Depth (m)	0～3.10	3.10～7.40	7.40～180	180～351.00
Mud Water	Bentonite mud water Libonite mud water		Libonite mud water Cutting oil	
Bit Exchange (pcs)	HXSW(1)	NQWL bit(1)	NQWL bit(4)	BQWL bit(4)
Pump Pre. (kg/cm^2)	2～0	1～2	2～3	4～10
Pump Feed (ℓ/min)	70～80	70～80	60～70	50～60
Pump deri (ℓ/min)	0	0	0	0
Bit Pre. (kg/cm^2)	500～800	700～1,000	800～1,000	700～800
Bit Rot. (rpm)	100～150	100～200	200～250	200～250
Core Recovery (%)	33.3	41.9	92.2	97.7

4-4 Geology and Mineralization of Drill Holes

(1) MJT-9

【Geology】

0.00～ 3.00m:	Surface soil and weathered andesite
3.00～131.80m:	Mainly silicified basaltic andesite. Colour changes gradually from dark green to pale green at depth. There are well-developed fissures in the andesite. Basaltic andesite has undergone propylitization and partial silicification. Altered minerals mainly consist of chlorite and epidote. Pyrites are embedded along fissures, magnetites occur as disseminations.
131.80～180.00m:	Dark green basaltic andesite. The rock has predominantly undergone chloritization. Mineralization of pyrite and magnetite become stronger than the above mentioned range.
180.00～182.20m:	Dark green chloritized and silicified basalt. The rock is hard and massive because of contact with granodiorite. Very minor amounts of disseminated pyrite are observed.
182.20～230.00m:	White and pale gray sericitized granodiorite. There are predominant amounts of magnetite, hematite and pyrite. Tourmalines are observed in the brecciated granodiorite at 211.20m and 225.0m. Chalcopyrites also occur at 222.5m.
230.00～301.00m:	White and pale gray sericitized granodiorite. Sericitization gradually becomes weaker at depth. Although there is a little magnetite contained in the range from 202m to 250m, magnetites increase again from 250m to 287m.

【Alteration】

Under general observation, the shallow sections of basaltic andesite near the surface have undergone chloritization, and chlorite increases towards the deep section. Epidote is also recognizable with the appearance of chlorite. Below 182.2m, alteration changes to a white argillaceous zone. Thus the alteration is classified into two zones as follows:

3.00～182.20m: Propylitic zone consisting mainly of chlorite with accessory epidote and calcite.

182.20～301.00m: White argillaceous zone consisting of sericite with quartz and calcite.

【Mineralization】

Mineralization accompanying pyrite and magnetite is observed throughout, from surface to hole bottom, but generally is weak mineralization. Below 182.5m, magnetite and hematite are embedded along fissures and disseminated in the rock.

(2) MJT-10

【Geology】

0.00～ 0.70m: Surface soil, weathered andesite and granodiorite.

0.70～ 11.00m: Pale gray granodiorite. The rock has undergone slight epidotization. Predominant amounts of pyrite occur in fissures and as disseminations. Some magnetites are disseminated in the rock. The shallow sections near the surface has undergone limonitization along cracks.

11.00～ 19.50m: White and brown altered andesite. There are well-developed fissures; limonite and pyrite occur in the fissures. Epidotes are predominant. Part of the contact with the granodiorite is brecciated.

19.50～ 49.10m: Gray and pale green granodiorite. The rock has undergone sericitization and chloritization accompanyed by small amounts of epidote. Limonites occur in cracks, pyrites are embedded as disseminations. Especially predominant amounts of pyrite are observed in the part of brecciated granodiorite. The limonitic clay is observed in the range from 47m to 49.1m. A fault is considered to exist between the limonitic clay and the limestone which is below 49.1m.

49.10～351.00m: White and gray limestone. The limestone is massive in the range from 49.1m to 200m, and gradually becomes saccharoidal below 200m. There are skarn, siliceous/argillaceous sections in the limestone. These rock facies are shown as follows:

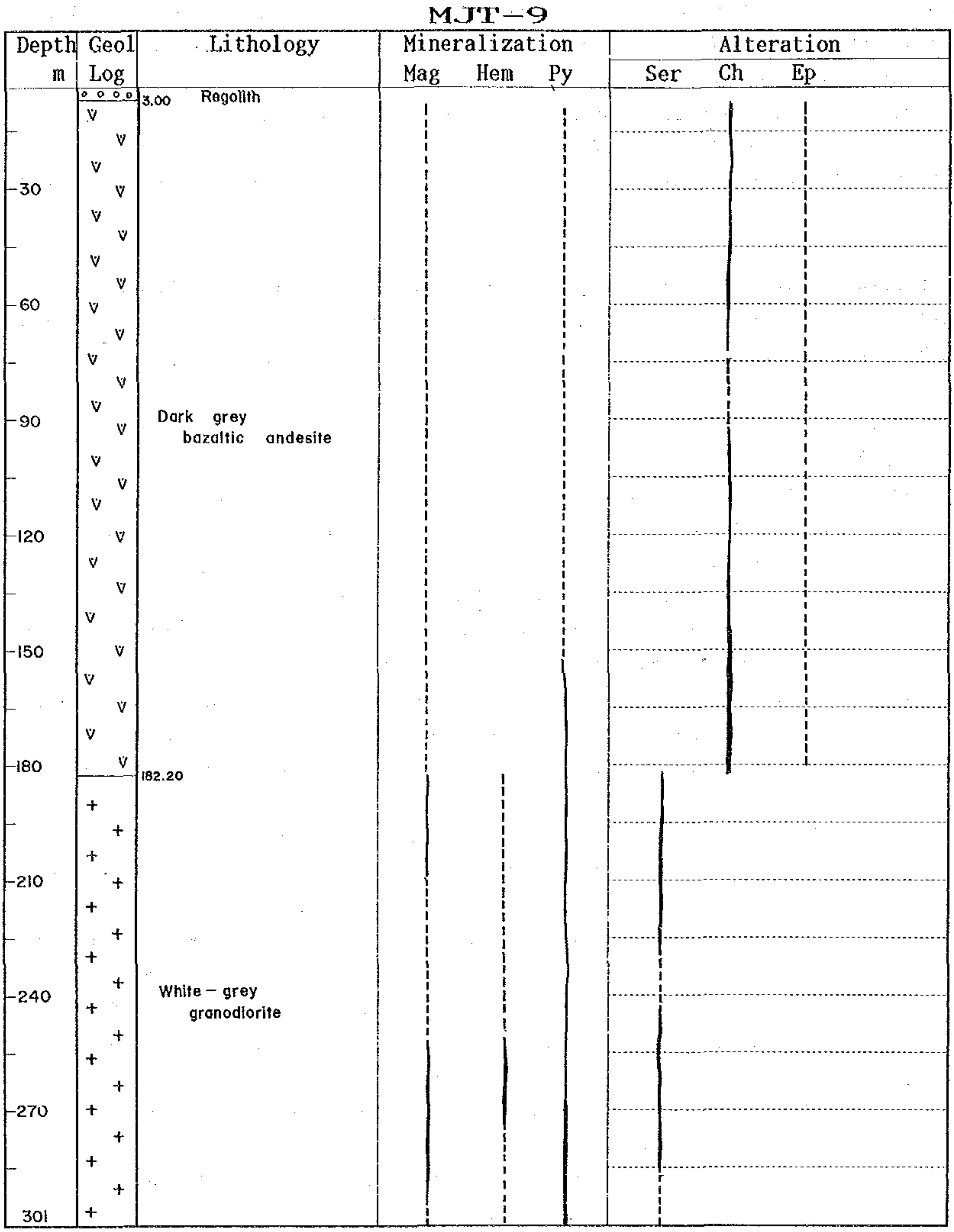


Fig. 68 Geological Log of MJT-9

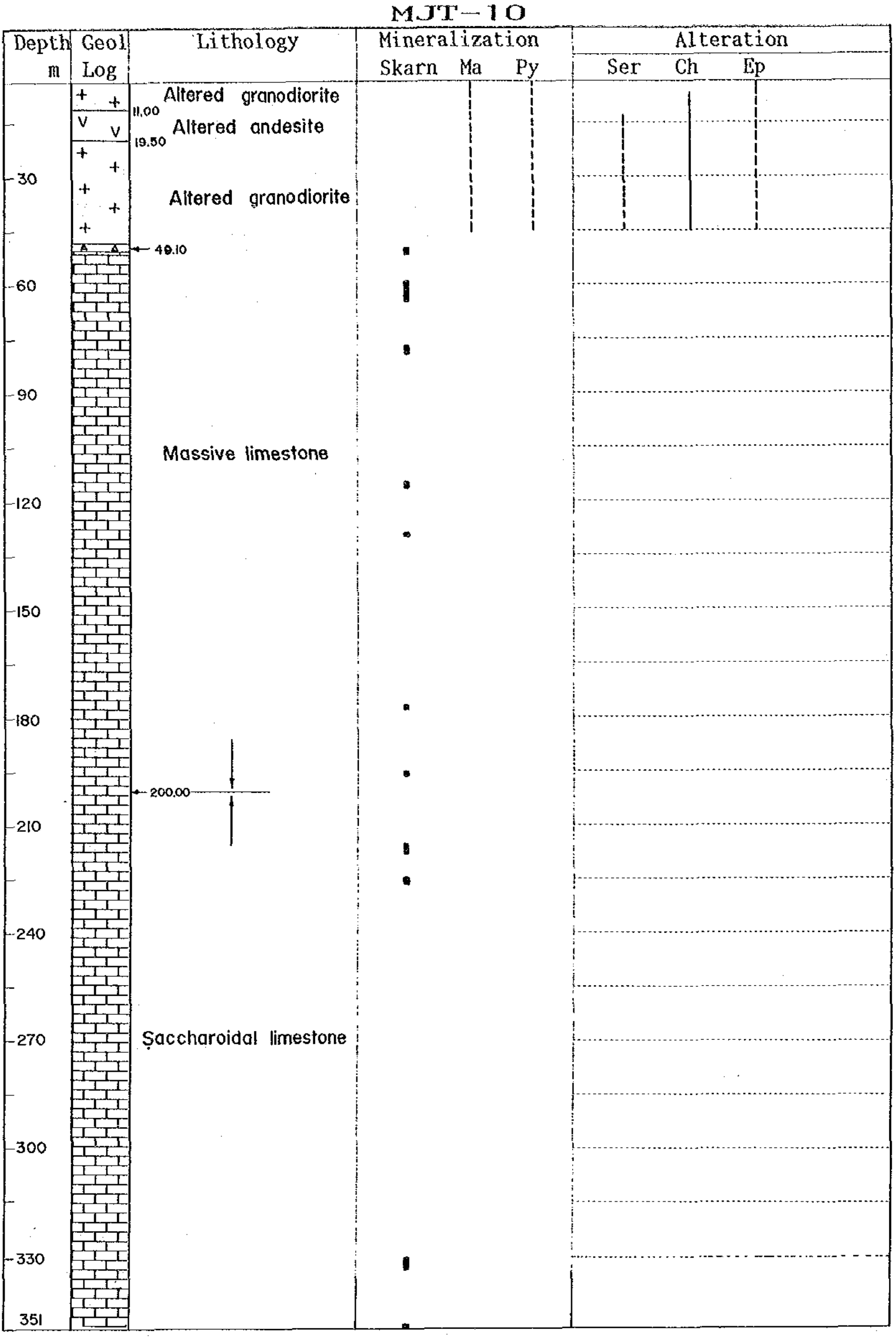


Fig. 69 Geological Log of MJT-10

Skarn	Siliceous	Muddy / Argillaceous
* 49.10~ 53.30m		53.50~ 57.00m
59.50~ 62.50m	* 62.50~ 64.70m	57.00~ 59.50m(Limonitic clay)
64.70~ 67.00m	* 79.70~ 81.70m※	67.00~ 67.50m(White clay)
*113.20~117.25m※	117.25~118.80m※	* 97.20~ 99.40m
	*130.25~131.00m	128.40~130.25m
		148.80~150.00m
		150.70~152.60m
		162.40~163.50m
	178.70~179.10m	169.00~170.10m
	194.40~195.20m	187.00~191.30m
	*215.30~216.20m	
	*217.05~219.50m	
	225.00~226.50m	*317.40~320.50m
	*332.80~335.10m	*340.70~346.00m
	*350.50~351.00m	

* :Chemical assay ※:Accompanying malachite

【Alteration】

Rocks of the drill hole consist of andesite, granodiorite and limestone. The andesite and granodiorite have mostly undergone sericitization, chloritization and weak epidotization. The limestone has undergone sericitization and montmorillonitization.

【Mineralization】

Mineralization with pyrite and magnetite is emplaced in the andesite and granodiorite. Malachite is observed in the skarn and the siliceous part of the limestone.

(4) Assay Result of Core

Drilling survey of the third phase was conducted in two holes, totalling 652.00m in length. Results of chemical analysis of 64 core samples collected in MJT-9 and MJT-10 are shown in Table 35.

4-5 Relationship between Drilling Results and Geological Data

(1) Altered Granodiorite

The granodiorite is classified into two types by differences in the form of intrusion and mode of alteration. One was intersected by drill hole MJT-9 and distributed in large scale under the surface. Another was intersected by drill hole MJT-10 and distributed in small scale on the surface. The two types of granodiorite are summarized in the following table;

Table 35 Chemical Assay Result of Drilling Core in Karadağ Area

(Unit:ppm)

	Sample	Cu	Zn	Sample	Cu	Zn
MJT-10	0007	680	154	0016	20	12
	0017	30	21	0023	78	22
	0030	17	12	0032	132	29
	0034	151	112	0039	37	60
	0040	155	32	0045	510	17
	0063	1.07%	72	0064	4920	73
	0081	4660	181	0096	580	13
	0099	84	122	0106	34	16
	0117	1.35%	0.92%	0131	1.30%	6320
	0216	245	680			

(Unit:ppm)

	Sample	Cu	Zn	W	Sample	Cu	Zn	W
MJT-10	0219	52	100	1	0289	485	104	1
	0292	20	14	1	0302	20	8	1
	0318	36	54	1	0335	47	8	1
	0340	39	5	1	0346	23	30	1
	0348	9	15	1				
MJT-9	9037	16	13	1	9183	41	11	7
	9185	26	36	11	9196	12	15	3
	9202	10	33	1	9223	22	6	2
	9230	20	7	1	9300	17	17	2

(Unit:ppm)

	Sample	Cu	Zn	Mo	Sample	Cu	Zn	Mo
MJT-9	9187	9	8	1	9191	73	21	1
	9193	8	35	1	9198	21	14	1
	9207	14	6	1	9212	26	31	1
	9216	24	19	1	9234	14	11	1
	9239	14	28	1	9243	9	9	1
	9246	32	26	1	9250	21	14	1
	9254	138	32	6	9257	20	16	1
	9261	25	16	1	9265	57	18	1
	9274	41	43	1	9280	34	39	1
	9288	28	48	1	9295	14	33	2

(Unit:ppm)

	Sample	Au*	Ag	Cu	Mo	Sn	Zn	W
MJT-10	0052	<5	2.6	2000	1	1	33	1
	0351	<10	0.6	40	8	1	184	5
MJT- 9	9184	<10	0.1	17	1	1	24	16
	9214	<10	0.3	12	1	1	105	3

(*:ppb)

		Alteration	Mineralization	Accessory Mineral
MJT- 9	Vs	Pl → Ser,Kao Maf→ Chl	Pyrite Magnetite Hematite	Tourmalline Zircon
MJT-10	M	Pl → Ser Maf→ Chlorite → Epidote	Pyrite	

Vs:Very strong-altered M:Moderately-altered

Pl:Plagioclase Ser:Sericite Kao:Kaoline Maf:Mafic mineral Chl:Chlorite

(2) Andesite and Limestone (Zigana Formation)

The Al Member of the Zigana Formation consists of basaltic andesite, limestone and andesite in ascending order, and is widely distributed in the Karadag Area. Basaltic andesite has undergone propylitic alteration in MJT-9. The andesite has undergone sericite-epidote-chlorite alteration at the contact with granodiorite in MJT-10. These rocks are accompanied with magnetite and pyrite. The lithology of the drilled core is the same in comparison as that of the surface.

Limestone consists of massive and argillaceous facies along Maden Dere, the lower part of which has undergone skarnitigation and is accompanied by copper mineralization. The lithology of MJT-10 is massive in the range of 49.10m to 200m, and gradually becomes saccharoidal below 200m. There are skarn, siliceous, and argillaceous facies in the limestone.

(3) Altered and Skarn Minerals

Altered minerals in the granodiorite (MJT-9), and altered and skarn minerals in the limestone (MJT-10) are summarized in the following table based on X-ray diffractive analyses.

Location	Country rock	M	Mix	Chl	Ser	Ka	Qz	Kf	Do	An	Ep	Ves	Py
MJT-9 183.0m	Granodiorite				○	□	◎						△
MJT-10 49.5m	Limestone			□	△	◎	□?			○	□?		
MJT-10 60.5m	Limestone	○	△				□?	□	○		?	□	
MJT-10 115.8m	Limestone		? ○				□?		○		□?	□	

M:montomorillonite, Mix:mixed-layer mineral, Chl:chlorite, Ser:sericite, Ka:kaolinite, Qz:quartz, Kf:potash feldspar, Do:dolomite, An:andradite

Ep:epidote, Ves:vesuvianite, Py:pyrite, ◎:abundant, ○:common, □:few, △:rare

(4) Geological structure

Rocks and formations have been displaced by fault movements along tectonic lines of NE-SW direction. Granodiorite intrudes along the tectonic line and extends widely in a north-south direction below the surface according to a geophysical anomaly and to the determined lithology of MJT-9. Although limestone was infered to be dipping 30° ～40° west and 100～150m in width according to the geological survey, limestone in MJT-10 was dipping more than 50° west and was 200m in width.

(5) Mineralization

The old Karadağ ore deposit located up the Maden Dere is embedded in the skarn zone of the limestone, and is accompanied by copper, lead and zinc ores. However, the geophysical survey could not directly clarify the emplacement of old Karadag ore deposits, because they may be embedded in the shallow part, oxidized completely, or small in scale. In the third phase, although two drill holes were conducted in the anomalous area expected to be dissemination-type mineralization and skarn type mineralization, we, unfortunately, could not find either mineralization zones

(6) Alteration Zoning

Zoning of alteration in this surveyed area is characterized by X-ray diffraction analysis and core sketch as follows;

	Depth(m)	Lithology	Alteration
MJT- 9	3.0～182.2	Basaltic andesite	Chlorite-Epidote
	182.2～301.0	Granodiorite	Sericite-Kaolinite
MJT-10	0.7～ 49.1	Andesite, and Granodiorite	Sericite-chlorite Epidote
	49.1～351.0	Limestone	Montomorillonite Mixed-layer mineral (Chlorite-Sericite)

4-6 Relationship between Geophysical Anomaly and Mineralization

The IP method of the geophysical survey was conducted on seven survey lines 2 km in length with each line 300 m apart in an east-west direction. As a result, three high PFE anomalous zones were found at the east, south-west and south-east parts of the Karadağ area. The SIP survey was subsequetly conducted to survey these anomalous areas in detail on two survey lines H (NE～SW) and I (N～S). The survey results reveal the following:

① The three anomalies in the center, south-west and south-east parts of the Karadag area are expected to be disseminated type ore deposits.

② The anomaly in the center part of the survey area is expected to be a skarn type mineralized zone embedded in the limestone stratum.

In the third phase, two drill holes were conducted in the anomalous areas expected to be dissemination and skarn type mineralizations. The relation between geophysical anomaly and mineralization is summarized as follows;

MJT- 9 ; The hole was drilled to 301m through altered basaltic andesite of the Zigana Formation and granodiorite. Basaltic andesite (3～182.2m) has undergone propylitc alteration with pyrite, granodiorite has undergone sericitized alteration with magnetite-hematite-pyrite. It is considered that the geophysical anomalies indicated pyritization in andesite and granodiorite.

MJT-10 ; The hole was drilled to 351m through altrered granodiorite and limestone. Granodiorite (0.7～46m) has undergone sericitized and chloritized alteration with pyrite. The limestone (46～351m) gradually changed from a massive to a saccharoidal facies. A partial skarn zone with malachite and pyrite occurred. It also is considered that the anomaly indicated weak mineralization of the skarn zone (Table 36).

Chapter 5 Conclusions and Recommendations

5-1 Conclusions

A skarn stratum was formed in the boundary between the massive limestone stratum and the underlying granodiorite. Granodiorite and quartz porphyry stocks have intruded along the NE～SW striking fault in and adjacent to the area of the skarn stratum. Disseminated mineral showings containing copper or copper-zinc of the Karadağ Area are embedded in the skarn and the stocks. Garnet and epidote are the main skarn minerals in the mineral showing, but the amounts of specularite and magnetite are very small compared to similar ore deposits including the Belen Tepe ore deposit at a nearby locality. In the

Table 36 Results of Core Sample Measurement (Karadağ Area)

No.	Location (m)	Rock	Phase (-mrad)	PFE (%)	Resistivity (ohm-m)	Phase spectrum	Cu ppm	Zn ppm	W ppm	Mo ppm	Minera-lization	Alteration
	MJT-9											
1	36.6	Andesite	83.2	18.1	454	X	40	184	5	8	Py	ch-ep
2	172.5	Andesite	7.8	1.4	18,700	A	-	-	-	-	Mag-py	ch-ep
3	273.5	Granodiorite	40.5	5.5	5,260	B, (A)	41	43	-	1	Mag-hema	sericite
	MJT-10											
4	39.2	Granodiorite	99.0	16.6	224	D	155	32	-	-	Py	ch-ep
5	51.0	Skarn	8.2	0.7	499	E	2,000	33	-	1	Malachite	skarn
6	96.0	Limestone	0.5	0.1	8,530	A	580	13	-	-	Massive	
7	235.0	Limestone	7.7	0.9	4,560	E	-	-	-	-	Sac	
8	319.0	Limestone	11.5	1.4	8,790	B	36	54	1	-	Sac	
9	335.0	Limestone	41.1	8.2	1,140	D	47	8	1	-	Sac	
10	344.5	Limestone	43.5	6.2	21,000	B, (C)	-	-	-	-	Muddy	

Abbreviation

ch : chlorite
ep : epidote
Py : pyrite
hema: hematite
mag : magnetite
Sac : saccharoidal

old Karadağ mine site, chalcopyrite and sphalerite are observed in outcrops and boulders, but most ores are oxidized and only secondary oxide copper minerals are megascopically visible. Cerusite was detected by X-ray diffraction analysis. A chemical assay of chip samples revealed that the many ore samples contained considerable zinc and copper in the order of 10%. Such an oxidized copper zone can be traced over one km along the N-S striking limestone. This limstone stratum is displaced by a fault in the central part of the survey area.

In the second phase, semi-detailed geological surveys and geophysical survey (IP and SIP methods) were performed on the promising ore deposit area extending into limestone, andesite and intrusive stock. As a result, three promising anomalous zones were selected. These anomalous zones were detected as PFE anomalies first by conventional IP survey. A detailed SIP survey was performed on these PFE anomalies.

Hole MJT- 9 was drilled in the area of the highest PFE anomaly. It was drilled to 301m through altered basaltic andesite of the Zigana Formation and granodiorite. Basaltic andesite (3～182.2m) altered propylitc zone with pyrite, granodiorite altered sericitized zone with magnetite-hematite-pyrite. It is considered that the geophysical anomalies indicated pyritization in the andesite and granodiorite.

Hole MJT-10 was drilled in the area of a typical IP anomaly pattern. It was drilled to 351m through altered granodiorite and limestone. Granodiorite (0.7～46m) has undergone sericitized and chloritized alteration with pyrite. Limestone (46～351m) gradually changed from a massive to a saccharoidal facies. A partial skarn zone with malachite and pyrite occurred. It also is considered that the IP anomaly pattern indicates weak mineralization of the skarn zone.

5-2 Recommendations for Future Exploration

Further exploration is requested in the Karadağ Area. It is considered that the geophysical anomalies indicated pyritization in andesite and granodiorite, so an area apart from the geophysical anomalies should be explored by drilling survey. Drilling sites should be changed according to the results of preceding drill holes.

References

【Geology References】

Akıncı, O. T. (1985) : The Eastern Pontide volcano-sedimentary belt and associated massive sulfide deposits. Special publication of the Geological Society No. 17, Dixon. E. and Robertson, A. H. F. (Eds.) Blackwell Scientific Publication. Oxford.

Bateman, P. C. et al (1963) : *Professional Paper 414-D, U. S. Geological Survey*

Blackie (1985) : A Practical Guide to Fluid Inclusion, Chapman and Hall, New York

Bloom, H (1966) : Geochemical Exploration as Applied to Copper-Molybdenum Deposits

Charles, S. N (1976) : Porphyry Deposits of the Canadian Cordillera. CIM, Special Volume 15

Chappell, B. W. and White, A. T. R. (1974) : Two contrasting granite types. Pacific Geol. 8, 173-174

Coolbaugh,D. F. (1979) : Geophysics and geochemistry in the disicovery and development of the La Caridad porphyry copper deposit, Sonora, Mexico. Geophysics and Geochemistry in the Search for Metallic Ore. Edited by D. J. Hood

D'Andria, I. (1940) : Gumushane kursun Yatagi hakkinda muhtira. Derl. No. 999

Delaloye, M., *Cogulu, E. and Chessex, R. (1972) : C. R. des Seances, SPHN Geneve* 7,43-52

Dixon, C. J. and Pereira, J. (1974) : Plate tectonics and mineralization in the Tethyan region. Mineral. Deposita, 9, 185-198.

Gattinger, T. E., Erentoz,C. and Ketin, I. (1962) : Explanatory text of the geological map of Turkey, Trabzon, 1:500,000, MTA

Ishihara, S. (1977) : The magnetite-series and ilmenite-series granitic rocks. Mining Geology, 27, 293-305.

Ishihara, S. and Takenouchi, S.eds. (1980) : Granitic Magmatism and Related Mineralization. Mining Geology Special Issue, No. 8, Soc. Min. Geol. of Japan, p. 247

JCPDS(1980) : Mineral powder diffraction file, Data Book, International Center for Diffraction Data.

Kamitani, M. and Akıncı,O. T. (1979) : Alpine granitoids and related tungsten-molybdenum deposits in Turkey. Mining Geology, 29, 341-350.

Kovenko,V. (1937) : Gumushane madeni hakkinda rapor. Derl. No. 399.

Lemmlen, G. G. and Klevtsov, P. V. (1961) : Relations among the principal thermodynamic parameters in a part of the system H_2O-NaCl. Geochemistry, No 2, 148～158

Lepeltier, C. (1969) : Simplified statistical treatment of geochemical data by graphical representation. Econ. Geol. 64, 538-550.

Mason, B. (1966) : Principle of Geochemistry(Third Edition), Johm Wiley & Sons, Inc. New York.

Nagano, K. et al (1977) : Fluid Inclusion Study og the Mamut Porphyry Copper Deposit, Sabah, Malaysia. Mining Geoligy, 27, 201～212

Nash,J. T. (1967) : Fluid-Inclusion Petrology Data from Porphyry Copper Deposits and Applications to Exploration. Geological Survey Professional Paper 907-D

Sannon, JR. S. S. (1971) : Evaluation of Copper and Molybdenum Geochemical Anomalies at the Cumo Prospect, Boise County Idaho. CIM, Special Volume 11

Sillitoe, R. H., Jaramillo, L. and Castro, H. (1984) : Geologic exploration of a molybdenum-rich porphyry copper deposit at Mocoa, Colombia. Econ. Geol. 79, 106-123.

Taylor, R. P. and Fryer, B. J. : Multiple-Stage Hydrothermal Alteration in Porphyry Copper system in Northern Turkey. Can. J. Earth Sci.Volume 17, 1980

Takenouchi,S. (1962) : Polyphase Inclusions in the Quartz from the Taishu Mine. Mining Geology, Vol. 12, No. 55

(1978) : Fluid Inclusions and Ore-forming Fluids of Porphyry. Mining Geology Vol. 28, No. 148

Titley, S. R. and Hicks, C. L. eds. (1966) : Geology of the Porphyry Copper Deposits, South-western North America. Tucson, Univ. Arizona Press, p287.

Titley, S. R. and Beane, R. E. (1981) : Porphyry copper deposits. Economic Geology 75th anniversary Volume, 214-269.

Titley,S. R. eds. (1982) : Advances in Geology of the Porphyry Copper Deposits

South western North America. Tucson, Univ. Arizona Press.

Turkish-Japan Joint Project(1977) : Consolidated Report on Geological Survey of Trabzon area, Northeastern Turkey. Metal Mining Agency of Japan.

Watanabe, M., Shimada,N. and Yoshida, T. : Fluid inclusion study on the granitic rock and possibly related ore deposits in the Tsumo mining district, southwest Japan. Mining Geology Special Ed. No. 9, P.145~162

Waterman, G. C. and Hamilton, R. L. (1975) : The Sar Cheshmeh Porphyry Copper Deposit. Econ. Geol. 70, 568-576.

White,W. H. , et al(1981) : Character and Origin of Climax-type Molybednum Deposits. Econ. Geology 75th Anniversary Volume, 270-316.

Yilmaz, Y. (1974) : Geolgy of the Gümüşhane Granite(Petrography). Istanbul Univ. Fen Fac. Mec. Seri B 39, 157-172.

【SIP References】

Dey, A. and Morison,H. F. (1973) : Electromagnetic coupling in frequency and time-domain induced-polarization surveys over multilayered earth,Geophysics,Vol. 38,P. 380-405.

Hohmann, G. W. (1973) : Electromagnetic coupling between grounded wires at the surface of a two layered earth, Geophysics, Vol. 38, P. 854-863

Pelton, W. H., Ward,. S. H., Hallof, P. G., Sill,W. R., and Nelson,P. H. (1978) : Mineral discrimination and removal of inductive coupling with Multifre-quency IP, Geophysics, Vol. 43, P. 598-609

Hallof, P. G. and Pelton, W. H. (1980) : The removal of inductive coupling effects from spectral IP data,. S. E. G. 50th Annual International Meeting in Houston

Hallof P. G. and Klein, J. D. (1982) : Electrical parameters of volcanogenic mineraldeposits,. S. E. G. 52nd Annual International Meeting

Geological Logs of MJT-4～MJT-10

Abbreviations of Geological Log

Rock name

Pg1: Altered porphyritic granite
Pg2: Unaltered porphyritic granite
Grano: Granodiorite
brecc: brecciated

Mineralization

diss: dissemination

Minerals

Qz :Quartz
Ch :Chlorite
Ser:Sericite
Ep :Epidote
Mag:Magnetite

Cp :Chalcopyrite
Py :Pyrite
Mo :Molybdenite
Cc :Chalcocite
Cv :Covelline

Alteration

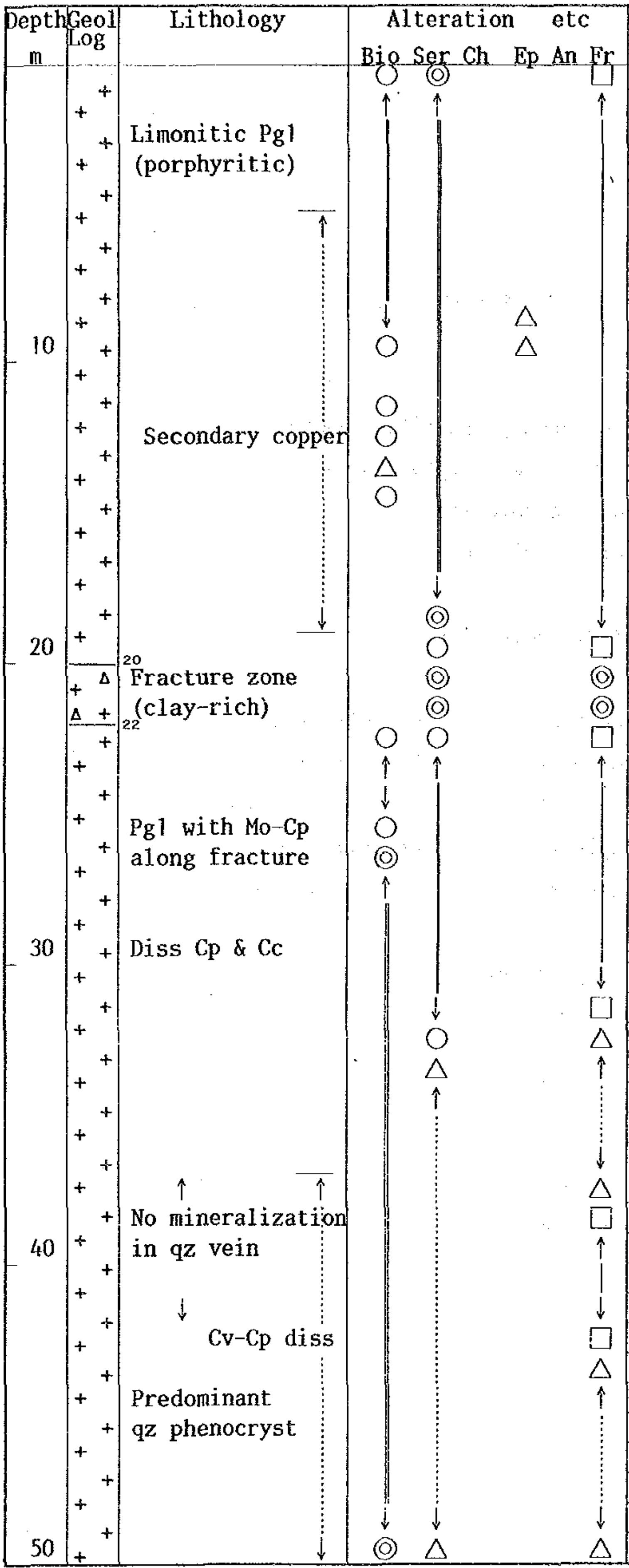
◎ :Very strong
○ :Strong
□ :Medium
△ :Weak

Others

L :light
Dev:developed

MJT−4 (1)

0m~ 50m



Quartz Vein		Sample	Assay Res.	
No	Wd mm	No	Cu %	Mo %
1	10			
		335	0.248	0.006
1	10			
		336	0.161	0.002
		337	0.185	0.002
2	4	338	0.154	0.002
1	12	339	0.191	0.001
		340	0.213	0.001
1	8	341	0.250	0.002
1	10	342	0.083	0.001
		343	0.088	0.002
		344	0.069	0.001
		345	0.080	0.001
		346	0.151	0.001
3	10	347	0.092	0.003
1	5	348	0.075	0.002
2	10			
2	8			
4	15	349	0.096	0.001
2	10			
		350*	0.198	0.001
		351	0.080	0.001
		352	0.123	0.001

*: Au;<5ppb, Ag;2.6ppm, W;28ppm, Sn;1ppm

MJT−4 (2)

50m～ 100m

Depth m	Geol Log	Lithology	Alteration etc Bio	Ser	Ch	Ep	An	Fr	Quartz Vein No	Wd mm	Sample No	Assay Res. Cu %	Mo %
	+ +		◎	△				△					
	+ +		↑	↑				↑	1	5			
	+ +	Biotite-rich									353	0.061	0.002
	+ +	zone											
	+ +												
	+ +								3	5	354	0.057	0.001
	+ +												
	+ +								1	15			
	+ +										355	0.049	0.001
60	+ +												
	+ +			↓									
	+ +			△							356	0.062	0.001
	+ +	Dark browenish		○									
	+ +	Pgl	↓	△									
	+ +	(porphyritic)	◎	↑							357	0.042	0.001
	+ +		○										
	+ +		○										
	+ +		○	↓							358	0.024	0.002
	+ +		○	△									
70	+ +		△	◎									
	+ +		△	○							359	0.050	0.013
	+ +		△	↑									
	+ +		○										
	+ +		↑		△				1	12	360	0.026	0.001
	+ +				↑								
	+ +			↓									
	+ +			○					1	6	361	0.036	0.004
	+ +			□									
	+ +			↑									
80	+ +										362	0.031	0.001
	+ +												
	+ +			↓					1	20			
	+ +			□	↓						363	0.022	0.001
	+ +			△	△								
	+ +			△									
	+ +		↓	○							364	0.019	0.001
	+ +		○	○									
	+ +		◎	△	○								
	+ +		◎	△	○						365	0.020	0.001
90	+ +		◎	△	○								
	+ +		○	□	△								
	+ +		□	↑	↑						366	0.014	-
	+ +		↑		↓								
	+ +				△								
	+ +										367	0.010	-
	+ +												
	+ +	No mineralization	↓	↓					1	10			
	+ +	in qz vein	□	□					1	10	368	0.031	0.001
	+ +	Cp along fracture	△	◎	△			↓	2	8			
100	+		△	◎	△			△					

MJT−4 (3)

100m～150m

Depth	Geol Log	Lithology	Alteration				etc		Quartz Vein		Sample	Assay Res.	
m			Bio	Ser	Ch	Ep	An	Fr	No	Wd mm	No	Cu %	Mo %
	+		△	◎	△			△			369	0.016	−
	+		○	◎	□			↑					
	+		◎	△	△			⋮					
	+		◎	↑	↑			⋮			370	0.013	−
	+		◎	⋮	⋮			⋮					
	+		○	⋮	⋮			⋮					
	+		↑	↓	↓			⋮			371	0.016	−
	+		│	△	△			⋮					
	+		↓	○	□			⋮					
110	+		○	○	↑			⋮			372	0.014	−
	+		△	◎	│			⋮					
	+		↑	○	│			⋮					
	+		↓	○	↓			⋮			373	0.010	−
	+		△	○	□			⋮					
	+		□	△	△			⋮					
	+		↑	↑	↑			⋮			374	0.014	−
	+		│	⋮	⋮			⋮	1	10			
	+	L.grey～brown	│	⋮	⋮			⋮					
	+	Pgl with py	↓	⋮	⋮			⋮			375	0.029	−
120	+		□	⋮	⋮			⋮					
	+		○	⋮	⋮			⋮					
	+	Cp along fracture	○	⋮	⋮			⋮			376	0.022	−
	+		□	⋮	⋮			⋮					
	+		↑	⋮	⋮			⋮					
	+		│	⋮	⋮			⋮			377	0.052	−
	+		│	⋮	⋮			⋮					
	+		│	⋮	⋮			⋮					
	+		│	⋮	⋮			⋮			378	0.067	0.001
	+		│	⋮	⋮			⋮					
130	+		│	⋮	⋮			⋮					
	+		│	⋮	⋮			⋮			379	0.035	−
	+		│	⋮	⋮			⋮					
	+		│	⋮	⋮			⋮					
	+		│	⋮	⋮			⋮			380	0.024	0.001
	+		│	⋮	⋮			⋮	1	4			
	+		│	⋮	⋮			⋮	1	8			
	+		│	⋮	⋮			⋮	1	4	381	0.029	−
	+		│	⋮	⋮			⋮					
	+	↑	│	⋮	⋮			⋮					
140	+	Qz network	│	⋮	⋮			⋮			382	0.049	−
	+	⋮	│	⋮	⋮			⋮					
	+	⋮	│	⋮	⋮			⋮					
	+	⋮	│	⋮	⋮			⋮	2	10	383	0.015	0.001
	+	⋮	↓	↓	↓			↓					
	+	↓	□	△	△			△	1	15			
	+		△	○				□			384	0.013	0.001
	+		↑	○				↑	2	15			
	+		↓	○	△			↓					
	+		△	□	△			□			385	0.048	−
150	+		□	△				△					

MJT−4 (4)

150m～ 200m

Depth m	Geol Log	Lithology	Alteration etc Bio	Ser	Ch	Ep	An	Fr	Quartz Vein No	Wd mm	Sample No	Assay Res. Cu %	Mo %
	+ +		□ ↑	△ ↑				△ ↑			386	0.162	0.001
	+ +	Diss Cp									387	0.094	0.003
	+ +										388	0.058	0.002
160	+ +				△ ↑						389	0.015	0.002
	+ +										390	0.018	0.003
	+ +	Pgl, alteration; bio-ser-ch							1	4	391	0.018	0.002
170	+ +	Mineralization; diss Cp+Mo, & Cp+Mo along fracture							2	4	392	0.025	0.003
	+ +								5 8 2	6 10 8	393	0.034	0.003
	+ +	Qz vein; no mineralization									394	0.023	0.001
180	+ +								1	6	395	0.037	0.001
	+ +								2 5	30 10	396	0.025	0.001
	+ +		↓	↓ △	↓ △ □						397	0.058	0.001
	+ +		□ △ ↑	□ ○ ↑	□ ○ △ ↑				4 3	8 10	398	0.043	0.003
190	+ +		↓ △								399	0.043	0.005
	+ +		□ △ ↑		↓ △				5 3	30 10	400	0.276	0.003
	+ +				□ □ ○				1	15	401	0.099	0.002
200	+ +		↓ △	↓ ○	○ ○			↓ △			402	0.052	0.002

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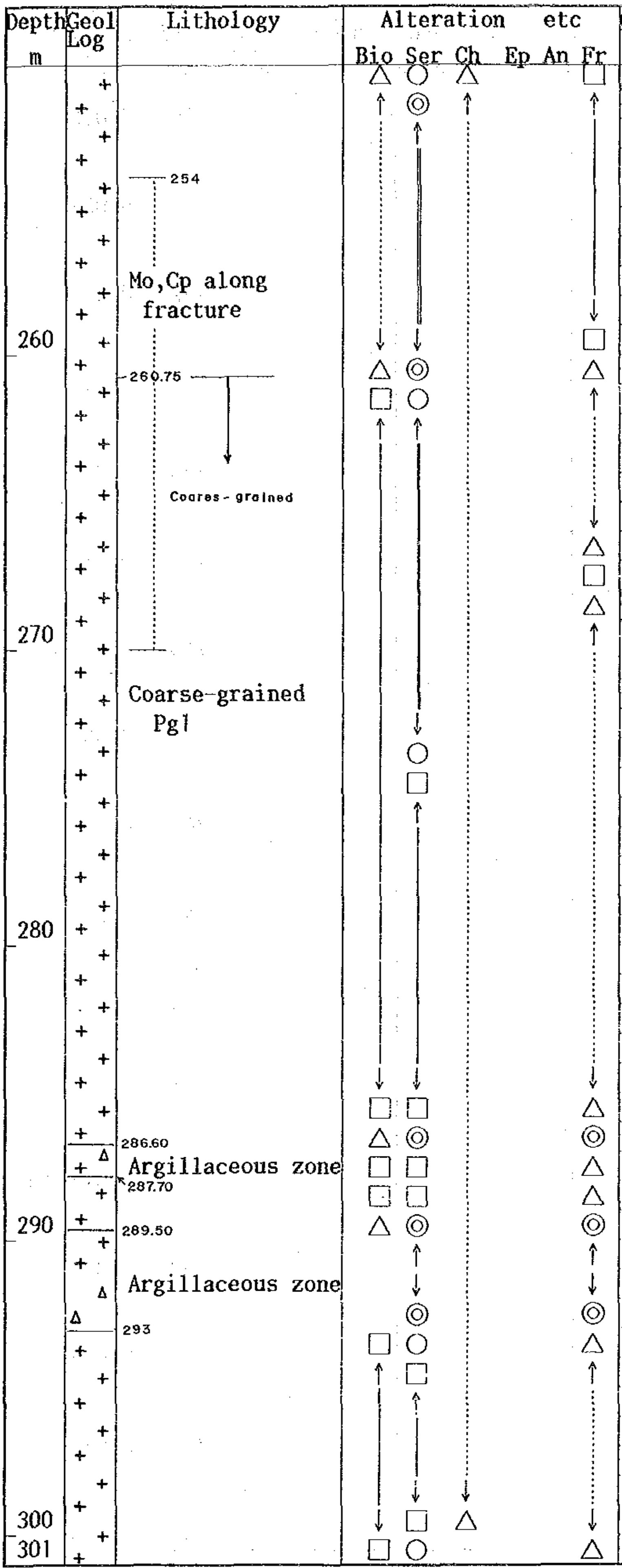
MJT－4 (5)

200m～ 250m

Depth m	Geol Log	Lithology	Alteration etc Bio	Ser	Ch	Ep	An	Fr	Quartz Vein No	Wd mm	Sample No	Assay Res. Cu %	Mo %
	+		△	○	□			△					
	+								1	10			
	+										403	0.041	0.005
	+										404	0.083	0.003
	+		△	○	□						405	0.125	0.003
210	+		□	△	△								
	+	Pgl									406	0.233	0.006
	+	Alteration;											
	+	bio-ser-ch		△									
	+			□							407	0.188	0.004
	+	Mineralization;		□									
	+	diss Cp+Mo, &		○									
	+	Cp+Mo along									408	0.285	0.004
	+	fracture											
220	+		□	○					2	12			
	+	Qz vein with Cp	△	◎					2	10	409	0.200	0.003
	+			◎					1	10			
	+			◎									
	+		△	□							410	0.055	0.021
	+		□	□									
	+			□									
	+			△							411	0.139	0.012
	+		□										
230	+		○		△						412	0.068	0.004
	+				□								
	+								2	10	413	0.043	0.002
	+										414	0.146	0.004
	+										415	0.114	0.006
240	+												
	+		○	△									
	+		△	○							416	0.081	0.009
	+										417	0.155	0.004
	+										418	0.074	0.006
250	+		△	○	□			△					

MJT−4(6)

250m～301m



Quartz Vein		Sample	Assay Res.	
No	Wd mm	No	Cu %	Mo %
		419	0.042	0.005
		420	0.074	0.003
1	4			
2	10			
		421*	0.084	0.008
		422	0.120	0.020
		423	0.049	0.010
1	4			
2	20	424	0.023	0.002
1	5			
2	10	425	0.027	0.001
1	4			
		426	0.046	0.002
		427	0.031	0.009
		428	0.058	0.006
1	5			
1	25	429	0.059	0.020
		430	0.076	0.001
		431	0.054	0.005
		432	0.069	0.003
		433	0.062	0.007
		434	0.050	0.003
1	10	435	0.035	0.002
4	20	436	0.043	0.010

*: Au;<10ppb, Ag;0.5ppm, W;2ppm, Sn;1ppm

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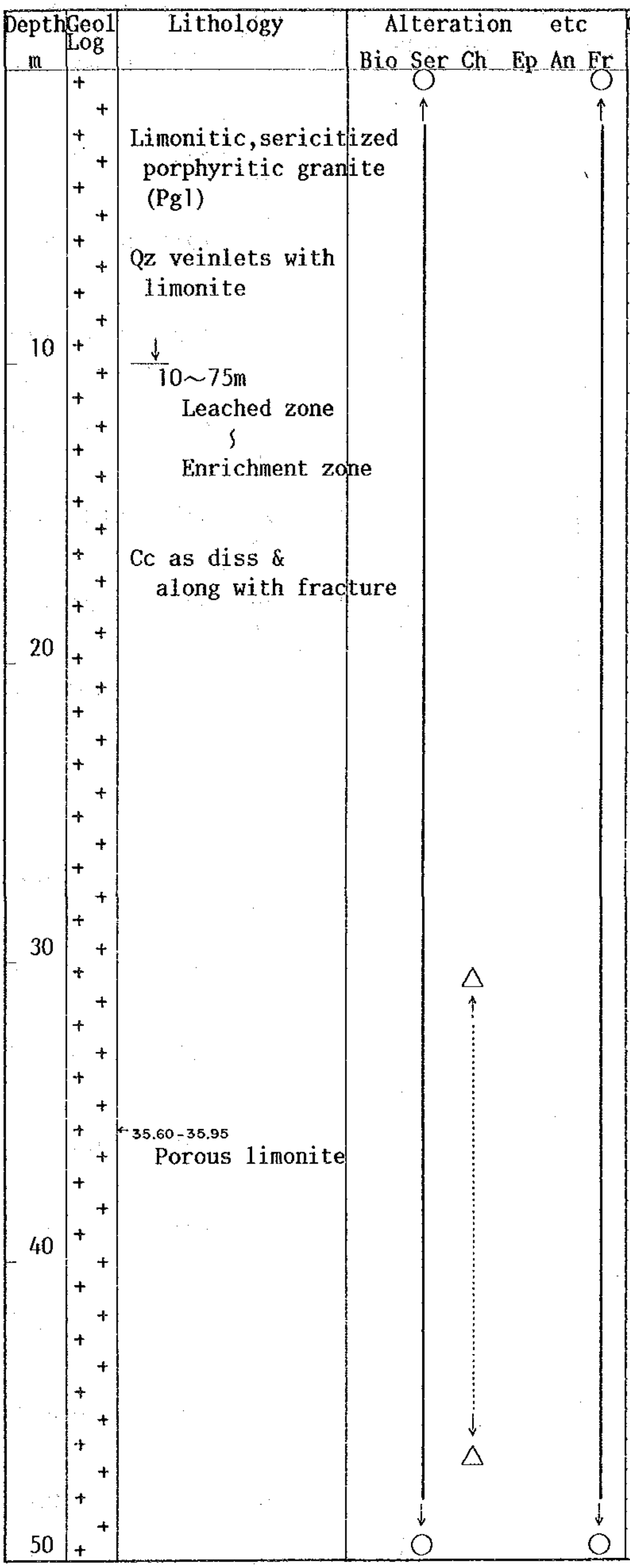
MJT−5(1)

0m～ 50m



Limonitic,sericitized porphyritic granite (Pgl)

Qz veinlets with limonite

↓ 10～75m Leached zone ∫ Enrichment zone

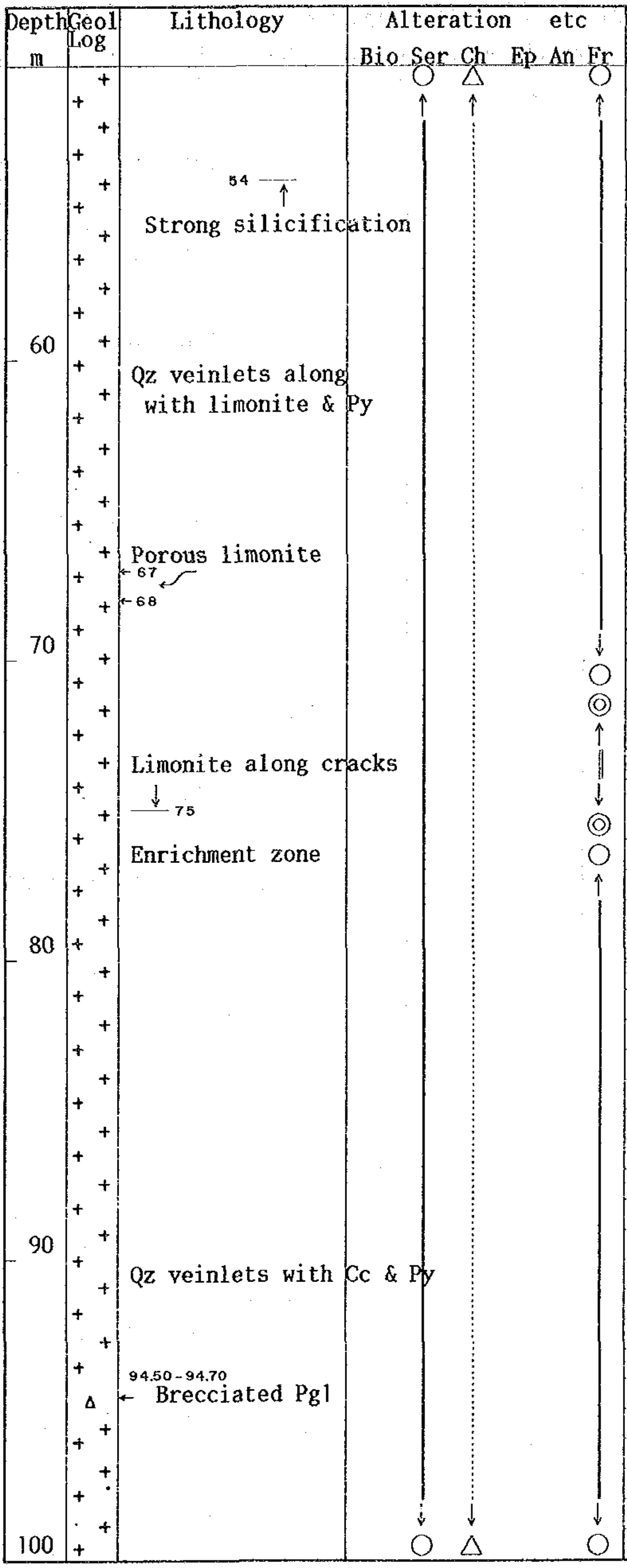
Cc as diss & along with fracture

←35.60-35.95 Porous limonite

Quartz Vein		Sample	Assay Res.	
No	Wd mm	No	Cu %	Mo %
		740	0.012	-
		741	0.022	-
		742	0.010	-
		743	0.043	-
		744	0.052	-
		745	0.076	-
		746	0.049	-
		747	0.060	-
		748	0.042	-
		749	0.057	-
		750	0.036	-
		751	0.031	0 001
		752	0.016	0.001
		753	0.045	-
		754	0.036	-
		755	0.084	-
		756	0.055	-

MJT－5 (2)

50m～ 100m



Strong silicification

Qz veinlets along with limonite & Py

Porous limonite

Limonite along cracks

Enrichment zone

Qz veinlets with Cc & Py

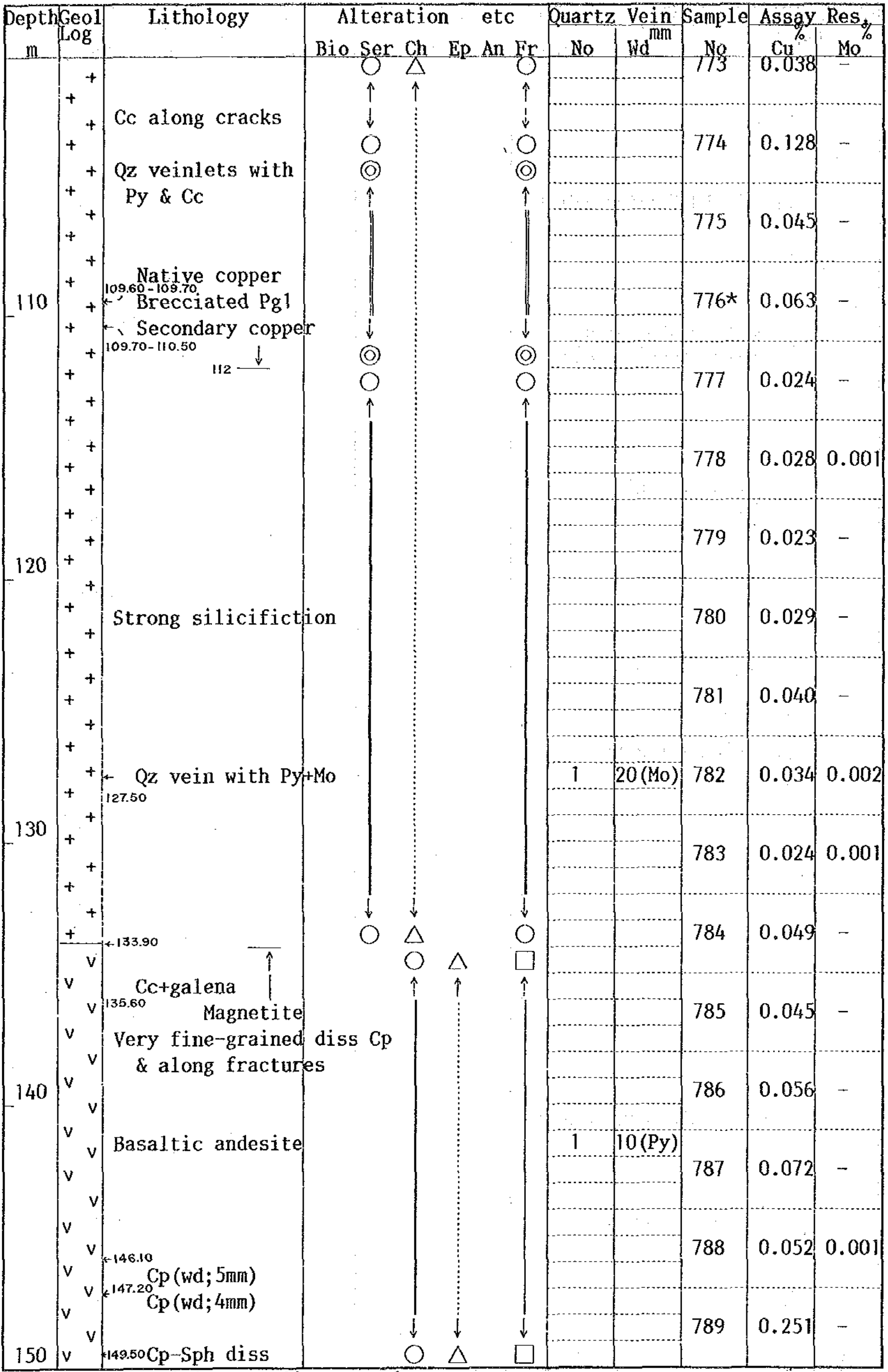
Brecciated Pgl

//

Quartz Vein		Sample	Assay Res.	
No	Wd mm	No	Cu %	Mo %
		757	0.034	-
		758	0.048	-
		759	0.030	-
		760	0.068	-
		761	0.045	-
		762	0.059	-
		763	0.017	0.001
		764	0.041	0.001
		765	0.045	-
		766	0.098	-
		767	0.129	0.001
		768	0.262	0.002
		769	0.223	0.002
		770	0.076	-
		771	0.076	-
		772	0.027	-

MJT−5(3)

100m～150m

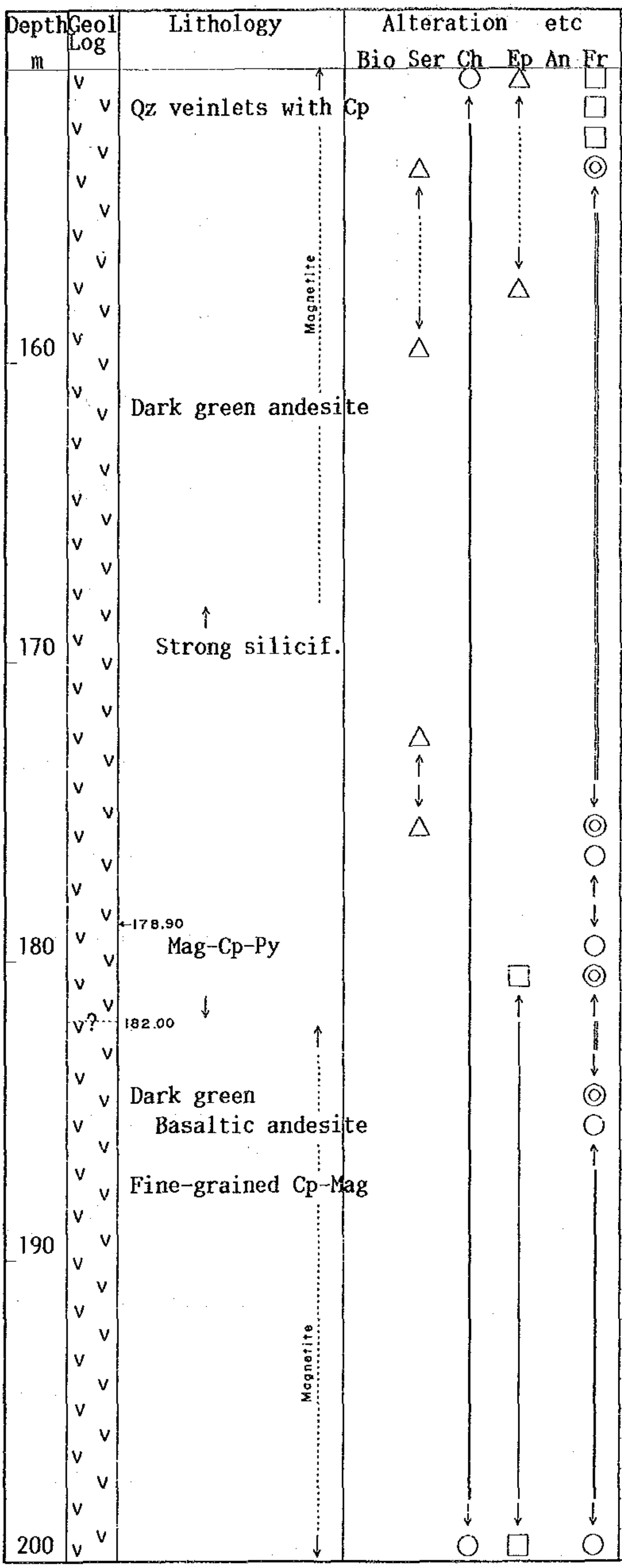


Quartz Vein No	Quartz Vein Wd mm	Sample No	Assay Res. Cu %	Assay Res. Mo %
		773	0.038	−
		774	0.128	−
		775	0.045	−
		776*	0.063	−
		777	0.024	−
		778	0.028	0.001
		779	0.023	−
		780	0.029	−
		781	0.040	−
1	20(Mo)	782	0.034	0.002
		783	0.024	0.001
		784	0.049	−
		785	0.045	−
		786	0.056	−
1	10(Py)	787	0.072	−
		788	0.052	0.001
		789	0.251	−

*: Au;5ppb, Ag;0.8ppm, W;12ppm, Sn;1ppm

MJT－5 (4)

150m～ 200m



Quartz Vein No	Quartz Vein Wd mm	Sample No	Assay Res. Cu %	Assay Res. Mo %
		790	0.128	0.001
		791	0.073	-
1	10(Cp)	792	0.154	-
		793	0.286	-
1	4(Cp)	794	0.243	-
1	10(Cp)	795	0.037	-
		796	0.067	-
		797	0.058	-
		798	0.048	-
		799	0.052	-
		800	0.045	-
		801	0.094	-
		802	0.042	-
1 1	4(Py) 3(Py)	803	0.056	-
		804	0.057	-
		805	0.053	0.001
		806	0.034	-

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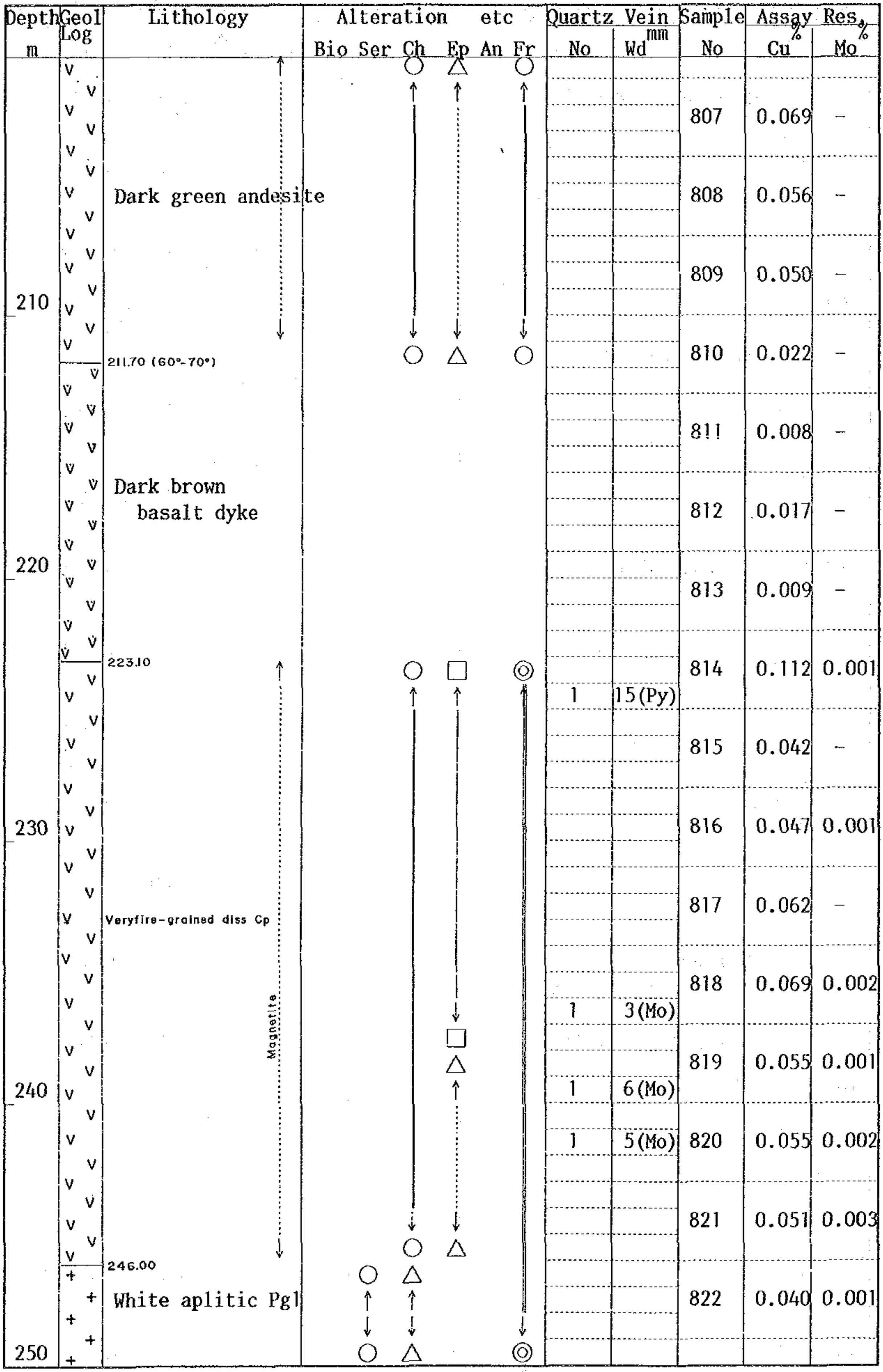
MJT－ 5 (5)

200m～ 250m



Quartz Vein No	Quartz Vein Wd mm	Sample No	Assay Res. Cu %	Assay Res. Mo %
		807	0.069	–
		808	0.056	–
		809	0.050	–
		810	0.022	–
		811	0.008	–
		812	0.017	–
		813	0.009	–
		814	0.112	0.001
1	15(Py)			
		815	0.042	–
		816	0.047	0.001
		817	0.062	–
		818	0.069	0.002
1	3(Mo)			
		819	0.055	0.001
1	6(Mo)			
1	5(Mo)	820	0.055	0.002
		821	0.051	0.003
		822	0.040	0.001

MJT－5 (6)

250m～301m

Depth m	Geol Log	Lithology	Alteration etc Bio	Ser	Ch	Ep	An	Fr	Quartz Vein No	Wd mm	Sample No	Assay Res. Cu %	Mo %
	v			○	△			◎			823	0.039	–
	v	↑			○	△		↑					
	v v				↑	↑					824	0.058	0.001
	v v	Diss Cp+along fractures											
	v v	Brecciated basaltic andesite									825	0.044	0.001
260	v v										826	0.134	0.001
	v v								1	15(Mo)			
	v v										827	0.030	–
	v v			△					2	20(Mo,Cp)	828	0.115	0.002
	v v			↑					2	10(Mo,Cp)			
	v v										829	0.085	–
270	v v												
	v v			↓							830	0.078	0.001
	v v								1	4(Py)			
	v v			△									
	v v										831	0.052	–
	v v										832	0.092	–
280	v v										833	0.042	–
	v v										834	0.057	–
	v v					↓			1	10(Py)			
	v v					△							
	v v					□					835	0.050	–
	v v					□							
	v v					△							
290	v v	Diss Cp+along fractures				↑					836	0.357	0.001
	v v										837	0.050	–
	v v										838	0.058	–
	v v				↓	↓		↓			839	0.080	0.001
300	v v	↓			○	○		◎					
	+ +	Pgl(aplitic)	△	○	△			□			840	0.079	–

MJT-6 (1)

0m～ 50m

Depth	Geol Log	Lithology	Alteration			etc			Quartz Vein		Sample	Assay Res.	
m			Bio	Ser	Ch	Ep	An	Fr	No	Wd mm	No	Cu %	Mo %
	+	Limonitized fined-grained porphyritic Pg1 (Diss Cp+Mo,py)		◎				◎	2+α	10	437	0.217	0.037
	+			↕				↕			438	0.795	0.077
	+	6 L.grey fine-grained Pg1		↕				↕			439	0.718	0.041
10	+			↕				↕	2	15	440	0.494	0.025
	+			↕				↕	1	4(W)	441	0.349	0.024
	+			↕				↕	3	10	442	0.253	0.023
20	+	Secondary copper (Cc)		↕				↕	1 1 2	10 10 5(w)	443	0.160	0.013
	+			↕				↕	 1	(w) 5	444	0.249	0.014
	+			↕				↕	 1	(w) 8	445	0.295	0.015
30	+			↕				↕			446	0.293	0.025
	+	Diss Mo+Cp		↕				↕			447	0.361	0.015
	+			↕				↕		(w)	448	0.389	0.013
	+			↕				↕	 1 1	(w) 5 20	449	0.285	0.009
40	+	42 / 43		◎				◎	1	8	450	0.285	0.010
	×	L.grey porphyritic granite(Pg2)									451	0.117	0.003
	×	Weak alteration (sericite-chlorite)									452	0.044	0.002
50	×										453	0.043	0.001

MJT−6 (2)

50m～ 100m

Depth m	Geol Log	Lithology	Alteration etc Bio	Ser	Ch	Ep	An	Fr	Quartz Vein No	Wd mm	Sample No	Assay Res. Cu %	Mo %
	×												
	×												
	×	53									454	0.054	0.001
	+		◎					◎	1	10	455	0.285	0.001
	+		↑					↑					
	+	L.grey Pgl									456	0.185	0.006
	+												
	+												
	+								1	8	457	0.244	0.010
60	+								2	10			
	+								2	8			
	+										458	0.292	0.009
	+												
	+	Magnetite							3	10(w)			
	+								3	10	459	0.372	0.017
	+								4	8			
	+	Diss Cp+Mo							2	4(w)			
	+							↓	4	10	460	0.284	0.007
	+							◎	1	100			
70	Δ +	Argillaceous zone						○	2	5			
	+							↑	2	5	461	0.267	0.009
	+	Diss Cp+Mo							3	8			
	+							↓	2	4			
	+	No mineralization						○	2	8	462	0.299	0.019
	+	in qz vein						◎	1	4			
	+	Aplitic						↑	1	10			
	+	↓									463	0.340	0.008
	+												
	+	Porpyritic						↓		(w)			
80	+							◎	1	8	464	0.253	0.008
	+	↑						○					
	+	Aplitic						○		(w)			
	+							○			465	0.395	0.019
	+	Diss Cp+Mo						◎					
	+							↑					
	+									(w)	466	0.313	0.009
	+												
	+												
	+								1	4	467	0.400	0.016
90	+							↓	1	6			
	+							◎	1	4			
	+							○		(w)	468	0.312	0.014
	+							↑	2	6			
	+												
	+							↓	1	4(w)	469	0.285	0.007
	+							○					
	+							◎					
	+							◎		(w)	470	0.374	0.010
	+		↓					◎					
100	+		◎					○	1	6			

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MJT−6 (3)

100m～150m

Depth m	Geol Log	Lithology	Alteration etc Bio	Ser	Ch	Ep	An	Fr	Quartz Vein No	Wd mm	Sample No	Assay Res. Cu %	Mo %
	+ +	L.grey Pg1		◎				◎ ◎ ◎ ○			471	0.314	0.010
	+ +			↑				↑			472	0.326	0.013
	+ +								1	15	473	0.150	0.019
110	+ +			↓				↓			474	0.200	0.006
	+ +			◎				○			475	0.078	0.003
	× ×	112.50(70°-80°)									476	0.039	0.002
	× ×	Mo+Cp along fr.									477	0.022	–
120	× ×	118.85 118.95 Qz vein									478	0.016	–
	× ×									(w)	479	0.030	0.001
	× ×	114.50 114.70 Qz vein									480	0.013	–
	× ×	L.grey Pg2 Weak alteration									481	0.019	–
130	× ×	(sericite-chlorite)									482	0.022	–
	× ×									(w)	483	0.015	–
	× ×	135～137.5 Segregated qz Pyrite along fracture									484	0.006	–
140	× ×										485	0.010	–
	× ×										486	0.016	–
	× ×										487	0.004	–
	× ×										488	0.007	–
150	×												

MJT−6(4)

150m～ 200m

Depth	Geol Log	Lithology	Alteration etc						Quartz Vein		Sample	Assay Res.	
m			Bio	Ser	Ch	Ep	An	Fr	No	Wd mm	No	Cu %	Mo %
	× ×	152 ∫ Segregated qz 153									489	0.010	−
	× ×										490	0.020	−
	× ×	L.grey Pg2 →Qz granodiorite								(w)	491	0.035	−
160	× ×	Diss									492	0.029	0.002
	× ×										493	0.039	−
	× ×										494	0.029	−
170	× ×									(w)	495	0.036	−
	× ×										496	0.028	−
	× ×	175.50 Mo 175.80 Mo 176.00 Cp									497	0.067	0.001
180	× ×										498	0.033	−
	× ×	Hornblende Biotite →chlorite									499	0.049	−
	× ×									(w?)	500	0.038	−
	× ×										501	0.039	−
190	× ×										502	0.050	0.028
	× ×										503	0.046	−
	× ×										504	0.062	−
200	× ×										505	0.056	−

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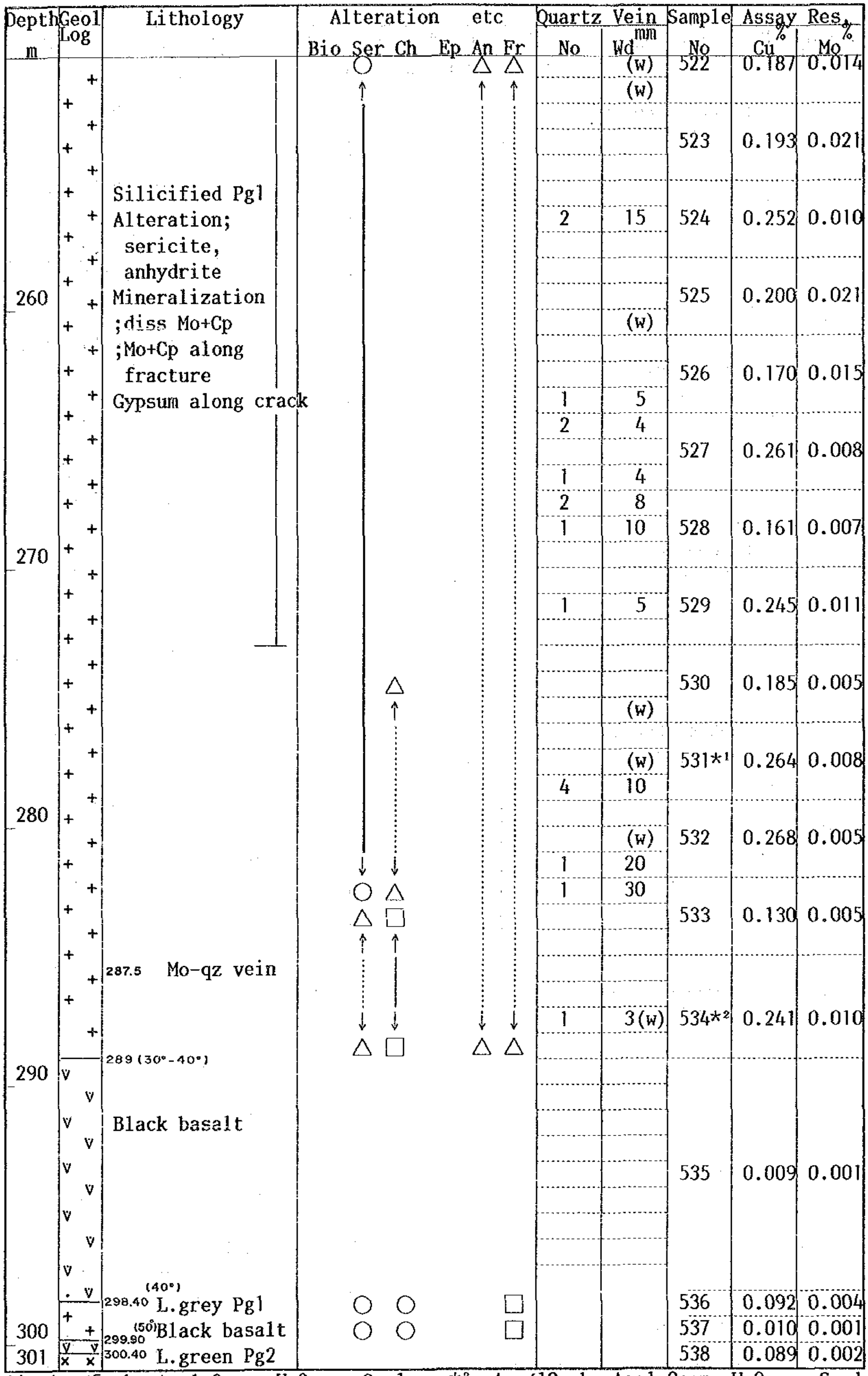
MJT−6 (5)

200m～ 250m

Depth	Geol Log	Lithology	Alteration			etc			Quartz Vein		Sample	Assay Res.	
m			Bio	Ser	Ch	Ep	An	Fr	No	Wd mm	No	Cu %	Mo %
	× ×									(w)	506	0.044	−
	× ×										507	0.020	−
210	× ×	208.55 Diss Cp								(w)	508	0.016	−
	× ×	L.grey Pg2									509	0.022	−
	× ×										510	0.036	0.001
	× ×										511	0.020	−
220	× ×										512	0.042	−
	× ×										513	0.053	−
	× ×										514	0.038	−
230	× ×										515	0.053	−
	× ×	Gypsum along crack									516	0.042	−
	× ×	235.50 Mo-Py (3mm)									517	0.034	−
240	× ×	239.90 Mo-Cp (2mm)									518	0.011	−
	× ×	240.70 Mo-qz (14mm)									519	0.014	−
	+ +	244 Gradually change Silicified Pg1	△ ↑	○ ↑				△ ↑			520	0.283	0.008
	+ +		↓	↓			△	↓		(w)	521	0.227	0.008
250	+		△	○			△	△					

MJT−6 (6)

250m〜301m



Quartz Vein No	Wd mm	Sample No	Assay Res. Cu %	Assay Res. Mo %
	(w)	522	0.187	0.014
	(w)			
		523	0.193	0.021
2	15	524	0.252	0.010
		525	0.200	0.021
	(w)			
		526	0.170	0.015
1	5			
2	4			
		527	0.261	0.008
1	4			
2	8			
1	10	528	0.161	0.007
1	5	529	0.245	0.011
		530	0.185	0.005
	(w)			
	(w)	531*¹	0.264	0.008
4	10			
	(w)	532	0.268	0.005
1	20			
1	30			
		533	0.130	0.005
1	3(w)	534*²	0.241	0.010
		535	0.009	0.001
		536	0.092	0.004
		537	0.010	0.001
		538	0.089	0.002

*¹: Au;<5ppb, Ag;1.0ppm, W;8ppm, Sn;1ppm *²: Au;<10ppb, Ag;1.0ppm, W;9ppm, Sn;1ppm

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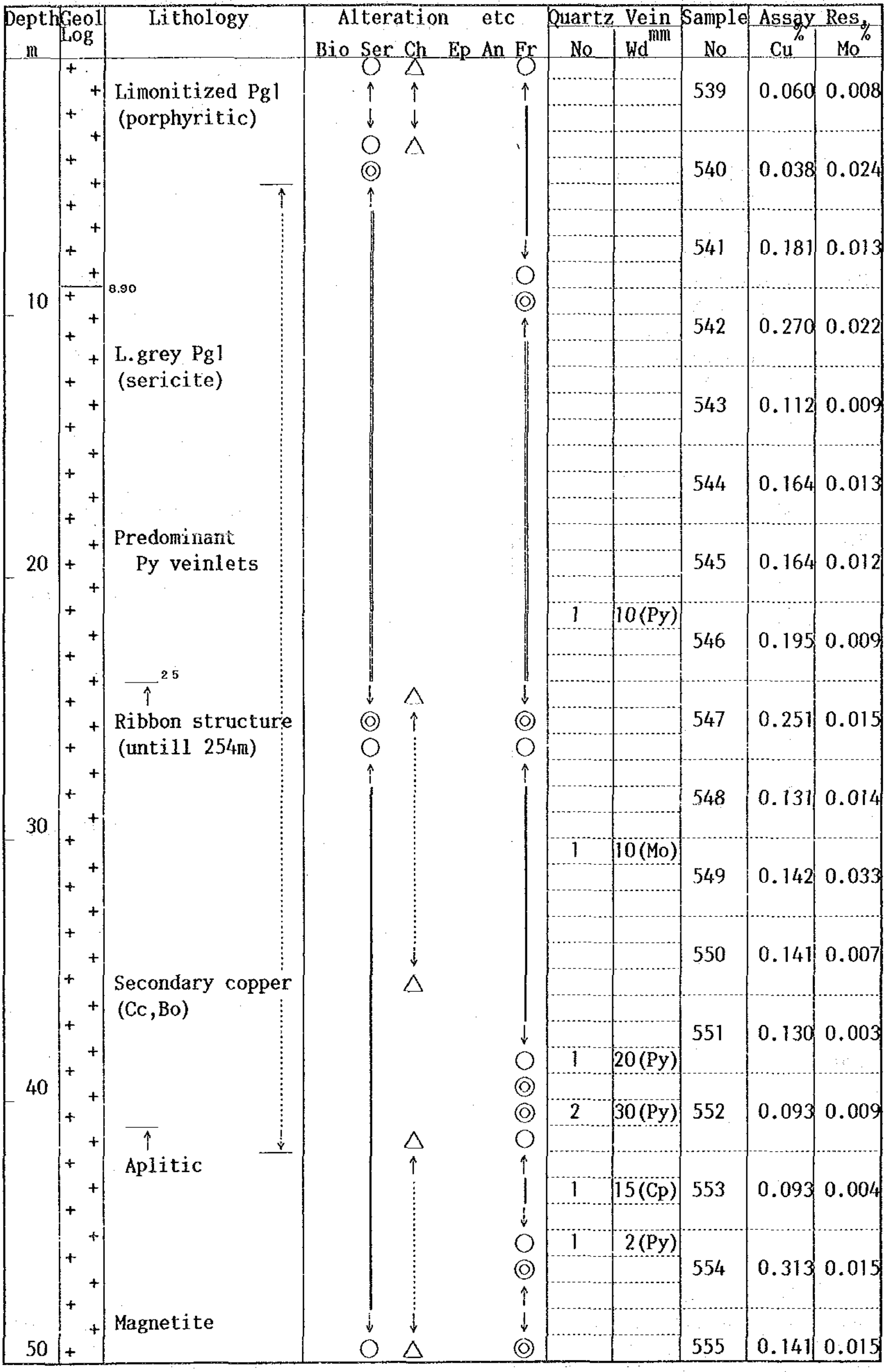
MJT-7 (1)

0m～ 50m



Limonitized Pgl (porphyritic)

L.grey Pgl (sericite)

Predominant Py veinlets

Ribbon structure (untill 254m)

Secondary copper (Cc,Bo)

Aplitic

Magnetite

Quartz Vein No	Quartz Vein Wd mm	Sample No	Assay Res. Cu %	Assay Res. Mo %
		539	0.060	0.008
		540	0.038	0.024
		541	0.181	0.013
		542	0.270	0.022
		543	0.112	0.009
		544	0.164	0.013
		545	0.164	0.012
1	10(Py)			
		546	0.195	0.009
		547	0.251	0.015
		548	0.131	0.014
1	10(Mo)			
		549	0.142	0.033
		550	0.141	0.007
		551	0.130	0.003
1	20(Py)			
2	30(Py)	552	0.093	0.009
1	15(Cp)	553	0.093	0.004
1	2(Py)			
		554	0.313	0.015
		555	0.141	0.015

MJT－7（2）

50m～ 100m

Depth m	Geol Log	Lithology	Alteration Bio	Ser	Ch	Ep	An	etc Fr	Quartz Vein No	Wd mm	Sample No	Assay Res. Cu %	Mo %
	+			◎	△			◎	1	20(Cp)			
	+ +										556	0.104	0.007
	+ +								1	15(Mo)	557	0.048	0.020
60	+ +										558	0.050	0.002
	+ +										559	0.054	0.002
	+ +										560	0.040	0.002
	+ +										561	0.060	0.002
70	+ +			◎ ○							562	0.072	0.003
	+ +	L.grey Pgl (aplitic)							1	10(Py)	563	0.082	0.003
	+ +										564	0.061	0.004
80	+ +			○	△						565	0.065	0.010
	+ +			◎							566	0.076	0.004
	+ +										567	0.070	0.008
90	+ +	Magnetite									568	0.070	0.012
	+ +										569	0.069	0.011
	+ +										570	0.074	0.007
	+ +										571	0.061	0.006
100	+ +			◎				◎					

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MJT−7 (3)

100m～150m

Depth m	Geol Log	Lithology	Alteration etc Bio	Ser	Ch	Ep	An	Fr	Quartz Vein No	Wd mm	Sample No	Assay Res. Cu %	Mo %
	+ +			○	△	△		◎	1	8(Mo)	572	0.070	0.012
	+ +			↑	↑	↑		↑					
	+ +			|	┆	┆		|					
	+ +	↑		↓	┆	┆		|			573	0.092	0.020
	+ +	Porphyritic		○	┆	┆		|	1	10(Mo)			
	+ +			△	┆	┆		|	1	2(Mo)			
	+ +			↑	┆	┆		|			574	0.077	0.055
	+ +			┆	┆	┆		|					
	+ +			┆	┆	┆		|	1	2(Mo)			
110	+ +			┆	┆	┆		|			575	0.011	0.011
	+ +			┆	┆	┆		|					
	+ +			┆	┆	┆		|					
	+ +			┆	┆	┆		|			576	0.094	0.011
	+ +			┆	┆	┆		|					
	+ +			┆	┆	┆		|					
	+ +			↓	┆	↓		|			577	0.074	0.011
	+ +			△	↓	△		|					
	+ +	Magnetite		○	△			|					
	+ +	↑		◎				|			578	0.130	0.010
120	+ +	Aplitic		↑				|	1	15(Mo)			
	+ +			|				|					
	+ +			|				|			579	0.148	0.013
	+ +			|				|					
	+ +	L.grey Pgl		|				|					
	+ +	(sericite)		|				|	1	25(Py)	580	0.120	0.035
	+ +			|				|					
	+ +			|				|					
	+ +			|				|			581	0.070	0.007
	+ +			|				|	1	15(Mo)			
130	+ +	Py-Mo-Qz		|				|	1	15(Mo)			
	+ +	combination		|				|	1	15(Py)	582	0.110	0.014
	+ +			|				|					
	+ +			|				|					
	+ +			|				|	1	15(Mo)	583	0.124	0.020
	+ +			|				|					
	+ +			|				|					
	+ +			|				|			584	0.116	0.017
	+ +			|				|					
	+ +			|				|					
140	+ +			|				|	1	15 (Mo,Cp)	585	0.145	0.008
	+ +			|				|					
	+ +			|				|					
	+ +	Magnetite		|				|			586	0.120	0.009
	+ +			|				|	1	2(Mo)			
	+ +			|				|					
	+ +			|				|			587	0.091	0.006
	+ +			|				|					
	+ +	↑		|				|	2	15(Mo)			
	+ +	Porphyritic		↓				↓	1	2(Cp)	588	0.090	0.008
150	+			◎				◎					

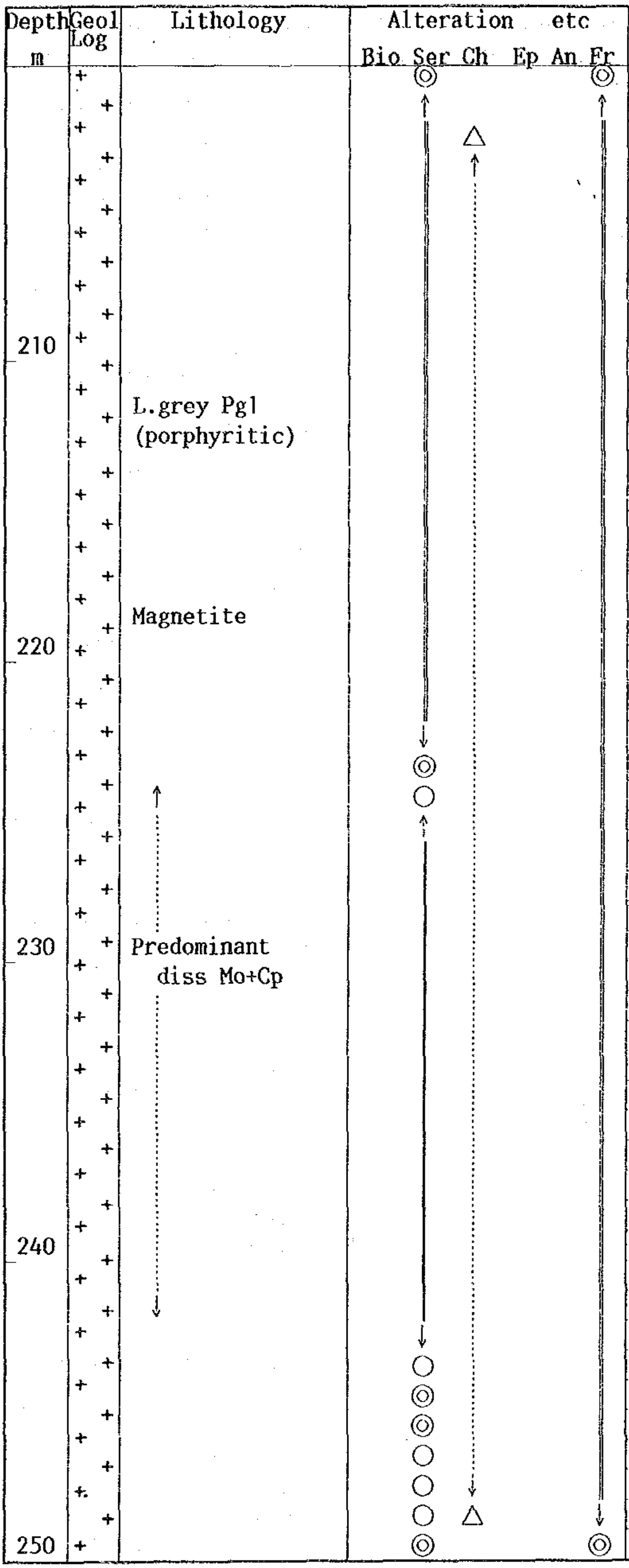
MJT−7(4)

150m～ 200m

Depth	Geol Log	Lithology	Alteration etc						Quartz Vein		Sample	Assay Res.	
m			Bio	Ser	Ch	Ep	An	Fr	No	Wd mm	No	Cu %	Mo %
	+			◎				◎					
	+			↑				↑			589	0.112	0.011
	+	White～grey									590	0.075	0.015
	+	strong arg.Pgl							1	5(Mo,Cp)			
	+	(porphyritic)											
	+										591	0.083	0.010
160	+							↓	1	5(Mo)			
	+	Py vein(wd:5cm,						◎			592	0.153	0.023
	+	160.5)						○					
	+							○					
	+							◎			593	0.142	0.027
	+	Magnetite(164.4)						↑					
	+	Diss Cp+Mo							2	10(Mo)	594	0.070	0.017
	+								2	5(Mo)			
170	+										595	0.080	0.012
	+										596	0.137	0.019
	+				△								
	+				△						597	0.128	0.026
	+								1	5(Mo)			
	+										598	0.116	0.016
180	+												
	+										599	0.131	0.012
	+	↑							2	4(Mo,Cp)			
	+	Magnetite		↓							600	0.138	0.016
	+	↓		◎	△								
	+			○	↑								
	+			○							601	0.122	0.012
	+			◎					1	2(Mo)			
190	+			↑					2	10(Mo)			
	+	↑									602	0.136	0.018
	+	Magnetite											
	+								1	15(Mo)	603	0.133	0.012
	+	↓			↓								
	+				△								
	+										604	0.110	0.012
	+			↓				↓	2	10(Mo,Cp)			
200	+			◎				◎			605	0.086	0.014

MJT−7 (5)

200m～ 250m



Quartz Vein No	Quartz Vein Wd mm	Sample No	Assay Res. Cu %	Assay Res. Mo %
		606	0.146	0.010
		607	0.186	0.015
		608	0.154	0.017
		609	0.115	0.012
		610	0.170	0.018
1	15 (Mo,Cp)	611	0.219	0.009
		612	0.158	0.010
		613	0.194	0.016
		614	0.126	0.012
		615	0.165	0.010
		616	0.171	0.009
1	20 (Py)	617	0.204	0.014
		618	0.215	0.014
		619	0.132	0.019
		620	0.174	0.010
		621	0.200	0.007
1	5 (Cp)			

MJT−7 (6)

250m～301m

Depth m	Geol Log	Lithology	Alteration etc Bio	Ser	Ch	Ep	An	Fr	Quartz Vein No	Wd mm	Sample No	Assay Res. Cu %	Mo %
				◎				◎			622	0.100	0.008
				↑↓				↑↓					
				◎				◎			623	0.145	0.018
		254	△	□				△					
			↑	↑				↑					
											624	0.115	0.006
260											625	0.137	0.026
									2	10(Mo)			
									1	5(Mo)			
		L.grey Pgl (massive,aplitic)									626	0.110	0.009
									1	8(Mo)	627	0.064	0.005
									1	20(Mo)	628	0.051	0.004
270													
		Fine-grained diss Cp+Mo									629	0.075	0.006
											630	0.053	0.006
											631	0.077	0.013
280		Mo in qz-rich											
											632	0.130	0.005
											633	0.122	0.005
											634	0.163	0.023
									1	10(Py)			
290							△				635	0.151	0.008
							↑		1	8(Py)			
									1	10(Py)			
											636	0.158	0.037
									2	8(Py)			
									1	20(Py)	637	0.135	0.028
									2	10(Mo)			
									2	10(Py)			
									1	10(Py)			
300		↑	↓	↓			↓	↓	1	10(Py)	638	0.099	0.006
301		Porphyritic	△	□			△	△					

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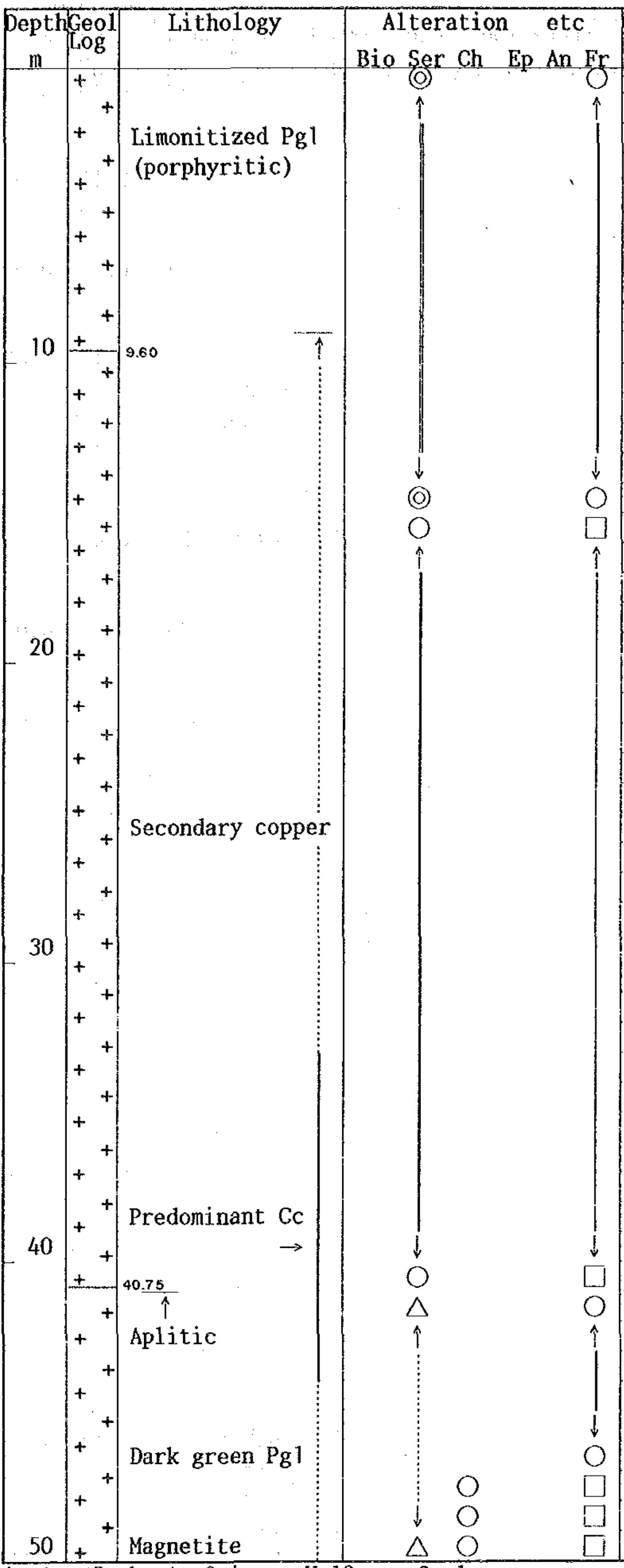
MJT−8 (1)

0m～ 50m

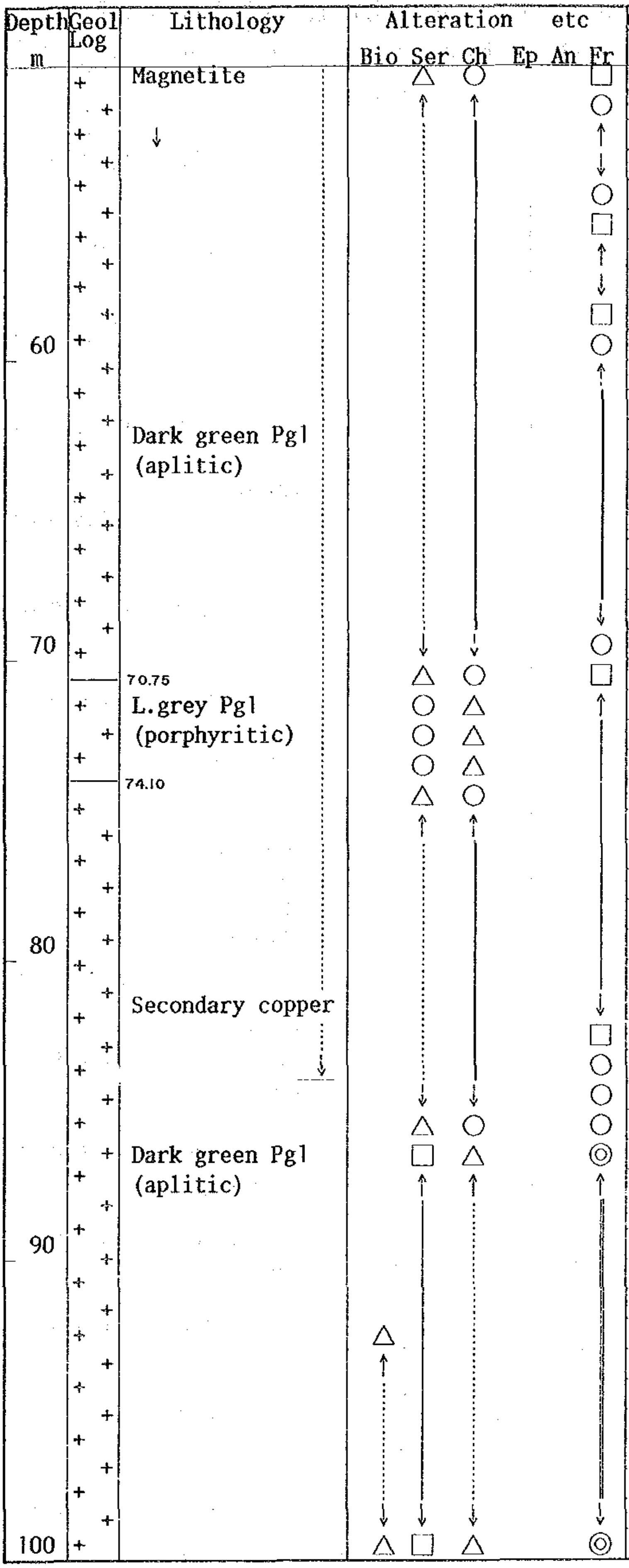


Quartz Vein		Sample	Assay Res.	
No	Wd mm	No	Cu %	Mo %
		639	0.029	0.028
		640	0.046	0.013
		641	0.057	0.026
		642	0.240	0.006
		643	0.230	0.005
		644	0.244	0.005
		645	0.144	0.004
		646	0.181	0.009
1	10(Mo)			
		647	0.176	0.029
		648	0.148	0.001
		649	0.190	0.001
		650*	0.200	0.001
		651	0.262	−
		652	0.917	0.006
		653	0.274	0.012
		654	0.140	0.006
		655	0.200	0.007

*: Au;<5ppb, Ag;0.4ppm, W;10ppm, Sn;1ppm

MJT−8 (2)

50m～ 100m



Quartz Vein No	Quartz Vein Wd mm	Sample No	Assay Res. Cu %	Assay Res. Mo %
		656	0.420	0.016
		657	0.217	0.008
1	4(Mo)			
		658	0.122	0.005
1	5(Py)			
		659	0.148	0.005
		660	0.171	0.005
1	8(Mo)			
		661	0.127	0.005
		662	0.182	0.008
		663	0.171	0.011
		664	0.240	0.007
		665	0.151	0.007
		666	0.132	0.007
		667	0.089	0.015
		668	0.110	0.019
		669	0.104	0.007
		670	0.115	0.008
		671	0.241	0.019

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MJT−8（3）

100m～150m

Depth m	Geol Log	Lithology	Alteration etc						Quartz Vein		Sample No	Assay Res.	
			Bio	Ser	Ch	Ep	An	Fr	No	Wd mm		Cu %	Mo %
			△	□	□			◎			672	0.185	0.006
			△	□	□								
				△	○								
											673	0.300	0.013
											674	0.345	0.012
		Dark green Pgl (aplitic)											
110											675	0.153	0.013
	112												
											676	0.135	0.016
									1	10(Mo)			
		Sheared zone									677	0.086	0.017
									1	15(Mo)			
											678	0.138	0.010
120													
											679	0.130	0.033
	123												
									1	15(Cp,Mo)			
											680	0.136	0.017
										(Cp,Mo)			
									2	4	681	0.130	0.013
									1	2(Py)			
130									1	4(Py)			
		Dark green Pgl (aplitic)									682	0.155	0.009
									1	22(Mo)			
									2	35	683	0.238	0.010
										(Mo,Cp)			
											684	0.164	0.009
									2	4(Mo,Cp)			
									1	15(Cp)			
140				△	○			◎	1	15(Mo)	685	0.372	0.017
	140												
				○	△			○	1	15(Mo)			
											686	0.160	0.019
		L.grey Pgl											
									2	25(Py)			
					△						687	0.085	0.015
											688	0.060	0.013
150				○				○					

MJT－8 (4)

150m～ 200m

Depth m	Geol Log	Lithology	Alteration etc Bio	Ser	Ch	Ep	An	Fr	Quartz Vein No	Quartz Vein Wd mm	Sample No	Assay Res. Cu %	Assay Res. Mo %
	+			○				○					
	+			↑				↑			689	0.165	0.011
	+			│				│	1	5(Cp)			
	+			│				│					
	+	L.grey Pgl		│				│			690	0.114	0.010
	+	(aplitic)		↓	△			│					
	+			○	△			│					
	+			△	□			│			691	0.153	0.009
	+	159		↑	↑			│					
160	+	Dark green Pgl		↓	↓			↓	1	20(Py)			
	+	(porphyritic) 161		△	□			○			692	0.185	0.011
	+			□	△			◎					
	+			↑	↑			↑					
	+	L.grey Pgl		┆	┆			│	1	15(Py)	693	0.143	0.010
	+	(aplitic)		┆	┆			│					
	+			┆	┆			│					
	+			┆	┆			│			694	0.117	0.014
	+			↓	↓			│					
	+	169		□	△			│					
170	v				○			│			695	0.083	0.006
	v				↑			│					
	v				│			│	1	15(Mo,Cp)			
	v	Dark green andesite			│			│			696	0.119	0.006
	v				│			│	2	4(Cp)			
	v				│			│					
	v				│			│	1	4(Cp)	697	0.179	0.035
	v				│			│	1	10(Cp)			
	v			△	↓			│	1	8(Mo)			
	v	179		△	○			│	1	10(Cp)	698	0.147	0.008
180	Δ v				◎			│					
	Δ v				◎			↓	1	10(Cp,Mo)			
	Δ v	182			◎			◎	1	12(〃)	699	0.184	0.012
	v				○			○	1	12(〃)			
	v				↑			↑					
	v				│			│	4	15 (Cp,Mo)	700	0.184	0.023
	v				│			│					
	v				│			│	1	10(Cp)			
	v				│			│			701	0.168	0.013
	v	Qz veinlets with			│			│					
190	v	Cp+Mo			│			│					
	v				│			│			702	0.141	0.006
	v				│			│					
	v				│			│	3	4(Py)			
	v				↓			│	2	10(Py)	703	0.132	0.005
	v	195			○			│	1	30(Cp)			
	+	White Pgl with qz		◎	△			│					
	v	196			○			│			704	0.089	0.007
	v	198			○			│	2	8(Py)			
	+	White Pgl with qz		◎	△			↓					
200	+	199.75			○			○			705	0.098	0.006

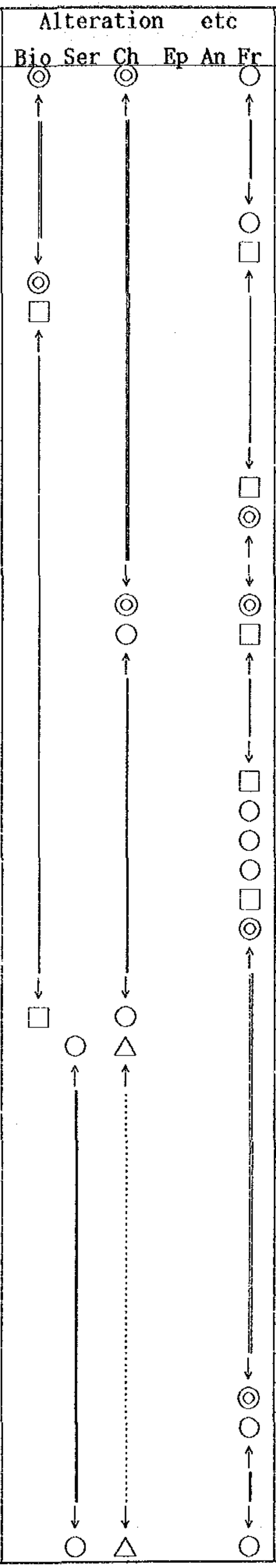
MJT−8(5)

200m～ 250m

Depth	Geol Log	Lithology	Alteration etc						Quartz Vein		Sample	Assay Res.	
m			Bio	Ser	Ch	Ep	An	Fr	No	Wd mm	No	Cu %	Mo %
	v				◎			◎					
	v				↑			↑	2	15(Mo,Cp)			
	v	Dark green andesite									706	0.089	0.012
	v				↓								
	v				◎								
	+ +	205.20 L.grey Pgl 206		○	△				1	15(Cp)	707	0.085	0.005
	v				◎			↓					
	v				↑			◎					
	v	Dark green andesite						○			708	0.083	0.003
210	v							○					
	Δ	210						◎					
	Δ							↑			709	0.205	0.013
	v	Dark green											
	v	brecciated							1	8(Cp)			
	Δ	andesite									710	0.145	0.007
									1	10(Cp)			
	Δ												
	v				↓			↓	1	4(Cp)	711	0.149	0.006
	v				◎			◎					
220	v	219			○			○					
	v	Dark green andesite			↑			↑	2	30(Mo)	712	0.125	0.010
	v				↓			↓	1	15(Mo)			
	v				○			○					
	v	223.40	□	△	△			□			713	0.126	0.016
	+		↑	↑	↑			↑	2	10(Cp,Mo)			
	+	Cp & Mo in qz vein							3	50(Cp,Mo)			
	+								8	8(Mo)	714	0.124	0.012
	+								2	4(Mo)			
	+								2	5(Mo,Cp)			
230	+								6	15(〃)	715	0.189	0.021
	+								3	15(〃)			
	+								4	40(〃)			
	+	Hematite							5	20(〃)	716	0.171	0.011
	+								3	5(〃)			
	+	Dark grey Pgl							5	10(〃)			
	+	(aplitic)							3	10(〃)	717	0.115	0.007
	+								4	8(Cp)			
	+								6	15(Cp,Mo)			
	+								5	10(〃)	718	0.182	0.012
240	+		↓	↓	↓				1	4(〃)			
	+		□	△	△				2	2(〃)			
	+	241 Magnetite	◎		◎						719	0.183	0.008
	+		↑		↑								
	+												
	+										720	0.158	0.009
	+	Dark green Pgl							1	10(Cp)			
	+	(aplitic)							4	2(Cp,Mo)			
	+								5	15(Cp)	721	0.149	0.007
	+		↓		↓			↓	3	4(Py)			
250	+		◎		◎			□	4	15(Py)			

MJT−8(6)

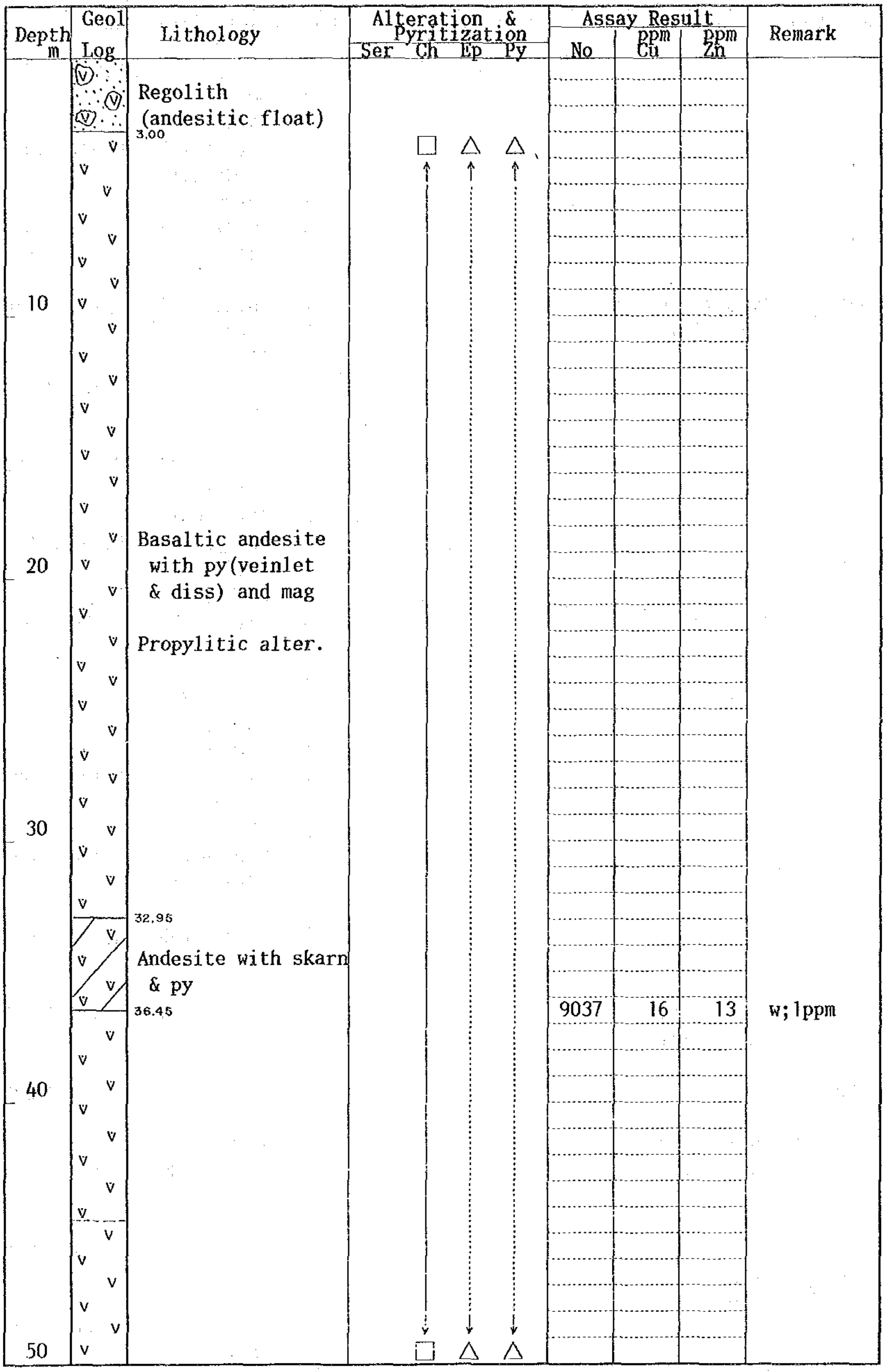
250m～301m



Depth m	Lithology	Quartz Vein No	Quartz Vein Wd mm	Sample No	Assay Res. Cu %	Assay Res. Mo %
		2	8(Py)	722	0.084	0.006
		2	30(〃)			
		2	4(Mo)			
		4	20(〃)	723	0.077	0.004
		3	12(Cp,Mo)			
		2	4(〃)			
		5	30(Py)	724	0.096	0.010
		1	8(〃)			
260	Dark green Pgl	2	6(Mo)	725	0.110	0.010
	(aplitic)	3	10(Py)			
		7	10(Mo)			
		4	3(Cp)	726	0.118	0.018
		2	20(Py)			
				727	0.104	0.007
		3	2(Py)			
		2	15(Mo,Cp)			
		2	15(Cp)	728	0.146	0.005
270		2	10(Py)			
		4	20(Mo,Cp)			
	Filmy Mo	3	2(〃)	729	0.200	0.011
		3	8(Py)			
		2	8(〃)			
	Magnetite	4	50(〃)	730	0.150	0.013
		1	8(Mo,Cp)			
		4	4(Py)			
		1	4(Cp)	731	0.120	0.006
		2	30(Py)			
280		2	15(〃)			
		3	20(Cp)	732	0.100	0.006
		5	20(Mo,Cp)			
	283	1	15(Py)	733	0.092	0.019
	L.green Pgl			734	0.083	0.003
	(porphyritic)					
290	Diss Mo & Cp			735	0.079	0.006
	Qz veinlets	2	15(Mo)			
	with Mo & Cp			736	0.108	0.004
	295.20			737	0.097	0.004
	L.green Pgl					
	(aplitic)			738	0.200	0.005
300		3	10(Mo)			
301	300 Porphyritic part			739	0.118	0.008

MJT−9(1)

0m∼ 50m



Regolith
(andesitic float)

Basaltic andesite
with py(veinlet
& diss) and mag

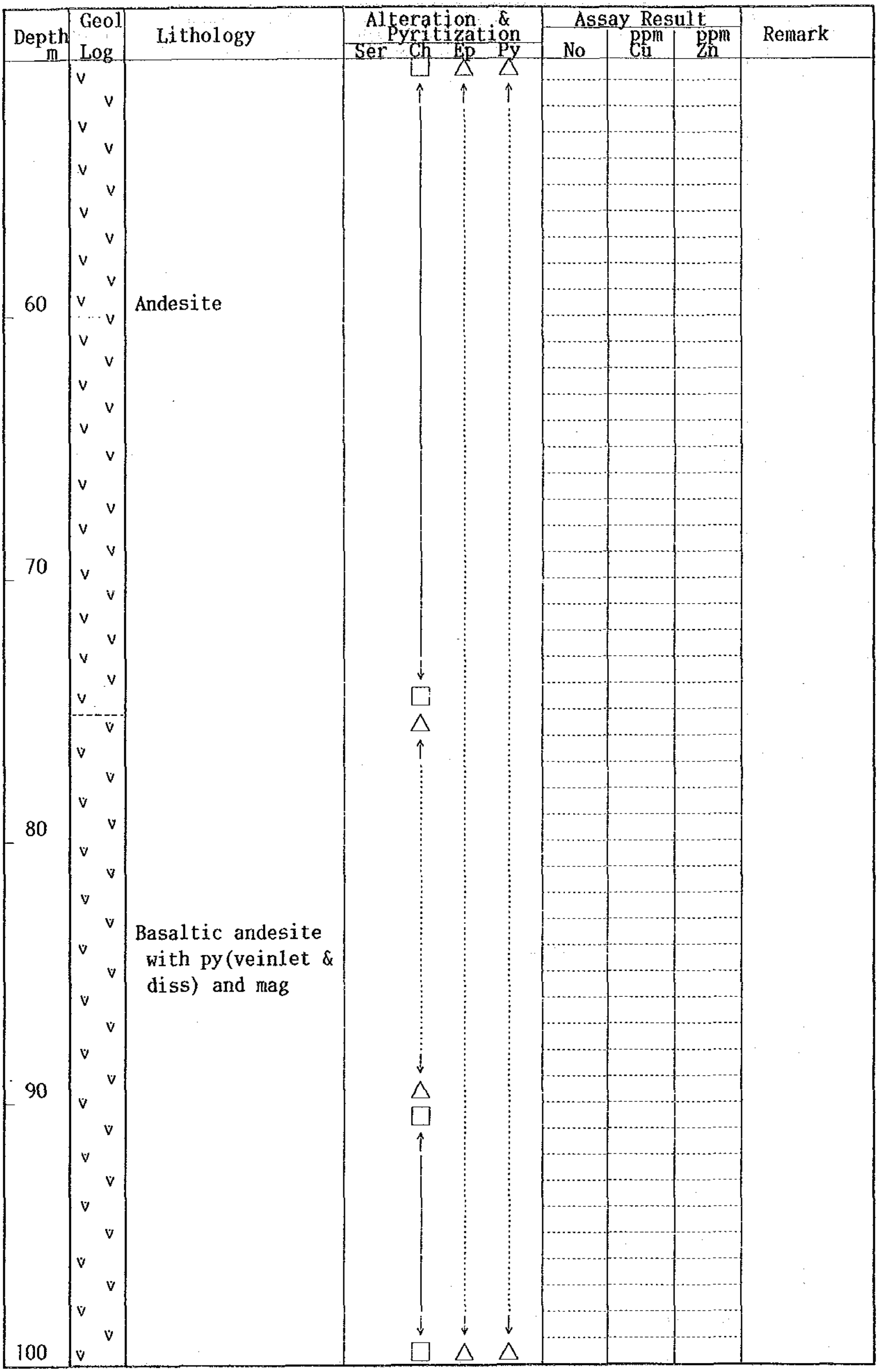
Propylitic alter.

Andesite with skarn
& py

No	ppm Cu	ppm Zn	Remark
9037	16	13	w;1ppm

MJT−9 (2)

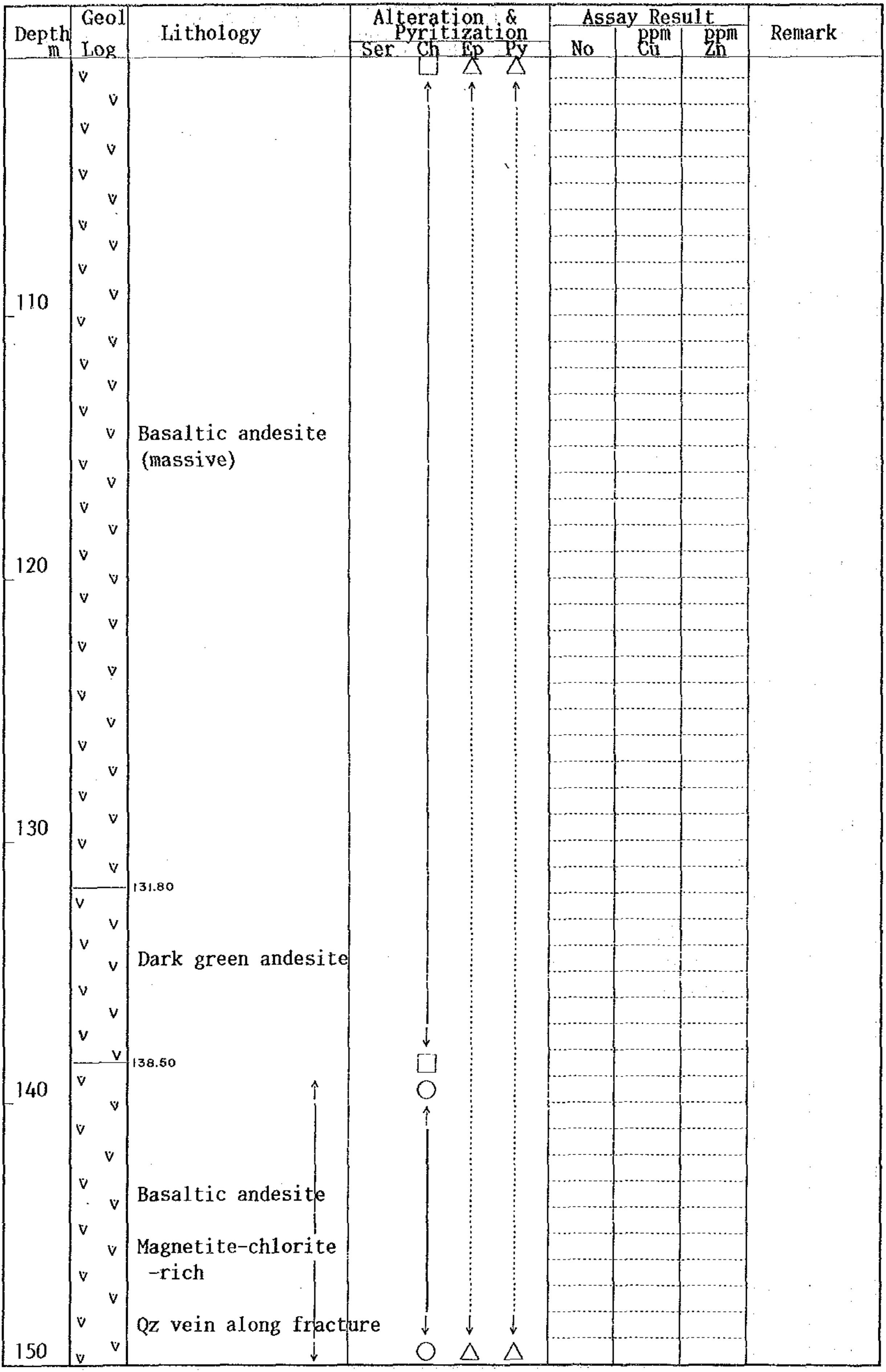
50m～100m



35

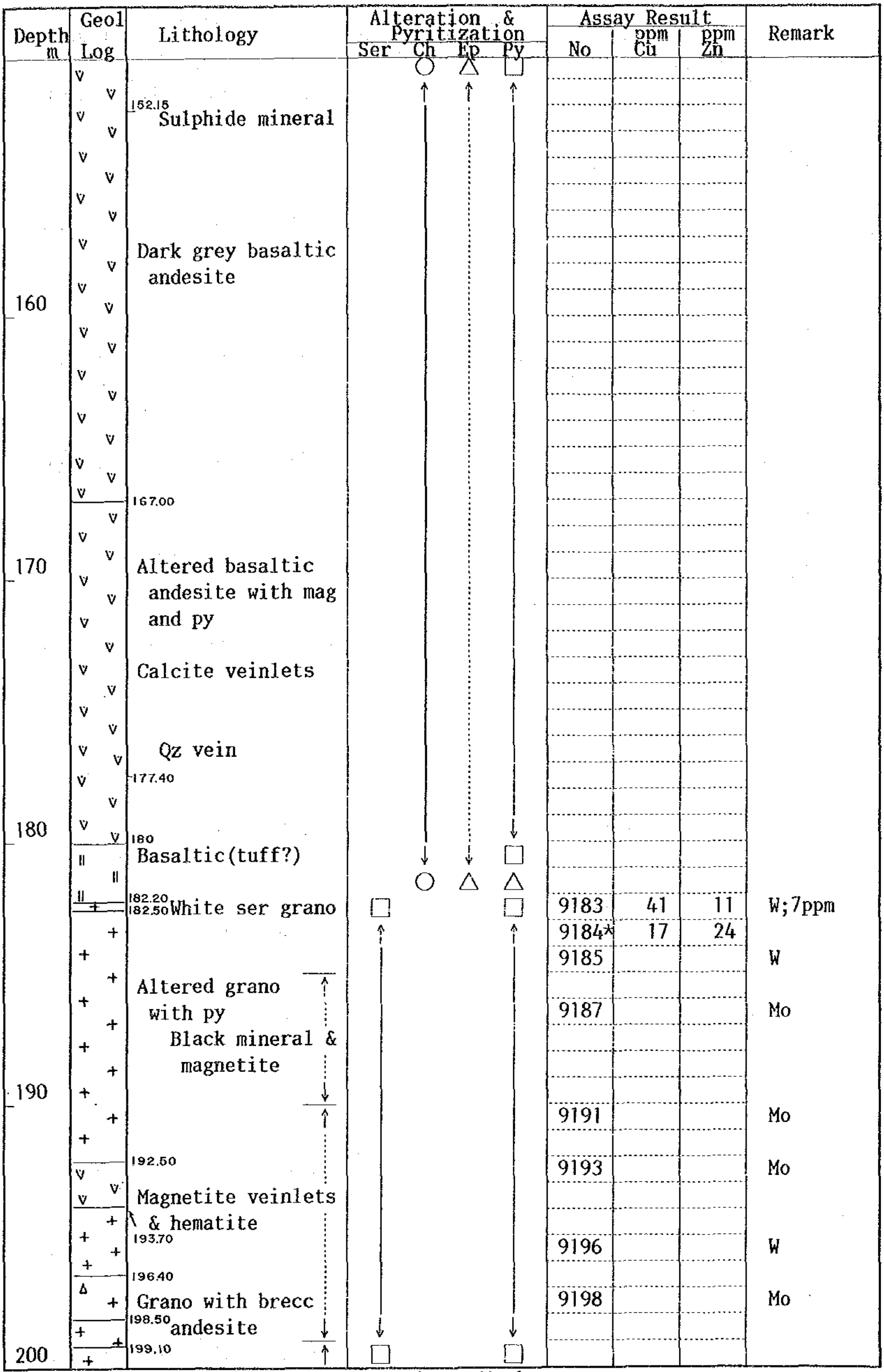
MJT−9 (3)

100m～150m



MJT－9（4）

150m～200m

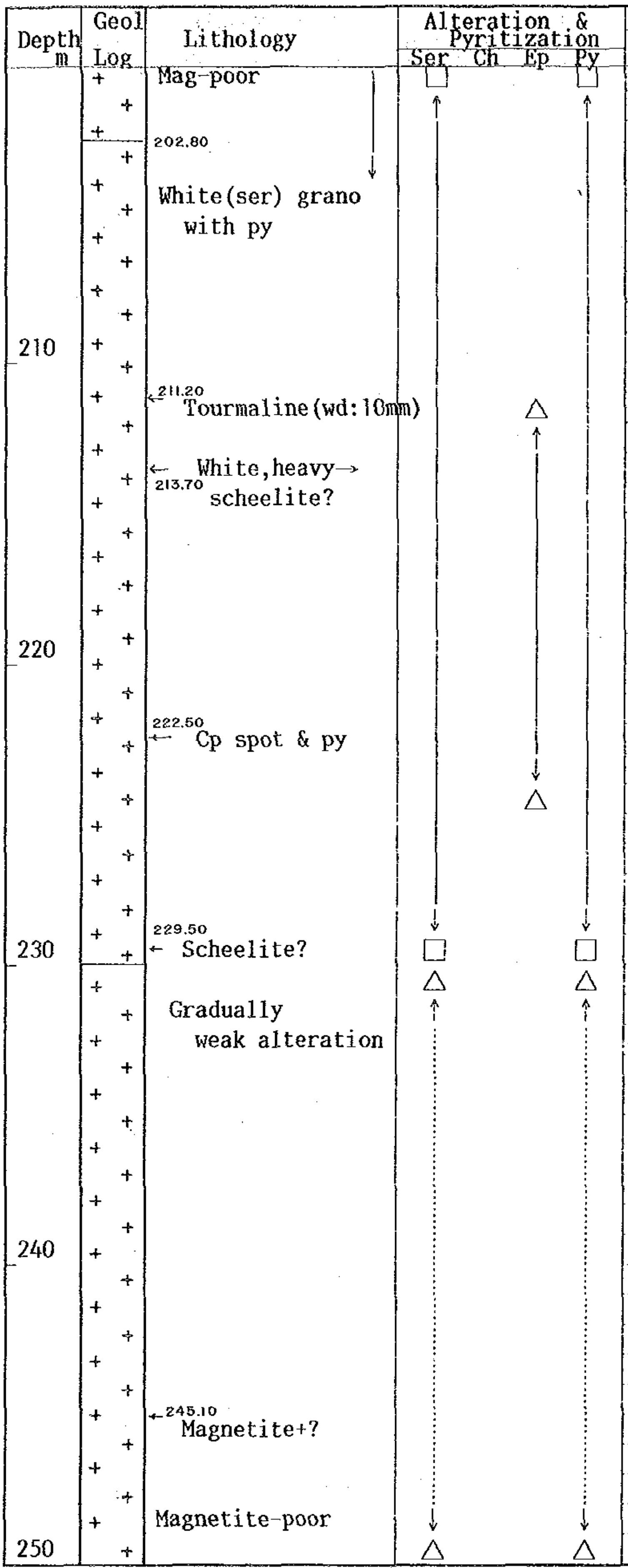


No	ppm Cu	ppm Zn	Remark
9183	41	11	W;7ppm
9184*	17	24	
9185			W
9187			Mo
9191			Mo
9193			Mo
9196			W
9198			Mo

*: Au;<10ppb, Ag;0.1ppm, W;16ppm, Sn;1ppm, Mo;1ppm

MJT−9(5)

200m～250m

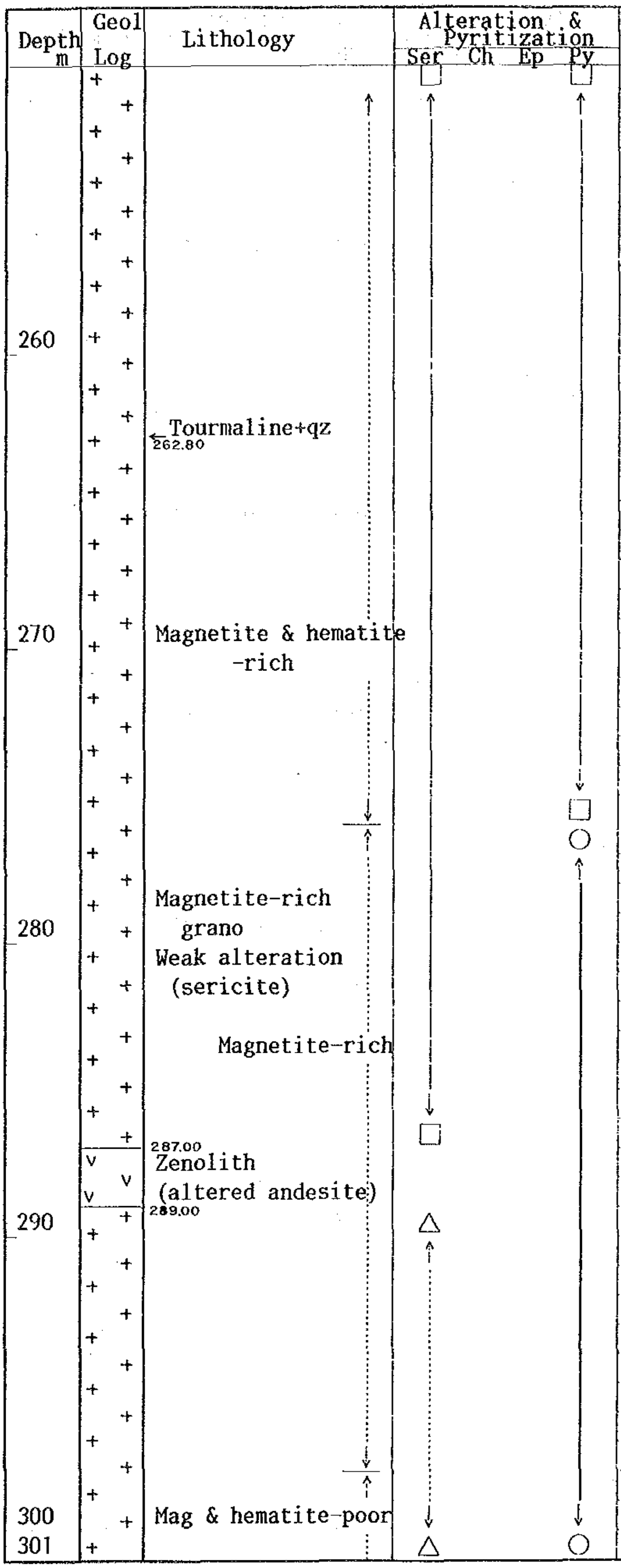


Assay Result			Remark
No	ppm Cu	ppm Zn	
9202	10	33	W;1ppm
9207	14	6	Mo;1ppm
9212	26	31	Mo;1ppm
9214*	12	105	
9216	24	19	Mo;1ppm
9223	22	6	W;2ppm
9230	20	7	W;1ppm
9234	14	11	Mo;1
9239	14	28	Mo;1ppm
9243	9	9	Mo;1ppm
9246	32	26	Mo;1ppm
9250	21	14	Mo;1ppm

*: Au;<10ppb, Ag;0.3ppm, W;3ppm, Sn;1ppm, Mo;1ppm

MJT−9(6)

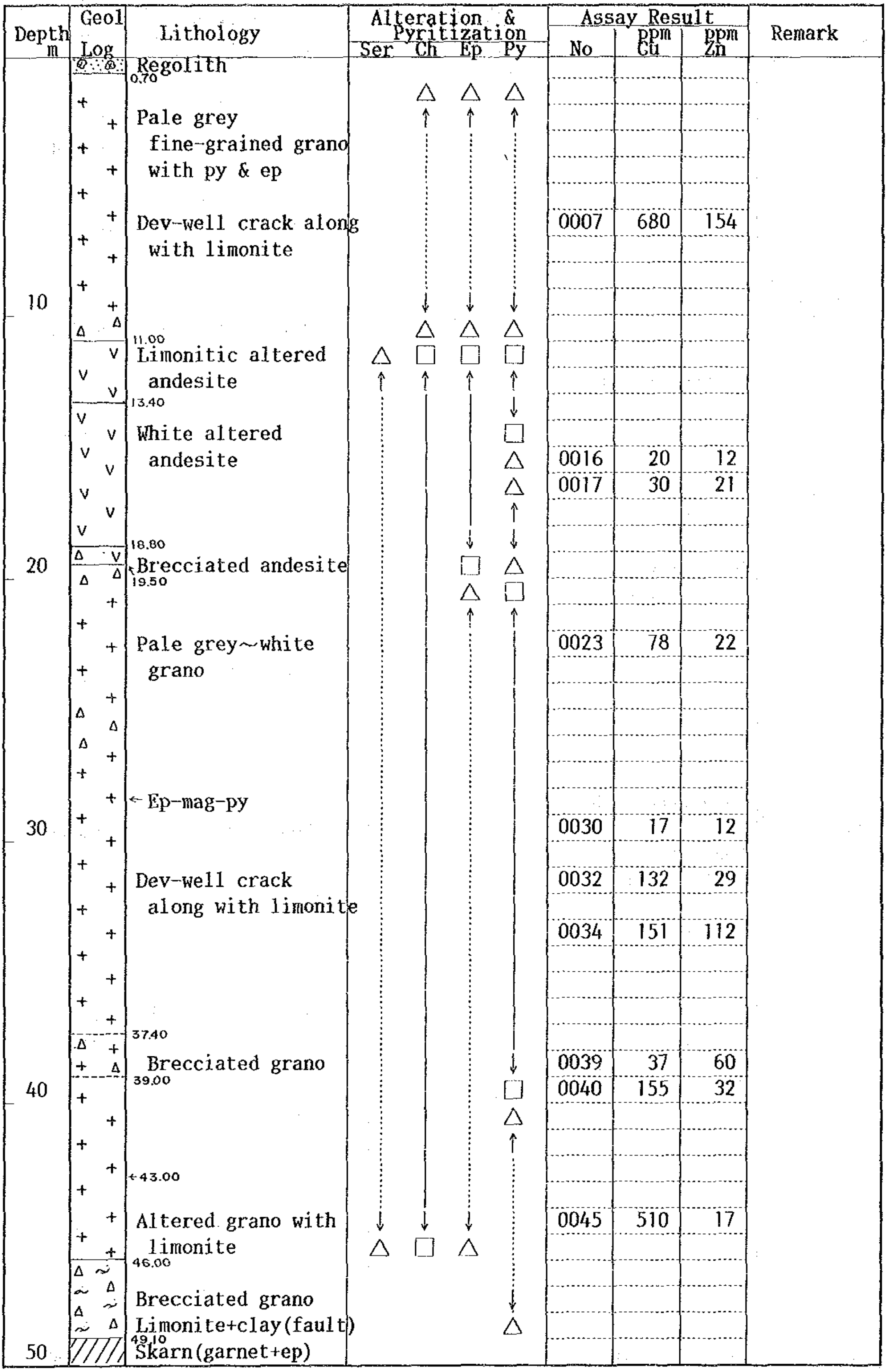
250m～301m



Assay Result			Remark
No	ppm Cu	ppm Zn	
9254	138	32	Mo;6ppm
9257	20	16	Mo;1ppm
9261	25	16	Mo;1ppm
9265	57	18	Mo;1ppm
9274	41	43	Mo;1ppm
9280	34	39	Mo;1ppm
9288	28	48	Mo;1ppm
9295	14	33	Mo;2ppm
9300	17	17	W;2ppm

MJT−10(1)

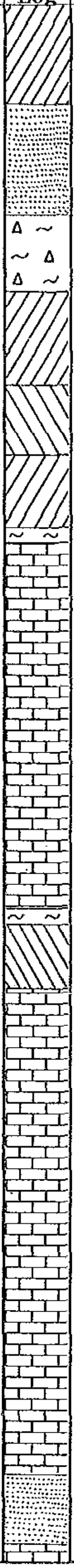
0m～ 50m



Depth m	Geol Log	Lithology	Alteration & Pyritization Ser	Ch	Ep	Py	Assay Result No	ppm Cu	ppm Zn	Remark
		Regolith 0.70								
				△	△	△				
		Pale grey fine-grained grano with py & ep								
		Dev-well crack along with limonite					0007	680	154	
10										
		11.00		△	△	△				
		Limonitic altered andesite	△	□	□	□				
		13.40								
		White altered andesite				□				
						△	0016	20	12	
						△	0017	30	21	
		18.80								
20		Brecciated andesite			□	△				
		19.50			△	□				
		Pale grey～white grano					0023	78	22	
		← Ep-mag-py								
30							0030	17	12	
		Dev-well crack along with limonite					0032	132	29	
							0034	151	112	
		37.40								
		Brecciated grano					0039	37	60	
		39.00								
40						□	0040	155	32	
						△				
		←43.00								
		Altered grano with limonite					0045	510	17	
			△	□	△					
		46.00								
		Brecciated grano								
		Limonite+clay(fault)				△				
50		49.10 Skarn(garnet+ep)								

MJT−10(2)

50m～100m

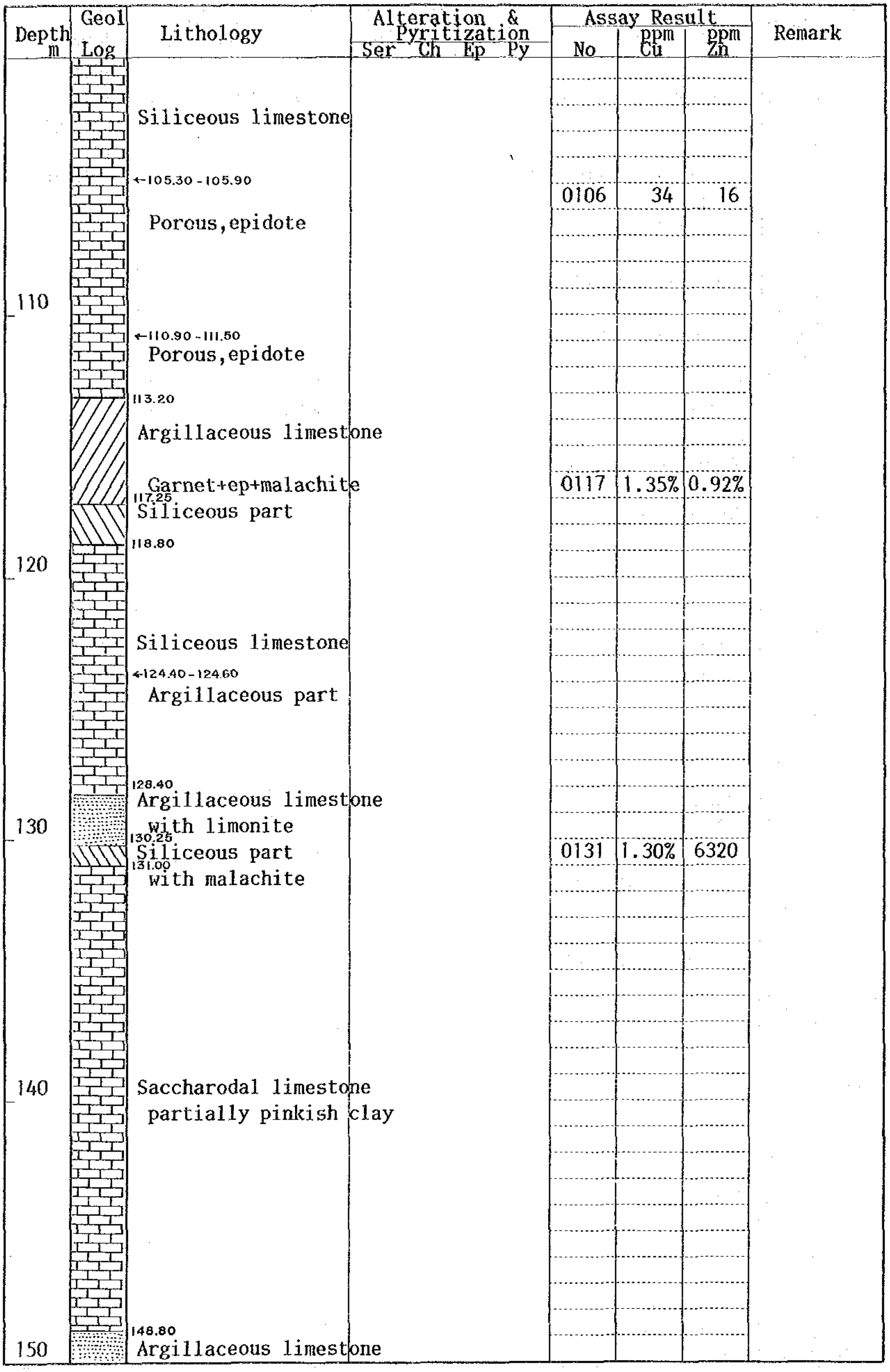


Depth m	Lithology	Alteration & Pyritization				Assay Result			Remark
		Ser	Ch	Ep	Py	No	ppm Cu	ppm Zn	
	Skarn zone(porous)					0052	2000	33	Au;<5ppb Ag;2.6ppm Mo;1ppm Sn;1ppm W;1ppm
	53.50								
	Calcarious-siliceous -argillaceous limestone								
	57.00								
	Limonite clay(fault)								
60	59.50								
	Garnet+ep-rich								
	62.50					0063	1.07%	72	
	Siliceous part					0064	4920	73	
	64.70								
	Argillaceous Garnet+ep-rich								
	67.00								
	White clay								
	67.50								
70									
	White massive limestone								
	Porous ep+clay								
	79.20								
80	79.70								
	Siliceous part with py+malachite					0081	4660	181	
	81.70								
	Cp+malachite(spot)								
90									
	Massive limestone with little py								
						0096	580	13	
	97.20								
	Porous,siliceous-calcareous part					0099	84	122	
100	99.40								

41

MJT－10(3)

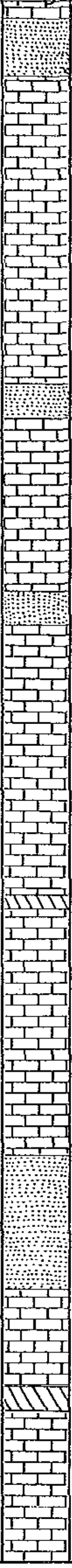
100m～150m



Depth m	Geol Log	Lithology	Alteration & Pyritization Ser Ch Ep Py	Assay Result No	ppm Cu	ppm Zn	Remark
		Siliceous limestone					
		←105.30-105.90 Porous,epidote		0106	34	16	
110							
		←110.90-111.50 Porous,epidote					
		113.20 Argillaceous limestone					
		Garnet+ep+malachite		0117	1.35%	0.92%	
		117.25 Siliceous part					
		118.80					
120							
		Siliceous limestone					
		←124.40-124.60 Argillaceous part					
		128.40 Argillaceous limestone with limonite					
130							
		130.25 Siliceous part		0131	1.30%	6320	
		131.00 with malachite					
140		Saccharodal limestone partially pinkish clay					
		148.80					
150		Argillaceous limestone					

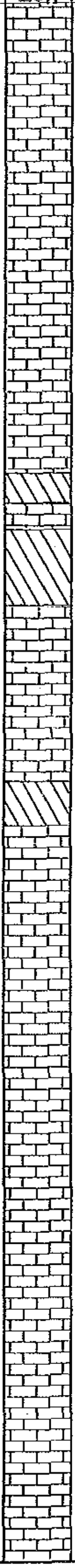
MJT−10(4)

150m～200m

Depth m	Geol Log	Lithology	Alteration & Pyritization				Assay Result			Remark
			Ser	Ch	Ep	Py	No	ppm Cu	ppm Zn	
		150.70 Argillaceous limestone 152.60								
160										
		162.40 Argillaceous limestone								
		169.00 Argillaceous limestone 170.10								
170										
		Massive limestone containig pinkish & white clay								
		178.70 Siliceous part with limonite along crack 179.10								
180										
		187.00 Limonite & clay along crack of limestone								
190										
		191.30								
		194.40 Siliceous part 195.20								
200										

MJT−10(5)

200m～250m



Depth m	Lithology	Alteration & Pyritization Ser	Ch	Ep	Py	Assay Result No	ppm Cu	ppm Zn	Remark
210	White saccharoidal limestone								
	215.30 Siliceous part 216.20					0216	245	680	
	217.05 Siliceous part 219.50					0219	52	100	W;1ppm
220									
	225.10 Siliceous part 226.50								
230									
240									
250									

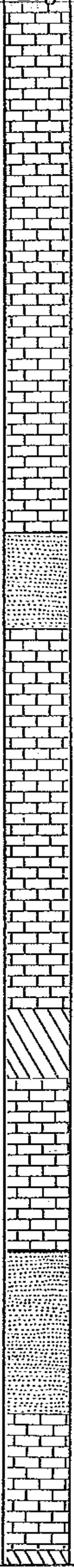
MJT−10(6)

250m～300m

Depth m	Geol Log	Lithology	Alteration & Pyritization Ser	Ch	Ep	Py	Assay Result No	ppm Cu	ppm Zn	Remark
260										
270										
		White saccharoidal limestone								
280										
		Quartz vein(wd:5mm)					0289	485	104	W;1ppm
290										
		Quartz+scheelite?					0292	20	14	W;1ppm
300										

MJT－10(7)

300m~351m



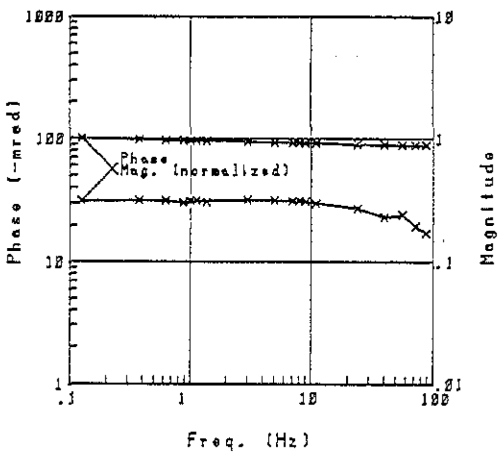
Depth m	Lithology	Alteration & Pyritization Ser	Ch	Ep	Py	Assay Result No	ppm Cu	ppm Zn	Remark
	White saccharoidal limestone					0302	20	8	W;1ppm
310									
	317.40					0318	36	54	W;1ppm
320	Tuffaceous~sandy limestone								
	320.50								
330									
	332.80								
	Siliceous part with py					0335	47	8	W;1ppm
	335.10								
340						0340	39	5	W;1ppm
	340.70								
	Muddy~tuffaceous limestone								
						0346	23	30	W;1ppm
	346.00								
						0348	9	15	W;1ppm
350	350.50								
351	Siliceous part					0351*	40	184	

*: Au;<10ppb, Ag;0.6ppm, W;5ppm, Sn;1ppm, Mo;8ppm

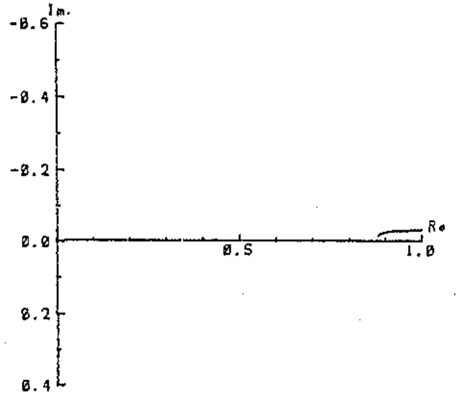
Hasandere Area

Phase spectra and Cole-Cole diagrams of Core samples

NO. 1

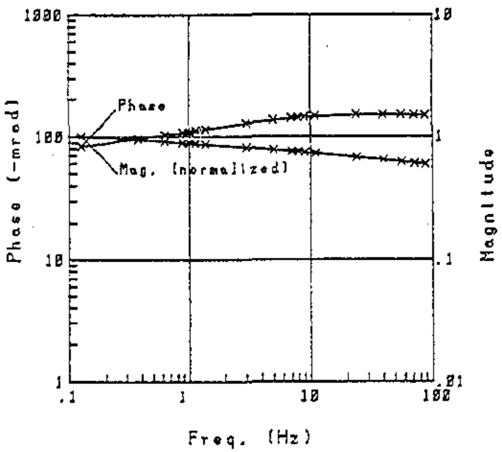


NO. 1 Cole-Cole Diagram

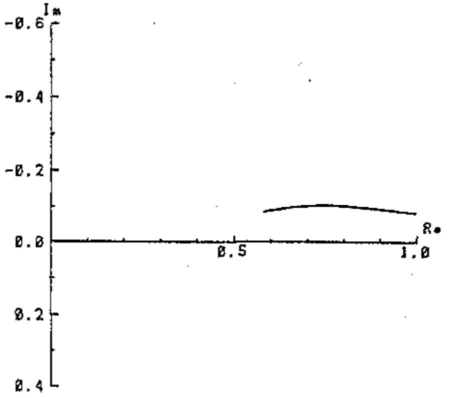


Rock : Porphyritic granite pgl
Spectrum : B type
Phase : 31.1 -m rad
PFE : 4.3 %
Resistivity : 797 ohm-m

NO. 2

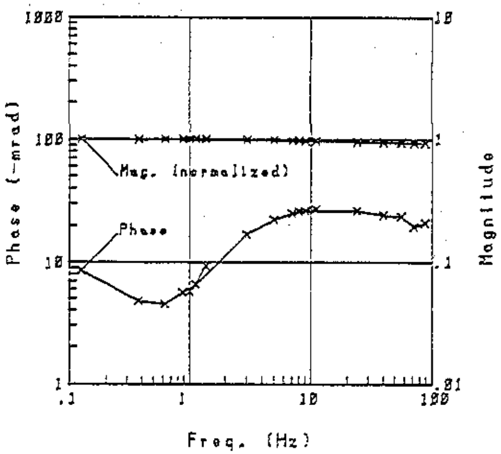


NO. 2 Cole-Cole Diagram

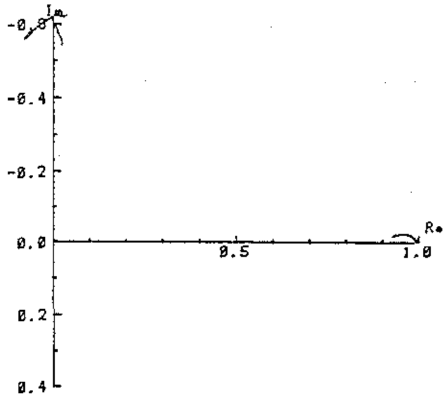


Rock : Porphyritic granite pgl
Spectrum : D type
Phase : 83.1 -m rad
PFE : 13.3 %
Resistivity : 990 ohm-m

NO. 3

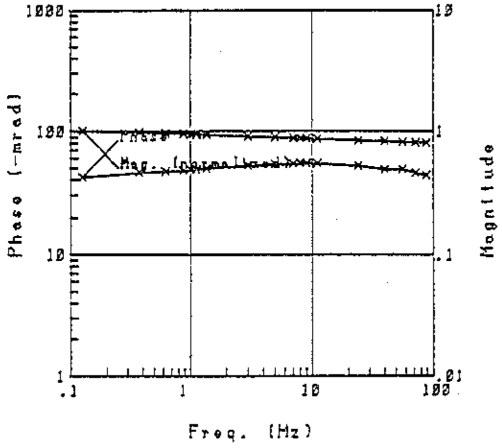


NO. 3 Cole-Cole Diagram

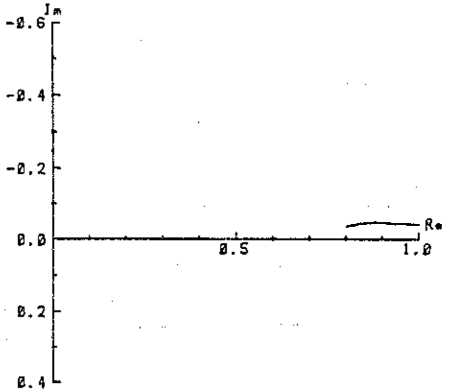


Rock : Porphyritic granite pgl
Spectrum : E type
Phase : 8.5 -m rad
PFE : 0.4 %
Resistivity : 360 ohm-m

NO. 4

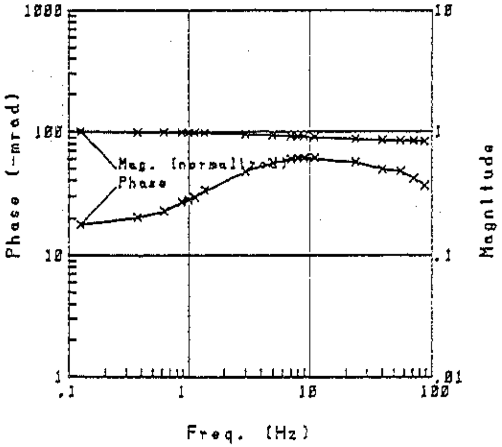


NO. 4 Cole-Cole Diagram

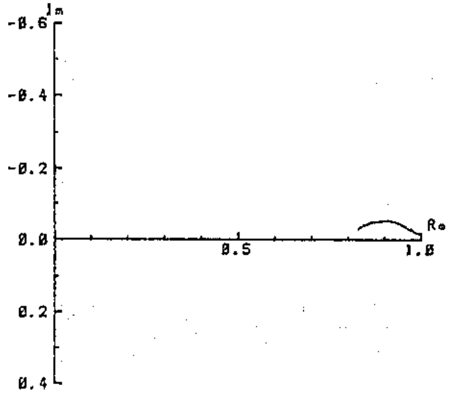


R o c k : Porphyritic granite pgl
Spectrum : D type
P h a s e : 41.8 -m rad
P F E : 6.3 %
Resistivity : 1,390 ohm-m

NO. 5

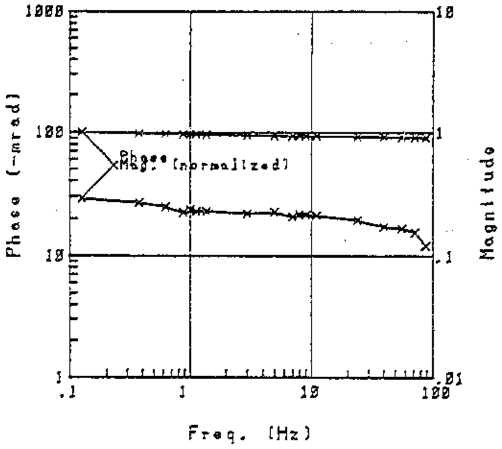


NO. 5 Cole-Cole Diagram

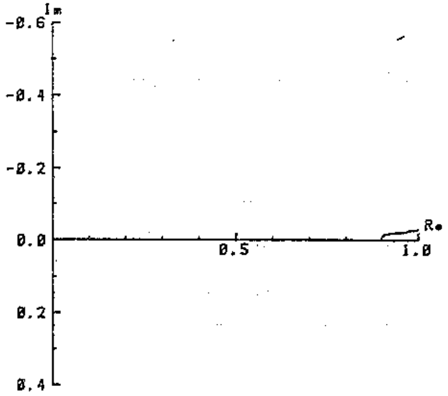


R o c k : Porphyritic granite pgl
Spectrum : D type
P h a s e : 17.7 -m rad
P F E : 2.3 %
Resistivity : 258 ohm-m

NO. 6

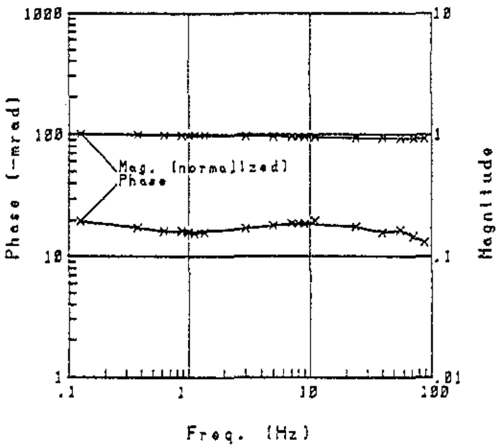


NO. 6 Cole-Cole Diagram

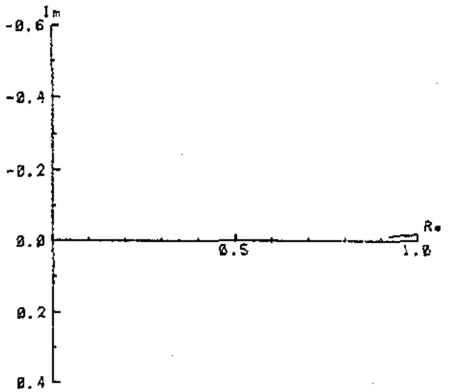


R o c k : Porphyritic granite pgl
Spectrum : Y type
P h a s e : 28.7 -m rad
P F E : 3.7 %
Resistivity : 652 ohm-m

NO. 7

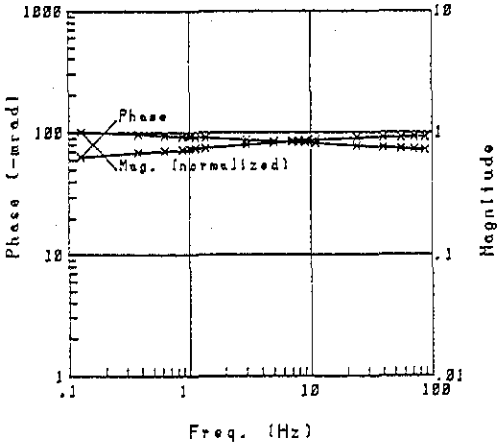


NO. 7 Cole-Cole Diagram

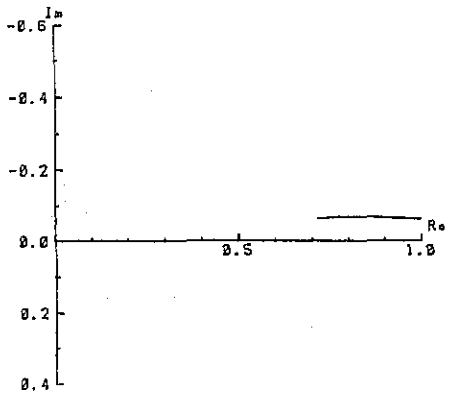


Rock : Porphyritic granite pgl
Spectrum : Y type
Phase : 19.5 -m rad
P F E : 2.4 %
Resistivity : 1,100 ohm-m

NO. 8

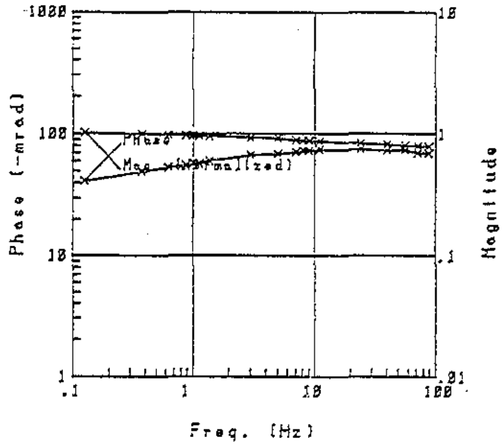


NO. 8 Cole-Cole Diagram

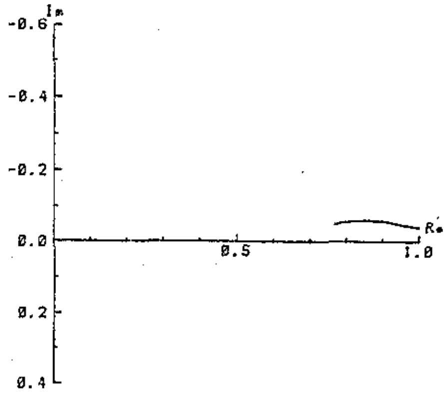


Rock : Porphyritic granite pgl
Spectrum : A type
Phase : 63.0 -m rad
P F E : 9.3 %
Resistivity : 3,560 ohm-m

NO. 9

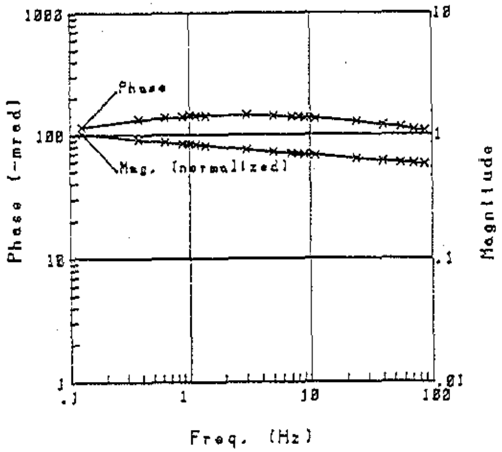


NO. 9 Cole-Cole Diagram

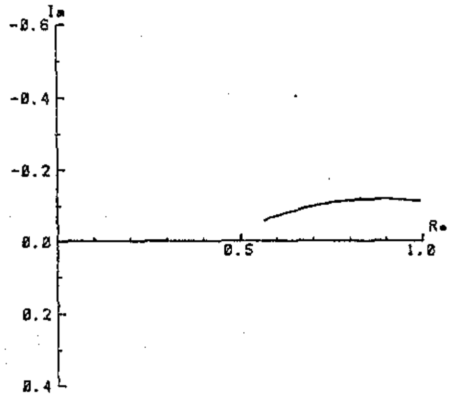


Rock : Porphyritic granite pgl
Spectrum : D type
Phase : 41.2 -m rad
P F E : 6.6 %
Resistivity : 2,160 ohm-m

NO. 10

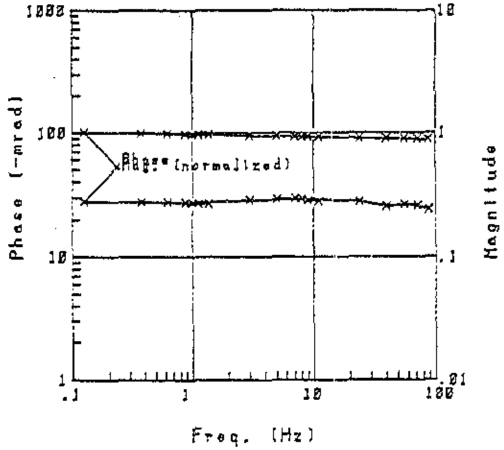


NO. 10 Cole-Cole Diagram

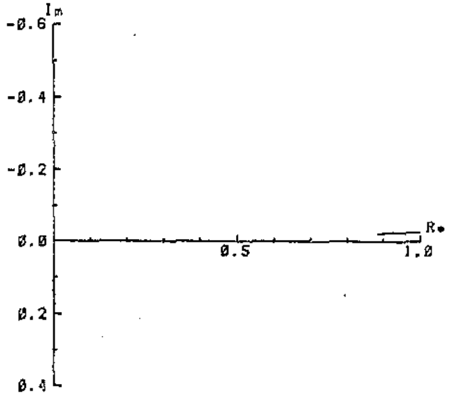


R o c k : Basaltic andesite
Spectrum : D type
P h a s e : 114.0 -m rad
P F E : 20.2 %
Resistivity : 5,690 ohm-m

NO. 11

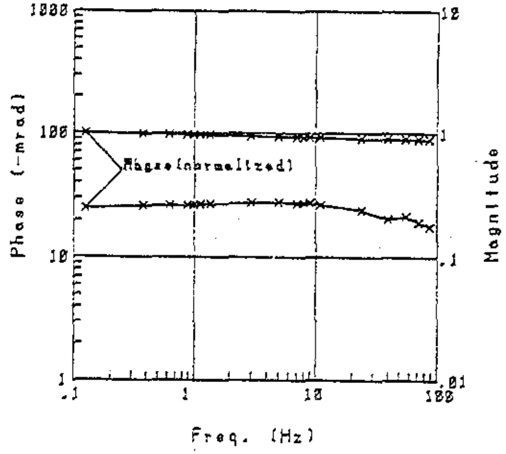


NO. 11 Cole-Cole Diagram

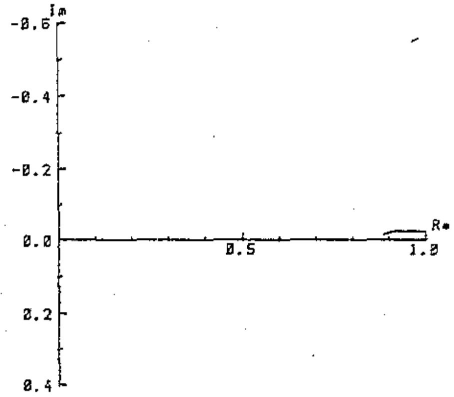


R o c k : Porphyritic granite pg1
Spectrum : B type
P h a s e : 27.9 -m rad
P F E : 3.8 %
Resistivity : 1,440 ohm-m

NO. 12

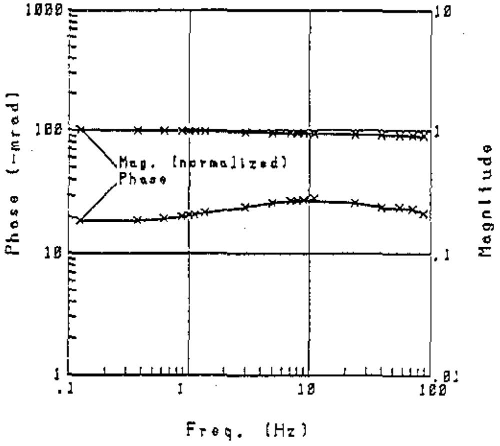


NO. 12 Cole-Cole Diagram

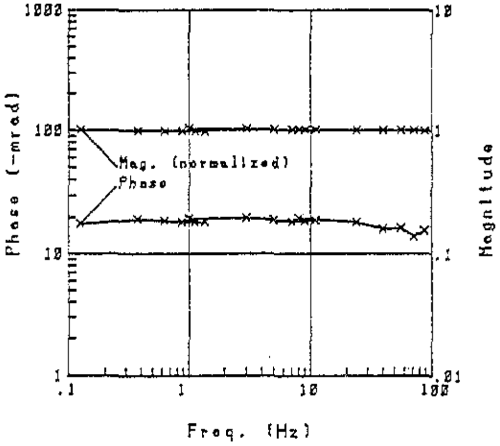


R o c k : Porphyritic granite pg2
Spectrum : B type
P h a s e : 24.7 -m rad
P F E : 3.6 %
Resistivity : 1,630 ohm-m

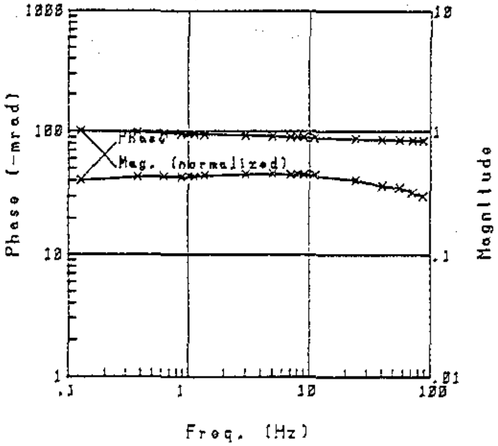
NO. 13



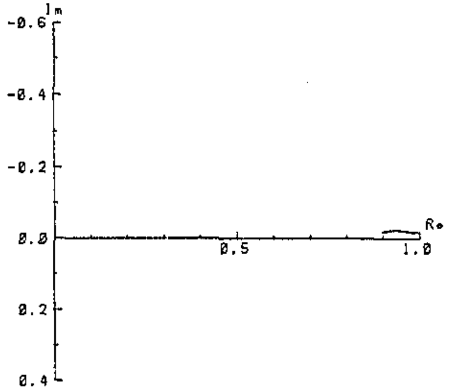
NO. 14



NO. 15

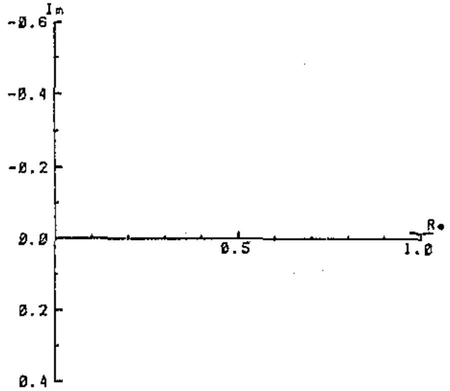


NO. 13 Cole-Cole Diagram



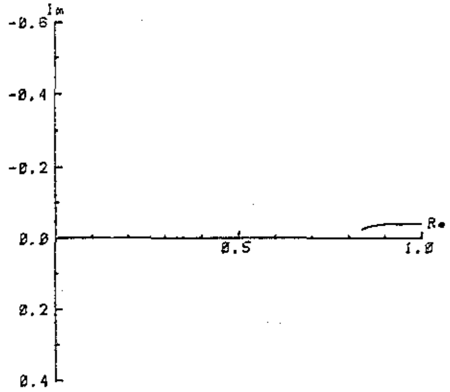
R o c k : Porphyritic granite pg1
Spectrum : D type
P h a s e : 18.7 -m rad
P F E : 2.5 %
Resistivity : 892 ohm-m

NO. 14 Cole-Cole Diagram



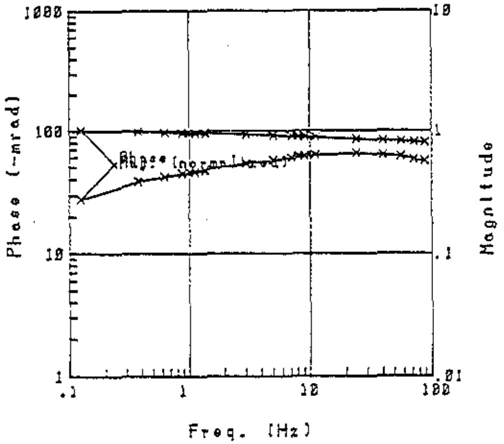
R o c k : Porphyritic granite pg2
Spectrum : B type
P h a s e : 17.5 -m rad
P F E : 2.6 %
Resistivity : 3,720 ohm-m

NO. 15 Cole-Cole Diagram

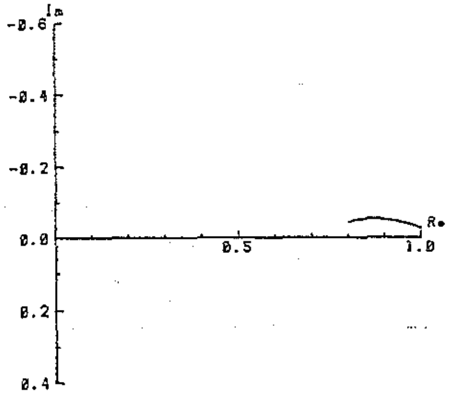


R o c k : Porphyritic granite pg2
Spectrum : B type
P h a s e : 40.1 -m rad
P F E : 6.0 %
Resistivity : 1,580 ohm-m

NO. 16

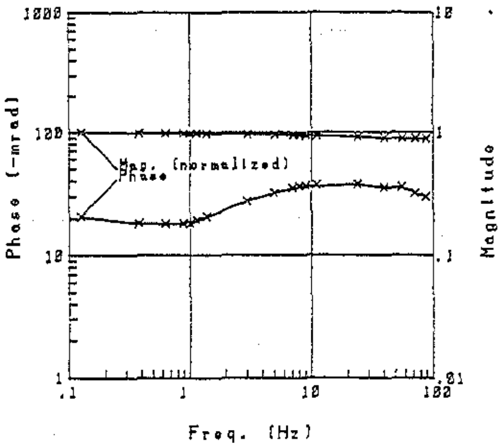


NO. 16 Cole-Cole Diagram

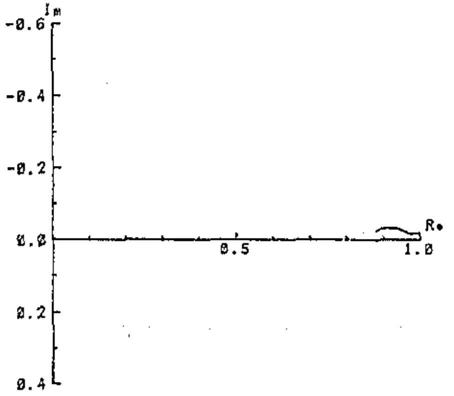


R o c k : Porphyritic granite pg1
Spectrum : D type
P h a s e : 27.6 -m rad
P F E : 5.2 %
Resistivity : 889 ohm-m

NO. 17

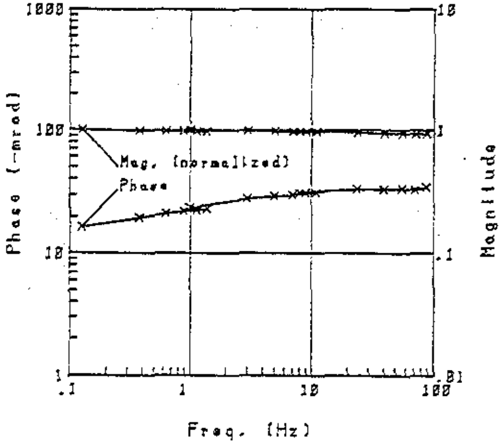


NO. 17 Cole-Cole Diagram

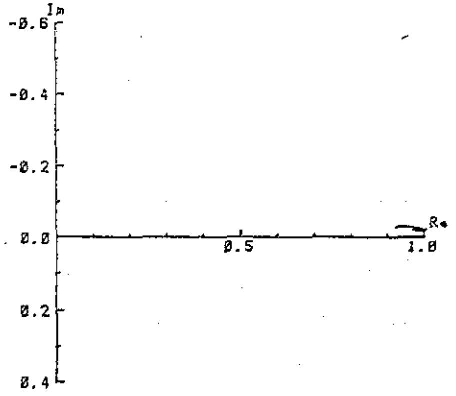


R o c k : Porphyritic granite pg2
Spectrum : E type
P h a s e : 20.5 -m rad
P F E : 2.4 %
Resistivity : 405 ohm-m

NO. 18

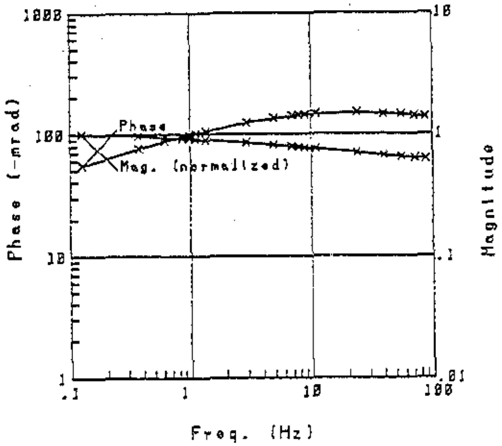


NO. 18 Cole-Cole Diagram

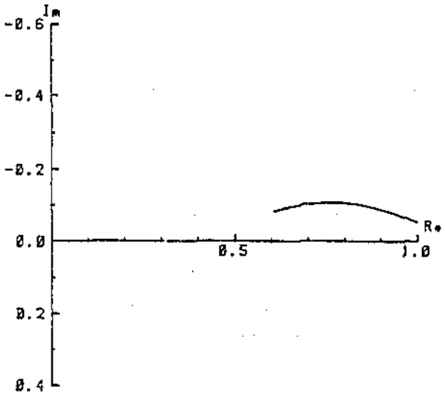


R o c k : Porphyritic granite pg1
Spectrum : D type
P h a s e : 16.4 -m rad
P F E : 2.7 %
Resistivity : 7,300 ohm-m

NO. 19

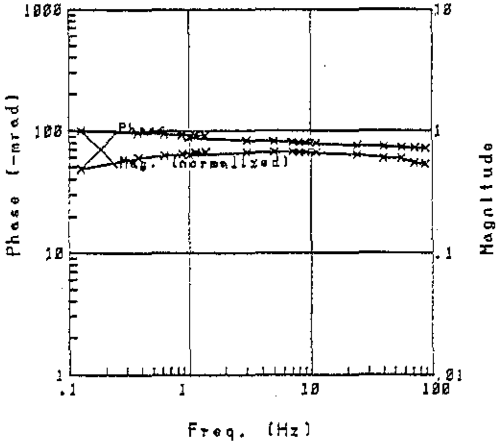


NO. 19 Cole-Cole Diagram

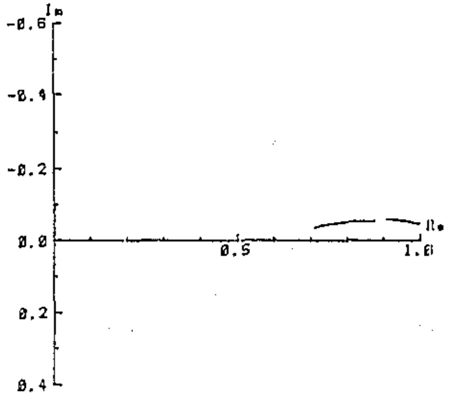


R o c k : Porphyritic granite pgl
Spectrum : D type
P h a s e : 54.5 -m rad
P F E : 10.2 %
Resistivity : 2,530 ohm-m

NO. 20

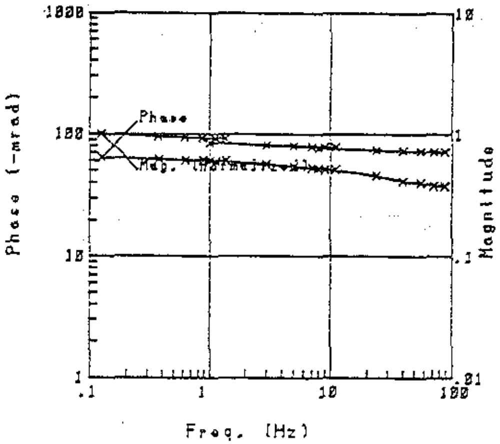


NO. 20 Cole-Cole Diagram

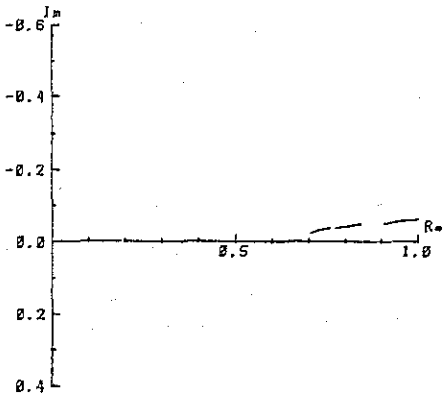


R o c k : Porphyritic granite pgl
Spectrum : D type
P h a s e : 47.9 -m rad
P F E : 8.3 %
Resistivity : 1,600 ohm-m

NO. 21

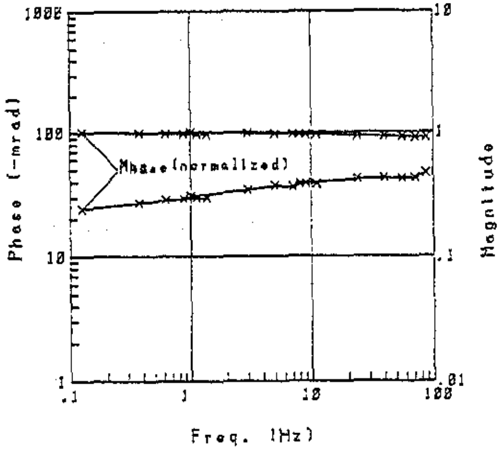


NO. 21 Cole-Cole Diagram

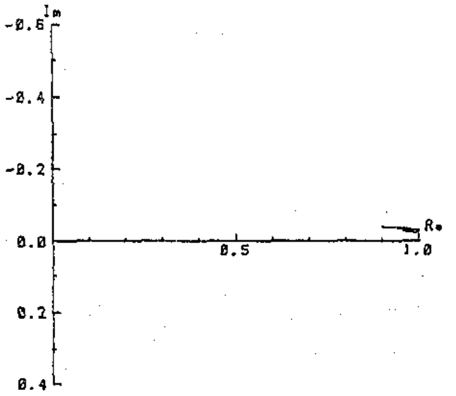


R o c k : Porphyritic granite pgl
Spectrum : Y type
P h a s e : 62.7 -m rad
P F E : 8.5 %
Resistivity : 4,200 ohm-m

NO. 22

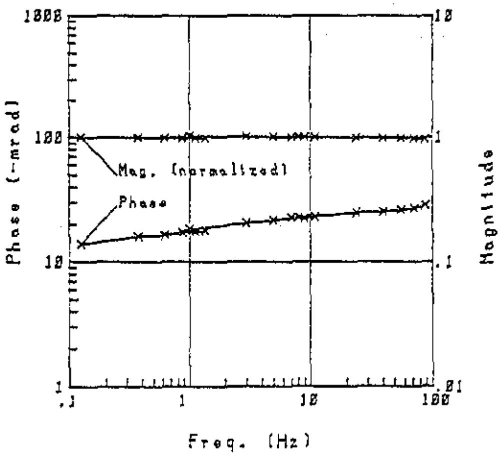


NO. 22 Cole-Cole Diagram

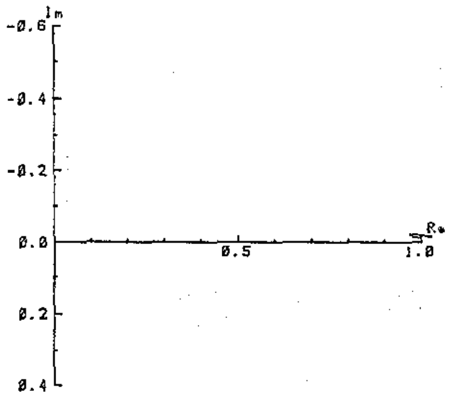


R o c k : Porphyritic granite pgl
Spectrum : A type
P h a s e : 24.0 -m rad
P F E : 3.7 %
Resistivity : 6,700 ohm-m

NO. 23

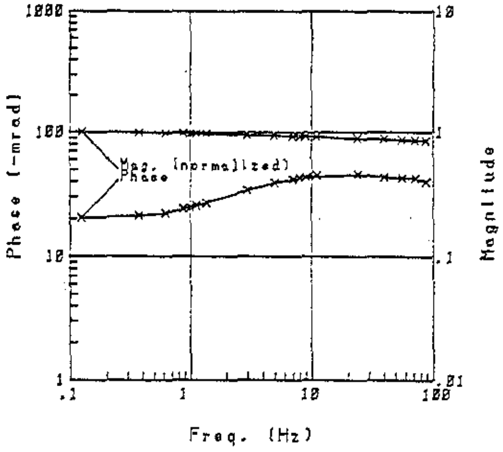


NO. 23 Cole-Cole Diagram

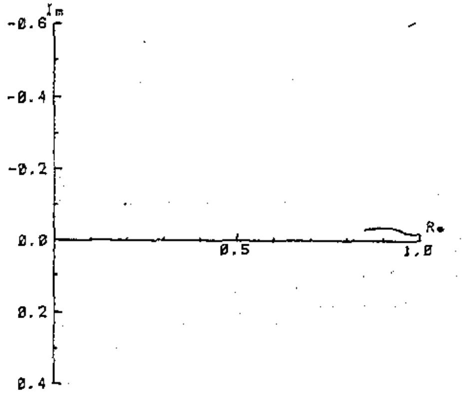


R o c k : Qurtz vein
Spectrum : A type
P h a s e : 13.8 -m rad
P F E : 2.2 %
Resistivity : 3,120 ohm-m

NO. 24

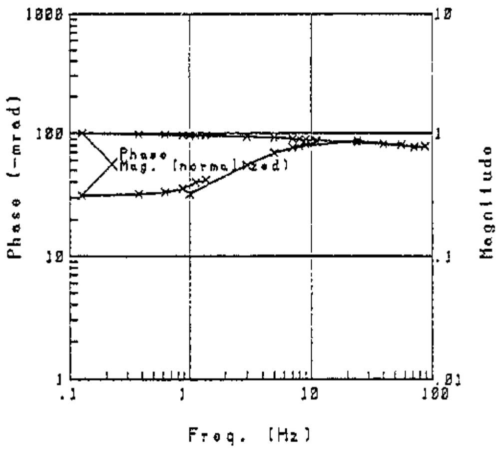


NO. 24 Cole-Cole Diagram

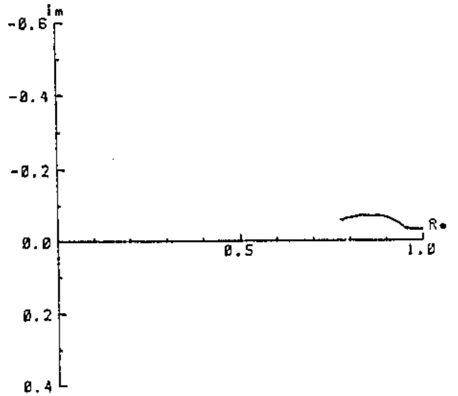


R o c k : Porphyritic granite pgl
Spectrum : E type
P h a s e : 20.3 -m rad
P F E : 2.7 %
Resistivity : 911 ohm-m

NO. 25



NO. 25 Cole-Cole Diagram



Rock : Porphyritic granite pgl
Spectrum : E type
Phase : 31.2 -m rad
PFE : 3.9 %
Resistivity : 195 ohm-m