〈C〉 mineralized zone

⑧ There are nine mineralized zones with the approximate caluculation of ore reserves and grade being 1,760.000t, Au 0.1g/t, Ag 130g/t, Cu 0.8%, Pb 1.5%, and Zn 10%

⑨ These ore reserves and grade are barely exploitable scale depending upon economical enviornment. The ore reserves probably might be increased by suitable exploration in the future. The marble present may also be investigated with view to development.

⑩ Grade of the mineralized zone rapidly decreases toward deep, while the width of whole mineralized zones including the skarn does not narrow.

⑪ The alkaline intrusive rock and its activity took part in the mineralization. This took place at ≦ 50Ma, from end of Cretaceous to early Paleogene.

⑫ The remarkable NE-SW structure of the mineralized zones reflacts the structure of small scale alkaline intrusive rocks (shallow facies) and also cocurrent faults(fracture).

⑬ The sulfur in the sulfide of mineralized zone is definitely biogenetic sulfur, derived from sea water sulfuric acid. This information and the study of $^{87}Sr/^{86}Sr$ ratio described in second phase suggest that the mineralization in the S.Tuboh was formed by movement, re-distribution and deposition of sulfide existed in the S.Rawas Formation under a physical condition of skarn mineralization. Its thermal condition was 430℃, coinciding usally with that in skarn mineralization.

⑭ For a future exploration targets in the S.Tuboh area, southwest area of MJI-13, area around MJI-18, foot wall area of D_6 zone, norhtwest area of MJI-9～MJI-2 and area between MJI-11～MJI-12 can be listed

Chapter 2 Recommendation for the Future

It is recommendable for a future survey in the S.Tuboh area that a area covered from S.Kerin and Sepan indications to around middle S.Nilao area is investigated, not restricting only in S.Tuboh area.

The current inferred ore reserves of 1,760,000 tons(estimated economic value of $125,000,000) is possibly countable at the first step of a exploration survey. The amount might be increased through the future survey, because there are many prospecting areas. On the other hand, the amount is still low accurate up to the present.

Consequently, recommendation for the future is as follows ;,

1) More detail survey is expected to continues in the S.Tuboh area in order to increase the current ore reserves obtained by this survey.
2) Following places are recommended as exploratory targets to increase the ore reserves in S.Tuboh area.

a. The place between MJI-13 and MJI-14
b. The foot wall area of D_6 zone
c. The southwest and northeast places of D_5
d. The place between MJI-11 and MJI-12
e. The place around MJI-18
f. The foot wall area of D_2 and D_3
g. The deeper part of the mineralized zones

3) S.Kerin,S.Supan indications and area in middle S.Nirao situating near the S.Tuboh seem to be promising to obtain additional reserves, because of geological point of view. It is expected that emplacement of mineralized zones and their potentiality are unrevealed. The area covered neibouring S.Tuboh.

4) The current inferred ore reserves is trial calcuration for the results of first step of the exploration, and same factors used for the calculation are mostly undefined, such as continuation and width of the mineralized units, variation range of grade, specific gravity of ore, and correlation of grade and specific gravity on the basis of drilling results. It is desirable that these factors are defined through the future survey.

Considering the feature and occurrence of mineralized zone, underground exploration such as tunnel and short drilling from the underground is a suitable suevey.

Drilling Log

Drill Hole No	: MJI-11		MJI - 11 - 1
Location	:	Elevation	:
Coordinate Point	:	Inclination	: -50° (340°00')
Depth	: 351.00 m	Core Recovery	: 89.8%(inc.soil part:86.4%)
Drilling Machine	: L-38	Term	: 9 Sep. - 19 Sep.1987

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Hd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
5		Surface soil (Boulder of acidic altered rock at basal part)									
10											
13.50											
13.60											
14.20		Leached out zone									
14.50	N.C.	decolorized porous part.									
15	N.C.	kf-gn-qtz(?)									
17.20											
17.50	N.C.										
18.20		Slightly leached out zone									
20.00		dark grey metamorphosed									
20.90	N.C.	alkarine ig.									
22.40		qtz-ac-talc-biotite (ac:actinolite)									
22.70		Leached out skarnitized zone									
24.90		gn-kf-qtz-talc									
25.40	N.C.										
		Equi-crystalline medium grain dark color ig. ac-qtz-kf		Alkaline intrusive (metamorphosed, skarnitized)							
29.30		T.S									
	N.C.	[MJI-11-1(33.0m):Af>Ag>Sphene,Apatite: Alkali gabbro or Monzonite] Af:Alkalifeldspar Ag:Aegirin augite									
30.90											
33.30											
34.00	N.C.										
34.40		Weathered or decomposed part. Succaroidal qtz is visible only.									
	N.C.										
39.80											

Fig.22 Geologic Column of MJI-11

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
40.20	N.C.										
40.80											
41.00	N.C.	qt-qtz-talc-muscovite bearing									
41.80		yellow soil part. 41.8m,42.3m:talcuse									
42.30											
42.50											
43.20	N.C.										
43.80	N.C.	N.C.(soily part and cave)									
44.60	N. C.	(cave)									
46.20		Grey white mss.coarse grain mbl.									
		very coarse(crystal size 20mm≤) graine part									
50		at: 50.00~50.40 } crystal size max.40mm									
		52.70~53.20 }									
		53.70~54.20 }									
		black thin seams at: 55.10~55.50 } with dip of 20°									
		56.10~56.40 }									
55		12°									
58.60											
60.00	N. C.	N.C.(cave)									
		Grey white cg~mg-mbl.(crystal size 20mm>)									
		60.00~60.20 : very coarse grain									
		mbl.with black seams									
64.65	N.C.										
64.75											
65.55	N.C.										
65.75		64.65~64.75m,65.55~65.75m : small scale cave.									
		30°									
70											
		73.50~76.00m : a little rich in black seam									
		with 25°dip									
75		25°									
		76.40~77.20m,80.00~81.40m : very coarse grain mbl.									
80											
82.20											
		(cave)									
85	N. C.										
86.60		86.60~87.10m : grey mss.mg-mbl.									
87.15		87.10~87.15m : brown siliceous rock(leached out zone?)									
	N. C.	(cave)									
88.90											
90		Grey white cg~mg-mbl.									

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
95		Grey white cg~mg-mbl.											
		97.70~98.65 : thin seams common											
		98.20~98.35 } purplish hornfels											
		98.50~98.60 }											
		99.65~99.80 : tf and slate seam. lamina 0°~5°											
100		0°~5°											
100.70		30° Pale olive, pale green and purplish											
102.75		hornfels of tuff and slate											
105		Grey white mg-mbl.											
107.50		Pale olive color											
107.90		talcose tuff. lamina(band)20°dip											
110		Grey white mg-mbl.											
		Decolorized-silisified aphanitic dk.											
113.20		36° 113.10~113.20 : talc-qtz band											
115.00		115.00 : a few amount of pyrrhotite diss.& film.											
		115.00m boundary is irregular ±0°											
		115.00~115.10 : the same as 113.10~113.20 dip 56°											
120													
125		Grey white mss.mg-mbl.											
130													
135													
138.40		Very coarse grain mbl.											
138.40													
140		Grey white cg~mg-mbl.											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Au g/t	Ag g/t	Cu %	Pb %	Zn %	Results	
145		Grey white cg-mg-mbl.											
146.00		Mg-mbl.											
147.20		Very coarse grain mbl.											
147.80													
150		Mg-mbl.											
151.00		Very cosse grain mbl.											
153.00		20° Grey-grey white mg-mbl. black seams are rare											
155													
160													
160.50		Very coarse grain mbl. crystal size max 40mm											
165													
170													
175													
180													
185													
190													

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
195		Very coarse grain mbl.									
197.10											
		Grey mg-mbl.									
199.80											
205		Very coarse grain mbl. crystal size max 60mm									
210											
215											
220											
220.85		220.85~221.30 221.55~221.60 : Biotite-Po rich part with 222.60~222.85 a few of talc									
221.55											
222.60											
225											
		(indistinct)									
227.80		Lava ? upper 1.00m : brecciated-decolorized clayey part lower 1.35m : mss.dark green 25° (Hm-Ch-Po-talc)									
229.65											
235		Very coarse grain mbl. Color comes grey									
240											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
245													
250		Very coarse grain mbl.											
255													
260													
265													
268.20													
270		Coarse grain mbl. (crystal size≦7mm)											
275													
280.00													
281.00		Very coarse grain mbl. crystal 5cm											
285		White mg.mbl.⇒ Originally this part has derived from "Shally" facies (?)											
287.40		285.60~287.00 : Black substances(∮ less than 3mm) disseminated & oriented(→30°) [Seggregated carbonaceous substances? Spherical & Sub-spherical shaped]											
290		Very coarse grain mbl.											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Au g/t	Ag g/t	Cu %	Pb %	Zn %	Results	
		Very coarse abl.											
293.20		30° Brown trachytic slt.rock. accessary xenoliths(poly phenocryst)bearing. Upper : 0.35m, Lower : 0.65m⇒decolorized											
295		297.20 wd 2cm blue clayey part (Chilled margine?)											
297.20		This part has a look of lava, but homogeneous correlative to DK-6(U) of MJI-9.											
300		Very coarse abl. 301.00~301.70 : talc(?)-Chlorite-Andradite											
301.70		Dark grey ~Black holocryst.dk. 301.70 50° chloritized part abl. boundary is indistinct											
305		56° 301.70~302.05 : slightly decolorized											
305.15		Po diss. pyroxene are visible at lower boundary : Andoradite-qtz-muscovite-talc. 304.90~305.15 : slightly decolorized [This part is correlative to DK-6(L) of MJI-9]											
310													
312.00		Very coarse abl. below 312.00 : cloudy patterns											
315													
320													
320.20		Below 320.20m part has originated to "Shally" (?) below 320.20 : black seams are common with 25°dip											
325		324.55~326.70 : slumping structure expressed by black seams X-R [MJI-11-11(338.50m): Cc>Sr>Cr (Calcite>Serpentine>Chrolite)] T-S [MJI-11-11(338.50m): Ol-Cc>Sr (Olivine) : dunite]											
330													
330.80		330.90~334.70 : Black seams are common											
334.70		The results of X-R,T-S and appearence of occurence are indicating that this part is derived highly metamorphosed and recrystalized mafic tuffaceous part.											
337.70		talc and recrystalized(?)black grain(H 7>)											
339.00													
340													

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
		340.40~341.40 : Slumping structure(?) Very coarse mbl. 354.10~345.90 : black crystal spotted											
345													
345.90		30° Greenish grey Po-talc diss.alt.igneous rock.											
347.25		55° a few amount of Andoradite,Grossular are also recognizable											
350		Very coarse mbl.											
351.00		Terminated											

Drill Hole No	: MJI-12	Elevation	:
Location	:	Inclination	: -50° (340°00')
Coordinate Point	:	Core Recovery	: 99.1%(inc.soil part:94.9%)
Depth	: 351.00 m	Term	: 19.Aug.- 31 Aug.1987
Drilling Machine	: L-38		

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
5		Surface soil									
10		boulder of alkarine rock at basal part									
14.70	N. C.										
16.30											
16.70		A part of big (large scale)intrusion of Alkarine body									
17.00		fresh black holloerystarine medium grain dk.									
17.90		17.10~weathered,grey,limonite stainned									
19.90		17.90~slight compact									
		18.10~19.10 : compact,some as 16.30~16.70									
		19.10~19.90 : decomposed									
		19.90~ slightly coarse grain									
25		30°fissure are common									
		27.70~24.10 : decomposed,limonite stain & grey clay									
		T-S MJI-12-1(18.30m):Pl>Bt-Hr-Hy-Op>Cc:Q-diorite MJI-12-3(37.20m):Af-Pl-Ag>Op:Alkali Gabbro									
		X-R MJI-12-4(39.80m):Grs>Cc									
30		Grs:Grossular Bt:Biotite Cc :Calcite Hr:hornblende									
		Skarnitized zone with a few amount of Py,Po.									
33.90		33.90~35.40 : Qtz>Grr.(pool and porphyritic with a few of Actinolite									
35.40		35.40~36.10 : Qtz-Act-Grr-K-feldspar(?)									
36.10		36.10~36.75 : Qtz-Chl-Grr-K-feldspar									
36.75		36.75~37.60 : Act>Qtz-Epi-Grr(?)									
37.60		37.60~37.80 : Grr-Qtz									
37.80		37.80~39.10 : Act-Epi>Grr-Qtz									
39.10											

zone of leathed out

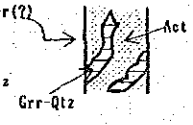
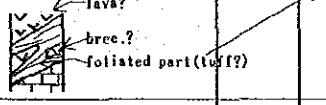


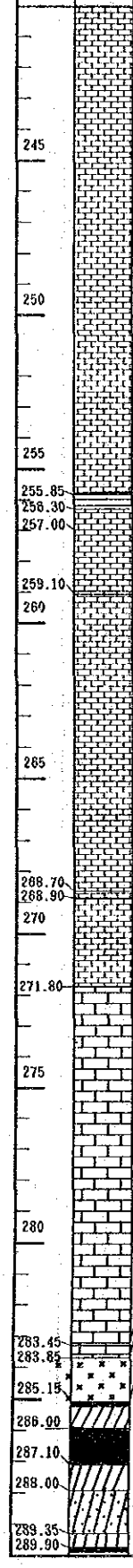
Fig.23 Geologic Column of MJI-12

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
		Skarnitized zone with a few amount of Py,Po.											
41.60		39.10~41.60:Grr-Cc,Grr grain larger than 5mm(Max 3cm-5cm)											
42.40		41.60~42.40:alkarine ig.											
42.60		42.40~42.60:Grr>Cc(Qtz?)											
42.60		42.60~42.80:alkarine ig.											
43.05		42.80~43.05:Grr-CC											
43.80		43.05~43.80:Ch>Epi-Po											
44.30		43.80~44.30:Grr-Cc											
44.50		44.30~44.50:Ch-Epi											
45.25		44.50~45.25:Grr-(Cc),ratio of Grr 70%											
46.95		45.25~46.95:skarnitized ig.k-f-Act>Po-Epi.Cc-V.(wd 5mm) at 45.75 with 77°dip.											
		46.95~52.30:Cc-Grr zone ,Grossular maks aggregation but fine grain.											
52.30		(Upper 50.20:color of Grr is pale pink)											
52.95		(Lower 50.20:color of Grr is brownish)											
53.30		52.30~52.95:Ch-Act-Epi with(mixed by)Alkarine ig.part											
54.05		52.95~53.30:Act-Ch-k-f-Hd(?) mixed zone											
54.35		53.30~54.05:fine grain Grr-Cc(Ch)											
		54.05~54.35:Grr-k-f											
		54.35~60.45:fine grain Grr-Cc											
60		60.45~67.10:green part											
60.45		67.10~67.70:v-cg-mbl.(66.40-67.10:talcuse?yellow green)											
		67.70-68.70:green & white mixed part (Ad-Cc?)											
		T-S NJI-12-5(51.30m):Vs>Cc:Vesuvianite skarn											
65		NJI-12-6(60.85m):Pl-Ag>Op>Bt-Sphane:Alkarine gabbro											
		X-R NJI-12-5(51.30m):Vs>Gr			Bt:Biotite,								
67.10		NJI-12-6(60.85m):Px>Ep-Ch>Pl>k-f?			Hr:Hornblende								
67.70													
68.70		(±0° of boundary)											
70		30° Grey white mg~cg-mbl.with a few lamina											
		30°											
72.50													
75		Grey white											
		Very cg-mbl.											
		cryst.of Cc max 3cm											
		at 79.80:wd 1cm cherty Qtz-V.dip 60°											
80		at 80.80:black irr.filme with 20°dip											
85													
89.60		Grey white mg-mbl. Thin seams are visible commonly											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
95		Grey white ag-mbl. Thin films or seams are visible commonly.									
		92.00~92.40, 94.25~94.55:black bands with 30°dip									
		94.55~94.80:Hornfelsic part,purplish(origine of facis is calcic slate?)									
		90.70~91.30:lamina 40°									
		100.15~100.45:tuffaceous? foliated with 60°dip									
100											
105											
106.80		39° Thermal effected lava?									
108.45		tuff-like part at upper & lower,15cm wide respectively metamorphosed into hornfels									
109.90		Grey white ag.-mbl.									
115		White cg-mbl.									
119.60											
	N.C.	(N.C. caused by cave)									
121.45											
124.05											
		Grey white ag-mbl.with thin seams. dip of thin seams are 50°-30°									
129.35											
		Grey cg-mbl.									
135											
140											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Au g/t	Ag g/t	Cu %	Pb %	Zn %	Results	
145		Grey cg-mbl.											
149.52		mss.Sp-Gn-Cp-Po Ore Upper rime of ore zone:60°dip red Sp. Lower rime of ore zone :88°dip wavey almost Sp only	Sp, Cp, Po 3cm Cp, Po, Gn 4cm needle shape of Wd.in ore		149.52-150.50	0.98	0.14	350.	3.78	8.38	25.00		
150.50		150.50~151.50:green 151.50~152.50:decolorized(white) (152.50~152.50:brecciated)											
152.50		40° Brecciated & re-consolidated mbl.white(Cc-part) and											
(80) 153.50		black part banding roughly. 152.90~153.10:Seg.Cc.											
155.00		65° Pale orange ig.decolorized,silicified,epidote spot & vein net of calcite hair veins 20° 154.90~155.00:Po-epidote											
158.60 158.85													
160		60° Grey -grey white fg.(sdy.)mbl.											
165		0~20° 158.60~158.85:Hornfelsic grey part 173.20~175.10:Seams and dotts of talcuse part 174.30~179.10:Slumping structure,expressing by pinky hornfelsic slate 182.00~183.90:Slumping structure,expressing by black thin seams 183.40~183.60:Talcuse seams											
170		Polish MJI-12-9(149.80m) :Cp>Gn-Sp-Py-Po>Gg MJI-12-10(150.00m) :Cp>Gn>Sp-Py-Mt-Gg MJI-12-11(150.20m) :Sp>Cp>Gn-Py-Po-Gg MJI-12-12(150.42m) :Sp>Cp-Gn-Py-Gg>Po Gn :Galena, Gn : Gangue											
173.20													
174.30		X-R MJI-12-13(150.70m) : Cc>Ep-Ch-Se>Py(?)+Pl>Kf(?) ※This mineral assemblage has meaning igneous rock origine.											
175.10													
179.10													
182.00													
183.40 183.60 183.90													
185													
190													

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
195		Grey-grey white fg~sdy-mbl.	201.10m 								
200			204.50m 								
201.10		"Shally" mbl. slate-tuff part>mbl.part. slate part : horafelsic. tuff part : talcuse Slumping structure is very clear.									
205											
206.95		Sdy-mbl. mbl.part>slaty-tuff part									
210											
211.60		Grey fine~very fine mbl. thin slaty and tuffaceous talcuse seams have representing of Slumping structure									
215											
220											
223.85		223.85~224.35:rich in talcuse									
224.35		becoms slightly to massive									
230											
233.70		Tuff breccia or outbrecciated lava,decolorized banding by lenses.									
234.70											
238.10		238.10~241.00:Slumping structure representing by black seams.									
240											



Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
		255.85~256.30:Hornfelsic dark grey slate									
		257.00~259.10:Slumping structure & water escaped structure are recognizable									
		(255.60~259.00:Sulamping structure is very clear)									
		268.70~268.90:Hornfelsic slate seams with 10m wd.are common									
		Grey white mas cg-mbl.									
		283.45~283.55:	decolorized Cg.mbl								
		283.85~284.45:	decolorrized								
		284.45~285.15:	dark green, skarnitized								
		285.15~285.30:	Small amount of Sp in skarn (12-2a)								
		285.30~286.00:	mbl.								
		286.00~286.30:	Sp-Cc ore,Low grade(12-3a)								
		286.30~287.10:	Sp-Hd ore,High grade(12-4a)								
		287.10~288.00:	mbl.								
		288.00~289.00:	Dark green,Po diss.(12-5a)								
		289.00~289.35:	Dark green,Po diss.(12-6a)								
		289.35~289.90:	Brecciated & Reconsolidated silic-mbl.		285.15-285.30	0.15	<0.07	11.5	0.06	0.13	1.86
					286.00-286.30	0.30	<0.07	15.0	0.03	0.06	1.49
		289.90~290.15:	Sp-Hm Low grade ore(12-7a)		286.30-287.10	0.80	0.34	77.0	0.09	0.20	9.20
					288.00-289.00	1.00	<0.07	1.7	<0.01	<0.01	0.11
		288.00~289.35:	skarnitized dk? Po-diss		289.00-289.35	0.35	<0.07	1.0	<0.01	<0.01	0.04
					289.30-290.15	0.25	<0.07	1.0	0.01	0.08	1.00

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Au g/t	Ag g/t	Cu %	Pb %	Zn %	Results	
290.15													
295													
300		Grey white mas cg-mbl.											
305													
310													
312.55													
315		White-grey white fine ~very fine mbl.											
320													
325													
330		313.30~331.65:green part & silicified grey part mixed . green part has expansiveness.											
331.30		56° 331.65~332.80:dark green hornfelsic lava.											
332.95		50° 332.80~332.95:skarnitized part.											
335.00		White-grey white fine mbl.											
		Grey white massive mg~cg-mbl.											
339.50		Grey mas fg-mbl.											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
342.10		Grey mss fg-mbl.											
345		Grey white mss cg~mg-mbl.											
350													
351.00		Terminated											

Drill Hole No	: MJI-13		MJI - 13 - 1
Location	:	Elevation	:
Coordinate Point	:	Inclination	: -50° (340°00')
Depth	: 351.00 m	Core Recovery	: 97.5%(inc.soil part:89.3%)
Drilling Machine	: L-38	Term	: 27.July- 8.Aug. 1937

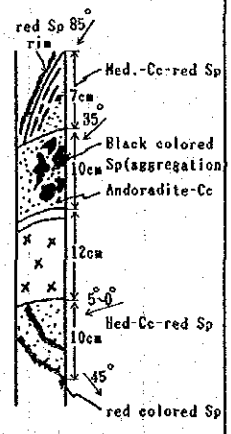
Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
5													
10													
15	N. C.	Surface soil											
20													
25		Boulder of alkaline rock at basal part											
29.35		White coarse grain mbl.											
31.10		Green altered dyke											
31.85	N. C.												
38.85		White coarse grain mbl.											
35													
38.80		White cg-mbl											
37.30	N.C.	Brown soil-like part											
38.30													
38.60	N. C.												
39.65		White cg-mbl.											

Fig.24 Geologic Column of MJI-13

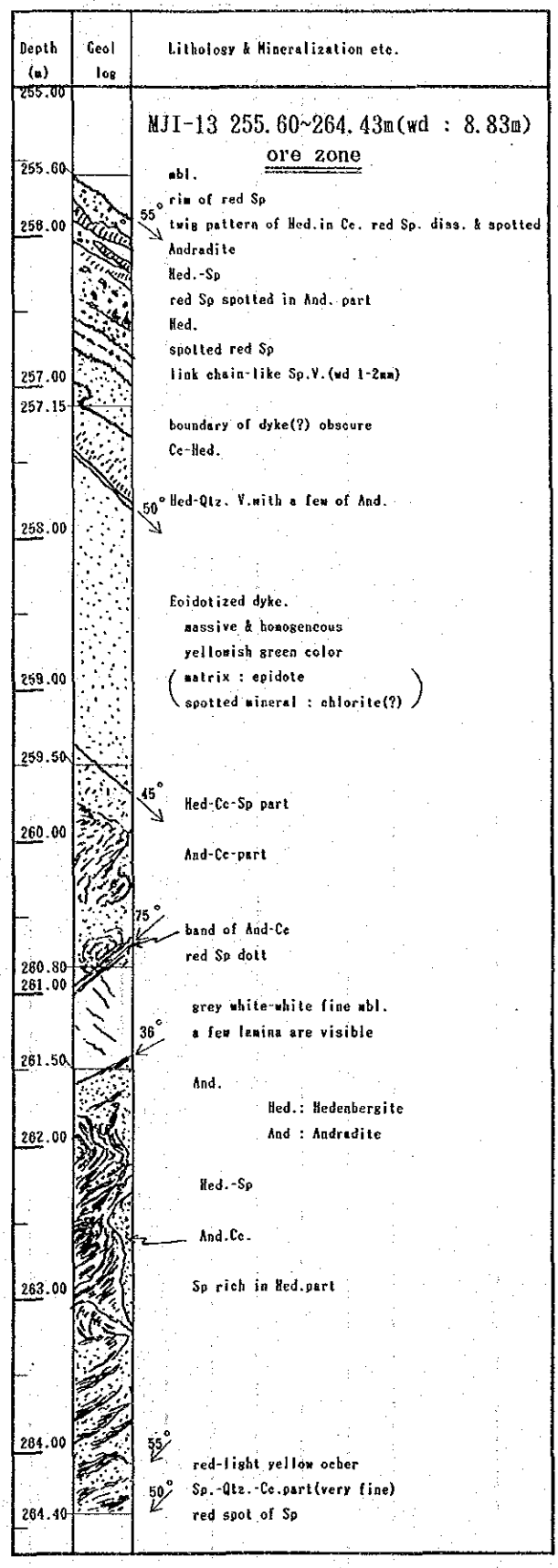
Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Au g/t	Ag g/t	Cu %	Pb %	Zn %	Results
		White cg-mbl.										
41.60												
	N. C.											
43.00												
		White cg-mbl.										
45												
46.50	N.C.											
46.70		White cg-mbl.										
48.70												
	N. C.											
49.70												
		White cg-mbl.										
53.00	N.C.											
53.10		White cg-mbl.										
54.20												
		Altered dark green dyke.										
		Hematite-chlorite aggregate spotted.										
		58.05~58.25:decolorized part(cream yellow)										
58.25												
58.60		White cg-mbl.										
58.80	N.C.											
60		M.-cg.-mbl.	X-R	MJI-13-4(84.85m):Cc-Ep-Ch>Se>Qt								
61.50	N.C.		Polish	MJI-13-1(85.30m):Sp-Cg>Hm>Cn-Py>Cp								
61.70		White cg-mbl.		MJI-13-2(85.20m):Sp-Cn-Py>Cp-Mt-Cg>Ct-Cv								
				MJI-13-3(85.80m):Cg>Sp>Cn-Py>Cp								
64.50												
64.70	N.C.											
		White cg-mbl.		Qt:Quartz								
66.80				Ct:Chalcocite								
67.20	N.C.			Cv:Covelline								
		White cg-mbl.										
68.90												
69.20	N.C.											
69.50		White cg-mbl.										
		White grey~grey med.mbl.										
		75.00m,75.80~76.25m :slaty film layer of tuff.										
75		←20°~30° (dark greenish grey)										
80												
80.80		35°										
80.90		Altered dyke,at upper most wd 2cm chlorite-hematite rim										
81.40		80.90~81.40:N.C. cause of clayey										
		Grey green-skarnitized dyke, grey part:decolorized										
84.58		43° Epidote rich green skarn,small amount of hematite										
85.35												
85.85		◦Sp-Cn-Hematite with hedenbergite ore			85.35-85.85	0.50	0.14	378.0	3.20	4.20	14.50	
		50° hed.: rich at upper part wd 3cm										
		White grey~grey medium grain mbl.										
90												

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
91.80											
		mbl.finer than upper.									
93.90		cloudy pattern & lamina 30°dip									
95		Medium grain grey mbl.									
98.70											
100		White-grey, cg~mg-mbl.									
		Sp-Cp with garnet(Andradite)									
101.13											
101.53		mass.-high graide ore.			101.13-101.53	0.40	0.2	1,220	0.79	5.42	36.40
		Med.grey mbl.									
104.10		Skarn part(green sk.) epidote rich									
104.20		Epidote rich skarnitized dyke									
104.45		Med.grey mbl.									
106.35											
106.50											
106.85					106.85-107.05	0.20	<0.07	27.5	0.04	0.22	0.85
107.05		Skarn at 106.40 ~ 106.50,grey-green epidotized dyke.									
108.15					108.15-108.35	0.20	<0.07	22.5	0.03	0.20	0.39
108.35		106.50~106.85:grey mg-mbl.									
110		Polish MJI-13-5(101.15m):Sp>Gn>Py-Po-Cp-Cg MJI-13-6(101.50m):Sp>Cp>Py-Gn-Po-Hm-Cg Hm: Hematite									
		Med.grey mbl.									
115											
120											
123.70											
125		20° lamina developed									
127.15											
130											
		Grey-green skarn(?) part									
		Med.grey mbl.									
134.40											
134.60		Grey-White grey "sdy"mbl. More or less tuffaceous.									
135.30		129.75~139.80:slumping structure									
		30° 137.90±:graded bedding (lamina)									
		138.80:water escaped structure									
		139.70:md 5cm tuff part									
139.80		Tuff									

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Au g/t	Ag g/t	Cu %	Pb %	Zn %	Results	
140.80		Tuff.											
		with 25cm long of seggregated calcite part											
		143.40:water escaped structure											
		Grey fine-med.massive mbl.											
144.45		Grossular with a few of Andradite											
149.00													
		Grey fine mbl.(mss.)											
150													
150.10		(BQ)											
		Decolorized dyke,Pale greenish grey.											
153.73		153.73:wd 0.8-10cm Andradite											
155		155.95:wd 5-1cm											
155.95		Grey-dark grey banded(laminated)mbl.											
		30° (lamina)											
		156.40~156.70:hornfels-Seggregate											
160		160.40:wd 2cm,brown hornfels layer											
		161.10~161.30:pale green tuff											
		162.60~162.80:grossular(162.60m wd 1cm:irregular band of Andradite)											
165		30° (lamina)											
		166.25~168.80:frequently reddish brown part(hematite)											
170		170.93~170.95:grossular rim											
170.95		Grey-grey white skarnitized dyke with a few of Arsenopyrito(?)											
172.70		171.40~171.55:grossular part											
		172.70:wd 1cm grossular band											
175		20° (lamina)											
175.30		Grey"Sdy"mbl.lamina are common											
		Coarser than upper,and lamina are indistinct											
		173.75~173.85:grossular											
		178.60~178.75:irregular shape of dark brown											
180		igneous rock (dyke)											
													
185													
187.50													
		Coarser than upper(cg.type)											
190		lamina are invisible											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Md (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
190.20		Finer than upper grey ag-mbl.									
193.60											
195		Dark grey "Sdy"mbl. cloudy patterns and black lamina are recognizable in places 10~15° (lamina)									
200											
205											
209.70		Grey "fresh"dyke.									
210.10		Qtz-green skarn at rims of upper and lower.									
215		Massive"Sdy"grey mbl.									
217.55		Grey skarnitized dyke									
217.75											
220		Grey-dark grey "Sdy"mbl. lamina in places									
		X-R MJI-13-9(222.75m):An only)									
222.75		Ore zone 222.80~223.00 : dyke			222.75-223.10	0.35	<0.07	62.0	1.42	0.15	5.22
223.10		Sp-garnet-hedenbergite										
225		Mass.grey "Sdy" mbl.									
229.05											
230.45		35° Decolorized grey-pale green dyke. Epidote:Spotted and fissure filling wd 3-5m green sk.at lower boundary									
235		Massive dark grey "Sdy" mbl. black films in places									
240											

Depth (m)	Geolog. Log	Lithology	Mineralization etc.	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
		Grey"Sdy"mbl.	Andradite-hedden.band 85° "Sdy"mbl. red Sp dot. 50°		242.25-242.85	0.60	<0.07	9.0	0.06	0.09	1.79
242.25											
242.85		Greenish grey skarnitized dyk.	grossular spotted dyke.lower boundary 35° Andradite film.								
245											
		Grey"Sdy"mbl.									
250											
255											
255.60		Green skarn Sp ore wd:1.55m	Ore zone (wd:8.83m)		255.60-256.60	1.00	0.07	19.5	0.48	0.08	5.22
					256.60-257.15	0.55	<0.07	6.5	0.08	0.07	1.26
257.15		Epidote rich wd : 2.35m Skarnitized dyke			257.15-258.15	1.00	<0.07	3.9	0.01	0.04	0.16
					258.15-259.50	1.35	<0.07	1.7	<0.01	0.04	0.04
259.50		Skarn(Andradite) rich ore wd:1.30m			259.50-260.50	1.00	<0.07	7.5	0.33	0.04	1.54
260.80					260.50-260.80	0.30	<0.07	4.4	0.05	0.04	3.05
261.50		White fine mbl.wd:0.70m Andradite-hedenbergite -red Sp ore wd:2.93m			261.50-262.50	1.00	<0.07	15.0	0.16	0.07	9.20
					262.50-263.50	1.00	<0.07	18.0	0.10	0.07	18.30
264.43					263.50-264.43	0.93	<0.07	15.0	0.25	0.05	10.30
		Grey"Sdy"mbl.									
267.30											
270		Dark grey mss cg-mbl.									
271.70											
		Dark grey mss mg-mbl.									
275											
278.20											
		Dark grey"Sdy"mbl. 40° (lamina) cloudy patterns & lamina are visible commonly									
280											
285											
290											


Depth (m)
Geol log
Lithology & Mineralization etc.
255.00
MJI-13 255.60~264.43m(wd : 8.83m)
ore zone
255.60
mbl.
rim of red Sp
55°
twig pattern of Hed.in Ce. red Sp. diss. & spotted
Andradite
256.00
Hed.-Sp
red Sp spotted in And. part
Hed.
spotted red Sp
link chain-like Sp.V.(wd 1-2mm)
257.00
257.15
boundary of dyke(?) obscure
Ce-Hed.
50° Hed-Qtz. V.with a few of And.
258.00
Epidotized dyke.
massive & homogencous
yellowish green color
259.00
matrix : epidote
spotted mineral : chlorite(?)
259.50
45°
Hed-Ce-Sp part
260.00
And-Ce-part
75°
band of And-Ce
red Sp dott
260.80
261.00
grey white-white fine mbl.
36°
a few lamina are visible
261.50
And.
Hed.: Hedenbergite
And : Andradite
262.00
Hed.-Sp
And.Ce.
263.00
Sp rich in Hed.part
264.00
55°
red-light yellow ocher
50°
Sp.-Qtz.-Ce.part(very fine)
264.40
red spot of Sp

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Au g/t	Ag g/t	Cu %	Pb %	Zn %	Results	
293.85													
293.95		293.85~293.95:tuffaceous part											
295		Dark grey "Sdy"mbl.											
		X-R	MJ1-13-11(256.10m):Sp>Cp>An-Qt(?)										
			MJ1-13-12(258.90m):Cc>Ch>Ep-Se-Qt>Py										
300			MJ1-13-14(263.00m):Sp>Cc>Qt-Cp-Tc(Talc)										
			MJ1-13-15(263.80m):Sp>Cc-Ep-Tc-Qt										
		Polish	MJ1-13-11(256.10m):Sp-Gg>Cp-Mt>Py>Gn										
			MJ1-13-13(262.40m):Gg>Sp>Mt>Gn-Cp										
305			MJ1-13-14(263.00m):Sp-Gg>Cp>Gn-Mt										
			MJ1-13-15(263.80m):Gg>Sp>Cp-Gn										
			Mt:Magnetite										
309.00		309.00~309.10:epidote-andradite skarn.											
309.10		15°,red Sp(wd 2mm)band											
		50° Brown black aphanitc dyke											
311.30		Grey fine "Sdy"mbl.											
315													
315.90		Grey cg-mbl.											
317.20		Arsenopyrite veinlet wd 3~7mm. dip 70°-80°											
320		Grey "Sdy"mbl.											
320.35		Skarnitized dyke, lack of metallic mineral.											
320.60		Grey"Sdy"mbl.											
323.20		Skarnitized dyke, lack of metallic mineral.											
323.40													
325		Dark grey "Sdy"mbl.	Seg.Cc.										
		flowage patterns are common	black film layer										
328.90													
329.80		Grey cg-mbl.											
		Grey~dark grey "Sdy"											
		"flowage patterns"well developed.											
		336.70~337.10:crushed and reconsolidated mbl.											
335		339.70:crushed and reconsolidated mbl.											
			mino fault(Mas.cutting the flowage)										
340													

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
345		Grey-dark grey "Sdy"mbl.											
374.00		"Shally"mbl.? extiction of lamina by seggregation and stress?											
350													
351.00		(Terminated)	flowage paterns also not be in line.										

Drill Hole No	: MJI-14	Elevation	:
Location	:	Inclination	: -90°
Coordinate Point	:	Core Recovery	: 85.9%(inc.soil part:81.7%)
Depth	: 351.00 m	Term	: 24 Sep.- 5 Oct. 1987
Drilling Machine	: L-38		

MJI - 14 - 1

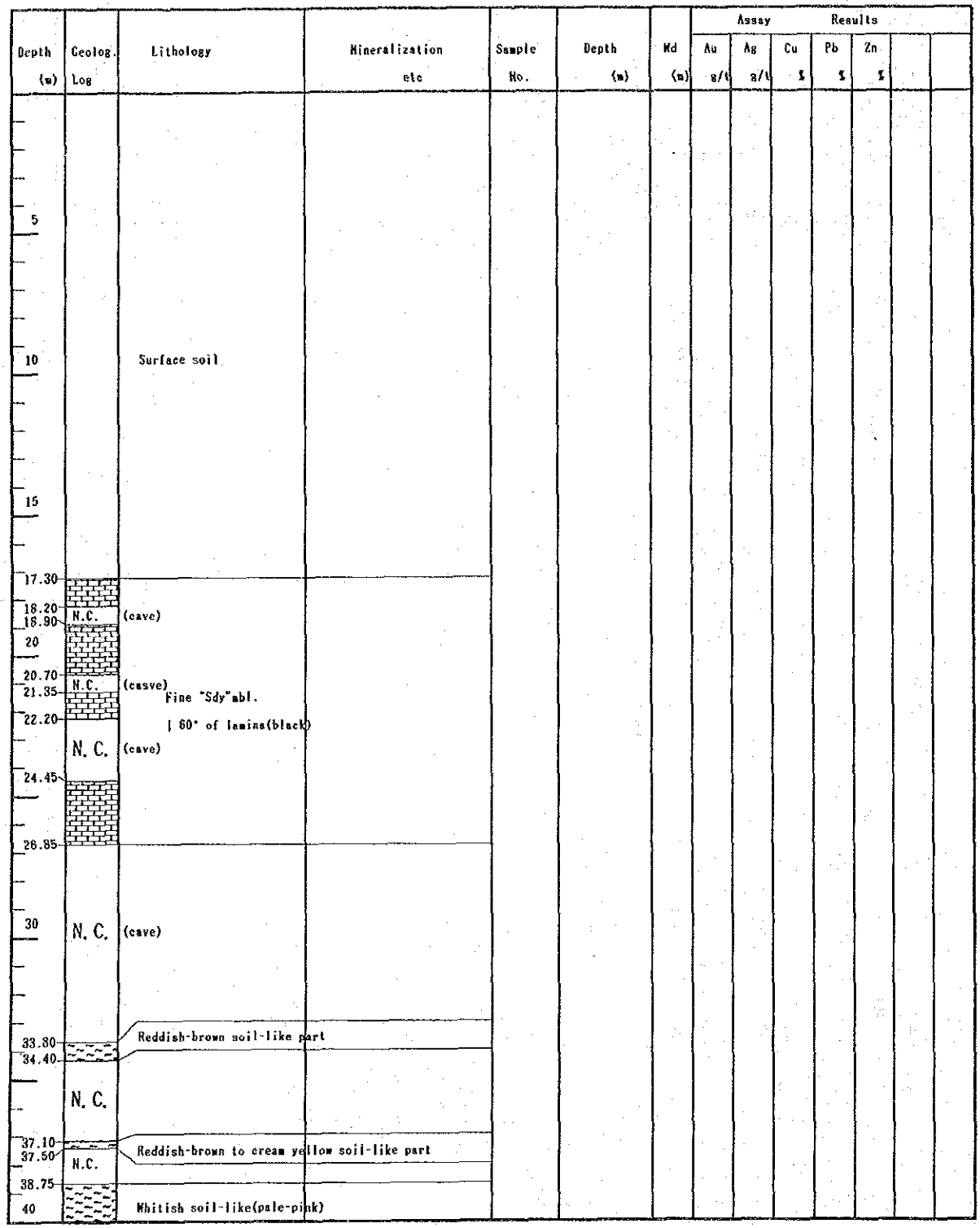
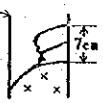


Fig.25 Geologic Column of MJI-14

Depth (m)	Geolog. Log	Lithology	Mineralization etc.	Sample No.	Depth (m)	Md (m)	Assay Au g/t	Ag g/l	Cu %	Pb %	Zn %	Results	
40.60	N.C.												
43.20													
43.70													
45	N.C.	Whitish soil-like part											
48.80		(pale-pink color)											
46.80	N.C.												
47.95													
48.30	N.C.												
48.90													
49.80	N.C.												
50.85		Decomposed brownish yellow mbl.											
51.30	N.C.												
51.95													
52.80	N.C.												
53.10													
54.30	N.C.	Upper 0.20m:grey white clay											
55.20		Lower 0.40m:brownish yellow white decomposed mbl.											
55.80	N.C.												
57.00		weathered-enriched silica,limonite stainned mbl.											
57.30	N.C.												
58.10													
58.70													
60.10	N.C.	(cave)											
60.30													
61.80													
62.70	N.C.	(cave)											
62.80	N.C.	White,weathered,crushed mbl.											
62.95													
64.90	N.C.	N.C.(be not attributed to cave)											
65.10	N.C.												
65.50													
65.90													
66.90													
67.30	N.C.												
68.00													
69.00	N.C.	(cave)											
69.70													
70.10	N.C.	(cave)											
70.50		(cave)											
71.45	N.C.	White fg-mbl.											
72.10		Crushed decomposed(weathered)igneous rock.											
75		72.80~76.80:grey aphanitic											
77.13		76.80~77.13:crushed,limonite stainned											
78.93	N.C.	(cave)											
80		Grey white mss fg-mbl.											
82.40		78.93~79.08:seggregated calcite(20-40mm crystal)											
85	N.C.	(cave)											
86.10		Crushed,decomposed(weathered) ig.											
87.10		Grey fg-mbl.											
89.15	N.C.	(cave)											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
	N.C.	(cave)									
91.05											
92.20	N.C.	(cave)									
93.00		Grey fg-mbl.									
93.80	N.C.	(cave)									
94.30											
94.60	N.C.	(cave)									
95.40	N.C.	(cave)									
95.60											
95.85											
96.60											
100		Grey mss mg-mbl. 99.53~99.83: cave									
104.00											
105		Grey mss fg-mbl.									
110											
110.35	N.C.	(cave)									
110.80											
112.14	N.C.	(cave)									
113.13		(BQ)									
115		Dark grey fg~mg-mbl.									
117.00											
117.20		 at 117.00~117.20m 7cm brownish garnet V. wd 3-1mm									
120		121.20~121.50m:wd 3mm limonite filled v.									
		Dark aphanitic dyke.									
122.90		70° Hm-An(very fine grain) at upper boundary(wd 0.5-3cm)									
123.50		50° Hm at lower boundary									
125		Grey-dark grey mg-mbl.									
126.30		Decolorized ig.									
126.95											
130		Grey-dark grey mg-mbl.									
130.35		Fine grain grey mbl.									
131.50	N.C.	(cave)									
132.50		Fine grain dark grey mbl.									
135											
135.30		135.30~138.40:slumping structure. grey fg~Sdy-mbl.	138.70~140.70:vertical cloudy pattern								
		138.65~138.95 } aphanitic dyke with thin garnet vein									
138.40		139.35~139.45 }									
140		140.35~140.45 }									

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Md (m)	Assay Au g/t	Assay Ag g/t	Assay Cu %	Assay Pb %	Assay Zn %	Results	
145		Grey~dark grey"Sdy"mbl.											
		142.50~144.90:slumping structure											
150													
155													
155.90													
156.75	N.C.	(cave)											
156.90													
157.70		Cream yellow part											
		(probably ig.)											
160		Dark grey fg~sdy-mbl.											
		cloudy patterns are common.											
165		15°											
165.20		10° Decolorized pale pink ig.(lava?)											
166.15													
170		50° (lam.rare)											
		Dark grey fg~sdy-mbl.											
175													
175.90		40°											
		lamina are visible commonly											
179.95		40°											
		Sdy.laminated mbl.											
		(shally part interculeted)											
185		30°											
			8cm										
189.50													
189.95		189.50~189.95:grey slaty part with grading											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
194.65		Dark grey fg-mbl.											
195.10		10° Brittle decolorized fg.net of Qtz-Py-Crossular(?)											
198.20		mg-mbl.											
200		Crushed-reconsolidated fg-mbl. 198.20~200.00:limonite stain											
203.20													
205		mg-mbl. 205.45~205.60(↙50°) decolorized dyke. 205.90~206.30:laminated (↙50°)	±0° grossular mbl. Dk. 50° grossular lamina(mbl.)										
210													
213.80													
215		Dark grey fg~sdy-mbl. 214.85~214.60 } grey slaty part 215.40~215.80											
220		218.00~219.60:sulmping structure 220.70~222.10:cloudy patterns 30°											
225		25°											
230		226.80~228.60:slumping structure(?) grey sdy-mbl. 230.70~239.40:limonite stains at fissure											
235													
240													

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Md (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
240.15													
240.45		240.15~204.25:thin seam of slate											
		240.45~242.20:cloudy patterns											
245													
246.70													
		Grey mss.sdy-mbl.											
250													
		40°											
250.90													
251.60		54° Decolorized ig.											
		Grey mss.sdy-mbl.											
255		80°											
255.10		80° Decolorized ig.											
255.40													
		Grey mss.sdy-mbl.											
260													
		Brittle decolorized ig.(lava?)											
262.05		upper 10cm :dark grey											
		35° lower:light grey ,crushed,clayey.											
262.60		80° at 262.20:grossular(?)-Cc.rim.											
265		Grey mss.sdy-mbl.											
		50° Decolorized aphanitic dyke.											
265.85													
266.10		48°											
269.40													
		Cloudy patterns are visible sporadically											
		Grey sdy-mbl.											
275													
276.20		276.20~276.40 : seggregated calcite											
		276.20~278.70 : crushed-reconsolidated?											
278.70													
280													
284.00		?											
285		Dark greenish aphanitic dyke.											
		upper boundary is indistinct due to Hm-Au skarn(nd 5cm ±)											
288.15		55° 288.90~288.15:decolorized,white grey											
290		Grey-dark grey sdy-mbl.											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Au g/t	Ag g/t	Cu %	Pb %	Zn %	Results	
295		Grey-dark grey sdy-mbl.											
295.70		Talc-chlorite(?)-Py(Aggregation of altered minerals ?)spotted Decolorized-silicified dk.correlative to 145.20m~153.70m (bottom of hole) of MJ1-13 295.70~299.25:grey white crushed part.Py veinlet. 299.25~304.95:altered min.spotted silicified part(above)											
300													
304.95		Grey white fg-mbl.											
306.55		60° Dark greenish grey aphanitic dyke. Andradite rim(wd 2-5cm)at upper boundary											
309.15		58° 308.85~309.15:decolorized & clayey.											
310		Dark grey sdy-mbl. below 310.00:slightly deformed lamina. 313.70~316.20:crushed part and seggregated Cc. limonite stainned											
314.83 314.84	N.C.	(cave)											
		55°											
320		below 317.20 to 321.70m: lamination coses clear 320.25m,321.70~321.80: slightly dissolved part limonite stain											
325													
327.90													
330		Dark grey mss cg-mbl.											
332.60		Dark grey "Sdy"mbl. cloudy patterns are not common but visible.											
335													
			Dk. 339.80 mbl.										
338.60		Dark green aphanitic dyke.											
339.80		339.60~339.80:decolorized. 339.60:Hematite											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
340.90													
340.10		340.90~341.10:limonite stain at fissure											
345.00		Grey-dark grey fine mss sdy-mbl.											
		345.00~347.20:slumping structure(?)rich in seggregated Cc. cloudy patterns are common											
347.20		up to 348.30m:cloudy patterns are common.											
348.30													
350													
351.00		(Terminated)											

Drill Hole No	: MJI-15		MJI - 15 - 1
Location	:	Elevation	:
Coordinate Point	:	Inclination	: -90°
Depth	: 151.10 m	Core Recovery	: 87.7%(inc.soil part:69.2%)
Drilling Machine	: OE-8L	Term	: 30 July- 3 Aug. 1987

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
5													
10													
15													
20		Soil											
25													
30													
32.00		Decomposed											
33.20		Decolorized											
35		Silicified rock (igneous origine)											
	N.C.	Soily decomposed rock (?)											
40													

Fig.26 Geologic Column of MJI-15

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
45	N.C.	Soily decomposed rock(?)											
47.80													
50		G-f-mbl."Sdy"(grain)											
55		cloudy patterns are visible											
		56.50~58.00m,62.70~65.70m											
		very fine grain											
60													
65													
70													
75													
80		→1°~0°											
85													
90													

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
95		Grey fg-mbl. "Sdy"											
100		100.20 wd 1~10mm epidote-garnet band; small amount of Sp(red)-Py are visible; 80° brecciated part. fractures filled up by epidote (be correlative to below 145.20m of MJI-18 and 259.70~304.95m of MJI-14 ?)											
100.20													
105		100.20~101.15:dark green-olive brecciated igneous rock 101.15~103.10:dark green-deep olive compact igneous rock 103.10~107.30:greyish green chloritized,epidote spotted igneous rock 107.30~108.75:yellow ocher-grey,chlorite spotted igneous rock											
108.75													
110		107.30m 35°											
115		epidote-chlorite band wd 10mm; black rim(Hedenbergite?) with Pyrite-Garnet-Hematite wd 1~2mm											
120													
125		Grey-grey white fg-mbl. "Sdy"											
130													
131.70													
135		Very fine mbl.(laminated) dark grey; Slumping structure(?)at 134.10~134.20m											
137.00													
140		Grey-grey white to dark grey fg-mbl."Sdy"											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
145		Dark grey fg-mbl. "Sdy"											
149.15		"Shelly" mbl. dark-grey 30°	of lamina										
150		30°											
151.10		(Terminated)											

Drill Hole No	: MJI-16		MJI - 16 - 1
Location	:	Elevation	:
Coordinate Point	:	Inclination	: -90°
Depth	: 151.00 m	Core Recovery	: 99.3%(inc.soil part:88.5%)
Drilling Machine	: OE-8L	Term	: 22 July - 25 July 1987

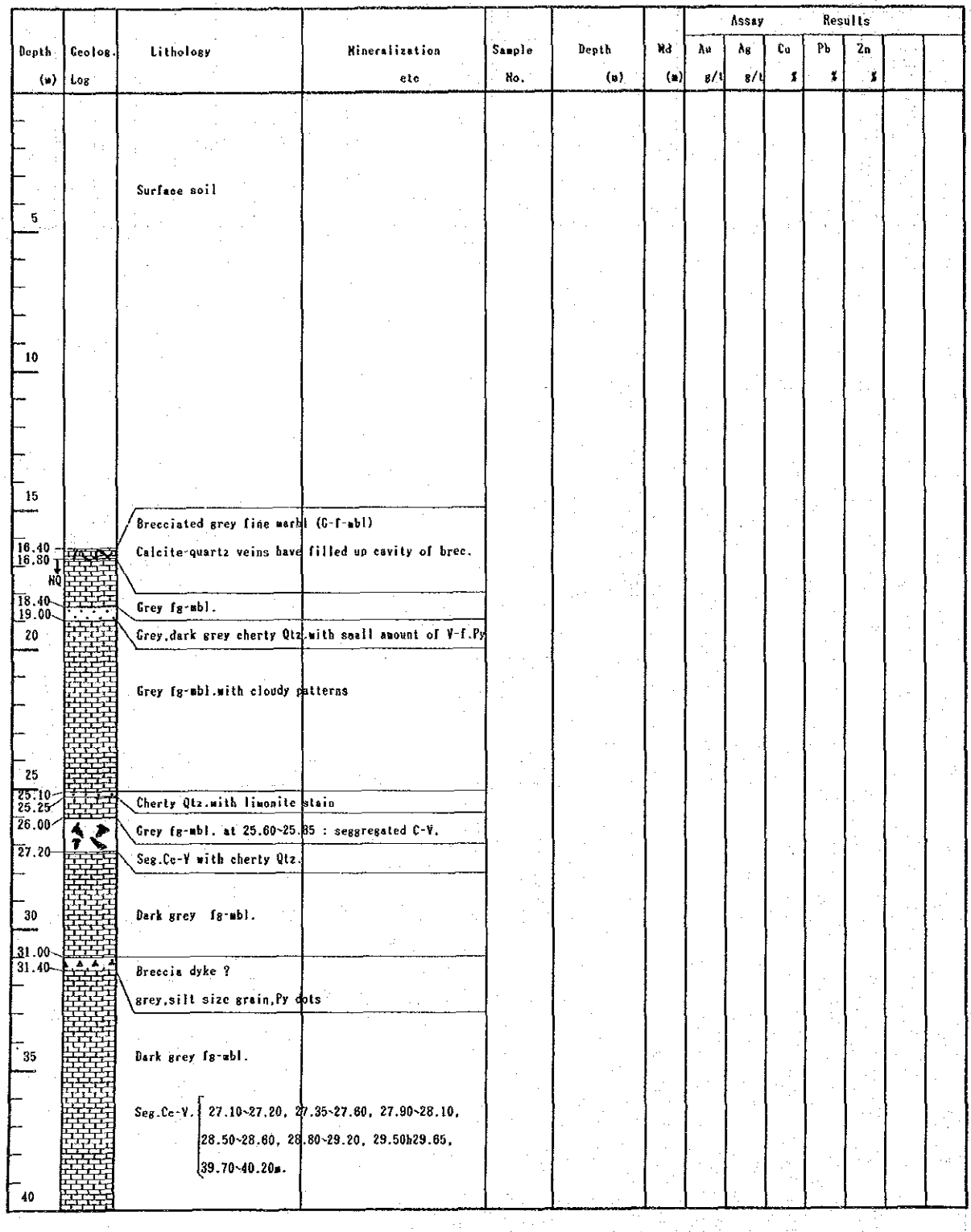
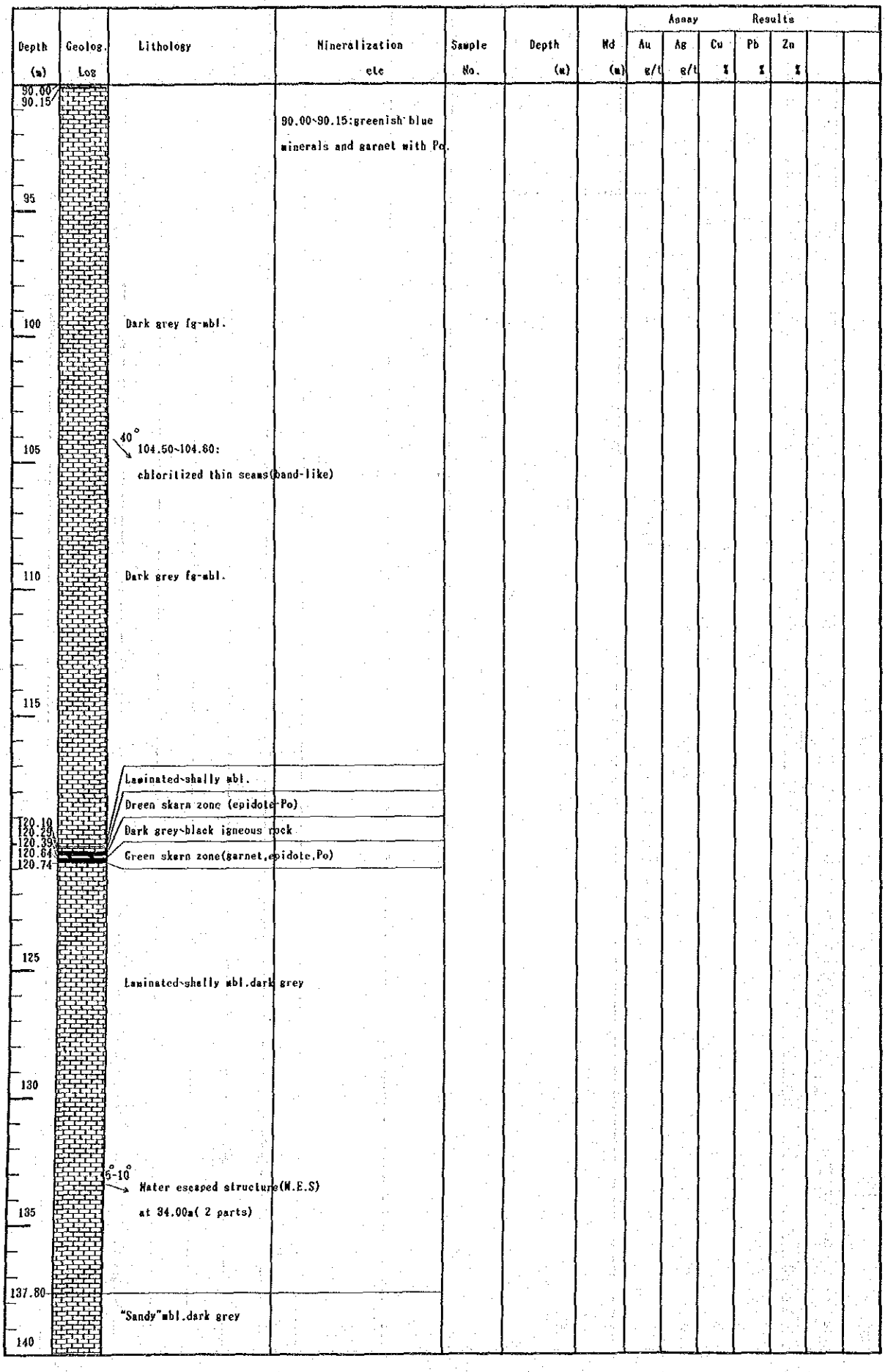


Fig.27 Geologic Column of MJI-16

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Au g/t	Ag g/t	Cu %	Pb %	Zn %	Results	
45		↙35° (lamina are not common) Dark grey fg-mbl.cloudy patterns are visible sporadically											
50		50.20-50.35:thin deformed beds indicating "sliding"											
55													
60		58.90-59.10:cavity(N.C.)											
65													
70		Dark grey fg-mbl.											
75													
80													
85													
90													


Depth (m)
Geolog. Log
Lithology
Mineralization etc
Sample No.
Depth (m)
Wd (m)
Assay Results
Au g/t
Ag g/t
Cu %
Pb %
Zn %
90.00
90.15
95
100
105
110
115
120.10
120.28
120.35
120.64
120.74
125
130
135
137.80
140
90.00~90.15:greenish blue minerals and garnet with Po.
Dark grey fg-mbl.
40°
104.50~104.60:
chloritized thin seams(band-like)
Dark grey fg-mbl.
Laminated~shelly mbl.
Green skarn zone (epidote-Po)
Dark grey~black igneous rock
Green skarn zone(garnet,epidote,Po)
Laminated~shelly mbl.dark grey
5~10°
Water escaped structure(W.E.S)
at 34.00m(2 parts)
"Sandy"mbl.dark grey

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
145		"Sandy" mbl. dark grey											
145.80		Laminated shally mbl. dark grey 35°											
151.00		(Terminated)											

Drill Hole No	: MJI-17		MJI - 17 - 1
Location	:	Elevation	:
Coordinate Point	:	Inclination	: -90°
Depth	: 151.00 m	Core Recovery	: 100.0%(inc.soil part:93.4%)
Drilling Machine	: OE-8L	Term	: 12 Aug.- 15 Aug.1987

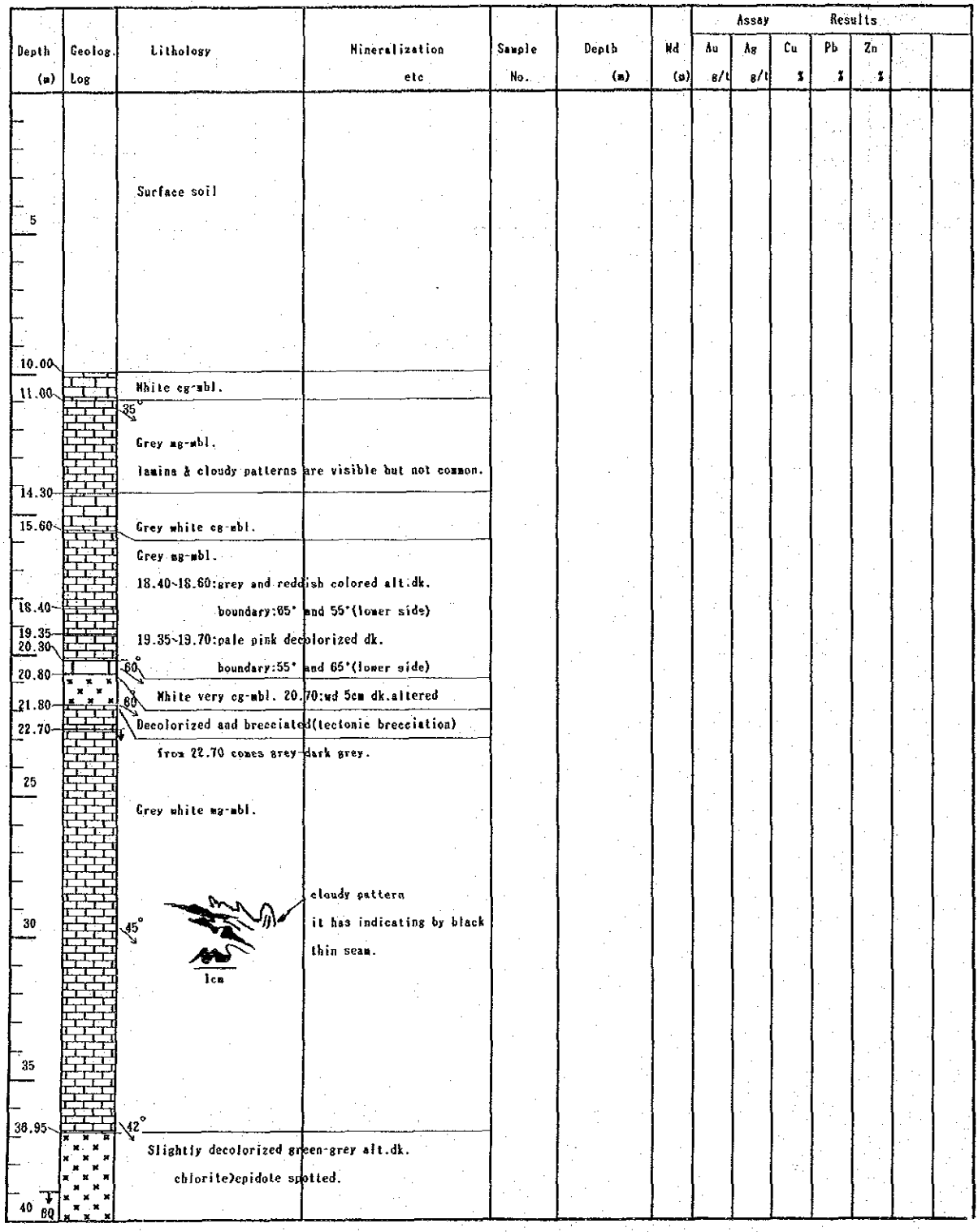


Fig.28 Geologic Column of MJI-17

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Au g/t	Ag g/t	Cu %	Pb %	Zn %	Results	
40.60		56°											
45		Grey~dark grey mg-mbl.											
50													
54.55		54.55:md 2cm, dark cherty Qtz-v. dip 70°											
55.75		Grey cg-mbl.											
58.80		Grey white mass mg-mbl.											
60													
60.10		Grey cg-mbl.											
65													
67.70		Grey fg-mbl.											
70													
70.70		from 70.70 comes dark grey.											
		72.20~72.40:md 5cm, 0.5cm dark cherty irregular shaped Qtz-v. with Py spotes.											
75		(limonsite stain:up to 71m)											
80													
80.70		20°											
81.35		Dark grey compact dk. at 80.70:md 2cm Andradite-Py at 81.35:md 1-4cm Andradite-Py											
85													
		Dark gry fg-mbl.											
90													

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
95		Dark grey mss fg-mbl.("Sdy")									
100											
104.15 104.90		40° 35° Alt.dk."flow bands" due to alteration are visible dark grey~black color. at 104.15:wd 1cm Andradite sk.band									
107.35		Dark grey mss. fg-mbl.("Sdy") at 107.500:wd 1cm Cc-v. dip 75°									
110		7° Dark grey "laminated"mbl.with slumping structures. 109.30~109.85(1), 110.40~115.20(2),121.15~124.45(3), 121.90~122.00(4) : slumping deformed thin seams have metamorphosed into hornfels.									
115		(1)dark greenish grey(tuff?) (2) Seg.Cc-v. 10cm Tuff?(max wd 5cm) red seam (hornfels)									
120		123.40~127.40:slumping(4) (3) →15° Seg.Cc-v. black seam (muddy?)									
125		→0° (4) 125.00~125.40:graded bedding in 2-4cm unit red seam (ring-hornfels)									
128.80 130		126.20:wd 8mm,grey mud dk. 70°dip 128.00~128.80:slumping(4)									
135		Dark grey-grey mss."Sdy"mbl. not accessed by the lamina 138.60~139.00: Seg.Cc-v.with wd of 3-10cm									
138.50 140		lamina are visible slightly. 45°									

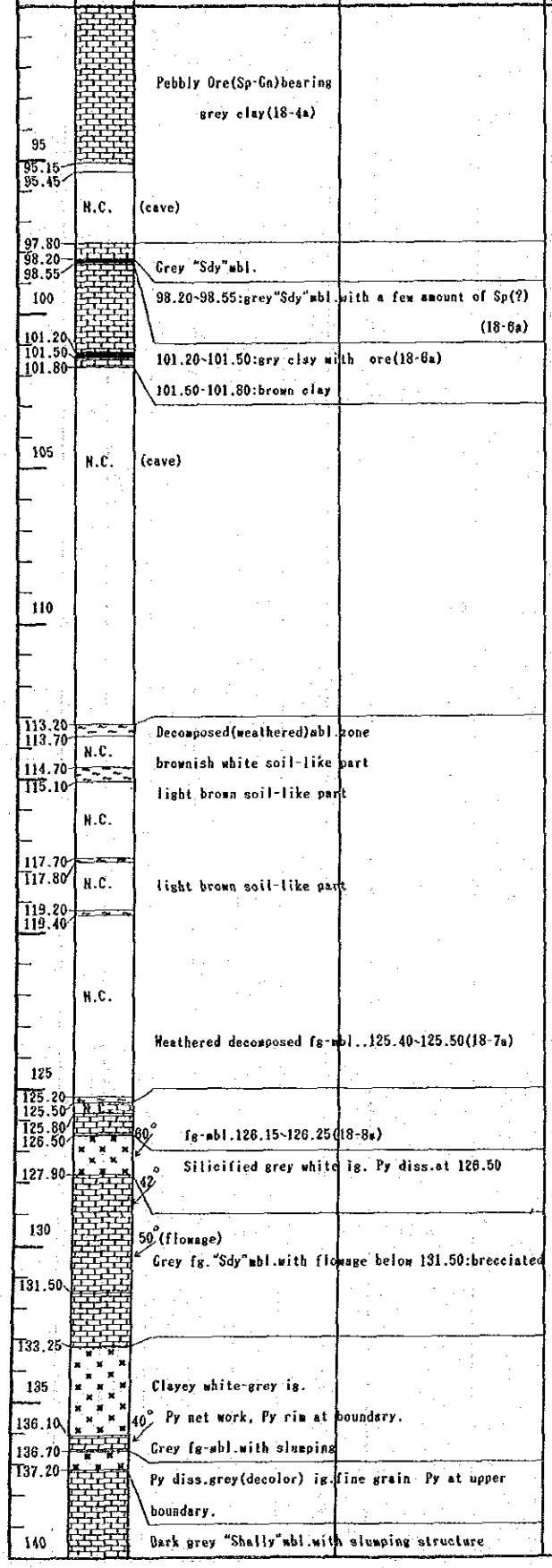
Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
140.70 140.90		140.70~140.90: limonite stainned Cc-v.(wd 1cm) (slightly dissoluted ?)											
		20~30°											
145		lamina well developed (indicating hornfelsic red-pink colored seams with 30°dip											
147.70		mbl.block inculded lapilli-tuff,green & white lapilli:pinky glassy ,aphanitic,brecciated ,size max 5cm											
148.10		have irregular rims Qtz grain invisible											
150		149.25~149.75, 150.05~150.40: mbl. black											
151.00		this lapilli-tuff has a possibility as upper most of andesitic or basaltic submarin auto-brecciated lava flow											
		(Terminated)											

Drill Hole No	: MJI-18		MJI - 18 - 1
Location	:	Elevation	:
Coordinate Point	:	Inclination	: -90°
Depth	: 153.70 m	Core Recovery	: 57.8%(inc.soil part:49.4%)
Drilling Machine	: OE-8L	Term	: 31 Aug.- 3 Sep. 1987

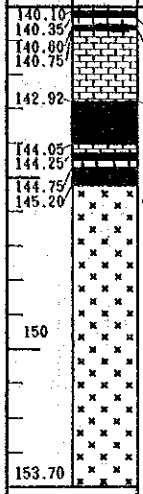
Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
5											
10											
15		Surface soil.									
20											
22.40		22.60~22.40:boulder of mbl.									
22.60	N.C.										
23.60		23.30~23.60: Unconsolidated tuff(Un-tf)brown									
25	N.C.										
26.30		26.30~26.80: silicified wood bearing									
26.80		unconsolidated tuff									
	N.C.										
29.30		29.30~29.80 : Unconsolidated tuff									
29.80											
	N.C.										
32.30		32.30~38.80: Un-tf.									
32.80											
	N.C.										
35											
35.30		35.30~35.80: Un-tf. bearing 2 Qtz-v.									
35.80											
38.30		38.30~39.10: Un-tf.									
39.10											
39.80	N.C.										
40.00											

Fig.29 Geologic Column of MJI-18

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Au g/t	Assay Ag g/t	Assay Cu %	Assay Pb %	Assay Zn %	Results	
40.30													
	N.C.												
41.30													
41.60	N.C.												
42.80													
43.10		Brown sil.-like											
	N.C.												
44.30		Unconsolidated tuff											
44.70	N.C.												
45.80													
46.10	N.C.												
47.30													
47.50	N.C.												
48.30		Boulder of mbl.& ig. mixed soil-like part											
48.50	N.C.												
49.30		(basal part of HINAKU Form.)											
49.50	N.C.												
50.30													
50.70	N.C.												
51.30													
51.35													
52.60	N.C.	Grey fg-mbl.											
52.80													
53.90		53.80~53.90:vertical banding of thin seams.(slumping?)											
55													
	N.C.	(cave)											
		Polish	MJI-18-1(74.20m) : Sp>Gn-Py>Cp-As-Cg>Po										
57.90			MJI-18-2(79.80m) : Cp>Py>Sp-Ct-Gg>Gn										
60													
60.90													
	N.C.	(cave)											
62.20													
62.35													
63.10		Decomposed mbl.(?) yellow ocher color											
65		soil-like part											
	N.C.	(cave)											
68.20		soil-like part											
69.10													
	N.C.	(cave)											
71.20													
71.60		red-red brown ,soil-like part											
	N.C.	(cave)	Cn(?) bearing										
74.03													
74.50					74.03-74.50	0.47	0.35	1,730	2.52	18.10	34.70		
		Ore Zone(?)											
		74.03~74.50(wd:0.47)											
	N.C.	(cave) 79.60~80.20(wd:0.60)	High grade ass.Sp-Gn-Cp ore										
		81.60~81.75(wd:0.15)	appearences are same.										
79.60		These three mineralizations have a same appearence			79.60-80.20	0.60	0.21	780	7.00	15.70	11.30		
80.20													
	N.C.	(cave) and no skarn minerals.											
81.60		Caves are filled up by water.			81.60-81.75	0.15	0.07	590	6.10	27.80	14.40		
81.75													
		Fine dark grey "Sdy" ass.											
85		mbl.											
86.85													
		Grey cg-mbl.	white lens >5mm×7~15mm										
88.80													
90		89.70~90.35:flowage structured mbl.with cloudy patterns.											



Depth (m)	Depth (m)	Nd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
	95.10-95.45	0.30	0.07	65.0	0.26	1.90	2.74
	98.20-98.55	0.35	0.21	7.0	0.02	0.11	0.09
	101.20-101.50	0.30	<0.07	265.	1.38	4.68	7.05
	125.40-125.50	0.10	<0.07	7.5	0.03	0.13	0.13
	126.15-126.25	0.10	<0.07	5.5	0.01	0.08	0.04
	132.90-133.30	0.40	<0.07	4.4	<0.01	0.04	0.03
	133.30-133.90	0.60	<0.07	1.0	<0.01	<0.01	0.02
	133.90-134.90	1.00	<0.07	2.3	<0.01	0.02	0.03
	134.90-135.90	1.00	<0.07	1.0	<0.01	0.01	0.01
	135.90-136.20	0.30	<0.07	1.0	<0.01	<0.01	0.01
	136.70-137.70	1.00	0.27	2.3	<0.01	0.08	0.01
	139.10-140.10	1.00	<0.07	2.3	<0.01	<0.01	0.01



Depth (m)	Lithology	Mineralization etc	Sample No.
140.10	Shally mbl. 140.10~140.35: Ore		
140.35			
140.60	Ore(Sp>Py)		
140.75			
142.92	Shally mbl.slumping structure		
	142.92~144.05:Sp-Gn mss.ore		
144.05			
144.25	144.05~144.25:Altered(dissoluved)mbl.		
144.75	(indistinct of boundary) Slumping structure is recognizable.		
145.20	144.25~144.55:Fragmental mss.Sp.-Gn ore bearing mbl.		
	144.55~144.75:Dark grey banded(laminated) shally mbl.		
	144.75~145.15:Fragmental mss.Sp-Gn ore bearing mbl.		
150	145.15~145.20:Grey white clayey mbl.(shally)		
	145.20~145.50:Clayey-silicified decolorized ig.rock		
	145.50~149.80:Decolorized talc-chlorite(?)spotted ig.rock(light grey)		
153.70	149.80~153.70:Decolorized talc-chlorite(?) spotted ig.rock(grey)		
	Polish MJI-18-3(143.20m):Sp>Gn-Cg>Py		
	MJI-18-4(144.65m):Sp>Cg>Gn-Py		
	X-R MJI-18-5(133.50m):Qt>Kl>Mx-Se-Py Kl:Kaolinite		
	(Terminated)		

Depth (m)	Nd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
140.10-140.35	0.25	1.10	6.1	<0.01	<0.01	0.08
140.35-140.60	0.25	0.07	2.5	<0.01	<0.01	0.01
140.60-140.75	0.15	1.27	276.	0.04	2.96	33.1
140.75-141.75	1.00	0.41	3.3	<0.01	0.01	0.05
141.75-142.70	0.95	<0.07	2.3	<0.01	<0.01	0.01
142.70-142.92	0.22	0.27	92.0	0.13	1.51	3.47
142.92-143.92	1.00	0.07	470.	0.04	19.00	27.7
143.92-144.92	1.00	0.07	88.0	0.12	4.34	6.41
144.92-145.15	0.23	0.27	290.	0.13	21.9	16.30

Drill Hole No	: MJI-19		MJI - 19 - 1
Location	:	Elevation	:
Coordinate Point	:	Inclination	: -90°
Depth	: 151.00 m	Core Recovery	: 94.0%(inc.soil part:78.3%)
Drilling Machine	: OE-8L	Term	: 22 Aug.- 28 Aug.1987

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Md (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
5													
10		Surface soil at basal part,tuff,mbl.blocks are found sporadically											
15													
20													
25													
25.10	N.C.	Dark grey fine mbl. thin seams well developed with dip of 0°~50°											
	N.C.	26.50~28.10:reddish seams(Hornfelsic ironferous)											
28.10		26.70~27.00:slumping structure											
30	N.C.	Grey white fg-mbl. 29.70~31.05:dark brown soil with Mn oxide											
	N.C.	32.75~34.40:brown-yellow soil											
35	N.C.	seams visible slightly with dip of 30°~0°											
	N.C.												
38.80	N.C.												
40													

Fig.30 Geologic Column of MJI-19

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Au g/t	Assay Ag g/t	Assay Cu %	Assay Pb %	Assay Zn %	Results	Results
40.50		47° Skarn zone											
40.57		40.50~40.57: Hed.-Ca.-dolomite(?) band with flaky bandings.											
41.20		30° White cg-mbl.with hematite(film and diss.)											
45		Grey fine mbl.("Sdy"and some parts are "Shally") at 41.50-41.60:water escaped structure											
50		at 54.00~54.07:decolorized pale olive dk. boundary are 45°(upper & lower)											
55													
57.25		Grey coarse grain mbl.											
58.80													
60		Grey fine grain mbl.											
65													
66.20		Grey cg-mbl. crystal size max 15mm											
70													
73.50													
75		80° Dark grey "Sdy"mbl. with black seams. dip of black seams 60°											
78.55		Dark grey mg-mbl.											
80													
81.00		Dark grey "Sdy"mbl. sporadically visible banding with dip of 40°											
84.60		40° Very coarse grain dark grey mbl.											
90													

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
		Very cg.dark grey mbl.									
91.50		Dark grey banded"Sdy"mbl.									
		dip of banding:60°-50°									
		93.00-93.15:Hematite diss.part(tuff?)									
		50-60°									
95											
96.75		50° at 96.75m:1-8mm of Andradite band									
		Grey-grey white altered & decolorized ig.									
		brittle and broken easy in flaky									
100		96.75-98.45, 98.80-100.00, 100.30-101.20 :									
		slightly dark parts.									
		X-R MJI-19-2(103.30m) :	Pl>Qt-Ce-Ch-Py-Ht								
			Nt: Natrolite								
104.60		60°									
		Dark grey "Sdy"mbl.									
		dip of seams : 30°-40°									
		30° 105.30-107.10 : cg-mbl.									
110											
113.70		70°			113.70-113.85	0.15	<0.07	5.5	<0.01	0.33	0.31
113.85		Skarnitized-decolorized Dk.									
115		113.70-113.85:Andradite-fed.sk.with very small									
		amount of Hem-Sp									
		113.85-114.00:Dark green banded parts.									
120		114.00-114.80:Slightly decolorized(near white),									
		tectonic fissure(near 90°)									
		developed and brittle flaky.									
		below 120.30:tectonic fissures developed strongly									
125		128.65 70-80°									
		70-80°									
128.65											
130		Dark grey "Sdy"mbl.									
135											
140											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
145		Dark grey "Sdy"mbl.											
150													
151.00		(Terminated)											

Drill Hole No	: MJI-20	Elevation	:
Location	:	Inclination	: -90°
Coordinate Point	:	Core Recovery	: 95.0%(inc.soil part:82.1%)
Depth	: 151.00 m	Term	: 8.Sep. - 12 Sep.1987
Drilling Machine	: OE-8L		

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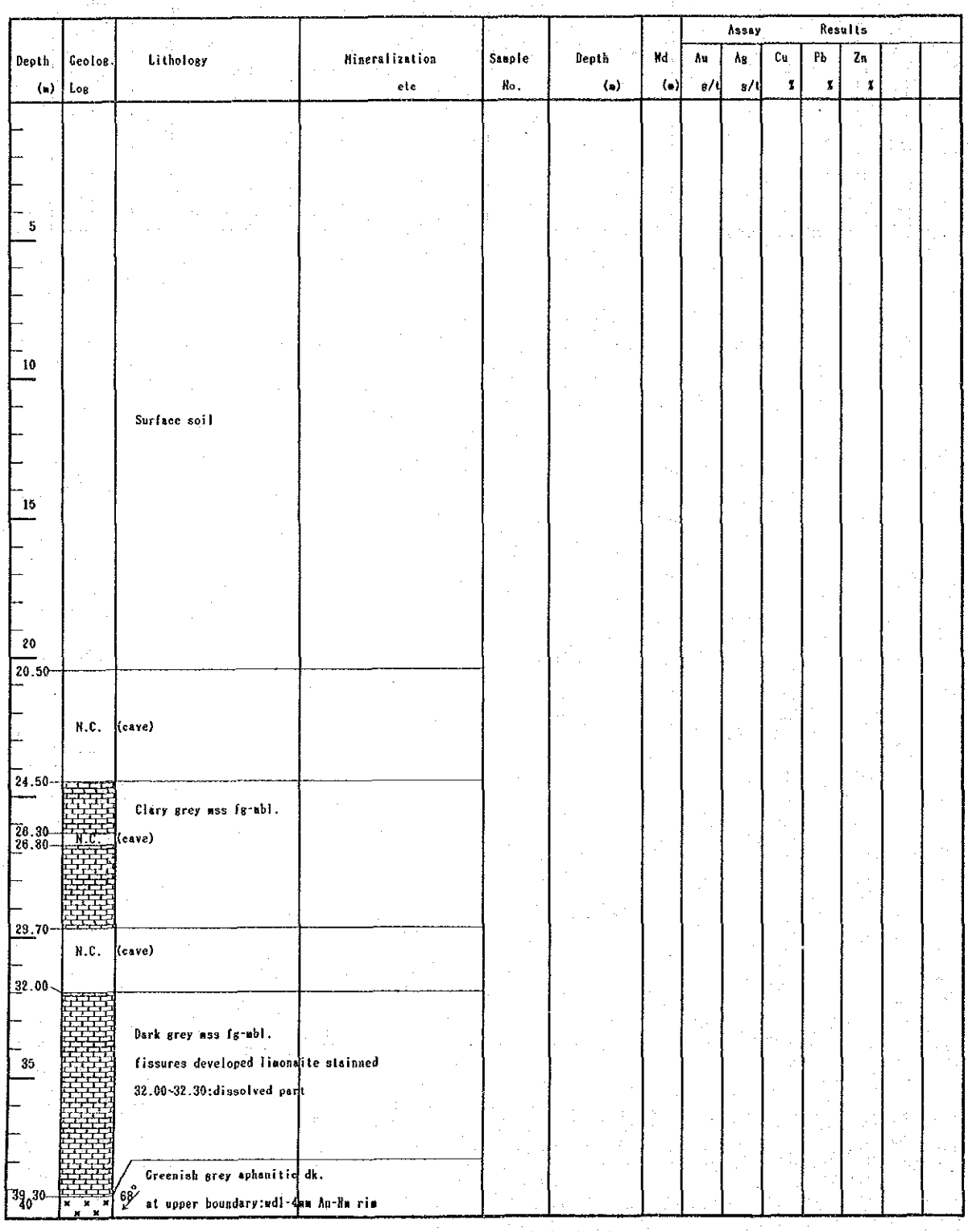


Fig.31 Geologic Column of MJI-20

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
40.80		Hm-An-Py rim with wd of 0-6mm at lower boundary									
41.20		60°									
41.90		60° Dark grey fg-mbl.									
BQ											
42.85		60° Alt.dk.wd 4-8mm cc-v.net developed									
		Dark grey fg-mbl.									
44.65		laminated part be present									
		30°									
		75°									
47.10											
47.45		Decolorized whitish aphanitic dk.									
50		Dark grey "Sdy" mbl.									
		cloudy patterns are present.									
		but not common									
55		Dark greenish grey dk. net work of Cc.									
55.20		60° at lower boundary wd lam>Hm rim is visible									
		65°									
57.20		fg									
57.70		cg									
59.60		fg									
60.50		Dark grey cg~fg-mbl.alt. cg									
62.20		fg									
63.75		cg									
64.30		fg									
65.80		Dark grey~grey altered dk.(?)									
		(it is possible of lava or tuff)									
67.30		50° Py-Hm at upper boundary									
		Py diss and veinlet at lower boundary									
69.15		Very coarse grain white mbl.									
70.40											
		Dark grey "Sdy"mbl.									
		73.00~74.80:slumping structure with near vertical lam.									
73.00		Hm.patch scattered alt.ig.									
		White fg-mbl.									
74.80											
75.30		Alt.ig.with epidote(wd 3mm Hm-Cc rim)			75.60-75.85	0.25	<0.07	1.3	<0.01	<0.01	0.01
75.95											
76.40		Basic lava. rich in Cc-v.& Py pool									
76.85											
77.50		50° Grey white mss.fg.mbl.									
78.10		Auto-brecciated lava. rich in Cc-v.									
		blocks are slightly flattered									
79.90		50°									
81.70		60° Grey white mss fg-mbl.									
		below 81.40m comes "Shally"									
		Purplish-grey white alt.dk. chlorite spotted.		66°							
		82.30~82.50, 83.10~83.20, 84.15~84.30			bands(lam.)in mbl. near vertica						
85		: limonaite stainned		50°							
85.30		50° fg-mbl.with slumping									
		structure.	85.30 vertical slump (up to 90.60m)								
88.65		limonaite stain									
89.80											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
90.60											
90.90		Slumping fg-mbl.									
91.50		90.90~91.50:breccia dk.	limo-like part with low crystalline Py seams.								
95			17cm, mbl., fine, coarse								
		Grey ass fg-mbl.									
100											
105		28°	128.30								
110											
113.20		(indistinct)									
115		Grey "Shally" mbl.									
		36°									
116.00		comes rapidlly steep (±90°) slumping ? 30° 116.00 90°									
120											
122.10		Grey weak laminated fg-mbl.~sdy mbl.	near flat dip of lamina								
125		123.10~123.40:coral fossil (profile) (section)	10cm								
128.30											
130			128.60h131.35:shally "Reverse grading" ? 131.30								
131.30											
		133.10~133.40:"Shally"									
135											
135.85		Black limy slate with slumping(?) patterns									
137.30		upper boundary 52°, lower is indistinct									
140		Dark grey fg~sdy-mbl.									

Depth (m)	Geolog. Log	Lithology	Mineralization etc.	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
141.00													
		Black limy slate											
		18°-20° dip of lamina											
146.00													
145.10		Dark grey fg-sdy-mbl.											
		30°											
		Black limy slate											
		35° 30°-35° dip of lamina											
150													
		(Terminated)											

Drill Hole No	: MJI-21		MJI - 21 - 1
Location	:	Elevation	:
Coordinate Point	:	Inclination	: -50° (340°00')
Depth	: 281.00 m	Core Recovery	: 96.9%(inc.soil part:84.5%)
Drilling Machine	: L-38	Term	: 27 Oct.- 3 Nov. 1987

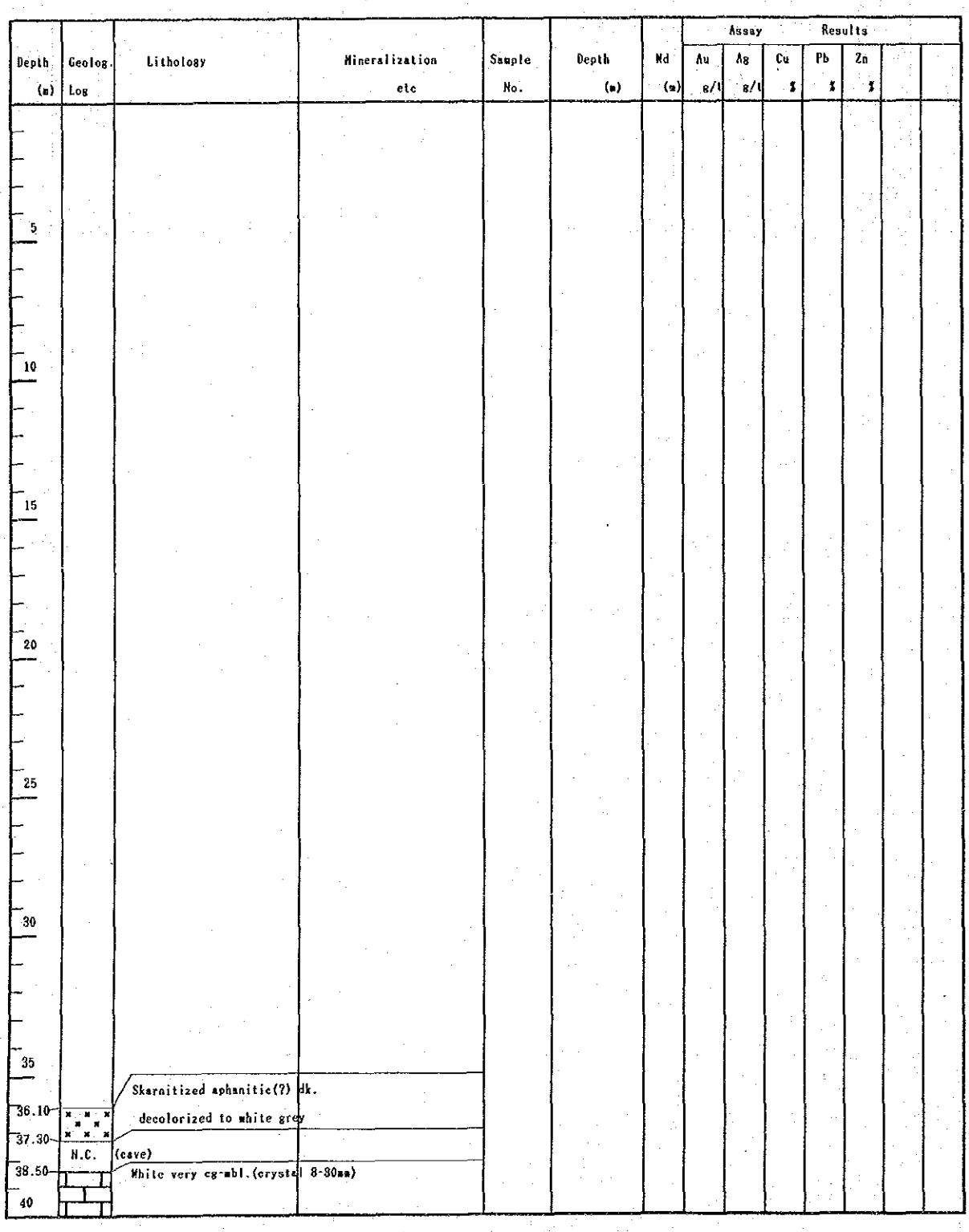
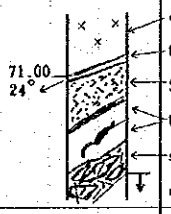
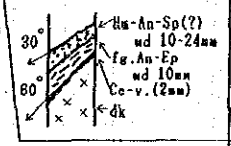
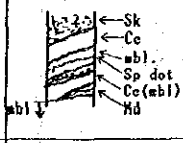


Fig.32 Geologic Column of MJI-21

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
41.20		40.70~41.20:very cg-mbl.(crystal 40mm')									
42.00	N.C.	(cave)									
43.15		Skarn zone (grossular-quartz-k-feldspar with a few amount of Andradite(?)									
44.50	N.C.	Brownish grey-white compact rock(ig.) becomes dark greenish grey(Hm bearing?) towerd deeper.scattered in the rock with irregular shape(filling up ?) (cave)									
45.20		Decolor(cream white) green min.spotted(decomp.Sk+Qtz)			43.30-44.50	1.20	<0.07	2.8	<0.01	<0.01	0.04
46.50		Decolorized aphanitic grey white dk.									
47.15		47.15~48.80:pale orange color. a few of green aggregate									
48.80		lower boundary 60°,and limonite stain			48.60-49.60	1.00	<0.07	0.5	<0.01	<0.01	0.08
49.80		60° Greenish Qtz-An-Ch(?) zone with a few of Sp(?)			49.60-49.80	0.20	<0.07	1.3	<0.01	0.03	0.19
50.50		Ore zone			49.80-50.50	0.70	0.07	148.	1.71	0.72	18.60
52.20	N.C. (cave)	49.80~50.00 : Cc+Qtz part with Sp ore									
52.60		50.00~50.50 : Sp)Cp-Cc-Qtz-Hd ore			52.20-52.60	0.40	<0.07	107.0	0.05	0.37	4.78
52.80		(cave)									
53.70	N.C.	50.50~52.20 : (cave)									
54.15		(cave)									
54.20		52.20h52.60 : decolorized Hd(brownish cream yellow) with small amount of Sp.			52.80-53.70	0.90	<0.07	136.0	0.04	0.54	18.60
56.70	N.C. (cave)	limonite stainned parts,upper and lower boundary			54.15-54.20	0.05	0.14	940.	0.46	4.00	47.0
		52.60~52.80 : (cave)									
60		52.80~53.70 : Hd-Sp ore(medium~high grade)									
		53.70~54.15 : (cave)									
		54.15~54.20 : near pure Sp ore									
		54.20~56.70 : (cave)									
65		Grey white mss.cg.mbl.									
69.00											
70		35° Greenish(moss green) grey compact dk.(Aphanitic type) decolorized. hair veinlet of Hm-Py-Andradite(?)									
71.10											
75											
77.00											
80		38° Dark grey cg-mbl. irregura(deformed)~net of black seams. below 77.00m lamina are common									
85											
90											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Hd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
95		Dark grey cg-mbl.									
96.80											
100		rich in tuffaceous seams fg-mbl.									
101.70		tuffaceous									
102.00		Slaty(muddy)									
105		101.70~103.50:irregular shaped lamina(slumping?) Lamina are composed of tuffaceous seams and hornfelsic slate seams 101.70~102.00:tuffaceous 102.00~103.50:hornfelsic seams									
110		Principally,102.00~123.50m is composed of mbl.with hornfelsic thin seams. lamina 35°±exsept slumping part									
115.00		115.00~119.30:slumping structure (representing by tuffaceous seams)									
119.30											
120.00 BQ											
123.50											
125		tuffceous									
130		Grey mbl.with banding by tuffaceous seams									
131.30		Ore zone 131.30~131.70:copmact dark green fg.			131.30-131.70	0.40	<0.07	9.0	<0.01	0.04	0.38
131.70		131.70~133.20:fine grain of Andradaite-Epidote with Hm-Sp(?)			131.70-132.70	1.00	<0.07	2.3	<0.01	<0.01	0.09
133.20					132.70-133.20	0.50	<0.07	1.7	<0.01	<0.01	0.04
133.60		133.20~133.60:Hd-An-Cc-Sp-Gn-(Cp) ore Sp rich at An-Cc part			133.20-133.60	0.40	<0.07	91.0	0.12	0.50	6.94
135											
140		Grey white mg-mbl.near mas.with faded cloudy patterns									





Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Au g/t	Ag g/t	Cu %	Pb %	Zn %	Results	
145		Grey white mg-mbl.											
149.30		149.30~151.80: cg ~ v.cg-mbl.											
151.80													
155													
160													
165													
170													
175													
179.30		Becomes coarser than upper grey.mss.mbl.											
185													
190													

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
195		Grey mss.mg-mbl.									
200											
205											
210											
215											
218.00											
220		Fine grain mbl.									
		220.80~221.00:black cloudy patterns									
		Except 220.80~221.00	wd 1cm~7mm black cloudy pattern								
		nearly faded cloudy patterns									
225											
230											
		231.60~233.80:rich in wd 3cm~mm order Cc-v.									
		below 234.00:comes tuffceous									
		fg tuffaceous-pelitic mbl.									
235		237.90~238.10:Hornfelsic part (reddish) + tuffaceous (green ~cream)part mixed									
237.90		238.10~239.40:lava?altered.granular texture									
238.10		239.40~240.00:red part & green part mixed			237.80-238.80	1.00	<0.07	1.0	<0.01	<0.01	0.02
		240.00~ : very fine shally mbl.			238.80-239.80	1.00	<0.07	1.0	<0.01	<0.01	0.02
239.40		Very fine mss.mbl.			239.80-240.15	0.35	<0.07	1.7	<0.01	<0.01	0.02

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
		Very fine mss mbl.									
245											
		248.90 ←Sp-Hm ring(front of mineralization)									
		249.20 ←Cc-v. ←45°									
248.90					248.90-249.20	0.30	<0.07	4.4	<0.01	0.01	0.55
249.20		Ore zone			249.20-250.20	1.00	<0.07	1.3	0.01	<0.01	0.04
250.70		45° 248.90~249.20:Hm-Sp-An(11a)			250.20-250.70	0.50	<0.07	1.7	0.05	<0.01	0.04
		249.20~250.70:compact aphanitic ig.with scattered An aggregations.Py-Cp? film v.(12a,13a) Cp-Sp at lower boundary									
255											
		"Sdy" ~fg-mbl.									
		Ore zone									
260		260.30~260.70:Hm-Sp-Cc-Hd(?)									
260.30											
260.70		260.70~261.30:altered dk like Dk-6(u) at MJI-9 but also has a appearence of alt.lava brown reddish color,cutted by a lot of Cc-v.			260.30-260.70	0.40	<0.07	21.5	0.28	0.05	6.72
261.30					260.70-261.70	1.00	<0.07	1.3	<0.01	<0.01	0.03
262.05											
		261.30~261.50:fine grain Andradite									
		261.50~260.05:brown fine grain (charty)Qtz-v.has filling up brecciated mbl.block									
		Qtz mbl.block(3cm)									
265											
270											
		mss fg-mbl.									
275											
278.50											
280		becomes slightly to tuffaceous									
281.00		(Terminated)									

Drill Hole No	: MJI-22	Elevation	:
Location	:	Inclination	: -50° (340°00')
Coordinate Point	:	Core Recovery	: 94.4%(inc.soil part:80.9%)
Depth	: 300.00 m	Term	: 9 Nov. - 18 Nov.1987
Drilling Machine	: L-38		

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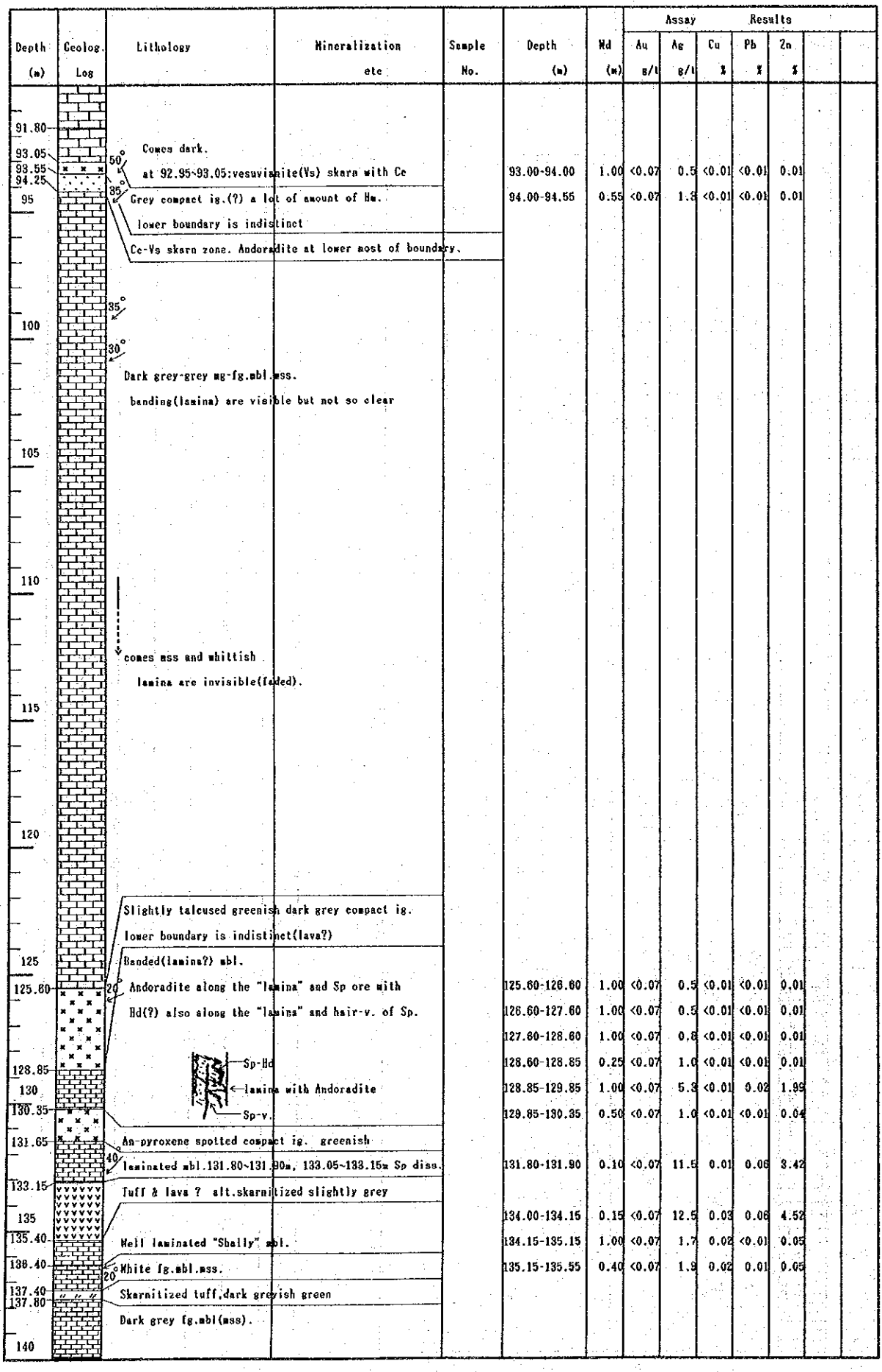
Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
5													
10													
15													
20		Surface soil											
25													
30													
35													
40													

Fig.33 Geologic Column of MJI-22

Depth (m)	Geolog. Log	Lithology	Mineralization etc.	Sample No.	Depth (m)	Nd (m)	Assay Au g/t	Assay Ag g/t	Assay Cu %	Assay Pb %	Assay Zn %	Results	
43.00		Surface soil											
45	N.C.	(weathered,decompsed mbl.zone ?)											
49.00													
49.10	N.C.	Si-eariched weathered mbl.											
52.60		Brown -brown red soil-like decomposed mbl.											
53.40													
55													
60	N.C.												
65													
67.65		Decomposed soil-like skarn zone											
68.10	N.C.												
68.60		(margine of alkaline int.body)											
69.10		Greenish skarnitized zone (alkaline int. ?)											
70													
75		White very cg-mbl. with some parts of cloudy patterns											
80													
BQ													
85													
88.30		comes finner(cg-size)											
90													



Depth (m)	Nd (m)	Assay Au g/t	Ag g/t	Cu %	Results Pb %	Zn %
93.00-94.00	1.00	<0.07	0.5	<0.01	<0.01	0.01
94.00-94.55	0.55	<0.07	1.3	<0.01	<0.01	0.01
125.60-126.60	1.00	<0.07	0.5	<0.01	<0.01	0.01
126.60-127.60	1.00	<0.07	0.5	<0.01	<0.01	0.01
127.60-128.60	1.00	<0.07	0.8	<0.01	<0.01	0.01
128.60-128.85	0.25	<0.07	1.0	<0.01	<0.01	0.01
128.85-129.85	1.00	<0.07	5.3	<0.01	0.02	1.99
129.85-130.35	0.50	<0.07	1.0	<0.01	<0.01	0.04
131.80-131.90	0.10	<0.07	11.5	0.01	0.06	3.42
134.00-134.15	0.15	<0.07	12.5	0.03	0.06	4.52
134.15-135.15	1.00	<0.07	1.7	0.02	<0.01	0.05
135.15-135.55	0.40	<0.07	1.9	0.02	0.01	0.05

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Au g/t	Ag g/t	Cu %	Pb %	Zn %	Results	
140.86		Dark grey mss fg-mbl.											
141.06		Sp-Qtz ORE Zone			140.86-141.06	0.20	0.21	40.5	0.04	0.16	20.1		
141.60		141.06~141.60:silicified Andoradite rich zone			141.06-142.06	1.00	<0.07	0.8	<0.01	<0.01	<0.01		
143.00		141.60~143.00:grey silicified compact lg.			142.06-143.06	1.00	<0.07	<0.3	<0.01	<0.01	0.02		
145		lower boundary is irregular			143.06-143.15	0.09	<0.07	<0.3	<0.01	<0.01	0.01		
145.70		comcs mss											
149.10		Dark grey laminated(shally-like)mbl. rich in slightly hornfelsitized slaty(reddish) thin seams. 149.10~155.90:dark grey and white parts mixed. 154.40~155.60:slumping structure,representing by hornfalsic and talcuse seams.											
150													
155													
155.90		155.90~157.80: mss fg-mbl.											
157.80													
160		White grey-white mss cg-mbl.											
165													
170													
175													
180													
185													
186.20		186.20:cloudy pattern											
190													

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Hd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
191.30		191.30, 192.50~193.00, 195.20~195.40 : cloudy patterns											
192.50													
193.00													
195													
195.20		Whitish grey-white mss cg-mbl.											
195.40													
200													
205													
210													
215													
220													
220.50		Grey-light grey mg-mbl. Lamina are visible commonly but neary faded											
225													
230													
235													
240													

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
245											
250		Grey-light grey mg-mbl. near massive									
255											
260											
265											
270											
275											
280		Ore zone 280.35~282.13:Hm-Sp-An-Hd ore 282.10~283.13:skarnitized compact rock(ig ?)									
280.85											
282.13		46° 3cm Sp in mbl.									
283.13		Sp-An(Sp is laminella or band)									
285		Andradite(max 3mm)			280.85-281.85	1.00	<0.07	26.8	0.57	0.06	10.70
285.65		Hematite & Sp			281.85-282.13	0.28	<0.07	9.0	0.23	0.01	6.10
		Grey mss fg-mbl. 284.00~284.20:fossile ?			282.13-283.13	1.00	<0.07	1.0	<0.01	<0.01	0.07
287.40		Dark reddish skarnitized ig.									
		Dark grey mss fg-mbl. 289.70~289.90:cloudy pattern			285.70-286.70	1.00	<0.07	1.0	<0.01	<0.01	0.03
289.70					286.70-287.55	0.85	<0.07	1.0	<0.01	0.01	0.02

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
295		Dark grey mss fg-mbl. 293.60~294.20:cloudy pattern											
300.00		(Terminated)											

Drill Hole No	: MJI-23		MJI - 23 - 1
Location	:	Elevation	:
Coordinate Point	:	Inclination	: -50° (340°00')
Depth	: 276.30 m	Core Recovery	: 90.1%(inc.soil part:85.60)
Drilling Machine	: L-38	Term	: 11 Oct.- 21 Oct.1987

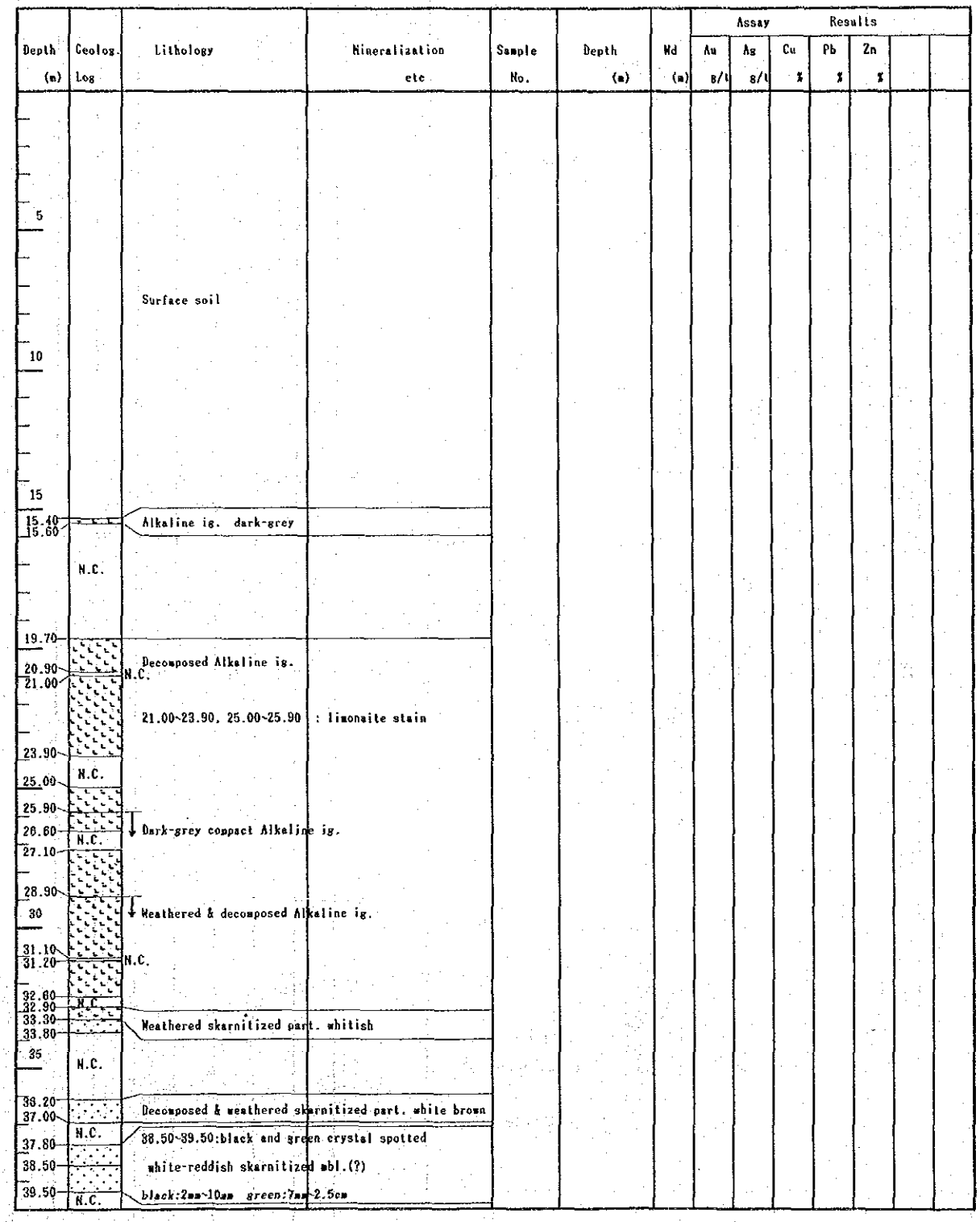


Fig.34 Geologic Column of MJI-23

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Au g/t	Ag g/t	Cu %	Pb %	Zn %	Results
40.85	N.C.											
41.40		Yellowish green garnet zone										
		Andoradite spotted silicified mbl.grossular at lower										
43.20		boundary										
45		Grey silicified-epidotized porphyritic rock										
45.75		Skarnitized alkaline rock										
46.00	N.C.											
47.70		Epidotized pophyritic rock, decomposed										
48.10		Decomposed skarnitized alkaline rock,upper boundary 55°										
48.40	N.C.											
49.70		N.C.										
50.30		Decolorized(weathered) porphyritic rock										
50.50												
51.10	N.C.											
52.45		Skarnitized alkaline rock										
53.30												
53.70	N											
54.10	N.C.	(cave)										
55.20		White cg-mbl.										
58.30												
		White mg-mbl. mbl	59.35 black streak with small amount of Cp, Sp, Skarn									
			70° 64.95 banding Cc crystal									
59.35					59.25-60.25	1.00	<0.07	1.0	<0.01	<0.01	0.03	
		Andradite(?)-grosuular			60.25-61.25	1.00	<0.07	1.3	<0.01	<0.01	0.02	
		45° skarn zone			61.25-62.15	0.95	<0.07	1.0	<0.01	<0.01	0.02	
61.75												
		Skarnitized alkaline rock										
64.95		(indistinct)										
65.95		Yellowish-green epidote-andradite(?) aphanitic dk.										
66.35		Sp rich Sp-Gn mss.ore (Sp>Gn)	10cm Sp at lower boundary		65.95-66.35	0.40	<0.07	383.	0.50	1.90	29.2	
		White very cg-mbl.										
69.70												
	N.C.	(cave)										
71.35		White very cg-mbl.										
72.90												
		below 72.90:slightly finer										
75												
75.50	BQ	75.50~79.20:crushed-reconsolidated part(?)										
		77.90~78.00:Py diss. in horafelsic part										
			79.20 breccia dyke(?) probably boundary of dk. mbl. "flowage"with Cc-v.									
79.20		Decolorized	80°									
79.90		pale orange ig(dk?)										
	N.C.											
		(cave)										
85												
85.28		Dark grey mg~fg-mbl.										
		88.00~88.20:cave										
88.00												
88.20	N.C.	Seggregated calcite										
88.65		Grey mg-mbl.										
90												

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
		Grey mg-mbl.									
93.70											
94.20		30° Ore zone			93.70-94.32	0.62	<0.07	13.3	0.15	0.04	4.26
94.35		93.70~93.80:Sp diss-spotted in mbl.									
96.75		93.80~94.20:Sk(andradite-epidote)-Sp-Hematite									
		65° 94.20~94.35:Sk(very fine An-Ep)									
		94.35~96.75:decolorized pale orange aphanitic dk.									
		Grey white mg-mbl.									
99.90		Grey sdy-mbl(slightly coarse than common "Sdy" type									
101.05		30° a few of lamina									
		(101.05~101.15:cave)									
105		lamina(thin seams)almost hornfelsic									
		20°									
110		109.50:water escaped structure									
		111.60~113.90:slumping structure									
		113.90~114.10:andradite-grossular-Cc(seggregated)part									
		114.10~114.40:"Shally"mbl.									
114.10		10°									
114.30											
120											
124.50		30° 124.46~124.50:grossular									
125.70		20° Epidotized very fine grain ig. with a few of grossular									
		below 125.70:wd 1.5cm grossular part									
128.80											
129.35		Skaritized lava flow ?									
		128.80~129.35:andradite diss.but non-metallic min.									
135		Grey "Sdy" mbl.									
140											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
		Grey "Sdy"mbl.									
145		145.50~149.00:hornfelsic lamina are common									
		149.00~151.00:tuffaceus lamina are common									
150											
155		157.85~158.90:crushed & reconsolidated mbl.with Py									
160											
160.37		Ore zone(probably correlative to D-2)			160.37-160.85	0.48	<0.07	13.8	0.11	0.06	1.54
161.50		160.37~160.52:andoradite-Sp-Cp ore			160.85-161.50	0.65	<0.07	63.5	0.29	0.17	39.8
		160.52~160.60:andoradite			161.50-162.50	1.00	<0.07	1.9	<0.01	<0.01	0.17
		160.60~160.70:andoradite with a few of Sp			162.50-163.35	0.85	<0.07	2.5	<0.01	<0.01	0.17
164.30		160.70~160.85:limonite stainned Qtz-Sp			163.35-164.30	0.95	<0.07	9.5	0.06	0.02	0.69
164.48		160.85~161.50:mss.Sp ore			164.30-164.48	0.18	<0.07	63.5	2.36	0.08	14.40
		161.50~163.35:chlorite-epidote dark green rock with hematite									
		163.35~164.30:calcite-quartz with a few spot of Sp									
170		164.30~164.48:Cp-Sp(lower)ore									
		161.50 boundary is clear									
175		Grey mss ag-mbl.									
180											
185											
186.30		Grey white cg-mbl.									
190											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Wd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %		
193.60		Grey Sdy-mbl.											
195		Grey mss mg-mbl.											
196.60		Grey-grey white mss cg-mbl.											
198.50		Grey mss mg-mbl.											
200		cloudy patterns are recognizable											
205													
210													
215													
218.30		218.30~218.90: very cg.part											
220.00		becomes common of faded black seams											
225													
		26° black seam											
230													
235													
		Alt.dk.											
238.30		upper boundary(50°dip):	wd 4~3cm Andradite sk.										
239.05		lower boundary(55°dip):											
240		Grey mss mg-mbl.											

Depth (m)	Geolog. Log	Lithology	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Assay Results Au g/t	Ag g/t	Cu %	Pb %	Zn %
245		Grey mss ag-mbl.									
250											
251.50		Grey cg-mbl. between 252.00~260.80 md 2mm-5mm decolorized dk or mud dyke more than 10 bodies intruded (mud dk.in fault zone ···possible)									
255											
260											
260.80		Grey ag-mbl. with cloudy patterns									
265											
267.15		Ore zone (probably correlative to D-6)			267.15-267.95	0.80	<0.07	46.5	2.00	0.09	14.60
268.35		267.15~267.95:Hedenbergite>Sp ore			267.95-268.95	1.00	<0.07	3.9	0.01	0.01	0.12
270		267.95~268.85:Hedenbergite			268.95-269.95	1.00	<0.07	1.3	<0.01	<0.01	0.08
		268.85~269.65:Andradite(?)-Epidote			269.95-270.95	1.00	<0.07	2.3	0.01	0.01	0.34
		269.65~270.95:Hedenbergite			270.95-271.95	1.00	<0.07	1.7	<0.01	<0.01	0.21
272.55		270.95~272.55:Hedenbergite & Andradite banded			271.95-272.55	0.66	<0.07	5.8	0.05	0.02	0.23
273.20		272.55~273.20:mbl.but at	273.10~273.20:Hed+Sp		273.10-273.20	0.10	<0.07	5.0	0.05	0.01	6.20
275			273.10 								
276.30		Grey ag~fg-mbl. (Terminated)									

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APPENDICES

App. 1 Sample List for Polish,Thin section & X-ray

Sample No.	Locality	Polish	Thin setion	X-ray	Note
MJI-13-1	85.35	◎	-	-	Ore
MJI-13-2	85.20	◎	-	-	Ore
MJI-13-3	85.80	◎	-	-	Ore
MJI-13-4	84.85	-	-	◎	Skarn
MJI-13-5	101.15	◎	-	-	Ore
MJI-13-6	101.50	◎	-	-	Ore
MJI-13-9	222.75	-	-	◎	Skarn/ore
MJI-13-11	256.10	◎	-	◎	Ore
MJI-13-12	258.90	-	-	◎	Skarn
MJI-13-13	262.40	◎	-	-	Ore
MJI-13-14	263.00	◎	-	◎	Ore
MJI-13-15	263.80	◎	-	◎	Ore
MJI-12-1	18.30	-	◎	-	Alkaline intrusivese
MJI-12-3	37.20	-	◎	-	Skarn
MJI-12-4	39.80	-	-	◎	Grossular skarn
MJI-12-5	51.30	-	◎	◎	Andoradite skarn?
MJI-12-6	60.85	-	◎	◎	Epidote-Biotite
MJI-12-9	149.80	◎	-	-	Ore
MJI-12-10	150.00	◎	-	-	Ore
MJI-12-11	150.20	◎	-	-	Ore
MJI-12-12	150.42	◎	-	-	Ore
MJI-12-13	150.70	-	-	◎	Skarn/Igneous rock?
MJI-12	286.60	◎	-	-	Sphalerite-Hedenbergite
MJI-18-1	74.20	◎	-	-	Ore
MJI-18-2	79.80	◎	-	-	Ore
MJI-18-3	143.20	◎	-	-	Ore
MJI-18-4	144.55	◎	-	-	Ore
MJI-18-5	133.50	-	-	◎	Altered iguneous rock
MJI-19-2	103.30	-	-	◎	Altered iguneous rock
MJI-20	67.80	-	◎	◎	Ore
MJI-20	123.20	-	◎	-	Fossil
MJI-21	44.25	-	◎	◎	Ore
MJI-21	49.50	-	◎	◎	Skarn/Iguneous rock?
MJI-21	53.10	◎	◎	◎	Ore
MJI-23	15.40	-	◎	-	
MJI-23	38.80	-	◎	◎	Skarn
MJI-23	41.10	-	-	◎	Skarn
MJI-23	41.85	-	-	◎	Skarn
MJI-23	42.65	-	-	◎	Skarn
MJI-23	66.20	◎	-	-	Ore
MJI-23	66.30	◎	-	-	Ore
MJI-23	267.35	-	◎	◎	Skarn(Hedenbergite)
MJI-11-1	33.00	-	◎	-	Skarn
MJI-11-11	338.50	-	◎	◎	Recrystalline tuff
Total		21	14	22	

App. 2 Element Analysis of Ores (1)

No.	Sample No.	Drilling No.	Depth (m)	Wd (m)	Au g/t	Ag g/t	Cu %	Pb %	Zn %
1	MJI-12-01	MJI-12	149.52~150.50	0.98	0.14	350.	3.78	6.38	25.00
2	MJI-12-02	MJI-12	285.15~285.30	0.15	<0.07	11.5	0.06	0.13	1.66
3	MJI-12-03	MJI-12	286.00~286.30	0.30	<0.07	15.0	0.03	0.06	1.49
4	MJI-12-04	MJI-12	286.30~287.10	0.80	0.34	77.0	0.09	0.20	9.20
5	MJI-12-05	MJI-12	288.00~289.00	1.00	<0.07	1.7	<0.01	<0.01	0.11
6	MJI-12-06	MJI-12	289.00~289.35	0.35	<0.07	1.0	<0.01	<0.01	0.04
7	MJI-12-07	MJI-12	289.90~290.15	0.25	<0.07	1.0	0.01	0.08	1.00
8	MJI-13-01	MJI-13	85.35~ 85.85	0.50	0.14	378.	3.20	4.20	14.50
9	MJI-13-02	MJI-13	101.13~101,53	0.40	0.21	1,220.	0.79	5.42	36.40
10	MJI-13-03	MJI-13	106.85~107.05	0.20	<0.07	27.5	0.04	0.22	0.85
11	MJI-13-04	MJI-13	108.15~108.35	0.20	<0.07	22.5	0.03	0.20	0.39
12	MJI-13-05	MJI-13	222.75~223.10	0.35	<0.07	62.0	1.42	0.15	5.22
13	MJI-13-16	MJI-13	242.25~242.85	60	<0.07	9.0	0.06	0.09	1.79
13	MJI-13-06	MJI-13	255.60~256.60	1.00	0.07	19.5	0.48	0.08	5.22
14	MJI-13-07	MJI-13	256.60~257.15	0.55	<0.07	8.5	0.08	0.07	1.26
15	MJI-13-08	MJI-13	257.15~258.15	1.00	<0.07	3.9	0.01	0.04	0.16
16	MJI-13-09	MJI-13	258.15~259.50	1.35	<0.07	1.7	<0.01	0.04	0.04
17	MJI-13-10	MJI-13	259.50~260.50	1.00	<0.07	7.5	0.33	0.04	1.54
18	MJI-13-11	MJI-13	260.50~260.80	0.30	<0.07	4.4	0.05	0.04	3.05
19	MJI-13-13	MJI-13	261.50~262.50	1.00	<0.07	15.0	0.16	0.07	9.20
20	MJI-13-14	MJI-13	262.50~263.50	1.00	<0.07	18.0	0.10	0.07	16.30
21	MJI-13-15	MJI-13	263.50~264.43	0.93	<0.07	15.0	0.25	0.05	10.30
22	MJI-18-01	MJI-18	74.03~ 74.50	0.47	0.35	1,730.	2.52	16.10	34.7
23	MJI-18-02	MJI-18	79.60~ 80.20	0.60	0.21	780.	7.00	15.70	11.30
24	MJI-18-03	MJI-18	81.60~ 81.75	0.15	0.07	590.	6.10	27.8	14.40
25	MJI-18-04	MJI-18	95.15~ 95.45	0.30	0.07	65.0	0.26	1.90	2.74
26	MJI-18-05	MJI-18	98.20~ 98.55	0.35	0.21	7.0	0.02	0.11	0.09
27	MJI-18-06	MJI-18	101.20~101.50	0.30	<0.07	265.	1.38	4.68	7.05
28	MJI-18-07	MJI-18	125.40~125.50	0.10	<0.07	7.5	0.03	0.13	0.13
29	MJI-18-08	MJI-18	126.15~126.25	0.10	<0.07	5.5	0.01	0.06	0.04

App. 2　Element Analysis of Ores (2)

No.	Sample No.	Drilling No.	Depth (m)	Wd (m)	Au g/t	Ag g/t	Cu %	Pb %	Zn %
30	MJI-18-09	MJI-18	132.90~133.30	0.40	<0.07	4.4	0.01	0.04	0.03
31	MJI-18-10	MJI-18	133.90~134.90	1.00	<0.07	2.3	<0.01	0.02	0.03
32	MJI-18-11	MJI-18	134.90~135.90	1.00	<0.07	1.0	<0.01	0.01	0.01
33	MJI-18-12	MJI-18	135.90~136.20	0.30	<0.07	1.0	<0.01	<0.01	0.01
34	MJI-18-13	MJI-18	136.70~137.70	1.00	0.27	2.3	<0.01	0.06	0.01
35	MJI-18-14	MJI-18	140.10~140.35	0.25	1.10	6.1	<0.01	<0.01	0.08
36	MJI-18-15	MJI-18	140.60~140.75	0.15	1.27	276.	0.04	2.96	33.1
37	MJI-18-16	MJI-18	142.70~142.92	0.22	0.27	92.0	0.13	1.51	3.47
38	MJI-18-17	MJI-18	142.92~143.92	1.00	0.07	470.	0.04	19.00	27.7
39	MJI-18-18	MJI-18	143.92~144.92	1.00	0.07	88.0	0.12	4.34	6.41
40	MJI-18-19	MJI-18	144.92~145.15	0.23	0.27	290.	0.13	21.9	16.30
41	MJI-18-20	MJI-18	133.30~133.90	0.60	<0.07	1.0	<0.01	<0.01	0.02
42	MJI-18-21	MJI-18	139.10~140.10	1.00	<0.07	2.3	<0.01	<0.01	0.01
43	MJI-18-22	MJI-18	140.35~140.60	0.25	0.07	2.5	<0.01	<0.01	0.01
44	MJI-18-23	MJI-18	140.75~141.75	1.00	0.41	3.3	<0.01	0.01	0.05
45	MJI-18-24	MJI-18	141.75~142.70	0.95	<0.07	2.3	<0.01	<0.01	0.01
46	MJI-19-03	MJI-19	113.70~113.85	0.15	<0.07	5.5	<0.01	0.33	0.31
47	MJI-20-01	MJI-20	75.60~ 75.85	0.25	<0.07	1.3	<0.01	<0.01	0.01
48	MJI-21-01	MJI-21	48.60~ 49.60	1.00	<0.07	0.5	<0.01	<0.01	0.08
49	MJI-21-02	MJI-21	49.60~ 49.80	0.20	<0.07	1.3	<0.01	0.03	0.19
50	MJI-21-03	MJI-21	49.80~ 50.50	0.70	0.07	148.0	1.71	0.72	18.60
51	MJI-21-04	MJI-21	52.20~ 52.60	0.40	<0.07	107.0	0.05	0.37	4.78
52	MJI-21-05	MJI-21	52.80~ 53.70	0.90	<0.07	136.0	0.04	0.54	18.60
53	MJI-21-06	MJI-21	54.15~ 54.20	0.05	0.14	940.	0.46	4.06	47.0
54	MJI-21-07	MJI-21	131.30~131.70	0.40	<0.07	9.0	<0.01	0.04	0.38
55	MJI-21-08	MJI-21	131.70~132.70	1.00	<0.07	2.3	<0.01	<0.01	0.09
56	MJI-21-09	MJI-21	132.70~133.20	0.50	<0.07	1.7	<0.01	<0.01	0.04
57	MJI-21-10	MJI-21	133.20~133.60	0.40	<0.07	91.0	0.12	0.50	6.94
58	MJI-21-11	MJI-21	248.90~249.20	0.30	<0.07	4.4	<0.01	0.01	0.55

App. 2　Element Analysis of Ores (3)

No.	Sample No.	Drilling No.	Depth (m)	Wd (m)	Au g/t	Ag g/t	Cu %	Pb %	Zn %
59	MJI-21-12	MJI-21	249.20~250.20	1.00	<0.07	1.3	0.01	<0.01	0.04
60	MJI-21-13	MJI-21	250.20~250.70	0.50	<0.07	1.7	0.05	<0.01	0.04
61	MJI-21-14	MJI-21	260.30~260.70	0.40	<0.07	21.5	0.28	0.05	6.72
62	MJI-21-15	MJI-21	260.70~261.70	1.00	<0.07	1.3	<0.01	<0.01	0.03
63	MJI-21-16	MJI-21	43.30~ 44.50	1.20	<0.07	2.8	<0.01	<0.01	0.04
64	MJI-21-17	MJI-21	237.80~238.80	1.00	<0.07	1.0	<0.01	<0.01	0.03
65	MJI-21-18	MJI-21	238.80~239.80	1.00	<0.07	1.0	<0.01	<0.01	0.02
66	MJI-21-19	MJI-21	239.80~240.15	0.35	<0.07	1.7	<0.01	<0.01	0.02
67	MJI-22-01	MJI-22	93.00~ 94.00	1.00	<0.07	0.5	<0.01	<0.01	0.01
68	MJI-22-02	MJI-22	94.00~ 94.55	0.55	<0.07	1.3	<0.01	<0.01	0.01
69	MJI-22-03	MJI-22	125.60~126.60	1.00	<0.07	0.5	<0.01	<0.01	0.01
70	MJI-22-04	MJI-22	126.60~127.60	1.00	<0.07	0.5	<0.01	<0.01	0.01
71	MJI-22-05	MJI-22	127.60~128.60	1.00	<0.07	0.8	<0.01	<0.01	0.01
72	MJI-22-06	MJI-22	128.60~128.85	0.25	<0.07	1.0	<0.01	<0.01	0.01
73	MJI-22-07	MJI-22	128.85~129.85	1.00	<0.07	5.3	<0.01	0.02	1.99
74	MJI-22-08	MJI-22	129.85~130.35	0.50	<0.07	1.0	<0.01	<0.01	0.04
75	MJI-22-09	MJI-22	131.80~131.90	0.10	<0.07	11.5	0.01	0.06	3.42
76	MJI-22-10	MJI-22	134.00~134.15	0.15	<0.07	12.5	0.03	0.06	4.52
77	MJI-22-11	MJI-22	134.15~135.15	1.00	<0.07	1.7	0.02	<0.01	0.05
78	MJI-22-12	MJI-22	135.15~135.55	0.40	<0.07	1.9	0.02	0.01	0.05
79	MJI-22-13	MJI-22	140.86~141.06	0.20	0.21	40.5	0.04	0.16	20.1
80	MJI-22-14	MJI-22	141.06~142.06	1.00	<0.07	0.8	<0.01	<0.01	0.07
81	MJI-22-15	MJI-22	142.06~143.06	1.00	<0.07	<0.3	<0.01	<0.01	0.02
82	MJI-22-16	MJI-22	143.06~143.15	0.09	<0.07	<0.3	<0.01	<0.01	0.01
83	MJI-22-17	MJI-22	280.85~281.85	1.00	<0.07	26.8	0.57	0.06	10.70
84	MJI-22-18	MJI-22	281.85~282.13	0.28	<0.07	9.0	0.23	0.01	6.10
85	MJI-22-19	MJI-22	282.13~283.13	1.00	<0.07	1.0	<0.01	<0.01	0.07
86	MJI-22-20	MJI-22	285.70~286.70	1.00	<0.07	1.0	<0.01	<0.01	0.03
87	MJI-22-21	MJI-22	286.70~287.55	0.85	<0.07	1.0	<0.01	0.10	0.02
88	MJI-23-01	MJI-23	65.95~ 66.35	0.40	<0.07	383	0.50	1.90	29.2

App. 2 Element Analysis of Ores(4)

No.	Sample No.	Drilling No.	Depth (m)	Wd (m)	Au g/t	Ag g/t	Cu %	Pb %	Zn %
89	MJI-23-02	MJI-23	93.70~ 94.32	0.62	<0.07	13.3	0.15	0.04	4.26
90	MJI-23-03	MJI-23	160.37~160.85	0.48	<0.07	13.8	0.11	0.06	1.54
91	MJI-23-04	MJI-23	160.85~161.50	0.65	<0.07	63.5	0.29	0.17	39.8
92	MJI-23-05	MJI-23	161.50~162.50	1.00	<0.07	1.9	<0.01	<0.01	0.17
93	MJI-23-06	MJI-23	162.50~163.35	0.85	<0.07	2.5	<0.01	<0.01	0.17
94	MJI-23-07	MJI-23	163.35~164.30	0.95	<0.07	9.5	0.06	0.02	0.69
95	MJI-23-08	MJI-23	164.30~164.48	0.18	<0.07	63.5	2.36	0.08	14.40
96	MJI-23-09	MJI-23	267.15~267.95	0.80	<0.07	46.5	2.00	0.09	14.60
97	MJI-23-10	MJI-23	267.95~268.95	1.00	<0.07	3.9	0.01	0.01	0.12
98	MJI-23-11	MJI-23	268.95~269.95	1.00	<0.07	1.3	<0.01	<0.01	0.08
99	MJI-23-12	MJI-23	269.95~270.95	1.00	<0.07	2.3	0.01	0.01	0.34
100	MJI-23-13	MJI-23	270.95~271.95	1.00	0.07	1.7	<0.01	<0.01	0.21
101	MJI-23-14	MJI-23	271.95~272.55	0.66	<0.07	5.8	0.05	0.02	0.23
102	MJI-23-15	MJI-23	273.10~273.20	0.10	<0.07	5.0	0.05	0.01	6.20
103	MJI-23-16	MJI-23	59.25~ 60.25	1.00	<0.07	1.0	<0.01	<0.01	0.03
104	MJI-23-17	MJI-23	60.25~ 61.25	1.00	<0.07	1.3	<0.01	<0.01	0.02
105	MJI-23-18	MJI-23	61.25~ 62.15	0.95	<0.07	1.0	<0.01	<0.01	0.02

Sample No.	Locality	Rock Name	Compornent Minerals											Altered Minerals											Remarks
			Q	Af	Pl	Bi	Ho	Au	Hy	Ol	Op	Mf	Ac	Q	Ch	Se	Ep	Cc	K	Ga	Ve	Ser	Op	Act	Px	
MJI-11-01	33.00m	Alkali Gbbro		◎				○[1]			○		○[2]					●								[1]Aegirinaugite, [2]Sphane, Apatite
MJI-11-11	338.50m	Dunite								◎								◎				○				
MJI-12-01	18.30m	Quartz diorite			◎	○	○		○		○		●[1]													[1]Apatite
MJI-12-03	37.20m	Alkali Gbbro		○	○			○[1]			○						○	○								
MJI-12-05	51.30m	Skarn																○			◎					
MJI-12-06	60.85m	Alkali Gbbro		?	◎	●		◎[1]			○		●[2]													[1]Aegirinaugite, [2]Sphene
MJI-20-01	15.40m	Quartz Diorite	○		◎	○	○	○	●		○															
MJI-20-01	67.80m	Skarn												○	○			◎				●[1]	●			[1]Apatite
MJI-20-02	123.20m	Limeston																◎					●			
MJI-21-01	44.25m	Skarn												●	●			●		◎					○	
MJI-21-02	49.50m	Skarn & Diorite			○			○			○			○	●		○						●	○	○	
MJI-21-03	53.10m	Skarn													●			●		○			●	○	○[1]	[1]Hedenbergite
MJI-23-01	38.80m	Skarn												○	○		○[1]	○		○	●[2]	○[Hc]	●	○	○[Ap]	[1]Analcite, [2]Apatite
MJI-23-02	267.35m	Skarn																●					●		◎[1]	[1]Hedenbergite

Abbreviation

Q : Quartz	Ch : Chlorite	◎ : Abundant
Af : Alkali-feldsper	Se : Sericite	
Pl : Plagioclase	Ep : Epidote	○ : Common
Bi : Biotite	Cc : Calcite	
Ho : Hornblende	K : Kaoline mineral	○ : A few
Au : Augite	Ga : Garnet	
Hy : Hypersthene	Ve : Vesuvianite	● : Rare
Ol : Olivine	Ser: Serpentine	
Op : Opaque mineral	Act: Actinolite	? : not specified
Maf: Mafic mineral	Px : Pyroxene	
Ac : Accesory mineral		

App. 3 Microscopic Observation of Rock Thin Sections

App. 4 Microscopic Observation of Polished Ore specimens

No	Sample No.	Locality	Minerals											Remark
			Cp	Cl	Cv	Gn	Sp	Py	Po	Asp	Mt	Hm	Gg	
1	MJI-12-09	149.80m	◎			○	○	○	○			○		
2	MJI-12-10	150.00m	◎			○	○	○			○		○	
3	MJI-12-11	150.20m	○			○	◎	○	○				○	
4	MJI-12-12	150.42m	○			○	◎	○	●				○	
5	MJI-13-01	85.35m	●			○	◎	○				○	◎	
6	MJI-13-02	85.20m	○	●	●	○	○	○			○		○	
7	MJI-13-03	85.80m	●			○	○	○					◎	
8	MJI-13-05	101.15m	○			○	◎	○	○				○	
9	MJI-13-06	101.50m	○			○	◎	○	○			○	○	
10	MJI-13-11	256.10m	○			●	◎	○			○		◎	
11	MJI-13-13	262.40m	●			●	○	●			○		◎	
12	MJI-13-14	263.00m	○			○	◎				○		◎	
13	MJI-13-15	263.80m	○			○	○						◎	
14	MJI-18-01	74.20m	○			○	◎	○	●	○			○	
15	MJI-18-02	79.80m	◎	○		●	○	○					○	
16	MJI-18-03	143.20m				○	◎	○					○	
17	MJI-18-04	144.55m				○	◎	○					○	
18	MJI-12-14	286.60	○			○	◎	●					○	
19	MJI-21	53.10m	●			○	○	●				○	◎	
20	MJI-23-05	66.20m	●			○	◎	●					○	
21	MJI-23-06	66.30m	●			○	◎	●					○	

Abbreviation

Cp : Chalcopyrite
Cl : Chalcocite
Cv : Covelline
Gn : Galena
Sp : Sphalerite
Py : Pyrite
Po : Pyrrhotite
Asp : Arsenopyrite
Mt : Magnetite
Hm : Hematite
Gg : Gangue

◎ : Abundant
○ : Common
○ : A few
● : Rare

No.	Sample No	Locality	Cp	Sp	Py	Cr	An	Gr	Cc	Ve	Am	Px	Ol	Ep	Ch	Ta	Se	K	Mix	Sr	Na	Q	Pl	Kf	Al	Remarks
1	MJI-11-11	338.50m				○			◎				○?							○						
2	MJI-12-04	39.80m						◎	○																	
3	MJI-12-05	51.30m								◎										○						
4	MJI-12-06	60.85m			○?							○		○	○		●						◎	○?		
5	MJI-12-13	150.70m							◎			○?		○	○		○					○	○?			
6	MJI-13-04	84.85m							○				○	○		○						○				
7	MJI-13-09	222.75m					◎																			
8	MJI-13-11	256.10m	○	◎			○															○?				
9	MJI-13-12	258.90m			●				◎					○	○		○					○				
10	MJI-13-14	263.00m	○?	◎					○							○?						○				
11	MJI-13-15	263.80m		◎					○					○		○						○				
12	MJI-18-05	133.50m			○													○	○	○		◎				
13	MJI-19-02	103.30m			○				○						○						○?	○	◎			
14	MJI-20-01	67.80m							○						○		○					○		○		
15	MJI-21-01	44.25m						○	○			○?			●							○				
16	MJI-21-02	49.50m									○	○		○	○							○	○			
17	MJI-21-03	53.10m		○								◎[1]														[1] Hedenbergite
18	MJI-23-01	38.80m					○		○		●				●		●					●		○	○	
19	MJI-23-02	41.10m								○										○						
20	MJI-23-03	41.85m					○		○	○		○			●											
21	MJI-23-04	42.65m								◎					●									●?		
22	MJI-23-07	267.35m										◎[1]										○				[1] Hedenbergite

Abbreviation

Cp : Chalcopyrite　An : Andoradite　Px : Pyroxene　Se : Sericite　Na : Natorolite　◎ : Abundant
Sp : Sphalerite　Gr : Grossular　Ol : Olivine　K : Kaolinite　Q : Quartz　○ : Common
Py : Pyrite　Cc : Calcite　Ep : Epidot　Mix: Mixed layer mineral　Pl : Plagioclase　○ : A few
Cr : Chromite　Ve : Vesuvianite　Ch : Chlorite　Sr : Serpentine　Kf : Potash feldspar　● : Rare
Al : Analcite　? : not specified

App. 5　X-ray Diffraction Analysis

Discription	Unit	MJI-11	-12	-13	-14	-15	-16	-17	-18	-19	-20	-21	-22	-23	Total
Light oil	l	2,730	3,370	3,250	2,960	1,010	980	1,100	960	1,230	1,120	2,280	2,380	2,230	25,600
Engine oil	l	117	145	160	123	40	40	55	40	40	42	100	97	92	1,091
Bentonite	kgs	4,625	5,550	4,700	4,875	1,625	1,625	1,500	1,750	1,675	1,550	3,525	4,000	3,525	40,525
CMC	kgs	202	253	210	217	70	75	70	80	80	70	161	200	160	1,848
Tel-stop	kgs	247	300	245	264	90	90	75	90	93	95	172	210	191	2,162
Sea-clay	kgs	223	292	245	251	85	85	70	85	88	90	190	207	183	2,094
Mud-oil	l	240	281	226	253	82	80	95	87	90	90	184	200	186	2,094
Cement	kgs	320	320	320	320	520	120	120	120	120	120	320	320	320	3,360
Core box(NQ)	box	5	21	17	14	1	2	5	2	2	3	13	4	9	98
Core box(BQ)	box	30	21	21	25	10	13	12	9	11	11	17	23	21	224

App. 6 Consumbles Used

App. 7　Drilling Life of the Diamond Bits Used (1)

【BQ-size】

No	Bit No	Drilled meterage													
		KJI -16	-15	-17	-19	-18	-20	-13	-12	-11	-14	-23	-21	-22	
01	NBI-17	41.50													
02	-18	43.00													
03	-19	39.50													
04	-20		53.00												
05	-21		50.30												
06	-22			54.00											
07	-23			58.00											
08	-24				41.10										
09	-25				70.00										
10	-26					49.20									
11	-27					51.70									
12	-28						40.50								
13	-29						68.60								
14	-30							47.50							
15	-31							47.20							
16	-32							52.00							
17	-33							54.20							
18	-34								50.80						
19	-35								45.20						
20	-36								46.00						
21	-37								55.90						
22	-38									45.90					
23	-39									55.60					
24	-40									55.40					
25	-41									50.50					
26	-42									46.90					
27	-43									35.70					
28	-44										40.10				
29	-45										44.80				
30	-46										45.90				
31	-47										55.40				
32	-48										51.60				
33	-49											58.10			
34	-50											48.20			
35	-51											42.10			
36	-52											52.00			
37	-53												53.80		
38	-54												55.00		
39	-55												52.10		
40	-56													44.00	
41	-57													64.00	
42	-58													48.70	
43	-59													62.30	
Total		124.00		112.00		100.90		200.90		290.00		200.40		219.00	2,167.30
43pcs			103.30		111.00		109.10		197.90		237.80		160.90		(50.40m/pc)

App. 7 Drilling Life of the Diamond Bits Used (2)

【NQ-size】

No	Bit No	Drilled meterage												
		MJI -16	-15	-17	-19	-18	-20	-13	-12	-11	-14	-23	-21	-22
01	NNI-16	30.60												
02	-17		29.80											
03	-18			39.00										
04	-19				29.50									
05	-20					30.20								
06	-21						36.50							
07	-22							29.00						
08	-23							29.50						
09	-24							30.10						
10	-25							27.50						
11	-26								22.70					
12	-27								29.00					
13	-28								29.20					
14	-29								28.70					
15	-30									40.90				
16	-31										44.70			
17	-32										31.20			
18	-33											26.70		
19	-34											32.90		
20	-35												38.30	
21	-36												36.70	
22	-37													38.00
Total		30.60		39.00		30.20		116.10		40.90		59.60		38.00	711.10
22pcs			29.80		29.50		36.50		109.60		75.90		75.40		(32.32m/pc)

App. 8 Record of the Drilling Operation I－1

【MJI-16】

Date	Progress of drilling Shift -1	-2	-3	Total Drilled length	Core length	Shift Drl.	Total	Man power Eng.	Worker
12.07.87	PRP								
13.	PRP								
14.	PRP								
15.	PRP								
16.	PRP								
17.	PRP								
18.	PRP								
19.	PRP								
20.	PRP								
21.	PRP	(ICP) NCP 9.00	(ICP) BCP 9.00						
22.	16.40			34.40	17.20				
23.	18.00	15.00	15.00	48.00	47.80				
24.	12.10	11.00	12.00	35.10	35.10				
25.	12.30	11.00	10.20	33.50	33.50				
26.	DCP DMT								
Total	58.80	46.00	46.20	151.00	133.60	12	23	45	164
【MJI-15】									
27.07 87	PRP								
28.	PRP								
29.	PRP								
30.	30.00	ICP 10.00	7.80	47.80	1.20				
31.	CMT	CMT	CTC	0.00	0.00				
01.08	ICP 9.00	12.30	15.10	36.40	36.40				
02.	12.30	12.00	11.70	36.00	36.00				
03.	11.10	10.90	8.90	30.90	30.90				
04.	DCP DMT								
05.	DMT								
Total	62.40	45.20	43.50	151.10	104.50	12	20	30	138

【Abbreviations】

PRP : Preparation
ICP : Inserting of casing pipe
NCP : NW size casing pipe
BCP : BW size casing pipe
DCP : Draw up of casing pipe
DMT : Dismounting of machine
CMT : Hole cementation
CTC : Cutting of cemented part
RMG : Reaming of hole
EHB : Exchange of diamond bit
NQR : Feeding or draw up of NQWL rod
BQR : Feeding or draw up of BQWL rod
TRP : Transportation from site to site
OTH : Miscellaneous works

App. 8 Record of the Drilling Operation I－2

【MJI-17】

Date	Progress of drilling			Total		Shift		Man power	
	Shift			Drilled length	Core length	Drl.	Total	Eng.	Worker
	-1	-2	-3						
06.08.87	PRP								
07.	PRP								
08.	PRP								
09.	PRP								
10.	PRP								
11.	ICP 10.00			10.00	0.00				
12.	12.00	8.70	8.30	29.00	29.00				
13.	ICP 5.00	12.30	12.00	29.30	29.30				
14.	13.10	15.00	13.80	41.90	41.90				
15.	14.60	13.10	13.10	40.80	40.80				
16.	DCP DMT								
17.	DMT								
Total	54.70	49.10	47.20	151.00	141.00	13	20	36	186
【MJI-19】									
18.08.87	PRP								
19.	PRP								
20.	PRP								
21.	PRP								
22.	ICP 25.10			25.10	0.00				
23.	RMG 1.10	9.10	ICP 4.60	14.80	7.20				
24.	14.90	14.30	11.90	41.10	41.10				
25.	EHB 6.00	13.40	13.60	33.00	33.00				
26.	13.20	12.80	11.00	37.00	37.00				
27.	DCP DMT								
28.	DMT								
Total	60.30	49.60	41.10	151.00	118.30	13	19	33	145
【MJI-18】									
29.08.87	PRP								
30.	PRP	PRP							
31.	PRP	PRP	ICP 22.60	22.60	0.20				
01.09.87	18.70	ICP 11.50	ICP 16.40	46.60	12.70				
02.	17.70	15.10	EHB 8.00	40.80	24.10				
03.	16.30	13.90	13.50	43.70	38.80				
04.	DCP								
05.	DMT								
Total	52.70	40.50	60.50	153.70	75.80	10	17	23	123

App. 8 Record of the Drilling Operation I－3

【MJI-20】

Date	Progress of drilling			Total		Shift		Man power	
	Shift			Drilled length	Core length				
	-1	-2	-3			Drl.	Total	Eng.	Worker
05.09.87	PRP								
06.	PRP	PRP							
07.	PRP	PRP							
08.	ICP 25.40			25.40	1.20				
09.	12.40	IC 4.10	15.00	31.50	28.70				
10.	13.10	12.40	EHB 3.10	28.60	28.60				
11.	15.80	16.20	13.80	45.80	45.80				
12.	12.60	7.10 BQR		19.70	19.70				
13.	DCP								
14.	DMT								
15.	OTH								
16.	OTH								
Total	79.30	39.80	31.90	151.00	124.00	12	21	36	162
【MJI-13】									
19.07.87	PRP								
20.	PRP								
21.	PRP								
22.	PRP								
23.	PRP								
24.	PRP								
25.	PRP								
26.	PRP								
27.	ICP 24.00			24.00	0.00				
28.	RMG 7.00	NQR 6.00	12.20	25.20	14.70				
29.	9.60	11.40	8.70	29.70	27.30				
30.	12.30	9.60	9.70	31.60	31.10				
31.	11.00	9.70	8.80	29.50	29.50				
01.08	10.10	NQR ICP	ICP BQR	10.10	10.10				
02.	12.10	11.10	12.30	35.50	35.50				
03.	12.00	EHB 3.10	11.60	26.70	26.70				
04.	10.40	12.30	9.80	32.50	32.50				
05.	EHB	11.80	10.50	22.30	22.30				
06.	9.70	10.40	9.60	29.70	29.70				
07.	EHB	12.10	11.40	23.50	23.50				
08.	11.90	9.80	9.00	30.70	30.70				
09.	DCP								
10.	DCP								
11.	DMT								
12.	DMT								
Total	130.10	107.30	113.60	351.00	313.60	37	49	146	292

App. 8 Record of the Drilling Operation I－4

【MJI-12】

Date	Progress of drilling			Total		Shift		Man power	
	Shift			Drilled length	Core length	Drl.	Total	Eng.	Worker
	-1	-2	-3						
13.08.87	PRP								
14.	PRP								
15.	PRP								
16.	PRP								
17.	PRP								
18.	PRP								
19.	ICP 16.30			16.30	0.40				
20.	RMG 1.70	NQR 9.00	12.30	23.00	22.90				
21.	EHB 9.60	11.00	10.70	31.30	31.30				
22.	EHB 8.40	12.00	11.10	31.50	31.50				
23.	EHB 6.00	12.30	11.40	29.50	27.85				
24.	9.30	12.00	NQR ICP	21.30	21.30				
25.	ICP BQR	15.00	13.20	28.20	28.20				
26.	11.90	10.70	EHB	22.60	22.60				
27.	12.60	10.80	11.00	34.40	34.40				
28.	10.80	EHB	11.70	32.50	22.50				
29.	12.10	11.50	10.70	34.30	34.30				
30.	EHB	12.30	11.00	23.30	23.30				
31.	11.90	11.40	9.30	32.60	32.60				
01.09.	BQR	DCP							
02.	DCP	DMT							
03.	DMT								
Total	110.60	128.00	112.40	351.00	333.15	37	48	132	279

App. 8 Record of the Drilling Operation I－5

【MJI-11】

Date	Progress of drilling Shift -1	-2	-3	Total Drilled length	Core length	Shift Drl.	Total	Man power Eng.	Worker
04.09.87	PRP								
05.	PRP								
06.	PRP								
07.	PRP								
08.	PRP								
09.	10.10 ICP	8.10 RMG	5.00	15.00	38.20	13.60			
10.	8.70 RMG	14.10 NQR ICP BQR			22.80	14.70			
11.	16.20	14.70	15.00		45.90	30.75			
12.	EHB	15.20	13.90		29.10	29.10			
13.	13.90	12.60	EHB		26.50	26.50			
14.	15.70	15.10	13.40		44.20	44.20			
15.	11.20	EHB	14.10		25.30	25.30			
16.	13.50	13.10	9.80		36.40	36.40			
17.	EHB	12.40	12.00		24.40	24.40			
18.	11.80	10.70	EHB		22.50	22.50			
19.	12.40	12.60	10.70		35.70	35.70			
20.	BQR DCP	DMT							
21.	DMT	TRP							
Toatl	121.60	125.50	103.90	351.00	303.15	33	42	90	217
【MJI-14】									
22.09.87	TRP	PRP							
23.	PRP	PRP							
24.	ICP 17.30	38.50	6.20	62.00	16.80				
25.	RMG	RMG	ICP	0.00	0.00				
26.	NQR 9.20	8.70	14.90	32.80	18.60				
27.	12.00	6.40 NQR	ICP	18.40	15.80				
28.	BQR 9.00	11.40	10.60	31.00	30.00				
29.	9.10	EHB	11.80	20.90	19.90				
30.	12.00	10.90	10.10	33.00	33.00				
01.10.87	EHB	12.30	11.60	23.90	23.90				
02.	12.40	9.60	EHB	22.00	22.00				
03.	13.10	11.80	11.10	36.00	36.00				
04.	9.80	9.60	EHB	19.40	19.40				
05.	10.70	11.20	9.70	31.60	31.40				
06.	9.60	10.40	BQR	20.00	20.00				
07.	DCP	DMT							
08.	DMT	TRP							
Total	124.20	140.80	86.00	351.00	286.80	39	47	68	400

App. 8 Record of the Drilling Operation I－6

【MJI-23】

Date	Progress of drilling			Total		Shift		Man power	
	Shift			Drilled length	Core length	Drl.	Total	Eng.	Worker
	-1	-2	-3						
09.10.87	PRP	PRP							
10.	PRP	PRP							
11.	ICP 15.40			15.40	0.00				
12.	NQR 10.90	12.10	3.70 RMG	26.70	14.35				
13.	NQR 9.70	11.10	12.10	32.90	24.20				
14.	ICP BQR	10.80	RMG	10.80	6.55				
15.	12.30	11.70	12.10	36.10	35.70				
16.	11.20	EHB	12.40	23.60	23.60				
17.	12.00	12.20	11.80	36.00	36.00				
18.	EHB	10.80	11.00	21.80	21.80				
19.	10.50	9.80	EHB	20.30	20.30				
20.	12.10	11.90	10.90	34.90	34.90				
21.	10.30	7.50 BQR		17.80	17.80				
22.	DCP								
23.	DMT								
24.	DMT								
Total	104.40	97.90	74.00	276.30	235.20	30	37	48	251
【MJI-21】									
25.10.87	PRP								
26.	PRP								
27.	16.00	20.10 ICP	NQR 12.40	48.50	9.70				
28.	16.50	15.20	14.80	46.50	41.65				
29.	EHB	14.60	7.50 NQR	25.10	25.10				
30.	ICP BQR 3.00	13.40	14.60	28.00	28.00				
31.	15.20	10.60	EHB	25.80	25.80				
01.11.	14.20	15.00	14.70	43.90	43.90				
02.	11.10	EHB	13.60	24.70	24.70				
03.	13.10	12.50	12.90	38.50	38.50				
04.	DCP	DCP							
05.	DMT	DMT							
Total	89.10	101.40	90.50	281.00	237.35	24	30	30	268

App. 8 Record of the Drilling Operation I－7

【MJI-22】

Date	Progress of drilling			Total		Shift		Man power	
	Shift			Drilled length	Core length	Drl.	Total	Eng.	Worker
	-1	-2	-3						
06.11.87	PRP	PRP							
07.	PRP								
08.	PRP								
09.	22.00	21.00	ICP NQR	43.00	0.00				
10.	15.70	14.20	8.10 $_{NQR}$	38.00	23.55				
11.	ICP BQR	15.40	16.00	31.40	31.40				
12.	12.60	EHB	13.80	26.40	26.40				
13.	14.10	12.20	12.20	38.50	38.50				
14.	11.70	EHB	12.60	24.30	24.30				
15.	12.80	11.70	11.60	36.10	36.10				
16.	EHB	12.40	12.80	25.20	25.20				
17.	12.20	11.60	10.10	33.90	33.90				
18.	3.20 $_{BQR}$	DCP	DCP	3.20	3.20				
19.	DMT								
20.	DMT								
Total	104.30	98.50	97.20	300.00	242.55	28	36	45	208

App. 9 Summary of the Drilling Operation Ⅱ－1

【MJI-11】

	Survey Period	Day	Period: Work shift	Period: Off shift	Total Man-day: Engineer	Total Man-day: Worker
Operation			shift	shift	man	man
Preparation	04.09.87-08.09.87	5	5	-	30	45
Drilling	09.09.87-19.09.87	11	Drilling 33	-	52	132
			Recovering -	-	-	-
Removing	20.09.87-21.09.87	2	4	-	8	40
Total	04.09.87-21.09.87	18	42	-	90	217

Drilling Length			
Length planned	350.00m	Overburden	13.50m
Increase or decrease in length	1.00m	Core length	303.15m
Length drilled	351.00m	Core recovery	89.8 %

Core recovery of 100 m hole

Depth of hole (m)	Core recovery (%)	Core recovery cumulated (%)
0-100	60.3	60.3
100-200	100.0	81.6
200-300	100.0	88.0
300-351	100.0	89.8

Working hour	h	%	%
Drilling	185.00	70.1	55.1
Other working	79.00	29.9	23.5
Recovering	-	-	-
Sub total	264.00	100.0	78.6
Reassemblage	37.00		11.0
Dismantlement	27.00		8.0
Water transportation	-		-
Road construction and others	8.00		2.4
Total	336.00		100.0

Efficiency of Drilling

m/survey period (m/day)	351.00m/18days (19.50m/day)
m/shift (m/shift)	351.00/42shift (8.36m/shift)

Drilling length/bit

Bit size	HX	NQ	BQ
Drilled length	(m) 10.10	(m) 50.90	(m) 290.00
Core length	0.00	28.30	274.85

Casing pipe inserted

Size	Meterage (m)	Meterage drilling x 100 length (%)	Recovery (%)
HX	3.00	0.9	100.0
NW	30.50	8.7	100.0
BW	61.00	17.4	100.0