs	Ad, Bs
	Alteration	Sm-Tri-Cal	K/M-S/M-Ser-Sm	Qz-Sm-Py-Cal>(Chl)-(Adul)	Qz-Chl-Ser-(Sm)-Cal	Qz-Chl-Cal>(Sm)U.-(Ser)L.	Qz-Adul-Chl-Ser-(Cal)-(Sm)	Qz-Ser-Adul-Cal>Sm-(Chl)-(Py)	Qz-Chl-Cal>(Sm)-(Adul)-(Dol)
Vein	Ore Mineral	−	Py	Py-(Mg)-(Iℓ)-(Goe)-(Cp)-(Sph)	Cp-Py	(Py)	Py	Py-Cp-(Mg)-(Mo)	Cp-(Py)-(Bo)-(Gn)-(Str)
	Gangue Mineral	−	Qz-Sm-Kao	Qz-Cal>Sm-Ser»(Dol)-(Gyp)-(Kf)	Qz-Chl-Ser-Cal	Qz-Sm-Chl-Cal>(Ser)>《Kf》	Qz-Adul	Qz-Adul-(Chl)-(Ser)-(Sm)-(Dol)-(Cal)	Qz>Adul-Chl-(Ser)-(Dol)-(Cal)
Adjacent to Quartz Vein (Bleached Zone)		−		Qz-Sm-Cal-Adul Py-Tc	Qz-Sm-Chl-Ser-Cal	Qz-Chl-Ser-Cal>(Sm)	Qz-Sm-Cal-Adul>Chl	Qz-Sm-Adul-(Chl)-(Cal)-(Py)	Qz-Chl-Adul-Cal>(Sm)

Abbreviations:

Ol-Bs: Olivine-Basalt, Hb-Ad: Hornblende-Andesite, Bs: Basalt

Sm: Smectite, Tri: Tridymite, Kf: Potassium feldspar, Qz: Quartz, Chl: Chlorite, Cal: Calcite, Ser: Sericite, Dol: Dolomite, Gyp: Gypsum, Adul: Adularia, Tc: Talc, Mon: Montmorillonite, K/M: Kao/Mon mixed layer minaral, S/M: Ser/Mon mixed layer mineral, Py: Pyrite, Cp: Chalcopyrite, Bo: Bornite, Gn: Galena, Str: Stromeyerite, Mg: Magnetite, Mo: Molybdenite, Iℓ: Ilmenite, Goe: Goethite, Sph: Sphalerite

U.: upper part, L.: lower part, ( ): local, 《 》: rare

*: Rara village area

Table 2-3-12 Results of Chemical Analysis of Ore Samples (Outcrops)

Sample No.	Location	Description	Dip-strike	Width (cm)	Ore Grade Au g/t	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
SW401	Nalotawa	Py-Sil vein	N42°W, 90°	40	<0.005	<2	90	10	80	1.0	
SW402	Nalotawa	Clay-Py vein	N 1°W, 80°W	20	0.005	<2	120	<5	115	0.2	
SW403	Nalotawa	Py-Clay alt. r.	–	100	<0.005	<2	105	10	115	0.1	
SW404	Nalotawa	Py-Clay alt. r.	–	300	<0.005	<2	75	15	55	1.4	
SW405	Nalotawa	Py-Clay alt. r.	–	300	<0.005	<2	95	15	90	0.6	
SW406	Nalotawa	Py-Clay alt. r.	–	300	0.022	<2	90	10	100	0.3	
SW407	Nalotawa	Clay-Py vein	N42°W, 90°	30	<0.005	<2	35	40	35	1.4	
SW409	Nalotawa	Clay-Limo vein	N13°E, 85°W	40	<0.005	<2	80	<5	135	<0.1	
SW411	Nalotawa	Clay-Py vein	N23°E, 80°E	60	<0.005	<2	55	10	60	<0.1	
SW412	Nalotawa	Py-Clay vein	N 7°W, 80°W	20	<0.005	<2	65	10	85	<0.1	
SW413	Nalotawa	Clay-Py vein	N18°E, 75°E	50	0.009	<2	120	15	75	<0.1	
SW414	Nalotawa	Clay-Py vein	N36°E, 65°E	40	0.016	<2	80	10	35	1.8	
SW415-1	Nalotawa	Clay-Py vein	N13°E, 85°E	100	0.007	<2	95	30	85	1.2	
SW415-2	Nalotawa	Clay-Py vein	N28°E, 70°W	100	0.006	<2	120	20	100	0.8	
SW416	Nalotawa	Clay-Py vein	N50°W, 85°S	5	0.024	<2	135	15	280	<0.1	
SW418	Nalotawa	Clay-Py vein	N11°W, 85°W	30	<0.005	<2	55	15	55	<0.1	
SW419	Nalotawa	Clay-Py vein	N71°E, 85°S	80	<0.005	<2	45	10	60	<0.1	
SW420	Nalotawa	Clay-Py vein	N58°E, 75°N	30	<0.005	<2	80	10	90	0.5	
SW422	Nalotawa	Clay-Py vein	N43°W, 80°E	100	<0.005	<2	45	10	125	0.4	
SW-7	Nalotawa	Limo network	N25°E, 50°W	100	<0.005	<2	30	10	75	1.7	
Y-4A	Yaloku	Qtz vein float(wh. p.)	–	–	0.005	<2	–	–	–	–	
Y-4B	Yaloku	ditto (bl. banded p.)	–	–	0.005	<2	–	–	–	–	
Y-5	Yaloku	Silicified rock float	–	–	<0.005	<2	–	–	–	–	
Y-9	Yaloku	Qtz-Limo-Py vein	N83°E, 55°S	8	0.022	<2	130	9	210	1.9	
Y-10	Yaloku	Qtz-Limo-Clay vein	N87°E, 30°S	15	0.011	<2	120	<5	400	5.0	
Y-12	Yaloku	Qtz-Py vein	N58°E, 50°S	3	0.041	<2	270	330	900	3.9	
Y-13	Yaloku	Qtz vein	N73°E, 90°	3	0.020	<2	270	450	120	3.1	
Y-14	Yaloku	Clay-Py vein	N33°W, 60°N	10	0.030	<2	180	23	49	3.1	
Y-15	Yaloku	Qtz vein	N87°E, 75°S	3	0.021	<2	210	17	70	6.0	
Y-16	Yaloku	Qtz vein	N13°E, 80°E	20	0.186	<2	270	40	2000	10	
Y-17	Yaloku	Qtz vein	N87°W, 60°S	3	0.104	<2	160	20	71	3.8	
Y-203	Yaloku	Qtz vein	N63°E, 85°S	5	0.047	<2	190	12	39	4.6	
RA-4	Yaloku	Qtz vein	N57-80°W, 70°S	2	0.008	<2	44	8	46	5.0	
RA-5	Yaloku	Qtz vein	N27°W, 90°	3	0.006	<2	250	6	88	4.5	
SW12	Yaloku	Qtz-Limo vein	N 7°W, 60°W	5	<0.07	0.4	200	600	<100	<10	<10
OK3	Yaloku	Qtz-Limo vein	E-W, 60°S	25	<0.07	1.0	300	200	<100	<10	<10
OK5	Yaloku	Qtz-Limo vein	N45°E, 90°	5	<0.07	1.0	500	200	<100	<10	<10
OK6	Yaloku	Qtz vein	N25°E, 85°E	3	<0.07	<0.3	500	100	<100	<10	<10
OK8	Yaloku	Cal vein	N42°W, 50°W	5	<0.07	0.8	500	100	<100	<10	<10
OK9	Yaloku	Py-Clay vein	N53°E, 60°S	15	<0.07	<0.3	100	100	<100	<10	<10
OK11	Yaloku	Qtz vein	N63°W, 75°S	5	0.14	2.7	400	500	<100	<10	<10
OK13	Yaloku	Qtz-Limo vein	N52°W, 60°S	5	<0.07	<0.3	<100	100	<100	<10	20
OK14	Yaloku	Qtz-Cal vein	N57°W, 50°S	2	<0.07	0.3	900	100	<100	<10	<10
OK15	Yaloku	Qtz vein	N22°W, 75°W	2	<0.07	<0.3	100	<100	<100	<10	<10
OK17	Yaloku	Qtz-Cal vein	N63°E, 70°S	3	<0.07	<0.3	<100	<100	<100	<10	<10
KK6	Yaloku	Qtz vein	N-S, 84°W	1	<0.07	<0.3	200	100	<100	<10	<10
KK8	Yaloku	Silicified rock	–	10	<0.07	<0.3	100	200	<100	<10	<10

Abbreviation Qtz:Quartz, Py:Pyrite, Cal:Calcite, Limo:Limonite, Sil:Silicification, alt. r.:altered rock, wh.:white, bl.:black, p.:part

Table 2-3-13 Results of Chemical Analysis of Ore Samples (Drilling Cores, 1 of 3)

Sample No.	Depth	Width	Ore Grade						
	m m	m	Au g/t	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
MJF-3 DC3-1	174.6 ~174.9	0.3	0.026	<2	190	<5	110	3.6	
MJF-4 DC4-3	48.5 ~ 48.55	0.05	0.043	<2	115	10	10	10.0	
DC4-27	50.3 ~ 50.9	0.6	0.040	<2	115	5	30	4.0	
DC4-1	50.9 ~ 51.4	0.5	0.116	<2	245	10	10	1.8	
DC4-28	51.4 ~ 52.4	1.0	0.082	<2	195	5	20	3.0	
DC4-4	60.1 ~ 60.25	0.15	0.009	<2	35	15	10	4.4	
DC4-29	60.25~ 60.9	0.65	0.032	<2	85	10	30	2.0	
DC4-5	60.9 ~ 60.95	0.05	0.011	<2	55	20	30	5.2	
DC4-30	60.95~ 62.1	1.15	0.029	<2	145	5	35	2.2	
DC4-6	64.5 ~ 64.53	0.03	0.033	<2	65	10	10	17	
DC4-7	100.2 ~101.2	1.0	0.163	<2	520	10	50	2.6	
DC4-8	101.2 ~102.2	1.0	0.125	<2	500	20	135	1.7	
DC4-9	102.2 ~103.4	1.2	0.160	<2	635	10	105	1.9	
DC4-31	115.6 ~116.6	1.0	0.318	<2	345	5	120	1.4	
DC4-32	116.6 ~117.6	1.0	0.520	<2	485	5	225	2.4	
DC4-33	117.6 ~118.6	1.0	0.241	<2	760	10	155	1.8	
DC4-34	118.6 ~119.6	1.0	0.394	<2	820	10	110	2.1	
DC4-35	119.6 ~120.6	1.0	0.178	<2	500	5	135	1.1	
DC4-36	120.6 ~121.6	1.0	0.189	<2	440	15	100	1.2	
DC4-37	121.6 ~122.6	1.0	0.126	<2	345	10	110	1.2	
DC4-38	122.6 ~123.6	1.0	0.104	<2	275	20	90	1.4	
DC4-39	123.6 ~124.6	1.0	0.143	<2	395	10	95	2.0	
DC4-40	124.6 ~125.6	1.0	0.095	<2	310	10	90	1.6	
DC4-41	125.6 ~126.6	1.0	0.220	<2	600	10	90	1.3	
DC4-42	126.6 ~127.6	1.0	0.160	<2	435	10	75	2.0	
DC4-43	127.6 ~128.6	1.0	0.093	<2	335	15	85	1.5	
DC4-44	128.6 ~129.6	1.0	0.083	<2	305	10	80	1.2	
DC4-45	129.6 ~130.6	1.0	0.085	<2	365	10	105	1.1	
DC4-46	130.6 ~131.6	1.0	0.079	<2	395	10	90	1.0	
DC4-47	131.6 ~132.6	1.0	0.077	<2	345	5	100	1.1	
DC4-48	132.6 ~133.7	1.1	0.081	<2	370	5	90	1.5	
DC4-10	144.8 ~145.0	0.2	0.091	<2	400	10	110	0.6	
DC4-49	145.0 ~146.0	1.0	0.057	<2	190	5	80	1.0	
DC4-11	158.1 ~158.11	0.01	0.052	<2	210	15	155	0.4	
DC4-2	159.4 ~159.45	0.05	0.027	<2	180	10	785	<0.1	
DC4-12	163.4 ~163.43	0.03	0.032	<2	205	15	255	<0.1	
DC4-13	168.0 ~168.2	0.2	0.019	<2	200	20	250	<0.1	
DC4-14	168.4 ~168.42	0.02	0.025	<2	245	25	185	0.5	
DC4-50	196.5 ~196.8	0.3	<0.005	<2	155	10	260	0.2	
DC4-51	213.0 ~213.2	0.2	0.017	<2	75	50	205	0.2	
DC4-52	214.0 ~214.5	0.5	0.030	<2	110	5	80	0.2	
DC4-15	249.9 ~250.3	0.4	0.015	<2	95	15	40	1.2	
DC4-53	270.2 ~271.2	1.0	<0.005	<2	75	<5	115	0.4	
DC4-16	290.6 ~290.63	0.03	0.005	<2	40	5	155	<0.1	
DC4-17	292.0 ~292.2	0.2	0.008	<2	55	15	155	0.4	
DC4-18	293.6 ~293.8	0.2	0.007	<2	45	45	330	<0.1	
DC4-19	297.7 ~298.3	0.6	0.008	<2	60	30	180	1.1	
DC4-54	302.7 ~303.5	0.8	<0.005	<2	45	<5	135	0.2	
DC4-55	318.9 ~319.3	0.4	0.009	<2	35	<5	115	1.3	
DC4-56	332.6 ~332.8	0.2	0.019	<2	65	<5	90	2.4	
DC4-20	335.0 ~335.01	0.01	0.008	<2	60	15	120	2.8	
DC4-21	349.0 ~349.01	0.01	0.043	<2	55	5	155	0.6	
DC4-22	349.7 ~350.1	0.4	0.016	<2	70	5	75	0.8	
DC4-57	354.8 ~355.8	1.0	0.013	<2	65	<5	65	1.1	
DC4-58	355.8 ~356.8	1.0	<0.005	<2	60	<5	75	1.0	

Table 2-3-13 Results of Chemical Analysis of Ore Samples (Drilling Cores, 2 of 3)

Sample No.	Depth	Width	Ore Grade						
	m m	m	Au g/t	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
MJF-4 DC4-59	372.1 ~373.1	1.0	0.016	<2	60	<5	105	2.0	
DC4-23	377.3 ~377.31	0.01	0.023	<2	70	10	40	0.8	
DC4-60	379.2 ~380.2	1.0	0.010	<2	70	<5	60	0.2	
DC4-24	382.8 ~382.83	0.03	0.016	<2	75	15	35	0.6	
DC4-25	395.6 ~395.62	0.02	0.009	<2	40	<5	70	<0.1	
DC4-26	396.3 ~396.5	0.2	<0.005	<2	35	<5	60	<0.1	
MJF-5 DC5-1	24.37~ 24.44	0.07	0.021	<2	140	7	44	1.9	
DC5-2	33.35~ 33.45	0.1	0.011	<2	120	9	370	5.3	
DC5-3	39.65~ 39.75	0.1	<0.005	<2	59	6	211	3.4	
DC5-4	44.76~ 44.84	0.08	0.005	<2	200	8	480	5.9	
DC5-5	51.45~ 51.55	0.1	0.014	<2	66	8	180	2.9	
DC5-6	69.45~ 69.55	0.1	0.018	<2	57	6	79	4.2	
DC5-7	73.6 ~ 73.7	0.1	0.005	<2	110	<5	75	1.0	
DC5-8	75.5 ~ 75.6	0.1	0.017	<2	56	<5	62	2.6	
DC5-9	75.6 ~ 75.7	0.1	<0.005	<2	82	<5	8	0.4	
DC5-10	75.7 ~ 75.8	0.1	0.005	<2	520	6	64	2.8	
DC5-11	80.3 ~ 80.33	0.03	0.013	<2	2400	6	67	3.1	
DC5-12	86.98~ 87.03	0.05	<0.005	<2	230	5	110	16.5	
DC5-13	88.25~ 88.35	0.1	0.021	<2	150	7	240	4.7	
DC5-14	89.3 ~ 89.5	0.2	0.013	<2	240	6	92	1.6	
DC5-15	116.2 ~116.3	0.1	0.014	<2	100	9	88	2.1	
DC5-16	120.45~120.55	0.1	0.015	<2	450	8	64	3.4	
DC5-17	137.4 ~137.53	0.13	0.006	<2	55	6	150	1.9	
DC5-18	149.28~149.33	0.05	0.023	<2	6400	7	110	3.6	
DC5-19	165.2 ~165.3	0.1	0.038	<2	460	12	290	4.3	
DC5-20	165.5 ~165.9	0.4	0.010	<2	57	<5	76	2.3	
DC5-21	211.5 ~212.0	0.5	0.008	<2	89	14	480	4.8	
DC5-22	239.2 ~239.4	0.2	0.027	<2	67	12	290	3.9	
DC5-23	271.05~271.12	0.07	0.070	<2	170	12	74	2.7	
DC5-24	274.55~274.65	0.1	0.037	<2	140	7	220	3.9	
DC5-25	278.7 ~279.1	0.4	0.114	<2	95	6	90	1.3	
DC5-26	284.8 ~285.7	0.9	0.013	<2	58	28	81	2.2	
DC5-27	293.88~293.93	0.05	0.028	<2	240	7	71	3.2	
MJF-6 DC6-1	63.5 ~ 64.0	0.5	0.058	<2	98	7	440	1.5	
DC6-2	64.0 ~ 64.1	0.1	0.056	<2	38	11	54	0.4	
DC6-3	64.1 ~ 64.6	0.5	0.028	<2	110	11	1350	3.9	
DC6-4	64.6 ~ 65.8	1.2	0.046	<2	81	8	300	1.5	
DC6-5	86.2 ~ 86.4	0.2	0.061	<2	330	5	85	2.1	
DC6-6	135.4 ~135.55	0.15	0.036	<2	79	7	1230	5.2	
DC6-7	154.7 ~155.0	0.3	0.072	<2	300	310	110	3.3	
DC6-8	156.0 ~157.0	1.0	0.086	<2	240	20	86	7.2	
DC6-9	157.0 ~158.0	1.0	0.014	<2	220	17	1980	8.3	
DC6-10	163.93~164.1	0.17	0.036	<2	160	11	45	2.8	<5
DC6-11	164.1 ~165.0	0.9	0.037	<2	190	10	1780	9.5	8
DC6-12	165.0 ~165.5	0.5	0.099	3	170	35	850	5.4	<5
DC6-13	165.5 ~166.3	0.8	0.016	3	210	19	47	4.0	5
DC6-14	166.3 ~167.3	1.0	0.025	<2	220	14	1260	7.2	<5
DC6-15	167.3 ~168.0	0.7	0.047	<2	230	12	1100	6.1	<5
DC6-16	168.0 ~168.6	0.6	0.15	<2	200	13	1050	3.1	<5
DC6-17	168.6 ~169.0	0.4	0.025	<2	190	10	85	2.9	7
DC6-18	175.35~175.6	0.25	0.014	<2	210	12	120	4.5	<5
DC6-19	175.6 ~176.2	0.6	0.052	<2	180	11	54	3.0	6
DC6-20	176.2 ~177.3	1.1	0.015	<2	180	13	360	4.5	<5
DC6-21	177.3 ~177.5	0.2	0.048	<2	190	15	1100	7.1	<5
DC6-22	177.5 ~178.5	1.0	0.031	<2	190	18	1300	6.8	<5

Table 2-3-13 Results of Chemical Analysis of Ore Samples (Drilling Cores, 3 of 3)

Sample No.	Depth	Width	Ore Grade						
	m m	m	Au g/t	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
MJF-6 DC6-23	178.5 ~179.2	0.7	0.027	<2	190	19	110	4.4	<5
DC6-24	179.2 ~180.4	1.2	0.036	<2	270	17	63	2.8	<5
DC6-25	180.4 ~180.55	0.15	0.20	4	640	78	56	1.0	6
DC6-26	180.55~181.3	0.75	0.045	<2	630	470	78	3.1	<5
DC6-27	181.3 ~181.9	0.6	0.080	<2	770	650	2180	3.0	<5
DC6-28	190.85~190.95	0.1	0.025	<2	140	22	1100	4.3	
DC6-29	195.3 ~195.35	0.05	0.059	<2	72	9	74	1.0	
DC6-30	195.35~196.7	1.35	0.036	<2	190	12	120	3.0	
DC6-31	201.8 ~202.1	0.3	0.039	<2	250	14	130	2.8	
DC6-32	212.6 ~212.85	0.25	0.028	<2	160	8	99	3.8	
DC6-33	219.35~219.41	0.06	0.007	<2	160	8	87	2.3	
DC6-34	223.45~223.6	0.15	0.043	<2	92	7	740	4.0	
DC6-35	224.7 ~224.9	0.2	0.045	<2	230	12	1890	2.4	
DC6-36	227.7 ~228.4	0.7	0.026	<2	230	10	80	3.0	
DC6-37	229.5 ~229.8	0.3	0.023	<2	270	9	1550	6.6	
DC6-38	277.7 ~277.8	0.1	0.031	<2	250	31	1400	2.9	
DC6-39	285.3 ~285.36	0.06	0.015	<2	240	10	49	2.4	
DC6-40	296.7 ~297.2	0.5	0.015	<2	210	11	660	3.2	
MJF-7 DC7-1	21.65~ 21.9	0.25	0.013	<2	150	7	79	3.6	
DC7-2	22.15~ 22.25	0.1	0.013	<2	450	<5	68	3.2	
DC7-3	25.2 ~ 25.4	0.2	0.037	<2	140	8	59	2.0	
DC7-4	26.8 ~ 26.85	0.05	0.015	<2	120	10	1200	5.9	
DC7-5	28.1 ~ 28.4	0.3	0.010	<2	160	11	2100	7.8	
DC7-6	29.1 ~ 29.25	0.15	0.114	<2	170	8	2400	1.5	
DC7-7	76.9 ~ 77.15	0.25	0.014	<2	120	45	120	2.9	
DC7-8	77.8 ~ 78.8	1.0	<0.005	<2	180	13	94	4.9	
DC7-9	82.35~ 82.38	0.03	0.040	<2	340	900	850	4.3	
DC7-10	85.9 ~ 86.0	0.1	0.009	<2	180	29	2200	4.1	
DC7-11	86.5 ~ 86.7	0.2	0.012	<2	150	17	94	9.2	
DC7-12	102.1 ~102.13	0.03	0.013	<2	530	177	82	6.2	
DC7-13	104.1 ~104.45	0.35	0.006	<2	210	38	110	7.0	
DC7-14	108.0 ~108.15	0.15	<0.005	<2	150	12	82	4.2	
DC7-15	117.4 ~117.43	0.03	0.014	<2	160	13	560	10	
DC7-16	121.0 ~121.1	0.1	0.142	14	2500	19	2100	9.3	<5
DC7-17	121.93~121.96	0.03	0.086	22	4000	2100	56	1.6	<5
DC7-18	122.8 ~123.3	0.5	0.005	<2	85	21	370	3.8	<5
DC7-19	123.5 ~123.53	0.03	0.375	880	67600	17	760	4.0	<5
DC7-20	176.1 ~176.3	0.2	0.021	<2	600	27	1400	9.1	
DC7-21	180.5 ~180.53	0.03	0.027	<2	420	13	88	3.3	
DC7-22	191.4 ~191.45	0.05	0.086	<2	700	36	2300	6.8	
DC7-23	224.5 ~224.6	0.1	0.007	<2	88	12	1600	10	
DC7-24	246.7 ~247.2	0.5	0.018	<2	210	8	450	3.5	
DC7-25	274.0 ~275.0	1.0	0.016	<2	210	21	2100	11	
DC7-26	275.0 ~276.0	1.0	0.017	<2	190	12	2000	9.4	
DC7-27	276.0 ~277.0	1.0	0.015	<2	210	8	83	3.4	
DC7-28	277.0 ~277.6	0.6	0.071	<2	230	10	79	3.2	
DC7-29	282.0 ~282.05	0.05	0.011	<2	170	9	78	7.2	
DC7-30	292.7 ~293.1	0.4	0.005	<2	190	9	73	6.7	
DC7-31	296.7 ~297.1	0.4	0.025	<2	141	6	77	1.6	

PART III CONCLUSIONS AND RECOMMENDATIONS

PART III CONCLUSIONS AND RECOMMENDATIONS

Chapter 1 Conclusions

Geological survey and drilling were carried out in three localities of Mba-west during the third phase of the Viti Levu Mineral Exploration Project. The following conclusions were reached as a result of the above.

(1) Nayanggali Geochemical Anomaly Zone

The surface geology of this zone consists of basalt lava of the Namosau Volcanics belonging to the Pliocene Ba Volcanic Group. The subsurface geology confirmed by MJF-3 drilling comprises basalt lava, basaltic pyroclastics, and sedimentary rocks of Saru Formation of the Ba Volcanic Group, basalt lava and basaltic pyroclastics of the Namosau Volcanics, and basalt dykes.

Mineral showings and alteration of significance are not found in this zone. A center of volcanic activities could have been located in this zone and fractures of NE-SW trend are inferred to exist in the deeper parts. The Au, As, Hg geochemical anomalies are inferred to be the products of ascending post volcanic hydrothermal fluids along the NE-SW trending fissures. Subsurface gold mineralization of this zone, if any, is concluded to be small.

(2) Nalotawa Alteration Zone

The surface geology of this zone consists of basalt lava of the Koroyanitu Volcanic Products of the Pliocene Ba Volcanic Group and dykes (basalt, hornblende andesite). The subsurface geology comprises basalt lava, basaltic pyroclastics of the Koroyanitu Volcanic Products and intrusive bodies (basalt, hornblende andesite, altered andesite).

There are many clay-pyrite veins on the surface, but evidences of gold mineralization do not exist.

On the other hand, in the subsurface parts, occurrence of gold in quartz-calcite veins, calcite veins, and clay-pyrite-(calcite) network is confirmed by MJF-4 drilling. The best part contains Au 0.176g/t in 18.10m of the drill core (include 1m of Au 0.52g/t).

In this zone, the assemblage of major gangue minerals (quartz, calcite, potash feldspar, smectite, sericite) and that of the major alteration minerals in the host rock near the veins (quartz, calcite, pyrite, smectite, adularia) is very close to that of the low sulfidation epithermal veins.

The potential for gold occurrence in the deeper parts of this zone is concluded to be high.

(3) Yaloku Alteration Zone

The surface geology of this zone consists of andesite lava, andesitic pyroclastics of the Sabeto Volcanics of the Miocene- Pliocene Koroimavua Volcanic Group, and dykes (basalt, andesite). The subsurface geology comprises andesite lava, andesitic pyroclastics, and basalt lava of the Sabeto Volcanics, and basalt dykes.

Quartz veins, clay-pyrite veins, and calcite veins occur on the surface of this zone. These veins are divided into the western and eastern groups. Auriferous quartz veins occur in both groups and the highest grades are 12.10g/t (15cm wide) in the western group and 4.52g/t (3cm wide) in the east.

In the east, calcite-quartz network with Au 0.114g/t (sampling width 40cm) was confirmed by MJF-5 drilling, but generally the development of the veins is poor. The auriferous quartz veins exposed on the surface deteriorates downward. The potential for gold vein occurrence is concluded to be poor in the part where MJF-5 drilling was carried out.

In the west, although of low grade, a large number of auriferous veins were confirmed by drilling (MJF-6, 7). Regarding N-S trending veins, a group of relatively wide auriferous veins (Au 0.055g/t, sampling width 400cm, clay-calcite-dolomite vein; Au 0.20g/t, sampling width 15cm, pyrite-calcite-dolomite vein; others) was confirmed almost at the lower extension of the exposed gold-bearing quartz vein (Au 12.10g/t) by MJF-6 drilling. With ENE-WSW to E-W veins, the grade of the downward extension of the exposed vein (Au 2.19g/t) deteriorates, but a different group of auriferous veins (Au 0.375g/t, Ag 880g/t, Cu 6.76%, sampling width 3cm, chalcopyrite vein; others) were found by MJF-7 drilling.

The common ore minerals of this zone are chalcopyrite and pyrite, with rare association of molybdenite, bornite, galena, and stromeyerite in the west. This mineral assemblage corresponds to those of the high temperature epithermal deposits formed at relatively deeper parts.

The assemblage of the main gangue minerals is quartz-smectite-chlorite-calcite in the east while it is quartz-adularia in the west.

The alteration mineral assemblage of the host rock near the veins also differ between the western and the eastern groups. The assemblage common for both groups is quartz-chlorite-calcite-smectite with sericite in the east and adularia in the west.

The above assemblages of gangue and alteration minerals are very similar to those of the low sulfidation epithermal mineralization. Also it is concluded that the veins in the west were formed under higher temperature.

The mode of occurrence of the veins confirmed by drilling in this zone corresponds to the quartz + adularia + illite + Ag sulfides + base metal sulfide zone of the low sulfidation (quartz-adularia type) epithermal model (Berger and Eimon, 1983).

Regarding the drill holes in the west, it is inferred from the above model that the bonanza lies higher than the gold showings confirmed by drilling. This gold occurrence is only about 70m below the surface. Therefore, the potential of these veins are controlled by the topography and the direction of the ore shoots. There is not sufficient data for determining the direction of the shoot.

Chapter 2 Recommendations for Future Exploration

It is recommended from the results of the third phase survey that the following be carried out in future prospecting.

(1) Nalotawa Alteration Zone

A total of three holes should be drilled in order to confirm the state of gold mineralization of the veins located by MJF-4. These veins are inferred to extend in the NNE-SSW direction and two holes should be drilled westward from the eastern side of MJF-4. Also one hole should be drilled south-westward from MJF-4 in order to explore the lower parts of the NE-SW veins which exist in this zone.

(2) Yaloku Alteration Zone

A total of three holes should be drilled as follows in order to confirm the state of gold mineralization of the auriferous veins located by MJF-6 and 7 in western part of this zone. One hole should be drilled westward for exploring the N-S trending veins to the south of MJF-6. Also one northward hole should be drilled each from the east and west of MJF-7 in order to explore the ENE-WSW to E-W veins.

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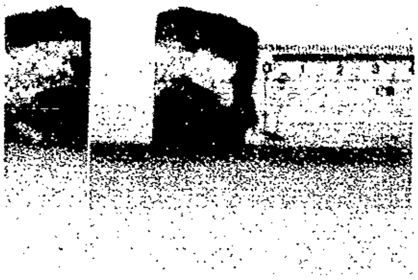
PHOTOGRAPHS

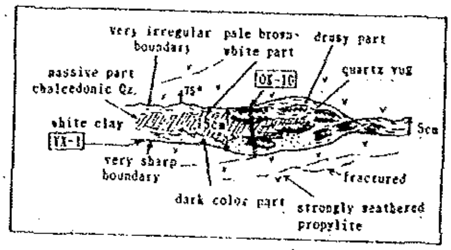
A B



A ; quatrz vein untried staining test

B ; quartz vein containing potash feldspar (yellow color) stained by sodium cobaltinitrite

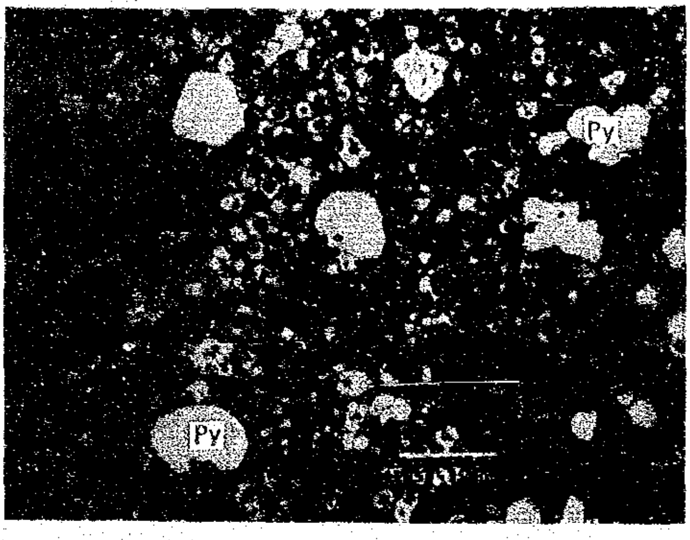
Quartz vein (DC7-9, MJF-7drilling core)



Outcrop of auriferous quartz vein (OK-10, Nasala Cr., Yaloku)

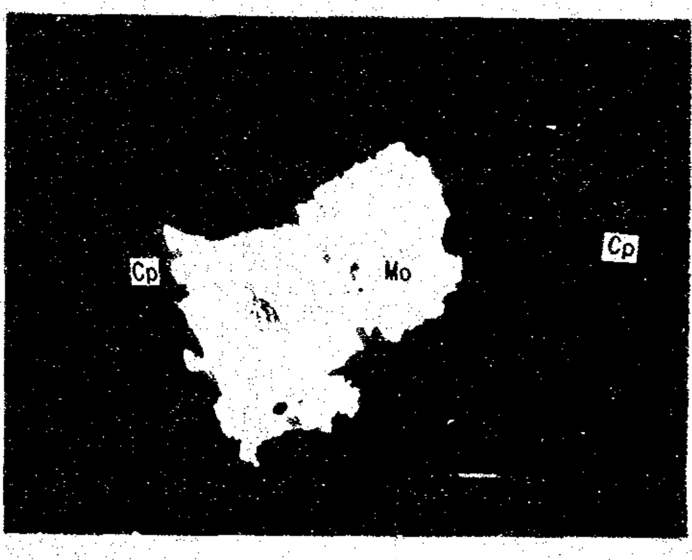
Brecciated structure of auriferous quartz vein (OK-10)

Photo 1 Quartz Veins of Yaloku Alteration Zone



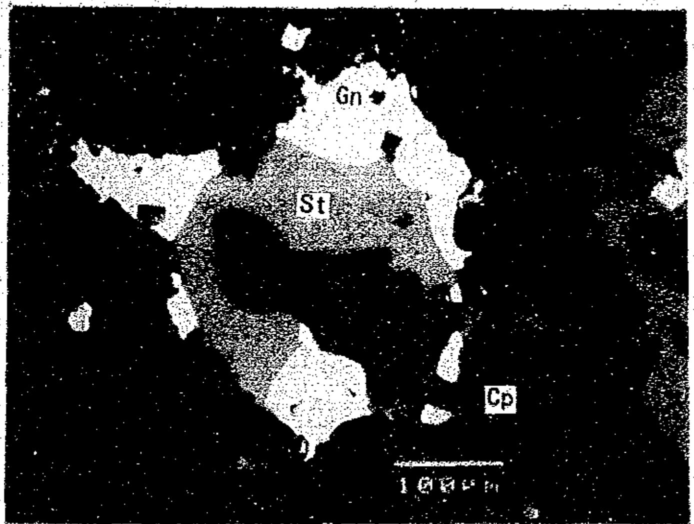
Sample No.: P4-3
Locality: MJF-4, 117.0 m
Description:
Clay-Calcite-Py network

Py: Pyrite



Sample No.: P6-2
Locality: MJF-6, 181.8 m
Description:
Calcite-Cp vein

Mo: Molybdenite
Cp: Chalcopyrite

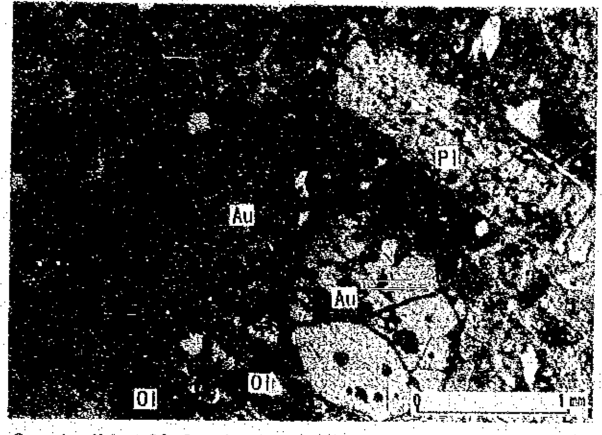


Sample No.: P7-1
Locality: MJF-7, 121.95 m
Description:
Calcite-Cp-Gn vein

Bo: Bornite
St: Stromeyerite
Cp: Chalcopyrite
Gn: Galena

Photo 2 Microscopic Photograph of Polished Section

Open



Sample No. : S3-2 Locality : MJF-3, 133.6 m
Rock name : Tuff Breccia (Olivine Basalt)
Formation : Bsp

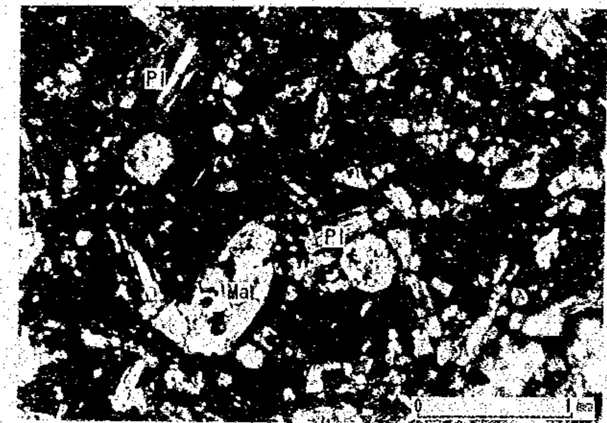
Open

Sample No. : S4-3 Locality : MJF-4, 79.1 m
Rock name : Hornblende Andesite
Formation : Dike (HA)

Cross

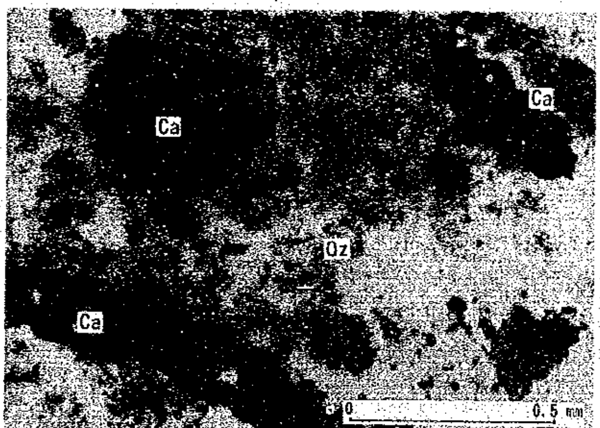
Sample No. : S4-9 Locality : MJF-4, 391.0 m
Rock name : Basalt
Formation : Bkb

Cross



Sample No. : S5-2 Locality : MJF-5, 236.6 m
Rock name : Tuff Breccia (Altered Andesite)
Formation : Ksp

Open

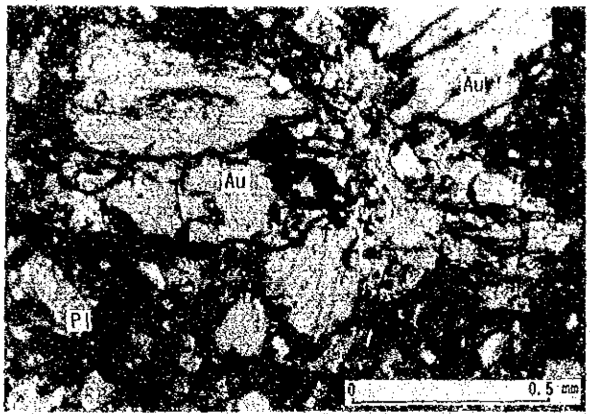


Sample No. : S6-2 Locality : MJF-6, 64.0 m
Rock name : Calcite-Quartz vein

Pl : Plagioclase
Au : Augite
Ol : Olivine
Hb : Hornblende
Qz : Quartz
Ca : Calcite
Ma : Mafic mineral (pseudomorph)

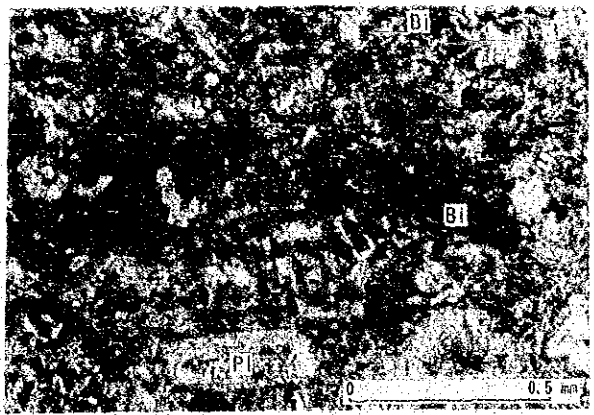
Photo 3 Microscopic Photograph of Thin Section (1)

Open



Sample No. : S6-3　Locality : MJF-6, 141.8 m
Rock name : Andesite
Formation : Ksa

Open

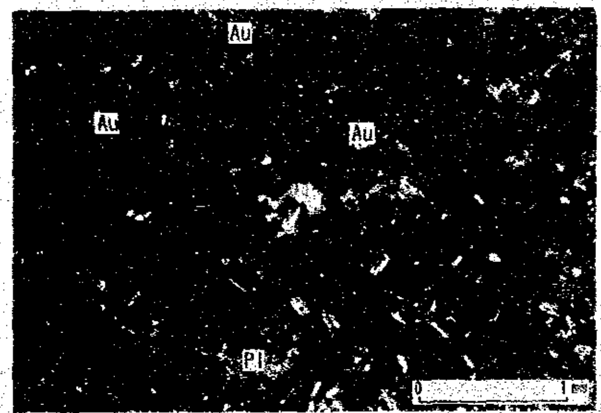


Sample No. : S6-4　Locality : MJF-6, 281.9 m
Rock name : Alkali Basalt
Formation : Dyke (B)

Open

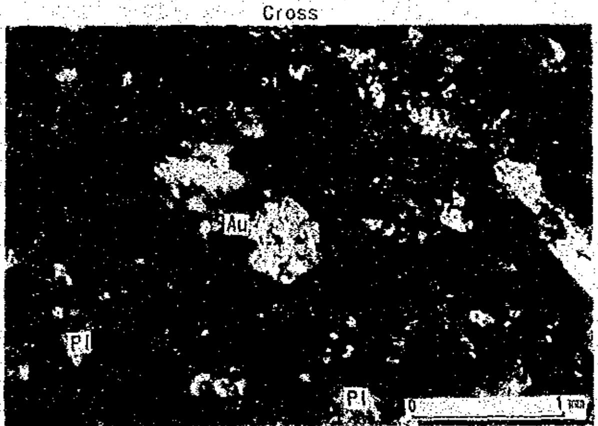
Sample No. : S6-5　Locality : MJF-6, 299.2 m
Rock name : Basalt
Formation : Dyke (B)

Cross



Sample No. : S7-1　Locality : MJF-7, 50.4 m
Rock name : Altered Basalt
Formation : Dyke (B)

Cross



Calcite-Quartz vein

Sample No. : S7-3　Locality : MJF-7, 299.9 m
Rock name : Tuff Breccia (Altered Basalt)
Formation : Ksb

Pl : Plagioclase
Au : Augite
Bi : Biotite

Photo 3　Microscopic Photograph of Thin Section (2)

APPENDIX

Geologic Log of MJF-3~MJF-7

Abbreviations

Rocks

Ad. : andesite
Adtic. : andesitic
br.- : brecciated
Bs. : basalt
Bstic. : basaltic
f-tf. : fine tuff
Hyal. : hyaloclastite
Lap-tf. : lapilli tuff
porph. : porphyritic
prop. : proplyitic/propylite
silts. : siltstone
s. s. : sandstone
tf-br. : tuff breccia
tfa. : tuffaceous
vol-br. : volcanic breccia

Mineralization

diss. : dissemination
vlt. : veinlet
vlts. : veinlets

Minerals

Adul. : adularia
Alu. : alunite
Aug. : augite
Bio. : biotite
Cal. : calcite
Chl. : chlorite
Cp. : chalcopyrite
Gn. : galena
Gyp. : gypsum
Kao. : kaolinite
Mo. : molybdenite
Oℓ. : olivine
Pℓ. : plagioclase
Py. : pyrite
Qz. : quartz
Ser. : sericite
Sme. : smectite
Sp. : sphalerite
Zeo. : zeolite

Alteration

argil. : argillisation
Alt. : alteration
carb. : carbonate/carbonitisation
cryst. : crystal/crystalisation
mont. : montmorillonitisation
oxi. : oxidized/oxidation
prop. : propylisation
Sili. : silicification
w.- : weak
m.- : moderate
str.- : strong

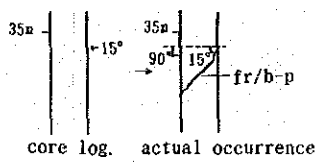
Colour

dk. : dark
grn. : green
gry. : grey
bk. : black
whi. : white

Others

altn. : alternation
b-p. : bedding plane
ch-m. : chilled margin
cos. : coarse
ess. : essential
fr. : fractured/fracturing
inc. : included
irreg. : irregular
mass. : massive
m-hd. : moderately hard
mdy. : muddy
sdy. : sandy
r. : rock
v. : very
z. : zone

dip observation



Drill hole No. : MJF−3(1)　　Direction : — (true north)　　Inclination : −90°

Latitude : S 17° 33.28′　　Longitude : E 117° 33.83′　　Elevation : 120 m

(1)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
0m–10m.2	~	red~brown, soft str. weathered rock (surface soil)	str. weathering (0m–25m.5)		50								
10m.2–15m.8	△	brown, soft str. weathered tf-br. subangular br. (φ<10cm) bad sorting											
15m.8–16m.1	v v	gry. soft, massive str. weathered andesitic? r. block?											
16m.1–25m.6	△	brown, moderately hd. str. weathered compact, massive tf-br. (φ<3cm) bad sorting											
25m.6–25m.5	△	brown, weathered f-tf. with Bs. br.											
25m.5–30m.4	^ ▽	brown mtx. m-hard dark grn. br. br.−Bs. (lava) mtx. oxidied subangular br. (φ<10cm)	yellow clay patch included										
30m.4		←15°											
30m.4–50m	^	10° v. comp. hd. fresh 55° Ol-Aug Bs. Aug: 2~6mm 55° with oxidized cracks 20° 25° 55° 50° 25°	yellow-white clay in cracks										

Drill hole No. : MJF−3(2) Direction : (true north) Inclination : −90°

Latitude : S Longitude : E Elevation :

(2)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
50m		bk., comp. hard (Ol)-Aug. Bs ←35° Aug:2~6mm ←45°			50								
55m			w-chl??										
.2													
60m		brown-dk.grn.-bk brecciated Bs (lava) bk.m-hard	61.4 yellow clay-Zeo. patches										
		sandy hyaloclastite graded(lapilli-s.s.)											
.8		←5° brown~bk.											
65m		←5° (b-p.) siltst.-s.s.altn. interval:5mm load cast	65.9 yellow clay patch										
.8		brown, m-hard massive siltst.											
70m		brown, m-hard cos. tfa. s.s reworked pebble of siltst. included br. included partly											
		brown, tf-br. with s.s. layer											
75m		brown, tf. br. oxi. graded br. (ϕ10~1cm) Bstic. subangular br. ← 25° brown, oxi. ←siltst.-s.s. altn. 15°(b-p.)											
80m		brown-dk. grn. mass. comp., m-hard Bstic. tf-br. bad sorting(ϕ10cm±) subangular br.	yellow clay patches										
		←30° {brownish gry. fine part} brown-dk. grn. oxi. unclearly br-Bs											
85m .5		v. comp. hard mass. gradual											
90m		hyaloclastite like tf-br. (ϕ10~20cm) porous Bs. br. included br. (ϕ5cm±, orreg.) with chilled margin bad sorting											
95m			Carb/Zeo in pore										
100m		porous Aug-Bs br. subangular~subrounded											

Drill hole No. : MJF−3(3) Direction : (true north) Inclination : −90°

Latitude : S Longitude : E Elevation :

(3)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
100m		brown dk. grn. v. comp. hard hyaloclastite bad sorting(φ10cm±)			50								
105m		v. porous Aug. Bs. br. included											
.6		brown lapilli tf.											
.2		cos. tfa. s. s. with siltst. layer											
.5		brown m-hard tf-br.											
110m		Bstic(hyaloclastite) comp. bad sorting(φ3~10cm)											
115m		bad sorting(φ20~3cm)											
		with porous Bs br. (φ3cm±)											
.9		←20° brown lapilli tf.	Zeo. patches										
120m .4		←15°(b) cos. tfa. s. s. brown crystal tf. altn. Aug. rich with thin silty layer											
.2		brown v-cos. crystal tf. Aug. rich											
.1		brown oxi. tfa. s. s. with silty f-tf. layer											
125m .2		dk. grn.~dk. gry. comp. m-hard lap-tf large Bs. br. (φ5~20cm subangular) included partly	w-altered grnish.										
130m		gradual tf-br. irreg. form of large br. (φ10~20cm, grnish gry porous Bs) included partly	grn. mineral in pore of bre. (Mont/Chl)										
135m													
.2		Aug-Bs block v. porous											
140m		tf-br.											
.9		oxi. brown comp. m-hd. Bstic tf-br. fine part (flat)											
145m		tf-br. mtx. dominant Aug. crystal rich											
150m													

Drill hole No. : MJF−3(4) Direction : (true north) Inclination : −90°

Latitude : S Longitude : E Elevation :

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
150m		brown, oxidized tf-br. Bstic. mtx. dominant			50								
155m													
		gradual											
		vol-br. dk. gry. Aug-Bs. br.											
160m		(porous, irreg. subangular) dominant comp. hard	w-alterated (Mont?-glass)										
165m													
		oxidized											
170m.5		45° Aug-Bs. dk. gry. comp. v. hard Aug: 1~2mm	w-altered (Chl?)										
		70° dyke? sheared fractures with slickenside											
175m		←50° gradual brown, oxi. lap-tf. Bstic. Aug. rich	174.6~174.9 yellow clay in cracks Zeo patches			174.6~ 1 174.9	0.026	<2	190	<5	110	3.6	
.2		essential fine part (sdy-tf. 0.1m)											
.5		brown oxi. tf-br. Aug rich subrounded ess. br.											
180m		dk gry. (partly brown) tf-br. comp. hard bad sorting, inc. blocks irreg. subrounded br. (Bs.)											
.8		large blocks incl. (179.9~181.5, 183.4~187.8)											
185m.7		v. comp. hard Aug-Bs blocks											
		large blocks (ϕ30cm±) dominant											
190m		dk. gry.−dk. grn. −brownish tf-br. Bstic br. : ϕ5~30cm	prop. (w~m)										
		Aug-Bs. Aug: 2~3mm br. ϕ3cm±											
195m		with oxidized Bs br. (subangular, irreg. br.)	mafic m. → Chl.										
200m													
201.00m													

Drill hole No. : MJF−4(1) Direction : 135° (true north) Inclination : −40°

Latitude : S 17°37.61′ Longitude : E 117°37.21′ Elevation : 442 m

(1)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
0m	~	white clayey rock soft, not viscous (dry & rough) surface soil	str. weathering		50								
5m	~	brown clay soft, str. viscous											
10m	~												
15m	~												
20m	~												
25m	~												
		gray clayey, soft propylite	propylization (M~str.) white argil.	fine pyrite diss.									
30m .5		brown soft argili. Bstic. r.	str. weathering										
35m	^	gray propylite m-hd.	W-alt. white clay prop. carb.										
	△	grnish. gray, comp. hd. tf-br. (essential. Bstic.)											
40m	△	45° bad sorting (irreg. Bs. br.) fresh Aug. megacryst. (1cm±)		Py slightly diss.									
.9 .1		35° fine Ad. dyke with chilled margin											
	△	tf-br. 50° sheared crack											
45m	△			fine Py. diss. (several %:S) w-sil fracture with Cal.									
	△	10~30°											
.5 50m		brecciated sheared zone (0.1m) 60°	M-alt.	48.5m Cal-Py. vein (0.05m) she. fr.-Py. diss.		48.5~ 3 48.55	0.043	<2	115	10	10	>10.0	

Drill hole No. : MJF-4(2)   Direction :   (true north)   Inclination : -40°

Latitude : S   Longitude : E   Elevation :

(2)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
50m .3 .9		dk. gry. sheared zone vein	prop. (m~str) carb.	50.9~51.4m silica(Qz)-Cal-Py. drusy vein, comp. hd.		50.3~ 27	0.040	<2	115	5	30	4.0	
.4		55° gry. alt. tf-br. fr.	whi. clayey (w~m)			50.9 1	0.116	<2	245	10	10	1.8	
.7			mafic m., Pl: alt. Py. diss.			51.4 28 52.4	0.082	<2	195	5	20	3.0	
55m		75° dk. gry. alt. (M) m-hd. Bstic. tf.		Cal-Py. vlt. Py. diss.									
.8													
.1		she. fr.											
.3		dk. gry. alt. tf-br. 60° m-hd.	mafic m: fresh~w-alt. Cal. net	whi-clay-Cal-Py. vlt.									
60m .4		{mega. Aug. Ad. dyke ch-m. (0.1m)				60.1~ 4 60.25	0.009	<2	35	15	10	4.4	
.1 .9		50°	M. alt. Cal. films Py. diss	Cal>silica-Py veins 60.1m-0.15m wd. 60.9m-0.05m wd. 64.5m-0.03m wd.		29 60.9	0.032	<2	85	10	30	2.0	
.8		50° she. z.				5 60.95	0.011	<2	55	20	30	5.2	
.1		60° she. z.				30 62.1	0.029	<2	145	5	35	2.2	
.1													
65m .5		70° mega. Aug. tf-br.	W-alt.	Cal>silica-Py vlt. (wd. 3cm)		64.5~ 6 64.53	0.033	<2	65	10	10	17	
		small irreg. dyke (Ad.) ch-m.											
70m		50°		Py. v. slight Cal. films									
.2 .7		20° Ad. sheet 80° fr.	prop. (M)	Cal. fill vesicular									
75m		tf-br.											
.6		she. z. (0.1m) 60° 40° fr. -Cal.											
		dk. gry. comp. hd. mass. mega Aug. Ad.											
80m		50° sheared. fractures dk. grn. argil.	Aug: W-alt.										
		she. fr. 40°											
85m .5		irreg. fine r. part inc. (0.1m) 50°		Cal-Py films 60° Cal. whi. clay vlt.									
		comp. hd.	w-prop.	Py-w. diss.									
90m		50° fr-Cal.											
		40° dk gry. she. clay		Py. diss. in she. z.									
95m													
		inc. mega. Aug. (2cm)											
100m .3		80° 50° she. z.											

Drill hole No. : **MJF−4**(3) Direction : (true north) Inclination : −40°

Latitude : S Longitude : E Elevation :

(3)

Depth (m)	Lithology	Alteration	Mineralization
100m .2	65° dk gry~bk. alt. Ad.	whi. clay prop. (M-str.)	100.2~103.4m whi. clay-Py. network Py. diss.
.4 / .7	dk. gry. clay she. z.		
105m			Cal-Py. film net
	30°	↓	↓
110m	60° bk. alt. Ad. dyke comp. bd. alt. vesiculous	Cal. fill vesicular	Py. v. slight
.4	85°		↑
115m	Aug- Ad. alt.	prop. -carb.	Cal. -Py. network
.6	she. fr.	↑	↑
	70° dk gry. alt. Ad. she. fr. m-hd.		Py. diss. (str-M)
120m		ring structure by whi. clay-Cal-Py network prop. (m)	
.4	she fr.		122.4mt Py. str. diss. w-sil-carb.
125m			
130m			129.3mt Py. str. diss.
.7	35°	↓	
135m	dk gry. comp. hd. mass. alt. Aug- Ad.	prop. (W)	Py. diss. Cal Py-films
140m			
	85°		Cal-Py-films
	70° bk-dk gry. alt. Ad.		whi. clay-Cal-Py vlt.
.9	70° Ad.		
145m 70°	gry. porphyritic Bo-Aug-Ad. inc. elongated Pyxn. inc. fine ~ cos. part		144.8~145.0m drusy Cal vlt. Py-Cp? diss.
	0.2m		
.6	50° fine part(tf)		
150m	50° grn-gry. comp. hd. mega Aug- Ad.	prop. (W)	Py. diss.

R.Q.D 0~100%

Depth (m)	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
100.2~101.2	7	0.163	<2	520	10	50	2.6	
101.2~102.2	8	0.125	<2	500	20	135	1.7	
102.2~103.4	9	0.160	<2	635	10	105	1.9	
115.6~116.6	31	0.318	<2	345	5	120	1.4	
116.6~117.6	32	0.520	<2	485	5	225	2.4	
117.6~118.6	33	0.241	<2	760	10	155	1.8	
118.6~119.6	34	0.394	<2	820	10	110	2.1	
119.6~120.6	35	0.178	<2	500	5	135	1.1	
120.6~121.6	36	0.189	<2	440	15	100	1.2	
121.6~122.6	37	0.126	<2	345	10	110	1.2	
122.6~123.6	38	0.104	<2	275	20	90	1.4	
123.6~124.6	39	0.143	<2	395	10	95	2.0	
124.6~125.6	40	0.095	<2	310	10	90	1.6	
125.6~126.6	41	0.220	<2	600	10	90	1.3	
126.6~127.6	42	0.160	<2	435	10	75	2.0	
127.6~128.6	43	0.093	<2	335	15	85	1.5	
128.6~129.6	44	0.083	<2	305	10	80	1.2	
129.6~130.6	45	0.085	<2	365	10	105	1.1	
130.6~131.6	46	0.079	<2	395	10	90	1.0	
131.6~132.6	47	0.077	<2	345	5	100	1.1	
132.6~133.7	48	0.081	<2	370	5	90	1.5	
144.8~145.0	10	0.091	<2	400	10	110	0.6	
145.0~146.0	49	0.057	<2	190	5	80	1.0	

Drill hole No. : MJF−4(4) Direction : (true north) Inclination : −40°

Latitude : S Longitude : E Elevation :

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
150m	v	grnish. gry. comp. hd. Aug-Ad.	w- prop.	Py. w-diss.	50								
155m	v			155.2m± Py-Cp? w-diss.									
.1		inc. irreg. fine part		silica(Qz)-Cal-vlts. drusy		158.1~ 11 158.11	0.052	<2	210	15	155	0.4	
160m .4	v	inc. mega. Aug. pheno		{158.1m-0.01m wd. 159.4m-0.05m wd. 163.4m-0.03m wd. (bk. band)		159.4~ 2 159.45	0.027	<2	180	10	785	<0.1	
	v	inc. autolith(?) of Aug. cryst. accuml.											
.4	←55°					163.4~ 12 163.43	0.032	<2	205	15	255	<0.1	
165m .8	←70°			silica-Py vlt. (wd. 1.0cm±)									
	v			Cal. films									
.2 .4			whi-clayey	Py. diss.		168.0~ 13 168.2	0.019	<2	200	20	250	<0.1	
170m	v	Aug-Ad.				168.4~ 14 168.42	0.025	<2	245	25	185	0.5	
	←50° 70°		mega. Aug. → Chl	fr-Cal. open crack with Cal.									
175m	v												
	←45°	she. fr.		Cal. film-Py. diss.									
	v			drusy Cal. films									
180m	v			Py. w-diss.									
.6	←60°	fine alt. Ad. dyke with ch-m. whi. alt. Pℓ. porph.	prop. (w)	↑ no Py. ↓									
185m	v												
.5	←60°	dk. grn. alt. Ad. (prop) comp. hd. ~ m-hd.	prop. (M~str.)	Py. v. slight									
	←60°	Aug: 3mm±		Cal-Py. vlt.									
190m	v												
	50°			193.6m gry. silicified vlt. (1cm)									
195m	v												
.5	←30°			196.5m Sp? diss.		196.5~ 50 196.8	<0.005	<2	155	10	260	0.2	
	v			Cal. drusy films									
	v			196.9m clear Qz. druse (4cm)									
200m	v		str. prop.										

Drill hole No. : MJF-4(5)　　Direction : 　　(true north)　　Inclination : -40°

Latitude : S　　Longitude : E　　Elevation :

(5)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
200m		←70° dk. grn. prop. (Ad.) comp. hd.	prop. (str.)										
		dk. brown bre. prop. (Ad.)	carb(str. prop.)	Py. slight									
205m													
210m		←60° she. br. argil.	210.5m whi. clayey (0.1m)										
		dk. brown br. alt. Ad.											
		she. whi. argil.				213.0~ 51 213.2	0.017	<2	75	50	205	0.2	
215m		←70° grn~whish. tf-br.		Cal-silica in 214.3m± open frs. silica-Cal. film net		214.0~ 52 214.5	0.030	<2	110	5	80	0.2	
.3		inc. basic autolith (pyrox. rich)		Py. diss.									
.7		whi-brown comp. alt. r. (Ad.)											
.3		tf-br.											
220m		whish-(dk. gry.) br. prop. (Ad.)		Py. w-diss.									
225m													
.1		←50° grn. tf-br.	prop. (m.~str.)										
.7													
230m		grnish gry. prop. brecciated laba (Bs) comp. hd.											
		she-gry. argil.											
235m .4		grnish. tf-br. comp. hd. inc. Ho-Ad. br. whi~gry.	w- prop. (Aug-fresh relatively)	Py. w-diss.									
		inc. autolith of Aug. cryst. accumul. (φ1~3cm)	irreg. open crack (1mm±)										
240m													
		gry-dk gry. comp. hd. ←55° Ad. (?) inc. Bo?	whi. w- alt.										
245m .5		r. thin Ad. dyke (0.1m)	drusy Cal. films	Py. diss. (m)									
		whi-gry. comp. hd. tf-br. inc. autolith of ←50° Aug-cryst accuml. (φ2~10cm)	prop. (w) carb. frs.- Cal.										
.2		←70° propylitic Bs.				249.9~ 15 250.3	0.015	<2	95	15	40	1.2	
250m .9		she. z. -vein											

Drill hole No. : MJF−4(6) Direction : (true north) Inclination : −40°

Latitude : S Longitude : E Elevation :

Depth (m)	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
250m.3	vein.	prop.(w-m)	249.9~250.3m Cal-Py whi-clay vein in she.z.	50								
	propylitic Aug-Bs. ←50-40° comp.hd. frs. Aug:2mm±		Py.w-diss.									
255m	←60°											
	←80° she-fr.											
260m	←60° she-fr. ←15° she.boundary chilled-margin ←25° Ho-Aug Andesite? Ho?:2cm mega Aug.poor											
265m	←70°											
270m	←40°		Cal. open frs. drusy Zeo?vlt.									
.2	pinkish gry alt.Bs.	carb.w-sil?	Py.diss.(m)		270.2~271.2 53	<0.005	<2	75	<5	115	0.4	
.6	←55°											
	gry.alt.Bs.	{prop.(m) {carb.										
275m	grn-gry.Bs. Aug:3mm±	prop.(m)										
	←80° open frac.(1mm)											
.7												
280m	tf-br. grnish gry.comp.hd. inc.subangular br.	prop.(w)	Py.w-diss.									
	←60°											
.5	whi-gry-brownish alt.r.(Bs)	str.carb. (prop.)										
285m	←45°											
	she.z.(0.3m) gry.argil. grnish.prop-Bs.	prop.(m)										
290m												
.6	←40° irreg.fine w-sil vlt.		290.6m Cal-Py-whi.clay vlt.(0.03m)		290.6~290.63 16	0.005	<2	40	5	155	<0.1	
.2	she.fr.whi.argil.	whi.clay	Py.w-diss.		292.0~292.2 17	0.008	<2	55	15	155	0.4	
.6 / .8	she.boundary 80°	whi.clay-Cal	Py.diss.									
295m	alt.Ad.dyke ch-m.comp.hd.	prop.(m)	no Py.		293.6~293.8 18	0.007	<2	45	45	330	<0.1	
.7	←70°											
	gry.alt.Bs.	{prop.(m) {gry-whi.clayey	Py.diss.(m)									
.7	she.z.	gry.clay	Py.diss.		297.7~298.3 19	0.008	<2	60	30	180	1.1	
.3	gry-whish comp.hd.alt.r.(Bs)	str.carb.										
300m												

Drill hole No. : MJF−4(7) Direction : (true north) Inclination : −40°

Latitude : S Longitude : E Elevation :

(7)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
300m .1	^	whi-pale brown comp. hd. mass. alt. r.	carb(str.) (prop.)	Py. w-diss.	50								
.7 .5	^	she-frs-Cal.				302.7~ 54 303.5	<0.005	<2	45	<5	135	0.2	
305m	^	50~60° frs.-Cal.		Cal. films									
310m .2	^	35° grn. alt. Ad. 40° cb-m. dyke											
315m	^	grnish. propylite v. comp. hd.	str. prop.	Py. diss. (m)									
.8	^	55° she. fr.											
.9 320m .3 .6	^	she-frs-Cal. 40° she-whi. clay-Cal.				318.9~ 55 319.3	0.009	<2	35	<5	115	1.3	
	^	50° fr-Chl-Cal.											
325m	^	prop. (Bs)											
330m .7	^	65° gry. fine part (3cm)		Cal-Py-Lim. vlts									
.6 .8	^	she. z. argil.				332.6~ 56 332.8	0.019	<2	65	<5	90	2.4	
335m	^	60° 70°		335.0m Qz-Cal-Lim-Py vlt. (0.005m)		335.0~ 20 335.01	0.008	<2	60	15	120	2.8	
	^	50°											
340m	^	40° she-Chl. argil.	Chl. (Aug.)2~3mm	Py. diss. (m)									
	^	60°		Cal. films									
.3 345m .6	^	grnish. whi. br−r. (tf-br.?) bedding? ∠50°	whi. clayey	Py. diss. (m)									
	^	grn~gry~dk. grn. comp. hd. prop. (Bs)	str.− prop.										
	^	she. fr.				349.0~ 21 349.01	0.043	<2	55	5	155	0.6	
350m .7	^	60° she. z.	349.7~350.1m whi. clay-Cal-Py	349.0m Cal-Py-Lim. vlt Py. diss. (0.005m)		349.7~ 22 350.1	0.016	<2	70	5	75	0.8	

Drill hole No. : MJF−4(8) Direction : (true north) Inclination : −40°

Latitude : S Longitude : E Elevation :

(8)

Depth (m)	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
350m	brecciated unclealy prop. comp. massive	prop.(m~str. Chl. (Aug. 2mm±)		50								
355m .2	←70° gry. alt. r.	whi-clayey w-sil?	Py. str. diss.		354.8~355.8 57	0.013	<2	65	<5	65	1.1	
					355.8~356.8 58	<0.005	<2	60	<5	75	1.0	
.8	←75° she. fr.											
360m	dk. grn. comp. hd. propylitic Bs.	prop. (m)	Py. w-diss									
	←65°		open fr. Cal. (1mm±)									
.7 / 365m	gry~whish. alt. prop.	whi. clayey (w~m) str. prop.	Py. diss. (m)									
	←75°		open fr-Cal. (1mm±) Cal. films									
370m	←50°		Cal. films									
	←75°		Cal. films									
	←65° she. fr. ←50-55° she-frs-Cal.		Py. diss. (m~str.)		372.1~373.1 59	0.016	<2	60	<5	105	2.0	
375m	←60° dk. grn. prop. she-fr.	prop. (m)										
.3	←60~65°		377.3m Qz-Cal-Py. vlt. (1cm) with bleached z. (2~5cm)		377.3~377.31 23	0.023	<2	70	10	40	0.8	
380m	←65° she-fr-w. sil. frs.-Cal ∠60°				379.2~380.2 60	0.010	<2	70	<5	60	0.2	
.8	dk. gry.-grn. alt. Bs. (prop.) 55° dk gry. 50° she. argil. fine ch-m. argil.		382.8m Cal. vlt. in she. z. (3cm)		382.8~382.83 24	0.016	<2	75	15	35	0.6	
385m .4	alt. Ad. dyke dark grn. m-hd.											
	v. hd. comp. prop. (Aug.~prop.)	prop. (m~str.)	Py. v. slight									
	←70~80° frs.	carb. (w~m)										
390m	65° fr. ←80° fr.	w-prop.										
	←70°											
	←45~60° frs.		open fr. (1mm±) grn. clay-Cal-Py.									
395m .6	←60°		395.6m dk. gry. w-silicified vlt. (0.02m)		395.6~395.62 25	0.009	<2	40	<5	70	<0.1	
.3	←75°		396.3m Cal-Gyp. vein (0.2m)		396.3~396.5 26	<0.005	<2	35	<5	60	<0.1	
	←50°											
400m		Aug. pheno: v. w. alt.~fresh	Py. v. slight									
401.00m												

Drill hole No. : MJF-5(1) | Direction : 90° (true north) | Inclination : -50°

Latitude : S 17°40.58′ | Longitude : E 117°38.44′ | Elevation : 570m

(1)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
0m													
5m	N/C	surface soil											
.1		dk. brown~grnish tuff tf-br. /Hyal. comp. W-hd. with grn. prop. br. brown oxi. mtx. angular br.											
10m													
		20° Cal.	weathering(W) (Prop.)	Cal. film									
15m		#20~30cm blocks inc.											
		55° fr. 35° fr. 70° fr.											
20m		45° b-p.											
.8		fine part sorted grn.	prop. (str.)										
		40° she-fr. argil. dk. purple	weathered										
		65° 35° grn.(purple)											
25m		30° essential tf-br. /Hyal. comp. hd. grn. ess. lap-tf. comp. hd.	grn. clayey alt.	24.2~24.7m Py. w-diss. 24.4m Cal. vlt. (wd. 1cm) 24.7m Cal. vlt. (wd. 0.5cm)		24.37~24.44 1	0.021	<2	140	7	44	1.9	
		30° fr. -Cal.		Cal films									
.3													
30m		55° fr. purplish mtx. grn. prop. br. rounded											
.2		45~65° she. -fr.											
.4		50° she. -fr.		33.4m she. -fr. Py. diss. oxidized(wd. 1cm)		33.35~33.45 2	0.011	<2	120	9	370	5.3	
35m .5 .8		purple tuff grn. hd. br. predominant irreg. ess. form											
		45° fr.											
40m .7		45°	prop. (str.)	39.5~39.9m Py. w-diss. 39.7m Qz-Cal-Py. vlt. (wd. 1~2cm)		39.65~39.75 3	<0.005	<2	59	6	211	3.4	
45m .8		55°		44.8m Qz-Cal-Lim film		44.76~44.84 4	0.005	<2	200	8	480	5.9	
.7		inc. prop. block											
50m													

Drill hole No. : MJF−5(2)　　Direction :　　(true north)　　Inclination : −50°

Latitude : S　　Longitude : E　　Elevation :

(2)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
50m		grn-purple tf-br./Hyal. comp. hd.	prop.(str.)	51.0~51.8m oxi. frs.									
.5		←45°		v. fine Py. w-diss.		51.45~ 5 51.55	0.014	<2	66	8	180	2.9	
				51.5m Cal-gry. clay vlt. (wd. 1cm)									
55m		←50° fr.		Cal. patches									
		inc. prop. block (φ50cm)											
		←50° fr.											
60m		←45° fr.-Cal.											
.3		←45° b-p. fine part											
.6 .9		tf.											
65m													
.5		←75° fr. ←45° b-p. bk. fine part											
70m		←40°		69.5m grn. clay-Py. w-diss. vlt. (wd. 1cm)		69.45~ 6 69.55	0.018	<2	57	6	79	4.2	
.3		tf. dk. grn. v. comp. hd.											
				drusy Cal. films									
						73.6~ 7 73.7	0.005	<2	110	<5	75	1.0	
.6 .7		←35° crystal tf. comp.		73.7m Cal. vlts. (wd. 0.5cm)									
75m .6		←40° fr. ←55°		75.6m Qz>Cal-Py. vein (wd. 10cm)		75.5~ 8 75.6	0.017	<2	56	<5	62	2.6	
		grn.(purple)ess. tf-br.		brecciated vein		9 75.7	<0.005	<2	82	<5	8	0.4	
						10 75.8	0.005	<2	520	6	64	2.8	
80m				80.3m native Cu? irreg. patch		80.3~ 11 80.33	0.013	<2	2400	6	67	3.1	
.5		←40° bedded tf. purple~bk. fine											
		purplish~grnish ess. tf-br./Hyal. comp.											
85m		←45° fr.											
		←30°		87.0m Cal>Qz. vlt. Py. w-diss. (wd. 0.5cm)		86.98~ 12 87.03	<0.005	<2	230	5	110	16.5	
.3		←35°		88.3m Qz<Cal-Py. vlt. (wd. 1cm)		88.25~ 13 88.35	0.021	<2	150	7	240	4.7	
90m .5		←30°		87.9~89.5m Py. w-diss.		89.3~ 14 89.5	0.013	<2	240	6	92	1.6	
				89.3~89.5m grn. clay-Py. w-diss.									
95m													
100m													

Drill hole No. : MJF−5(3)   Direction :   (true north)   Inclination : −50°

Latitude : S   Longitude : E   Elevation :

Depth (m)	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
100m	essential tf-br.~ /Hyal. ~ lap-tf.	prop. (str.) grn. clayey		50								
.6	←35° fr. ←40° b-p. tuff dk. purple bedded inc. lapilli		102.0~102.1m Py. w-diss.									
105m .3												
.1	inc. bk. mdy. f-tf.											
	tf. purplish ~grnish. gry bedded 40°											
110m .8	←40° fr. cos~ fine grn. prop. pebble purple mtx. volcanic Cgl. ϕ10~40cm v. comp. hd.											
115m .3	tf.											
.1 .3	←30~40°		116.2m Cal-Lim vlt. (0.5cm)		116.2~ 15 116.3	0.014	<2	100	9	88	2.1	
	←45° tf-br. ess. rounded brec. mtx. oxi. brown		116.1~116.4m Py. w-diss. bleached, Cal films									
120m	45° b-p bedded tuff grn.											
.1 .5	←80° bottom slumped		120.5m drusy Cal. vlt. (2cm)		120.45~ 16 120.55	0.015	<2	450	8	64	3.4	
	←70° fr. in tf. rounded brec. ess. tf-br. comp. hd.	str.-prop.	120.3~120.8m bleach-w. Py. diss.									
125m .9 .1	←65° fr-Lim. tf-br. lap-tf.											
	tf. bedded ∠40°											
.5	cos. tf. (partly lap-tf.) fine tf. (0.1m)											
130m .1	tf-br.											
.2 .8	← b-p. ∠40°											
135m	grn. ess. tf-br. /Hyal. ←60° fr. incalate ← 45° b-p. partly tf~lap-tf.											
	←45° Cal.		137.40~137.53m Cal. films (0.5cm)		137.4~ 17 137.53	0.006	<2	55	6	150	1.9	
			137.90m Cal. films Cal. patches									
140m	purple~grn. tf-br.											
	inc. blocks											
	←45°											
145m .1	← 60° Cal-fr.											
.2	lap-tf. grn~purple v. comp. hd.	prop. (str.)										
150m .3	←45° b-p. ←35° 40° b-p.		149.3m Cal-Cp. film (0.5cm)		149.28~ 18 149.33	0.023	<2	6400	7	110	3.6	

Drill hole No. : MJF−5(4)　　Direction : 　　(true north)　　Inclination : −50°

Latitude : S　　Longitude : E　　Elevation :

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
150m		lap-tf. v. comp. hd. grn.	prop. (str.)		50								
.8													
		tf-br. ess. /Hyal. grn~ (purple) oxi. partly margin of breccia.											
155m													
.1		←65° fr-Cal.											
160m .7													
.2		←40° Bs. dyke~sheet v. comp. hd. with oxi. margin											
.5		←20°											
.3		dk. grn. alt. Bs. dyke ~ sheet with oxi. margin											
165m													
.2		←25° she-clay		165.2m dk. grn. clay -Py. diss. (wd. 0.5cm)		165.2~ 19 165.3	0.038	<2	460	12	290	4.3	
.9		←35° grnish. purple tf-br./Hyal.		165.9m Cal. films		165.5~ 20 165.9	0.010	<2	57	<5	76	2.3	
				164.7~165.9m Cal. films									
170m		compaction good											
			↑ bleached slightly ↓										
175m													
180m .2		←35° b-p. tf. (0.2m)											
185m													
		←35° b-p. incalate tf. (0.1m)											
		tf-br. /Hyal. rounded br.											
190m .7		lap-tf.											
.8													
195m													
		grn. tf-br. /Hyal. purple compact	prop. (str.)										
200m													

Drill hole No. : MJF−5(5)   Direction :   (true north)   Inclination : −50°

Latitude : S   Longitude : E   Elevation :

(5)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
200m	△ v	grn~purple tf-br. ess./Hyal. irreg. form br. v. comp. hd.	prop. (str.)										
205m	v △												
.2	△ v	←40° b-p. tf. (0.2m) ~mdy. f-tf.	whitish ↕ grnish.										
210m	v △												
.5	△	←20° she. fr. clay	grn. clayey	211.2m± Py. w-diss. (0.5cm)		211.5~ 21 212.0	0.008	<2	89	14	480	4.8	
.4	〃 〃	←30° fr-Cal. tf. grn. b-p./35°	prop. (str.) (Cal.)	211.5~212.0m Py. w-diss. (5cm) Cal. films									
	△ v	grn. ess. irreg form br. tf-br. /Hyal.											
215m	v △	mtx. purple											
	v △	←55° fr.											
220m	△ v	grn. ess. tf-br. /Hyal.											
225m	v △												
.4	△ △	←50° grn. v. comp. hd.											
.7	〃 〃 / △ △	←50° b-p. tf. crystal (Ad~Bstic.)											
.6	〃 〃	←40° b-p.											
230m	△ v	tf-br. /Hyal. grn.~purple (brec.) v. comp. hd. ess. br ~ Ad ?											
235m	△ v	←40°											
.3	v △	f-tf. (1cm) dk. gry. Ad. br. included	str. prop. grnish ↕ whitish~gry.										
	v △	she-fr-clay /20°		239.4m Py. w-diss grn. clay (0.5cm)		239.2~ 22 239.4	0.027	<2	67	12	290	3.9	
240m .4	△ v	←35° fr-Cal.		239.2~239.4m bleached argil. -Py. w-diss.									
.2	v △	←45° fr-grn. clay											
	△ v	Hyal./ grn. ess. br. mainly purple~dk. gry. basic br. poor v. comp. hd.											
245m	v △												
250m	△ v												

Drill hole No. : MJF−5(6) Direction : (true north) Inclination : −50°

Latitude : S Longitude : E Elevation :

(6)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
250m		grn. v. comp. hd. mass. tf-br. /Hyal. grn. ess. br. (main) dk. gry. accessary br. (poor) Ad/Bs.	str. prop.		50								
255m													
260m													
.5		40° b-p. bedded tf. grn. tf. cos~lap-tf.											
.2 / 265m		grn. ess. tf-br./Hyal. ~lap-tf. grn~dk. gry.	whitish ↕ grnish										
270m													
.1		30° grn. clay		271.05~271.12m bleached Py. w-diss. grn-argil. Cal. patches		271.05~271.12 23	0.070	<2	170	12	74	2.7	
.6		45° Cal. film											
275m.6		Qz. drusy film		274.6m Qz. drusy films Py. w-diss. (0.5cm)		274.55~274.65 24	0.037	<2	140	7	220	3.9	
.7 / 280m.1			bleached zone grn.	278.7~279.1m Cal-Qz. film net Py. w-diss. bleached		278.7~279.1 25	0.114	<2	95	6	90	1.3	
.7		blackish basic tf. dk. grn. 40° b-p. inc. grn. prop. br.	gry.										
285m.8		55° she-argil, Cal. films fractured grn. sdy. tf.	285.5~286.5m bleached	284.8~285.7m v. argil. she-z. Py. slightly diss.		284.8~285.7 26	0.013	<2	58	28	81	2.2	
.7 / .5		70° Cal. fr. dk. grn. tf-br. /Hyal. 75° fr.											
290m				292.0~296.5m bleached									
		dk. gry. br. dominant	grn. ↕ gry.										
.9 / 295m.7		45° Cal. (0.5cm) 40° b-p. bedded grnish gry. sdy. tf. ~cos. tf. gry. sdy. f-tf. layer laminated, grn. sdy. tf.		293.9m Cal. drusy-(Cp) (0.5cm)		293.88~293.93 27	0.028	<2	240	7	71	3.2	
.4		40° b-p.; 65° Cal-fr.; 45° frs. { f-tf. small reworked patches		295.6m Cal. films ∠35°~40° Py. slightly diss.									
.2 / 300m.4		v. comp. hd.		300.3m frs-Cal. film									
301.00m		35° laminated gry f-tf. ~grn. sdy. tf. 1~2cm interval											

Drill hole No. : MJF−6(1)　　Direction : 270° (true north)　　Inclination : −50°

Latitude : S 17°40.94′　　Longitude : E 117°37.51′　　Elevation : 686m

(1)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
0m													
5m													
10m													
	N/C	surface soil											
15m	△	brown soft brecciated rock fragmental pyloclastic rock?	str. weathering argil.										
20m	△												
25m	^	gry. (partly brown) soft, brittle(m-hd.) altered propylite (Bs)	M-str. weathering mafic m. (Aug. Bio.) remain Pℓ: white argil.										
30m	^												
35m	^												
	^	gry. comp. hd.	W. prop. fresh mafic m. remain partly										
		←50°→Cal.											
40m .9	^	←55° Bio-Aug. Bs. (prop.)		Cal. films									
				39.9m Cal. vlt. wd. 0.5cm									
.5		←65° Cal.											
45m	^												
.4	~	60° she. dk. gry. argil.											
	△	grn. tf-br. rounded fragment inc. bad sorting essential flow	M. prop.	Cal. films									
50m .1	△	subangular brec.											

Drill hole No. : MJF−6(2) Direction : (true north) Inclination : −50°

Latitude : S Longitude : E Elevation :

(2)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
50m		tf-br. ess. pyloclastics	M-prop.		50								
.3 .6		←35°	52.3m brown weathered frs.										
55m		grn. comp. hd. accidental tf-br. angular~subangular											
		br.s. { prop. grn~gry f-tf. bedded sdy.tf.											
60m													
				63.5~65.8m Ca. films Py. w-diss. w. sil. argil.		63.5~64.0 1	0.058	<2	98	7	440	1.5	
65m .1 .5		←60° Cal-Qz. dk. grn. she, basic ←60° prop. (Bs)	pale grn. bleached ↕ Py. w-diss.			64.0~64.1 2	0.056	<2	38	11	54	0.4	
.8 .1		←65° ess. tf-br. (Hyal.)		64.0~64.1m Cal-Qz-Adul?-Py(w) vlt. (film net)		64.1~64.6 3	0.028	<2	110	11	1350	3.9	
.1		←60° Cal. she. argil. fr-Qz-Cal.	M~str. prop.			64.6~65.8 4	0.046	<2	81	8	300	1.5	
.2		←70° Cal. grn. comp. hd. rounded br.	grn. alt. ↕ purple alt.	66.1m Qz-Cal. film									
70m		dk. grn~purple Hyal. br. φ20~5cm	str. prop.										
75m													
80m													
85m .3		←65°	85.3~85.6m pale grn. bleached	85.3~85.4m Qz-Cal. vlt. wd. 0.5cm		86.2~86.4 5	0.061	<2	330	5	85	2.1	
.3 .6		←65°		86.3m Cal. vlt. wd. 0.5cm									
		dk. grn. finely fragmental φ5~1cm br.											
90m .2		←50°											
95m .4		←35° she. fr. argil. grn. comp. hd. tf.											
.3 .5		←35° she. z. argil. Cal. film		Cal. films									
100m		dk. grn~purple massive comp. m-hd. angular~subangular br. (prop.), Hyal.		Cal. patches									

Drill hole No. : MJF−6(3) Direction : (true north) Inclination : −50°

Latitude : S Longitude : E Elevation :

(3)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
100m		dk. grn~purple Hyal.	str. prop.		50								
				Cal. patches irreg. form									
105m		tf-br. size											
		vol. br. size	pale grn. bleached										
.7		←45°		107.0m Cal. drusy vlt. wd. 0.2cm									
110m													
115m		rounded br. ϕ20~5cm											
.8		←55° fr.											
120m			str. prop, carb.										
125m													
130m		←50° Cal.	129.9m~131m slightly bleached	Cal. vlt. wd. 0.5cm									
.7		←25° she. fr.											
135m.5		←40° fr.				135.4~6 135.55	0.036	<2	79	7	1230	5.2	
.5		←30~40° Cal.	w-bleached along Cal. films	135.5m, 135.6m Cal. vlts. wd. 0.2cm									
.4		←70° Cal.		136.4m Cal. vlt. wd. 0.5cm									
.2		55° Cal.											
.6		←50° Cal.		137.2m Cal. vlt. wd. 0.2cm									
140m				138.6m Cal. vlt. wd. 0.2~0.5cm									
.3		←50° she. frs. (5cm) with slickenside	str. prop. (carb.)										
145m.4		←25° she. frs.											
		dk. grn. v. comp. hd. Hyal.											
150m.8		←40° fr.											

Drill hole No. : MJF－6(4)　　Direction : 　　(true north)　　Inclination : －50°

Latitude : S　　Longitude : E　　Elevation :

(4)

Depth (m)	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
150m	dk. grn. Hyal.	str. prop.		50								
.9, .1, .2, .7, 155m .9	30~40°, 35° Cal.; 60° fr.; 60° Cal.; 45° Cal. grn. comp.; 30° Cal. fine prop. (Bs)	153.3~153.6m brown oxi. zone; 153.6~154.0m pale grn. bleached	154.7m Cal. vlt. wd. 0.5cm		154.7~ 7 155.0	0.072	<2	300	310	110	3.3	
.4, .9	50° Cal.; 65° Cal.	154.6~159.3m palegrn~whi. bleached	154.8m Cal. vlt. wd. 0.2cm; 154.9m Cal. 0.2cm		156.0~ 8 157.0	0.086	<2	240	20	86	7.2	
.6	70° Cal.; 55° Cal.		156.0m Cal. 0.5cm; 156.4m Cal. 0.3cm; 156.9m Cal. 0.2cm		9 158.0	0.014	<2	220	17	1980	8.3	
160m .4	20°; dk. grn. Hyal. comp. hd.		158.0~158.3m Cal. films network									
	35° Cal.	162.0~165.1m pale grn. bleached	163.93~164.10m whi. clay-Cal-w-sil. z.		163.93~ 10 164.1	0.036	<2	160	11	45	2.8	<5
165m .1	35° dk. grn~whi. porph. prop. dyke (Bs) with ch-m	whi. completely alt. zone	164.0m Cal. vlt. (2cm)		11 165.0	0.037	<2	190	10	1780	9.5	8
.3	35° she. br. whi. clayey z. broken Qz. vlt. inc. Cal.		164.1m black m. ?fill between brec.		12 165.5	0.099	3	170	35	850	5.4	<5
.4	55°	166.3m~ iron m. replace mafic m.	165.0~166.3m whi. clay>Cal-Qz. slightly Py. diss.		13 166.3	0.016	3	210	19	47	4.0	5
.6	50° whi. alt. mass. r. w-sil. z.	whi. clayey-Cal. films			14 167.3	0.025	<2	220	14	1260	7.2	<5
170m	35° whi. mass. clay she. 35°	whi. clay partly sil.	168.0~168.6m w-sil. Py. diss.		15 168.0	0.047	<2	230	12	1100	6.1	<5
.5		170.0~171.3m whish. bleached inc. Cal. net	Cal. films		16 168.6	0.15	<2	200	13	1050	3.1	<5
	65° Cal. films; dk. gry. comp. mass. hd. Bs. (prop.)		170.5m Cal. vlt. wd. 1cm		17 169.0	0.025	<2	190	10	85	2.9	7
.2	55°	str. prop.	173.2m Cal. vlt. (wd. 0.5cm)									
175m	dk. grn. Bs. (prop.)	175.35~177.60m whi. bleached Cal. film	175.6~176.2m whi. clay-w. silca Py. slightly diss.		175.35~ 18 175.6	0.014	<2	210	12	120	4.5	<5
.35, .6, .2	45° Cal.; 45° whi. alt. r.				19 176.2	0.052	<2	180	11	54	3.0	6
.4, .8	45°; br. mechanically	177.3~177.5m whi. w-sil, str. bleached	177.4m Cal. drusy vlt. wd. 1~2cm		20 177.3	0.015	<2	180	13	360	4.5	<5
180m	alt. tf-br.	179.2m~ pinkish w-oxi.			21 177.5	0.048	<2	190	15	1100	7.1	<5
.4, .55	50° grn. whi. alt.	180.4~180.55m dk. grn. clay	180.4~180.55m vlt. mdy. fine Py- Cal. film net		22 178.5	0.031	<2	190	18	1300	6.8	<5
.9		str. prop.			23 179.2	0.027	<2	190	19	110	4.4	<5
.1		~184.6m pale grn. bleached	180.55~181.90m Cal. films include Mo?-Cp. (network)		24 180.4	0.036	<2	270	17	63	2.8	<5
185m	dk. grn. comp. hd. fine Bs. prop.		Cal. films		25 180.55	0.20	4	640	78	56	1.0	6
.5	50° she-fr. with oxi. margin	str. prop.			26 181.3	0.045	<2	630	470	78	3.1	<5
	dk. grn-gry. comp. mass. ess. tf-br.		Cal. films		27 181.9	0.080	<2	770	650	2180	3.0	<5
190m .85	35~60° Cal		190.85m Cal. films wd. 10cm		190.85~ 28 190.95	0.025	<2	140	22	1100	4.3	
.8	30°; ch-m. (oxi.); dk. grn-gry. fine prop. (Bs.) v. comp. hd. (dyke)											
195m .3	45° Qz-Cal.; dk. grn-purple comp. hd. ess. tf-br.	Pℓ.→ Cal.	195.3m Qz-Cal. vlt. wd. 5cm		195.3~ 29 195.35	0.059	<2	72	9	74	1.0	
.3	40° bk. ch-m.		195.35~196.70m Cal. film net		30 196.7	0.036	<2	190	12	120	3.0	
200m .8	dk. grn. fine Bs.-prop.; 55°	str. prop. 197.9~203.1m bleached	199.8m Cal. vlt. wd. 0.5cm									

Drill hole No. : MJF−6(5) Direction : (true north) Inclination : −50°

Latitude : S Longitude : E Elevation :

(5)

Depth (m)	Lithology	Alteration	Mineralization	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
200m	Bs.-prop.	pale grn. bleached									
.8	←45° Cal.		201.8m irreg. Cal. vlt. (1cm)	201.8~ 31 202.1	0.039	<2	250	14	130	2.8	
.1	←70° she. fr.										
.9	←30° dk. grn. v. comp.		202.1m Cal. vlt. wd. (1cm) Cal. films								
205m	mass. ess. tf-br.										
.4	←70° rounded irreg.	205.4m v. w-bleached	205.4m± Cal. vlt. wd. 0.5cm								
.3	←60° brecs. dk. grn. comp. hd. prop.	w-bleached along Cal. films									
210m .1	←45°										
.7	←35°										
.3	←35° she. frs-Cal.	212.2~215.0m pale grn. bleached	212.7m Cal. vlt. wd. 0.5cm	212.6~ 32 212.85	0.028	<2	160	8	99	3.8	
.7	←70° Cal.										
215m .6	←55°	214.4m± bleached(5cm±)	214.6m Cal. vlt. wd. 0.3cm								
.9	←45° grn. comp. hd. tf-br.		Cal. films								
.4	←50°										
220m .4	←40°		219.4m Cal-Qz. vlt. (wd. 1cm)	219.35~ 33 219.41	0.007	<2	160	8	87	2.3	
.6	←35° she. fr. Cal. film brec.										
.5	←25° Cal.										
.7	←45° she. fr. grn. argil. dk. grn. ess. tf-br. comp. hd.	iron m.? diss.									
.5	←60° Cal.		Cal. films	223.45~ 34 223.6	0.043	<2	92	7	740	4.0	
225m .9	←55° Cal. Bs-prop.	224.9m± bleached(20cm)	224.9m± Cal. vlt. wd. 0.5cm	224.7~ 35 224.9	0.045	<2	230	12	1890	2.4	
.9	←45° Cal.	bleached along Cal. films	Cal. films								
.1	←50°										
.2	←40°	227.5~228.9m± bleached, Cal. patches	227.7~228.4m Cal. net	227.7~ 36 228.4	0.026	<2	230	10	80	3.0	
.4											
230m .4	←35°		229.5~229.8m Cal. net	229.5~ 37 229.8	0.023	<2	270	9	1550	6.6	
.8	←30° Cal.	str. prop.									
	bright grn. comp. mass. ess. lap-tf.										
235m	ess. tf-br. basic prop. brs.										
240m											
.6	←30° Cal.										
.2	←55° Cal.										
.4	←35° she. fr. ess. irreg. brs. inc.										
245m											
.5	←25° dk. grn. fine basic prop. br. mechanically	carb. Zeo. dots~patches									
.3	←20° she. fr.	str. prop.									
.6	←50° ch-m. fine basic prop. dyke	zeo. patches~dots									
250m											

R.Q.D 0~100%

Drill hole No. : MJF－6(6) Direction : (true north) Inclination : －50°

Latitude : S Longitude : E Elevation :

(6)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
250m .1		←35° fr. dk. grn. comp. hd. ess. tf-br. mosaic	str. prop.		50								
.7		gradual (mtx. poor)											
.6		lapilli size dominant											
255m		tf-br. bad sorting mtx. rich irreg. blocks(ϕ20cm±)											
.6		←20° grn. clay-Py. diss. dk. grn. partly whitish	257.4~257.6m± slightly bleached	Py. v. diss.									
260m		with accidental fragments (Bs, whi. sil-Py. r.)	whi. alt. partly	Py. slightly diss.									
.9		←20° dk. grn-gry. v. comp. hd. fine prop.											
265m .3		←30° purple prop. br. inc. bad sorting (ϕ1~10cm)											
270m .9		←40° grn-purple autobr. prop. (Bs)	carb. dot			277.7~ 38 277.8	0.031	<2	250	31	1400	2.9	
275m		←50° she. fr-Cal.											
.2		←30° grn. cos. tf.		277.7m									
.4		Cal.		irreg. Cal. films wd. 10cm									
.7		br~prop. grn. basic?	str. prop.	Cal. films~patches									
280m		←50° ←40~50° frs. grnish. gry. v. comp. hd. Bio. Bs. (prop.)											
285m .3		←40° Qz-Cal. ←20° frs. fr. 25°±		285.3m vlt. (wd. 6cm) Qz-Cal- Py. (mc?) Py: large crystal film net form		285.3~ 39 285.36	0.015	<2	240	10	49	2.4	
.5		grn~purple br-prop.											
290m		←45° fr.											
.7		←50° ←45~60° Cal.		Cal. films									
.8		←55° br-prop.											
295m .3 .7 .9		←30° ch-m. f. prop.	str. prop.										
.8		←30° ch-m. (oxi.)				296.7~ 40 297.2	0.015	<2	210	11	660	3.2	
		←20~40° Cal. dk. grn. fine prop.	299.8±~300.6m± w- bleached	Cal. films~patches									
300m .4		←30° fr. basic prop. vesicular	Cal. fill vesicules	Cal films ↙40°									
300.90m													

Drill hole No. : MJF−7(1) Direction : 0° (true north) Inclination : −55°

Latitude : S 17°40.94′ Longitude : E 117°37.51′ Elevation : 686m

(1)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization
0m–8.1	N/C	surface soil		
8.1		brown weathered prop. soft comp. mass.	brown str. weathering	
17.4		whi. brown soft tf-br.		
18.4 / .9		←55° grn. tf-br. comp. mass.		17.9m silica film
19.9		←50° fine basic prop. br. inc. bad sorting	str. prop. 17.9~18.1m, 19.0m } weathered br.	Cal. films
21.65 / .9		←50°		21.65~21.90m Cal-Limo vlt. Qz. film net
22.2		←25°	23.1m, 23.4m } frs. ∠45~50° weathered brown	22.2m Qz-Cal-Limo. vlt. (1cm)
25.2		←20~40°	~30.0m± bleached z.	Cal. films; 25.2~25.4m pink silica-Cal-Py. film net
26.8		←25° Cal.	27.3~27.5m Limo. film net	27.1m Cal(whi~pink) w-silica-Py. vlt. drusy(2cm)
27.1		←25° f-tf, grn, bedded	29.4~29.6m Limo-Cal. film net argil. bleached z.	
27.8		←40°		
28.1		←45° Qz-Cal.		28.1m Qz-Cal. drusy (1cm±)
29.1		←50°~20°		28.4m Cal-w. silica irreg. films
29.8		←60° Cal. film, pink		29.1~29.25m Cal-Qz-Limo. drusy films (0.1~3cm) Qz. later stage in druse; 29.8m pink Cal. 0.5cm drusy
30m–35.7		prop. (carb.) block (φ10~40cm) inc.		
35.7		←60° Cal. film		
40m				Cal. films
43.3		←70° Cal. film dk. grn~gry. purplish v. comp. hd. tf-br.	str. prop. (carb.)	46.0m Cal. vlt. (1cm±)
47.0		←25°		
50.4		block?		

Samp. No.	Depth (m)	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
1	21.65~21.9	0.013	<2	150	7	79	3.6	
2	22.15~22.25	0.013	<2	450	<5	68	3.2	
3	25.2~25.4	0.037	<2	140	8	59	2.0	
4	26.8~26.85	0.015	<2	120	10	1200	5.9	
5	28.1~28.4	0.010	<2	160	11	2100	7.8	
6	29.1~29.25	0.114	<2	170	8	2400	1.5	

R.Q.D 0~100%

Drill hole No. : MJF－7(2) Direction : (true north) Inclination : －55°

Latitude : S Longitude : E Elevation :

(2)

Depth (m)	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
50m .5	dk. grn~purple v. comp. hd. tf-br /Hyal.	str. prop.		50								
	←20° Cal. film											
55m .8	irreg boundary											
60m	pale grn. v. comp. hd. Ad/Bs. fine prop.	str. prop. w-bleached	Cal. film irreg. inc. pink Cal.									
.6	← 50° Cal. film											
.4	←40° slightly br.		62.4m Cal film Py. diss. (5cm)									
.5	← 20~30° Cal. films											
.8	← 20° Cal. film											
65m .3	←65° Cal. film											
	←45° dk. grn. fine basic prop.											
.4	←65° dyke?											
	Py. diss. she-fr. argil. grn. comp. br. - prop. /Hyal.											
70m	← 65° Cal. film											
.4 .5 .8	← 25° ← 65° Cal. films ← 40°	carb. dot										
75m	← 50° irreg. Cal. film		76.4m~ w-net Cal. (2cm) 76.95m									
.95	←60°				76.9~ 7 77.15	0.014	<2	120	45	120	2.9	
.8	←40°		Cal. vlt.									
.8	dk. grn. v. comp. hd.				77.8~ 8 78.8	<0.005	<2	180	13	94	4.9	
80m .95	←10° fine basic prop. ←25° br.		78.8m Cal. vlt. (1cm)									
	←30° mechanically she. fr.	81.1m bleached pale grn. inc. pink Cal. patch~film	79.05m Cal. vlt. (0.5cm) 79.7m Py. w-diss grn. argil. (3cm)									
.35	←10°		77.8~80.0m± str. Cal. network		82.35~ 9 82.38	0.040	<2	340	900	850	4.3	
85m .1 .4	← 25° ← 75° Cal. film Cal. film		80.0m~ w-Cal. net 82.35m									
.4	br. prop. dk. grn~purple comp.	~86.4m	hd. Cal. vlt. (2cm) Cal. films pink parallel to core		85.9~ 10 86.0	0.009	<2	180	29	2200	4.1	
.86 .5	dk. grn. fine basic prop. ← 35°	bleached pale grn.			86.5~ 11 86.7	0.012	<2	150	17	94	9.2	
90m .4 .5	dk. grn~purple br. — prop.		85.9m Cal. net (10cm)									
	45° Cal. films 20°		86.6m Cal. net (20cm) grn. argil.									
.3	Hyal. ess. irreg. br. 20° Cal. film											
95m .5 .8	← 50° Cal. film ← 20° irreg. Cal. film	carb. dot films										
.5	← 50° irreg. Cal. film											
100m		carb. dot										

Drill hole No. : MJF－7(3)　Direction : 　(true north)　Inclination : －55°

Latitude : S　Longitude : E　Elevation :

(3)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
100m	v v	purple~dk. grn. comp. br.-prop./Hyal.			50								
.1	v v	40°		102.1m hd. Cal. vlt.(1~2cm)		102.1~ 12 102.13	0.013	<2	530	177	82	6.2	
105m .1 .4	v v	40° 30°	bleached along Cal. vlt.	104.1m Cal. films		104.1~ 13 104.45	0.006	<2	210	38	110	7.0	
.8	v v	45° mtx. poor		104.4m Cal. films (0.2~0.5cm)									
	v v	dk. grn. basic 45° br~. prop.		105.8m Cal. vlt. (0.5cm)		108.0~ 14 108.15	<0.005	<2	150	12	82	4.2	
110m .4	v v	65°		108.0~108.15m Cal. vlts. (0.5cm) Cal. films									
.2	v v	20° Cal. film		109.4m Cal. vlt. (0.5cm)									
	v v	25° Cal. film											
115m .8	v v	50° she. fr.											
.6	v v	60° Cal.		116.6m Cal. vlt.(0.5cm)									
.4	v v	55°	117.4m± bleached weak pale grn.	117.4m drusy Cal. (2cm)		117.4~ 15 117.43	0.014	<2	160	13	560	10	
120m													
.3	v v	25° Cal. film; 20~15°		121.0~121.1m Cal. vlt. (0.5~1cm)		121.0~ 16 121.1	0.142	14	2500	19	2100	9.3	<5
.7 .8	v v	20° grn. clay-Cal.; 20° Cal-Cp-Gn.		121.93~121.96m Cal-Cp-Gn?net (3cm) grn. w-argil. r.		121.93~ 17 121.96	0.086	22	4000	2100	56	1.6	<5
.3	v v	25~40° Cal. net; 0~5° Cp. Cal. films		122.8~123.3m Cal. net									
125m	v v	finely br. grn.~purple comp. mass. hd. irreg. ess. brec./Hyal.	str. prop.	123.50~123.53m Cp. diss. mass. ore in grn. w-argil. r. (3cm)		122.8~ 18 123.3	0.005	<2	85	21	370	3.8	<5
	v v					123.5~ 19 123.53	0.375	880	67600	17	760	4.0	<5
130m	v v	br-prop. purple											
135m	v v	φ20cm± blocks inc.											
	v v	35° Cal. film	purple; 138.9~139.1m weathered pale brown										
140m	v v	weatherd frs.											
.4 .7	∧	35° Cal. film grn. v. comp. hd. f-prop. (Bs)	grnish.	141.7~141.9m Cal. films net									
.4	v v	br.- prop. irreg. br. grn.		143.1m Cal. patches									
.4 .9	∧			143.9m Cal. film; 144.4m Cal. film									
145m .4	∧	55° ch-m(oxi.) grnish~gry v. comp. hd. porph. prop.	str. prop.										
.5 .5	v v	25°; Cal. film		146m± Qz. film 0.5cm									
	v v	75° Cal. film											
150m													

Drill hole No. : MJF－7(4)   Direction :   (true north)   Inclination : －55°

Latitude : S   Longitude : E   Elevation :

(4)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
150m	v Δ		str. prop. slightly bleached		50								
.2		85° Cal. film; irregular~subangular ess. br.		Cal. films									
		45° Cal. film											
155m	v Δ	purple ess-tf-br.											
160m .3		argil.	pale grn. clayey bleached	Py. slightly diss. in part									
.2	Δ v												
.1	//	rounded br.		Cal. films irreg.									
165m	v Δ												
.2		15～20° dk. purple mdy. thin layers (1cm-)											
170m .2		55° Cal. film											
175m				Cal. films									
.3		40～50° Qz.	176.0~176.3m pale grn. bleached	176.1~176.3m whi. Qz. net 0.5cm± Py. w-diss.		176.1~176.3 20	0.021	<2	600	27	1400	9.1	
		ess. tf-br. /Hyal.											
180m .9		40° fr.				180.5~180.53 21	0.027	<2	420	13	88	3.3	
.3		Qz. films											
.5		30°		180.5m									
.15		30°	pale grn. bleached along Qz. film	Qz. (large grain) vlt. (0.5cm)									
				181.15m Qz. (large grain) film									
185m .7		50°	str. prop. carb.										
190m	Δ v												
.4		40° Qz.				191.4~191.45 22	0.086	<2	700	36	2300	6.8	
.6		20° Cal.		191.4m Qz. vlt. (0.5cm)									
		bedded irreg. laminated mtx. (load struc.)											
195m .3	// //	tf.											
		40° Cal. film		Cal. films									
200m													

Drill hole No. : MJF−7(5)　　Direction : 　　(true north)　　Inclination : −55°

Latitude : S　　Longitude : E　　Elevation :

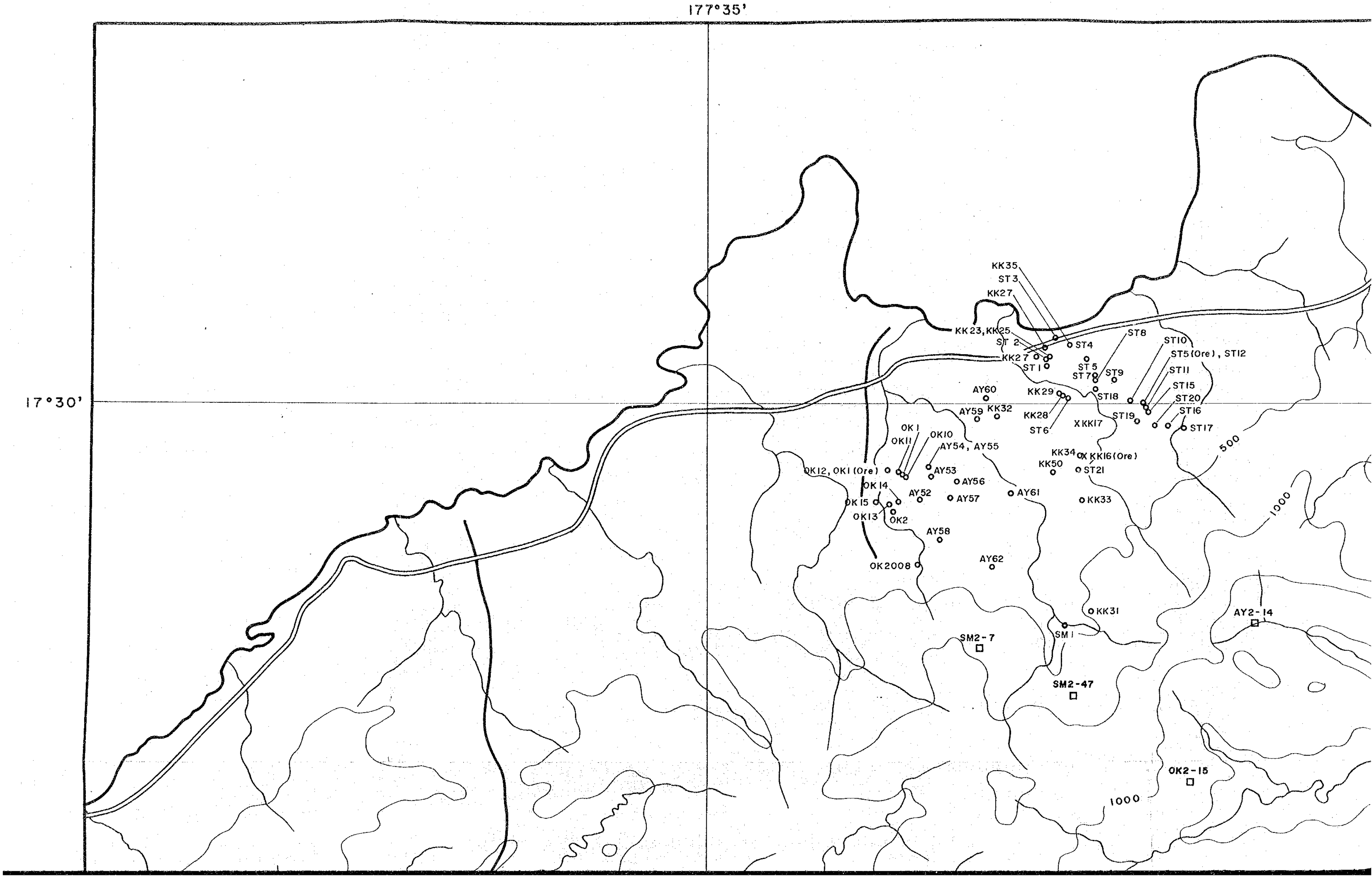
Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
200m .3	v △	60° she. fr. dk. grn~purple comp. hd. ess. tf-br.	str. prop.	Cal. films	50								
.4	△ v	40° fine part											
205m	v △	rounded~subangular brecs.											
210m .8	v △	50°, 70° Cal. film, 50°		Cal. films									
215m .2	v △	25° Cal.		216.2m Cal. vlt.(0.5cm)									
220m .1	v △	25° Cal. film											
.9	△ v	50° she. fr.											
.7	v △	50° she. fr-Cal.		Cal. films(w)									
.5	△ v	10°											
.7 (225m)		75° grnish gry. v. comp. hd. prop. (Bs) brecciated 50-20° she. fr.	str. prop. (carb.) 224.5-224.6m bleached 226.4-229.7m w-bleached pale grn.	223.7m Cal. vlt.(0.5cm), drusy 224.5m Cal. films(10cm) Cal. films		224.5~224.6 23	0.007	<2	88	12	1600	10	
230m		basic prop. fine		Cal. films(w)									
.8	△ △	br-prop. included											
235m													
240m			carb. dot										
.9	△	20° grn~purple											
.7	△	45° she. fr-Cal. film prop./Hyal. mtx. poor comp.											
.5	△	35° Cal. film											
245m	△			Cal. films									
.7	△	20° Cal. film	246.7~250.0m w-bleached pale grn.			246.7~247.2 24	0.018	<2	210	8	450	3.5	
.2	△	25°, 25°, 60°		247.0m Cal. vlt.(0.5cm) Cal. films									
250m	△												

Drill hole No. : MJF−7(6) Direction : (true north) Inclination : −55°

Latitude : S Longitude : E Elevation :

(6)

Depth (m)	Core Log.	Lithology	Alteration	Mineralization	R.Q.D 0~100%	Samp. No.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Te ppm	Mo ppm
250m		grn. basic prop.(Bs) comp. hd.	str. prop. (carb.)	Cal. films~dots	50								
.4		ch-m. 50°											
		brec-prop./Hyal. comp. hd. grn~purple											
255m													
.5		blocks 40°		257.5m Cal. vlt. (0.5cm)									
260m													
.8		40° dk. grn. basic prop. comp. hd.	str. carb. (dot)										
.7		55°											
265m		purple br. -prop.											
		mtx. poor oxi. mechanically br.											
		block oxidized											
270m		40° Cal. film											
.6		30° ch-m. fine basic prop. dk. grn. v. comp. hd.											
.2		30° Cal. film	272.7~278.5m w-bleached										
.7		40°											
.8		60° Cal. film											
275m		mtx. poor mechanically br.		274m~277.6m Py. diss. in mtx. Cal. films		274.0~275.0 25	0.016	<2	210	21	2100	11	
						275.0~276.0 26	0.017	<2	190	12	2000	9.4	
.6						276.0~277.0 27	0.015	<2	210	8	83	3.4	
						277.0~277.6 28	0.071	<2	230	10	79	3.2	
280m		grn. Hyal./ess. tf-br.											
		50°		281.8m~282.0m drusy Cal. vlts. (0.5cm)		282.0~282.05 29	0.011	<2	170	9	78	7.2	
285m		block											
.4		60° she. fr.											
.9		50° Cal. film											
		45° Cal. film		286.9m Cal. vlt. (0.5cm)									
290m													
.3		40° basic prop.(Bs)	291.7~293.2m bleached	291.4~293.3m Cal. film net		292.7~293.1 30	0.005	<2	190	9	73	6.7	
.4		35°											
295m		65° Cal. film		296.7m Cal. vlt. (2cm)									
.4		65° Cal. film											
.7		60° grn. br-prop/ess. tf-br, comp. hd.				296.7~297.1 31	0.025	<2	141	6	77	1.6	
		70° Cal. film											
.1		40° Bs.											
		50° blocks inc.											
300m .3		35° Cal. film		Cal. films									
301.00m													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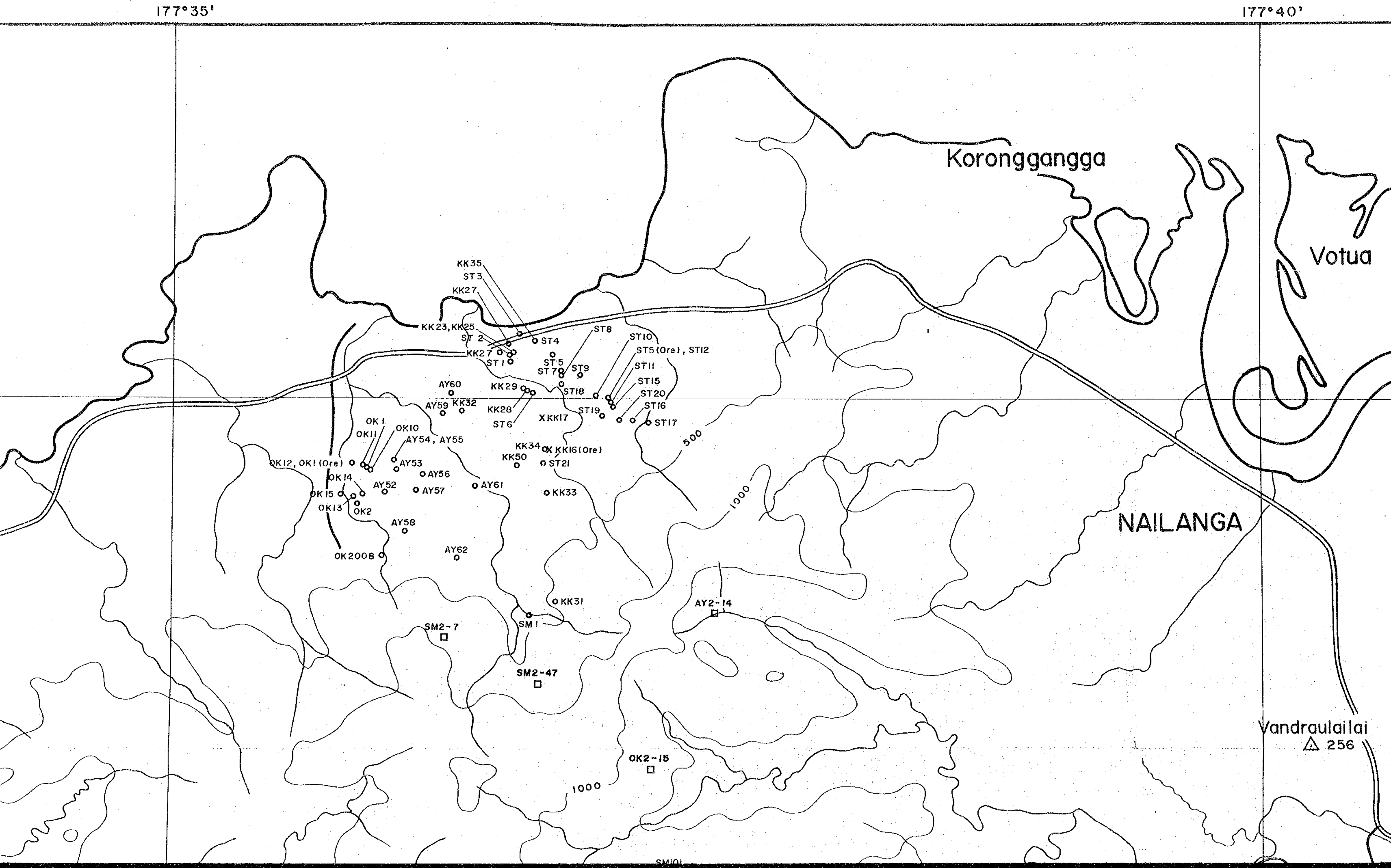
17°30'
KK35
ST3
KK27
KK23, KK25
ST 2
KK27
ST 1
ST4
ST8
ST10
ST5 (Ore), ST12
ST11
ST15
ST20
ST16
ST17
ST 5
ST 7
ST9
ST18
ST19
ST6
KK17
KK29
KK28
AY60
AY59
KK32
OK 1
OK11
OK10
AY54, AY55
OK12, OK1 (Ore)
AY53
AY56
OK 14
AY52
AY57
AY61
OK 15
OK13
OK2
KK34
KK16 (Ore)
KK50
ST21
KK33
AY58
OK2008
AY62
KK31
SM 1
SM2-7
SM2-47
AY2-14
OK2-15
500
1000
1000


177°35'
177°40'
Koronggangga
Votua
NAILANGA
Vandraulailai
256
KK35
ST3
KK27
KK23, KK25
ST 2
KK27
ST 1
ST4
ST8
ST10
ST5 (Ore), ST12
ST11
ST15
ST20
ST16
ST17
ST 5
ST 7
ST9
ST18
ST19
AY60
KK29
AY59
KK32
KK28
ST6
XKK17
OK1
OK11
OK10
AY54, AY55
KK34
X KK16 (Ore)
KK50
ST21
OK12, OK1 (Ore)
AY53
AY56
OK14
AY52
AY57
AY61
KK33
OK15
OK13
OK2
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OK2008
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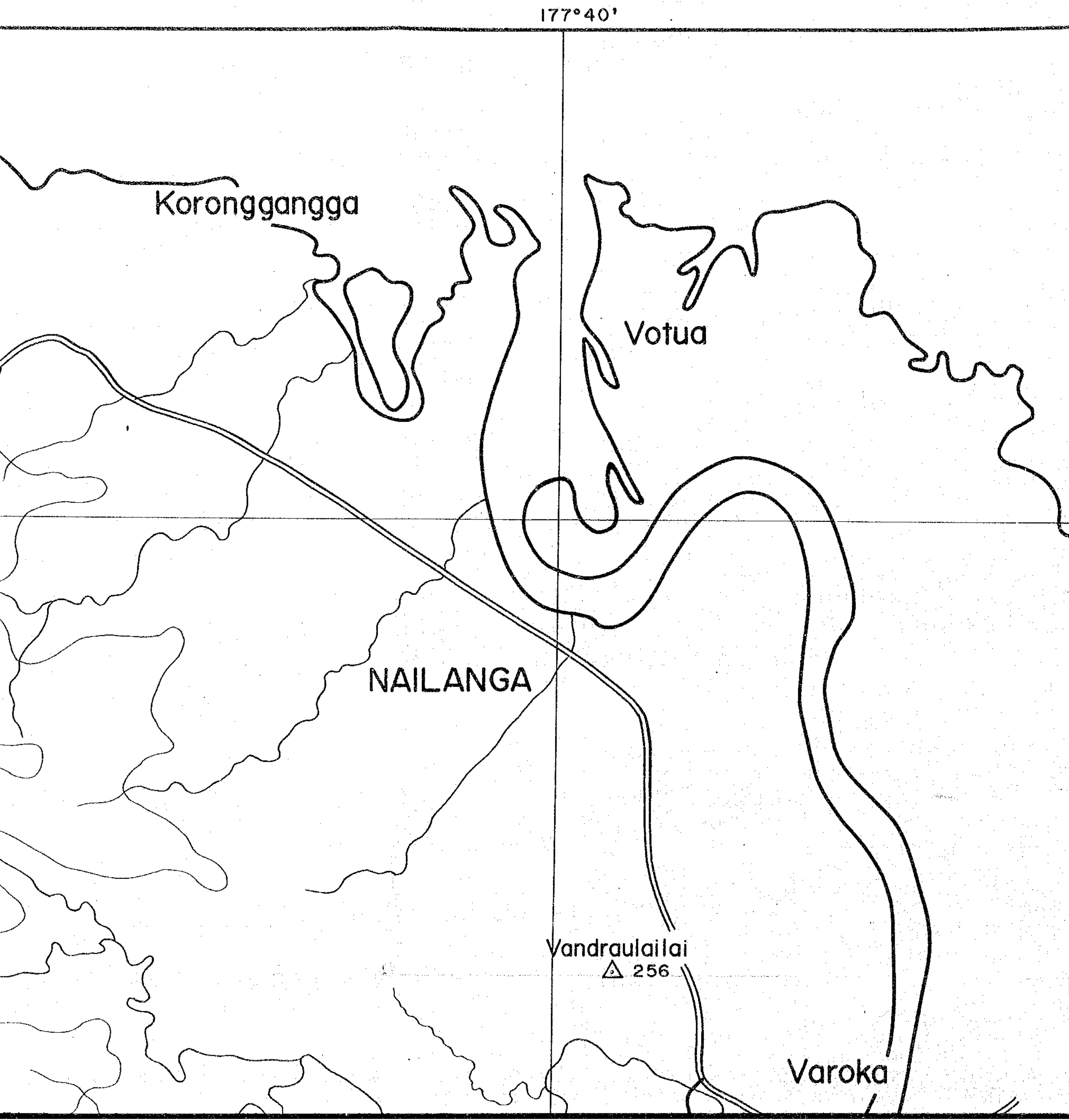
KK31
AY2-14
SM1
SM2-7
SM2-47
OK2-15
1000



PL. I

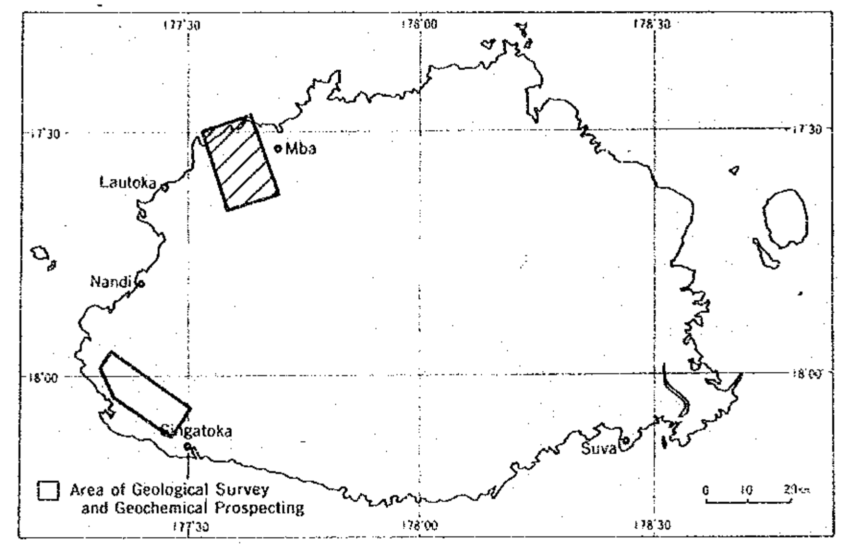
REPORT ON THE MINERAL EXPLORATION
IN THE VITI LEVU AREA,
THE REPUBLIC OF FIJI

PHASE III

SAMPLE LOCATION MAP OF THE MBA-WEST AREA

(THIN SECTION, ORE ASSAY, X-RAY DIFFRACTION ANALYSIS)

LOCALITY MAP

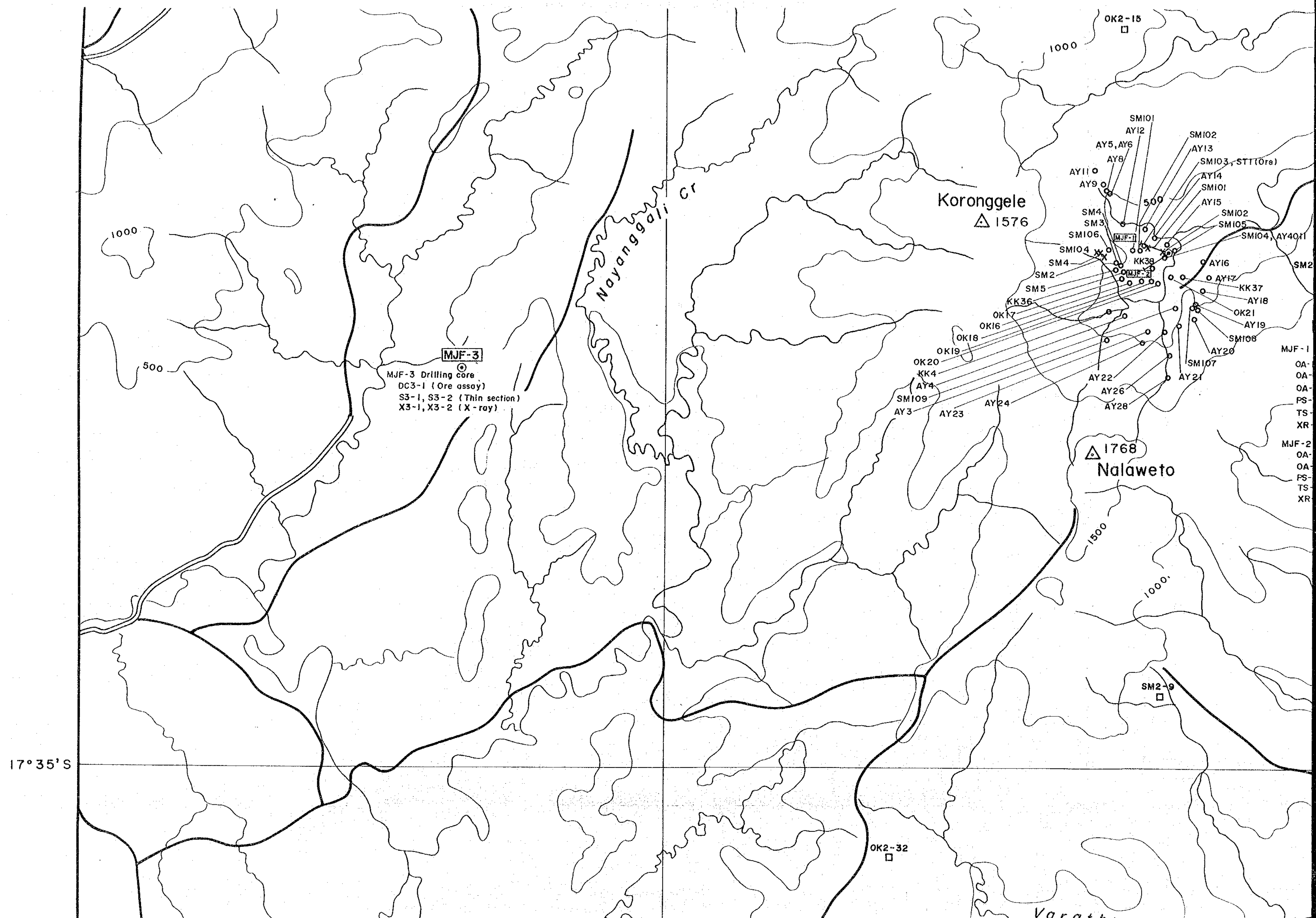


FEBRUARY 1993

JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN

1 : 25,000

0 1 2Km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AY8
AY11
AY9
SM102
AY13
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AY14
SM101
AY15
SM102
SM105
SM104, AY401
Koronggele
1576
500
SM4
SM3
SM106
SM104
MJF-1
SM4
KK38
MJF-2
SM2
SM5
KK36
OK17
OK16
OK18
OK19
OK20
KK4
AY4
SM109
AY3
AY23
AY24
AY22
AY26
AY28
AY16
AY17
KK37
AY18
OK21
AY19
SM108
AY20
SM107
AY21
SM2
MJF-1
MJF-2
1768
Nalaweto
1500
1000
SM2-9
OK2-32
Nayanggali Cr
1000
500
MJF-3
MJF-3 Drilling core
DC3-1 (Ore assay)
S3-1, S3-2 (Thin section)
X3-1, X3-2 (X-ray)
17°35'S