

REFERENCES

REFERENCES

- (1) Almeida F.F.M., Hasui Y., Brito Neves B.B. and Fuck R.A. – 1981 – Brazilian structural provinces; an introduction, *Earth-Sci., Rev.*, 17: 1-29.
- (2) Almeida F.F.M. e Hasui, Y. – 1984 – O Precambriano do Brasil.
- (3) CNEN/DNPM/CPRM – 1973 – Levantamento Aerocintilométrico Projecto Serra da Mesa.
- (4) CNEN/DNPM/CPRM – 1977 – Projeto Serra da Mesa II-Goiás, Relatório Final.
- (5) CPRM – 1984 – Projeto Palmeiropolis Informe Técnico.
- (6) DNPM – 1975 – Carta Geológica do Brasil ao Miliodésimo, Folha Goiás SD-22.
- (7) DNPM/MME – 1981 – Projeto RADAMBRASIL, Vol. 25.
- (8) DNPM – 1981 – Geologia e Inventário dos Recursos Minerais do Região Central do Estado de Goiás – Projeto Brasília –.
- (9) DNPM – 1981 – Os Principais Depósitos Minerais do Região Centro-Oeste.
- (10) DNPM – 1983 – Levantamento Aeriofísico do Projeto Palmeiropolis-Go.
- (12) DNPM – 1983 – Garimpos do Brasil.
- (13) DNPM – 1984 – Garimpos do Brasil.
- (14) DNPM – 1984 – Geologia do Brasil.
- (15) DNPM – Projeto Mapas Metalogenéticos e de Previsão de Recursos Minerais – Porangatu – Folha SD-22-X-D.
- (16) DNPM – Projeto Mapas Metalogenéticos e de Previsão de Recursos Minerais – Alvorada – Folha SD-22-X-B.
- (17) Whitten, E.H. Timothy – 1966 – *Structural Geology of Folded Rocks*, Rand Mc. Nally & Company.
- (18) Girardi A.V. and Kurat G. – 1982 – Precambrian Mafic and Ultramafic Rock of the CANA BRAVA Complex, Brasil.
- (19) Hasui Y. et al. – 1980 – Datações Rb-Sr e K-Ar Centro Norte do Brasil e seu Significado Geológico-Geotectônico, XXXI Congresso Brasileiro de Geologia.
- (20) Guilbert, John M. Park, Charles F. Jr. – 1986 – *The Geology of Ore Deposits*, W.H. Freeman and Company.
- (21) Louis L. – 1978 – Aspectos Geotectônicos da África Ocidental a Leste do Golfo da Guiné com Referência às Conexões Estruturais e Litológicas Brasil e África, XXX Congresso Brasileiro de Geologia.

- (22) Meyers, R.E. and MacLean, W.H. — 1983 — The geology of the New Inco copper deposit, Noranda district, Quebec, CAN. J. EARTH SCI., Vol. 20, 1291-1304.
- (23) Miyashiro, A., — 1965 — Metamorphic Rocks and Metamorphic Belt, Iwanami Shoten (in Japanese)
- (24) MMAJ — 1985 — Report on Morro Agudo and Palmeiropolis Project, Brasil.
- (25) MMAJ, JICA — 1986, 1987 — Report on the Cooperative Mineral Exploration in the Palmeiropolis Area, Federative Republic of Brazil.
- (26) Sato, Takeo. — 1983 — Kuroko-type Deposits in Earth's History, The Society of Mining Geologists of Japan, Mining Geology Special Issue No. 11.
- (27) Severin, P.W.A. — 1982 — Geology of the Sturgeon Lake Copper-Zinc-Lead-Silver-Gold Deposit, CIM. Bull., Vol. 75, 107-123.
- (28) Suszczynski E. — 1981 — South America, Structural Framework, Chapter 13 of Precambrian of the Southern Hemisphere.

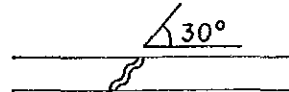
APPENDICES

LEGEND

am : amphibolite
 bi : biotite
 brn : brown
 c : coarse
 cal : calcite Cb : cubanite
 chl : chlorite Cp : chalcopyrite
 d, dissem : dissemination
 dk : dark Epi : epidote
 f : fine
 Fd : folding
 ga : galena
 gn : garnet
 grn : green
 lim : limonite
 lt : light
 m : medium
 mass : massive
 ms : muscovite
 n : network
 pl : plagioclase
 pr : pyrrhotite
 py : pyrite
 qt : quartz
 sch : schist Sp : Sphene
 sph : sphalerite
 st : staurolite
 str : stringer
 v : vein
 vc : very coarse
 w : width
 yell : yellow

⊙ : prominent
 ⊕ : abundant
 ○ : common
 ◦ : a little
 • : rare
 ① : sample for ore analysis
 ② : sample for polished section
 ③ : sample for thin section
 ④ : sample for physical property

$\angle 30^\circ$: angle between the
 drilling core and the target



Numbers in "schistosity" column
 are the angle formed between the
 drilling core and schistosity

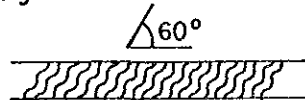
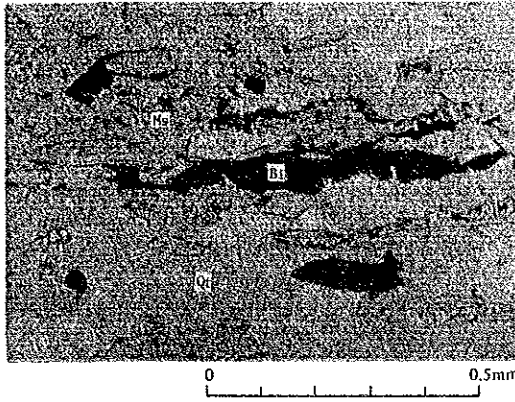


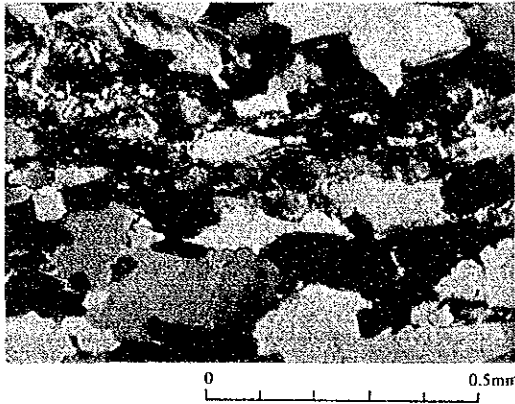
Photo A-1 Microphotograph of Thin Section

Thin Section



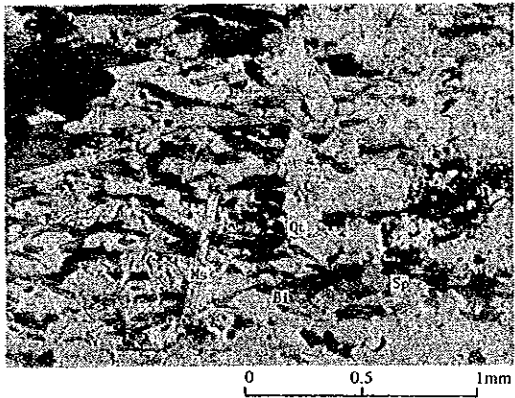
Sample, Depth: MBP--4, 30.00m
Rock Name : Ms-Bi-Qt Sch
Texture : schistose

(only lower polar)



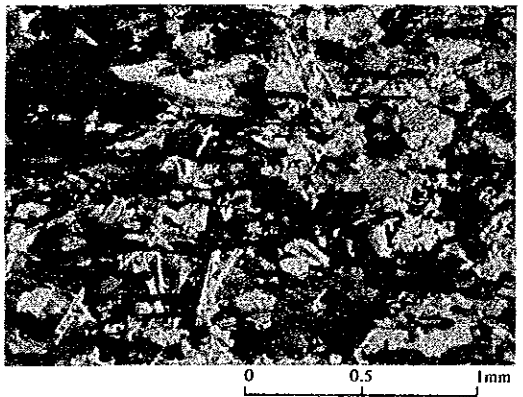
ditto

(crossed polars)



Sample, Depth : MBP--4, 72.15m
Rock Name : Bi-Ms Sch (Sphene in Bi)
Texture : schistose

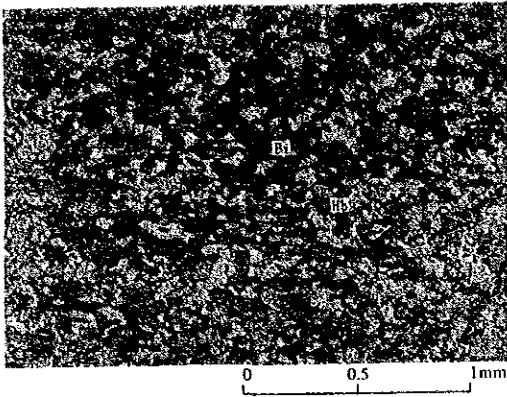
(only lower polar)



ditto

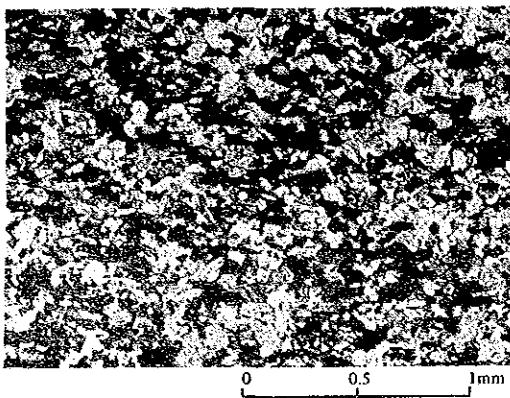
(crossed polars)

Thin Section



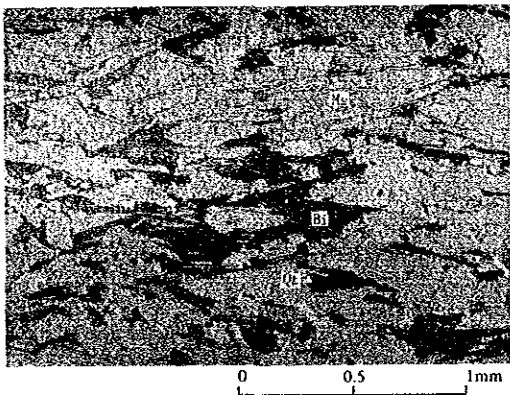
Sample, Depth: MBP-4, 290.55m
Rock Name : Hb Sch (Bi included)
Texture : schistose

(only lower polar)



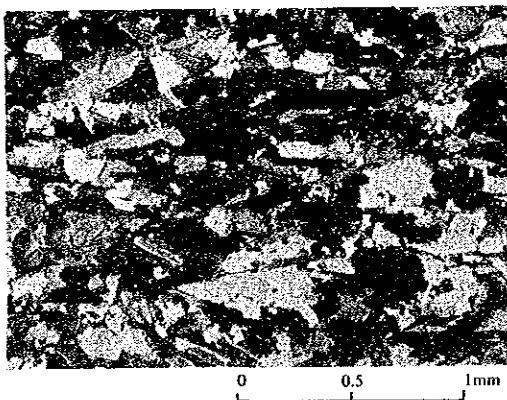
ditto

(crossed polars)



Sample, Depth: MBP-5, 218.00m
Rock Name : Bi-Ms-Qt Sch
Texture : schistose

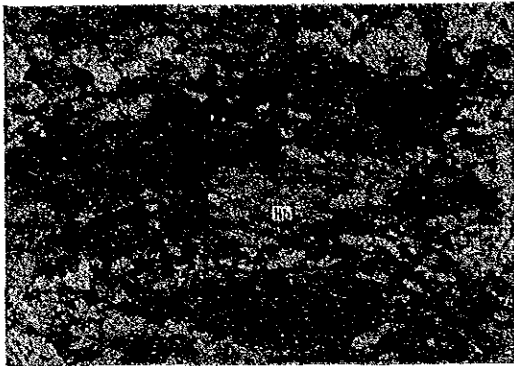
(only lower polar)



ditto

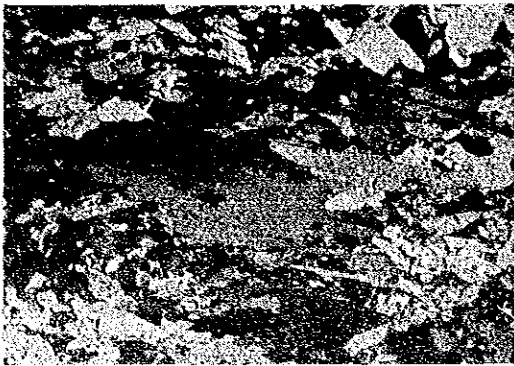
(crossed polars)

Thin Section



Sample, Depth: MBP-5, 249.55m
Rock Name : Hb Sch
Texture : schistose

(only lower polar)



ditto

(crossed polars)



Sample, Depth: MBP-6, 220.00m
Rock Name : Chl-Ms Sch (Epidote included)
Texture : schistose

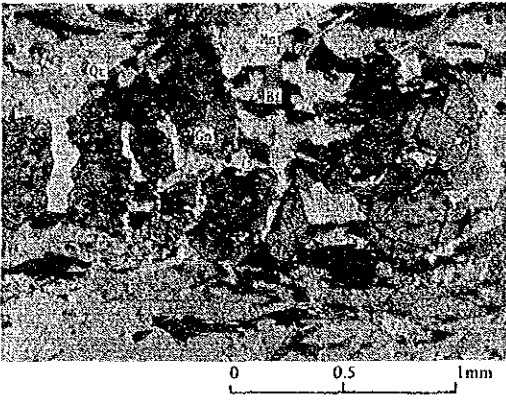
(only lower polar)



ditto

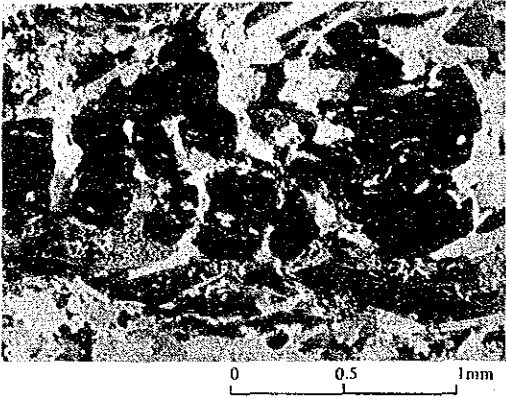
(crossed polars)

Thin Section



Sample, Depth : MBP-6, 395.75m
Rock Name : Gn-Bi-Ms-Qt Sch
Texture : schistose

(only lower polar)



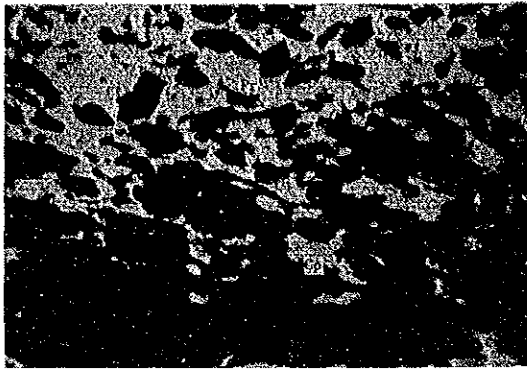
ditto

(crossed polars)

Photo A-2

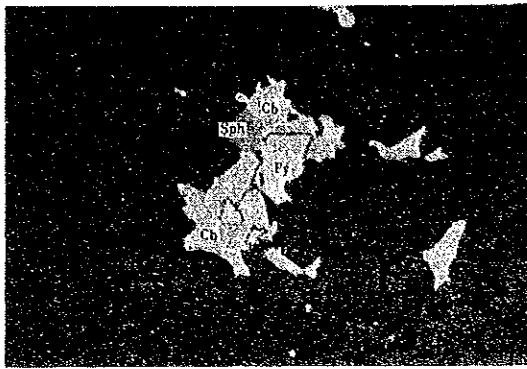
Microphotograph of Polished Section

Polished Section



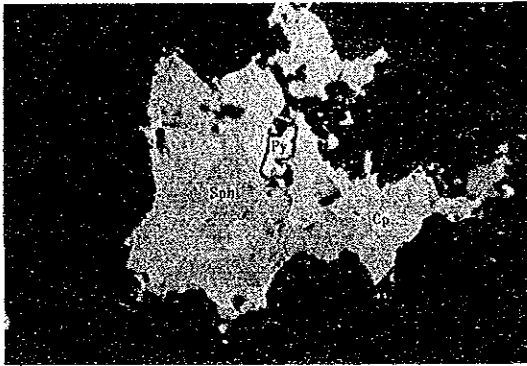
0 0.5 1mm

Sample, Depth : MBP-4, 287.10m
Occurrence : laminated
Minerals : Pr >> Cp > Sph



0 0.5mm

Sample, Depth : MBP-5, 210.30m
Occurrence : irregular veinlet
Minerals : Cp · Sph > Py · Cubanite



0 0.5 1mm

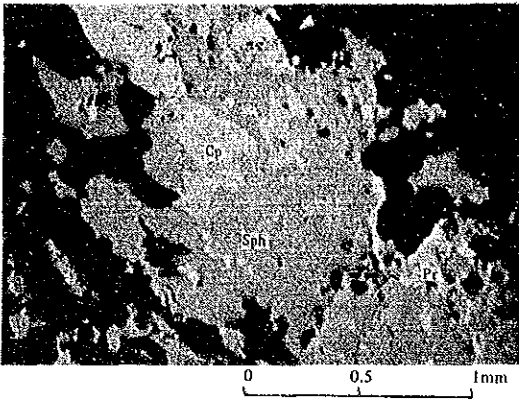
ditto



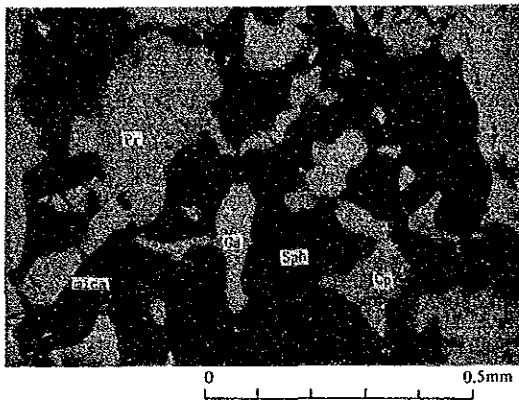
0 0.5mm

Sample, Depth: MBP-6, 370.40m
Occurrence : irregular veinlet
Minerals : Cp · Sph > Ga · Py

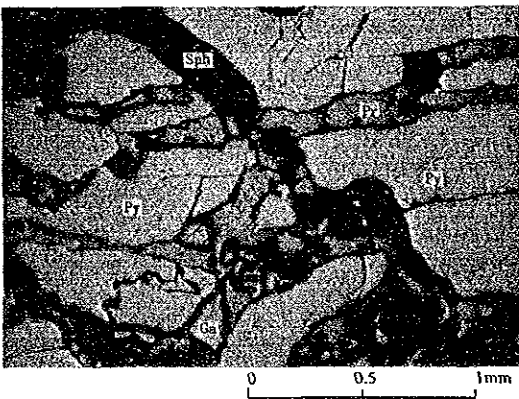
Polished Section



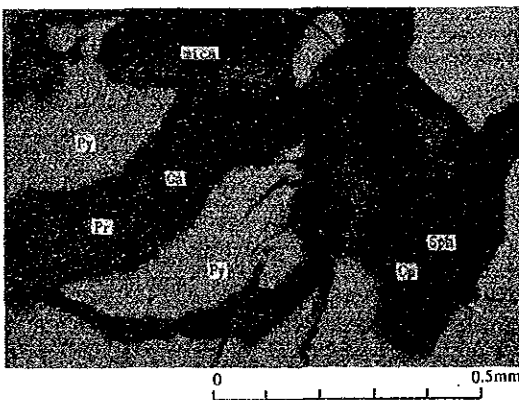
ditto



Sample, Depth : PM-138-GO, 183.20m
 Occurrence : massive polymetallic
 Minerals : Pr · Sph > Cp · Ga >> Py

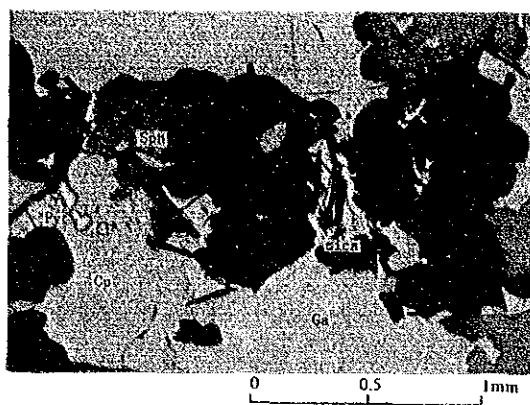


Sample, Depth : PM-138-GO, 194.70m
 Occurrence : massive polymetallic
 Minerals : Sph · Py > Pr > Cp · Ga

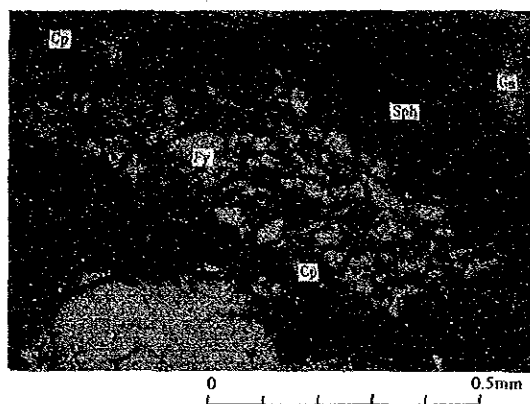


ditto

Polished Section



Sample, Depth: MBP-4, 43.65m
Occurrence : irregular veinlet
Minerals : Sph > Cp · Ga · Py



ditto

TableaA-1 Microscopic Observations (Thin Section)

No.	Sample Depth	Rock Name	Texture	Minerals																					
				Quartz	Potash Feldspar	Plagioclase	Biotite	Muscovite	Hornblende	Garnet	Sphene	Zircon, Pleochroic halo	Apatite	Chlorite	Epidote	Calcite	Leucoxine	Muscovite (fine grained)	Opaque Minerals						
1	MBP-4 ; 30.00m	Ms-Bi-Qt Sch	Schistose	☉			•	⊙														•			
2	MBP-4 ; 72.15m	Bi-Ms-Qt Sch	Schistose	○	•		○	○				○													
3	MBP-4 ; 282.85m	Bi-Ms-Qt Sch	Schistose	☉	•	○	○	○																	
4	MBP-4 ; 290.55m	Am Sch	Schistose	○			•		⊙																
5	MBP-5 ; 218.00m	Bi-Ms-Qt Sch	Schistose	☉	•		○	○																	
6	MBP-5 ; 227.95m	Ms-(Chl)-Qt Sch	Schistose	☉	•			○																	
7	MBP-5 ; 249.55m	Am Sch	Schistose					○		⊙															
8	MBP-6 ; 220.00m	Chl-Ms-Qt Sch	Schistose	○	○	•		○															○		
9	MBP-6 ; 370.75m	Ms-Bi-Qt Sch	Schistose	☉	•		○	○																	
10	MBP-6 ; 395.75m	Gn-Bi-Ms-Qt Sch	Schistose	☉		•		○																	

TableA-2

Microscopic Observations (Polished Section)

No.	Sample Depth	Occurrence	Minerals							
			Chalcopyrite	Sphalerite	Galena	Pyrrhotite	Pyrite	Cubanite	Gangue Minerals	
1	MBP-4 ; 43.65m	irregular veinlet	○	○	○		○*			◎
2	MBP-4 ; 287.10m	laminated pyrrhotite ore	○	•		◎				○
3	MBP-5 ; 210.30m	irregular veinlet	○	○			•	•		◎
4	MBP-6 ; 370.40m	irregular veinlet	○	○	•	•				◎
5	PM-138 ; 183.20m	massive polymetallic ore	○	◎	○	◎	•			○
6	PM-138 ; 194.70m	massive polymetallic ore	○	◎	○	○	◎			○

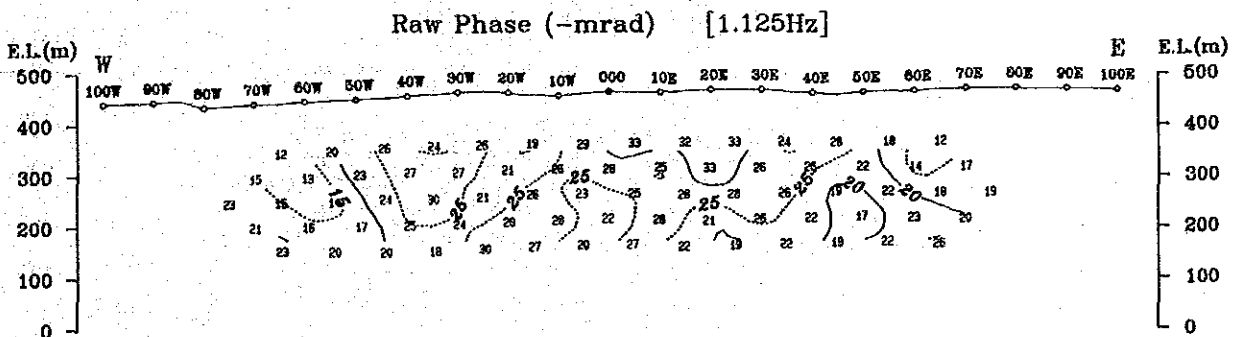
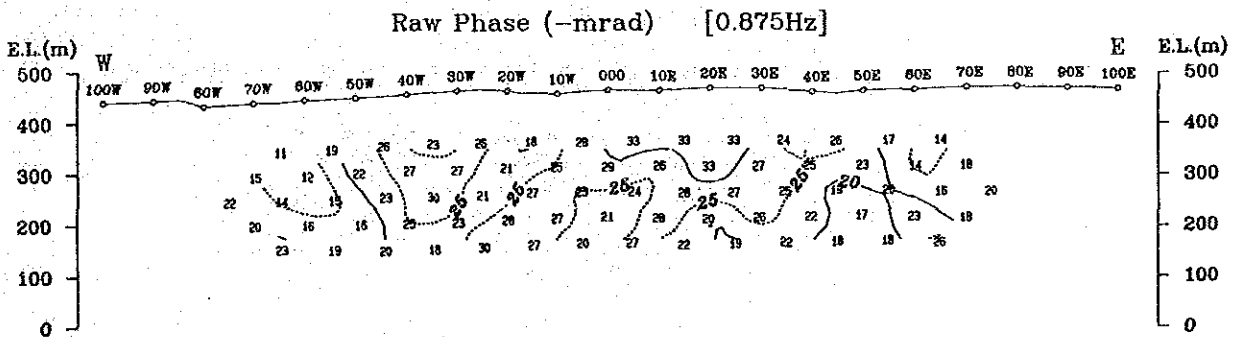
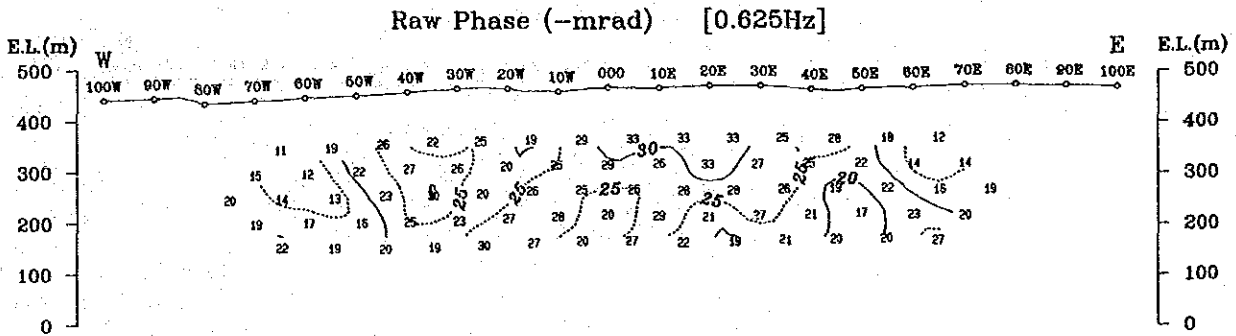
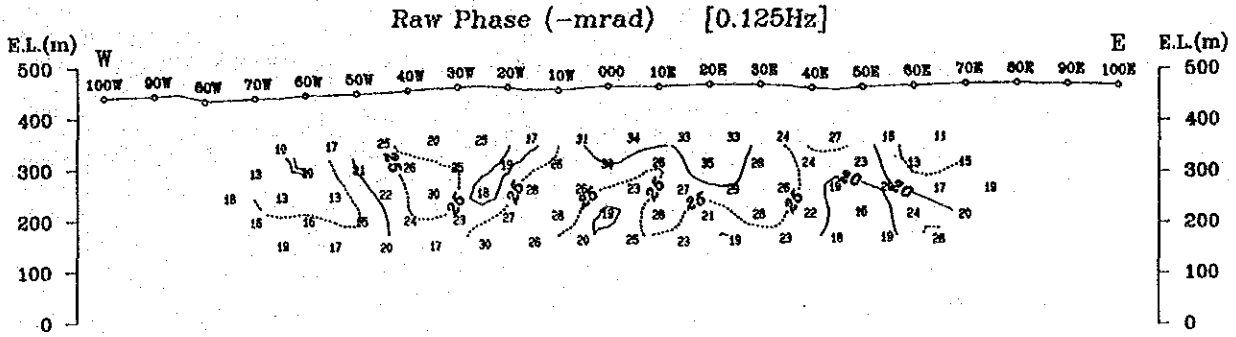
* brecciated

Fig. A-1

Phase Pseudo-Section

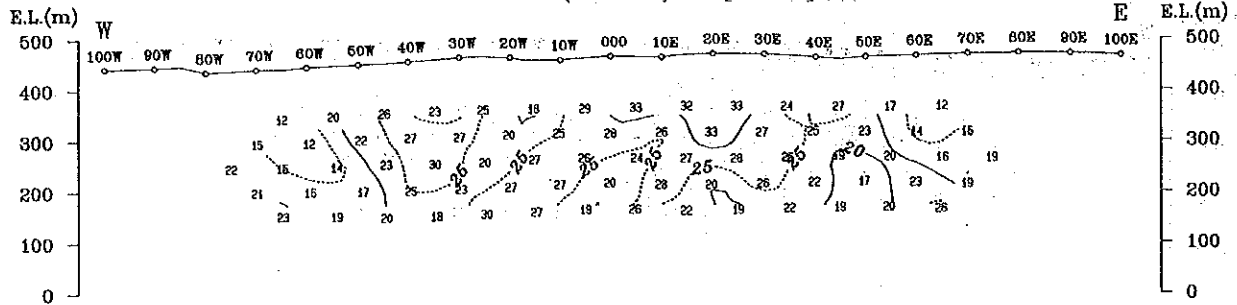
Line-1345S	[0.125Hz - 7.0Hz]
Line-1375S	[0.125Hz - 7.0Hz]
Line-1405S	[0.125Hz - 7.0Hz]
Line-1420S	[0.125Hz - 7.0Hz]
Line-1430S	[0.125Hz - 7.0Hz]
Line-1450S	[0.125Hz - 7.0Hz]
Line-20E	[0.125Hz - 7.0Hz]

Line-1345S

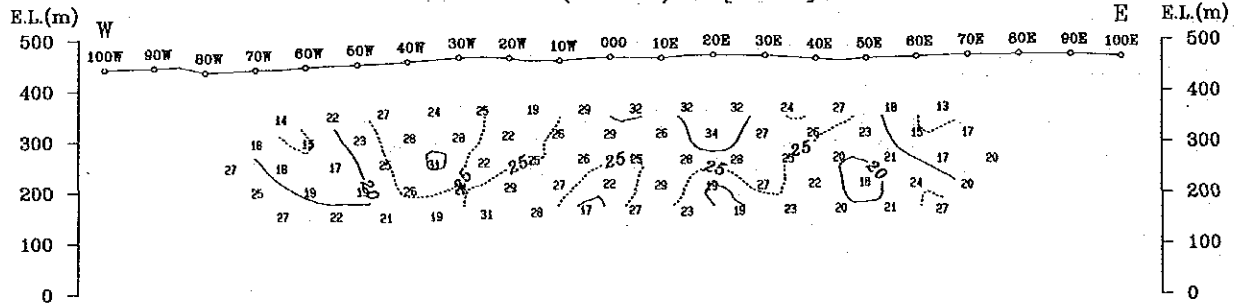


Line-1345S

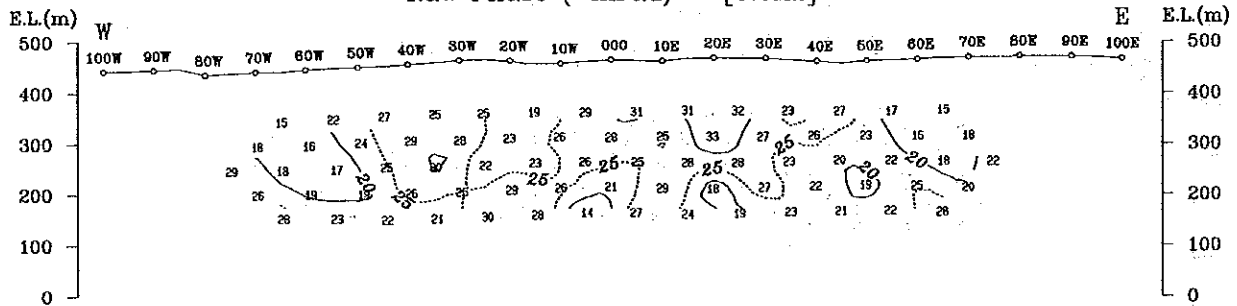
Raw Phase (-mrad) [1.0Hz]



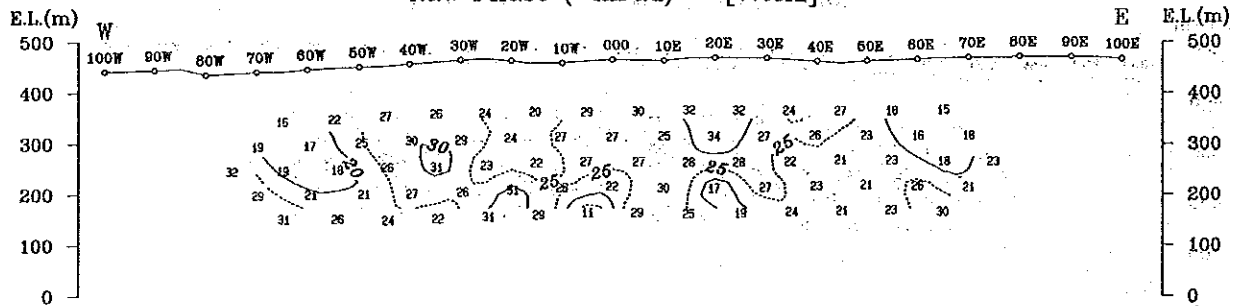
Raw Phase (-mrad) [3.0Hz]



Raw Phase (-mrad) [5.0Hz]

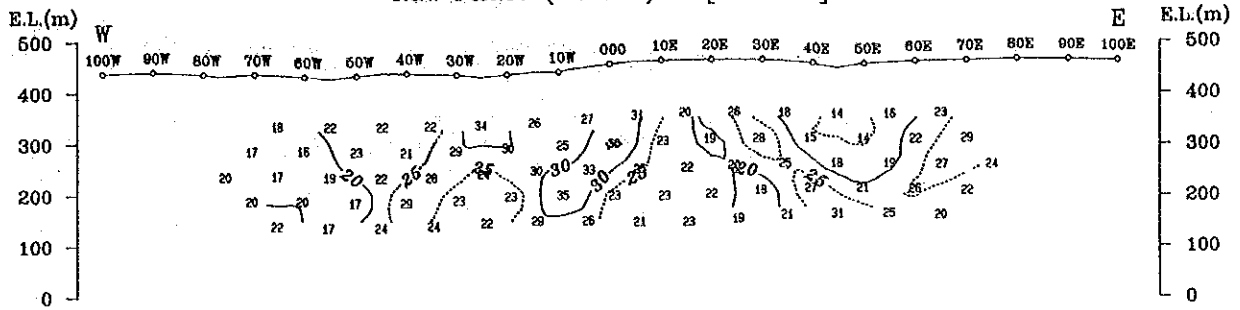


Raw Phase (-mrad) [7.0Hz]

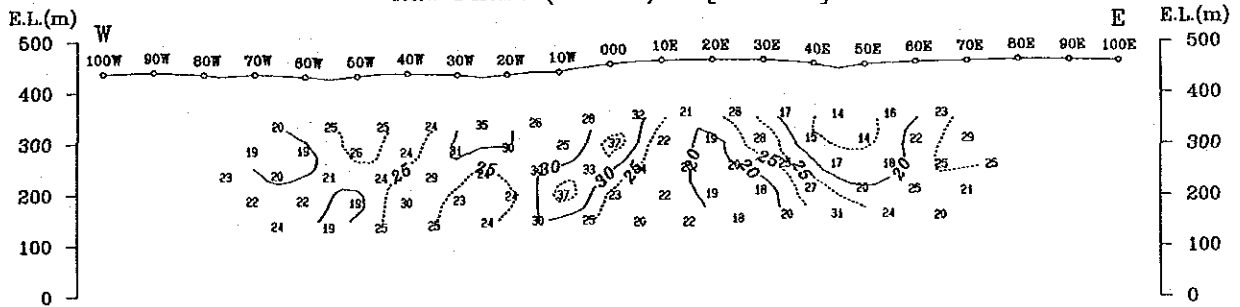


Line-1375S

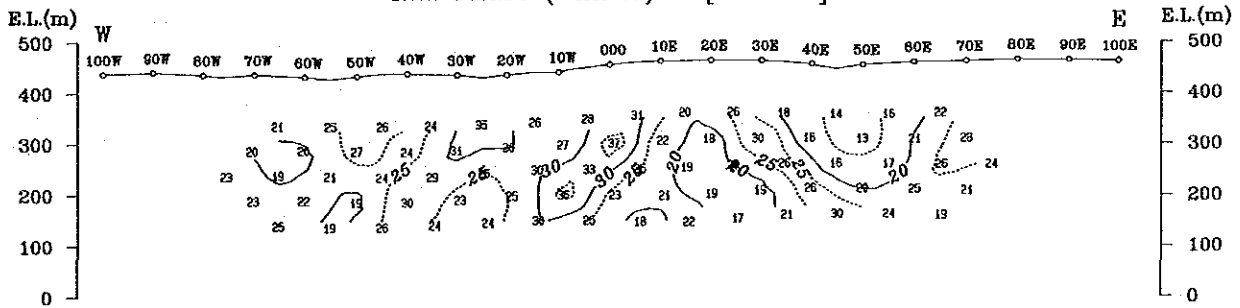
Raw Phase (-mrad) [0.125Hz]



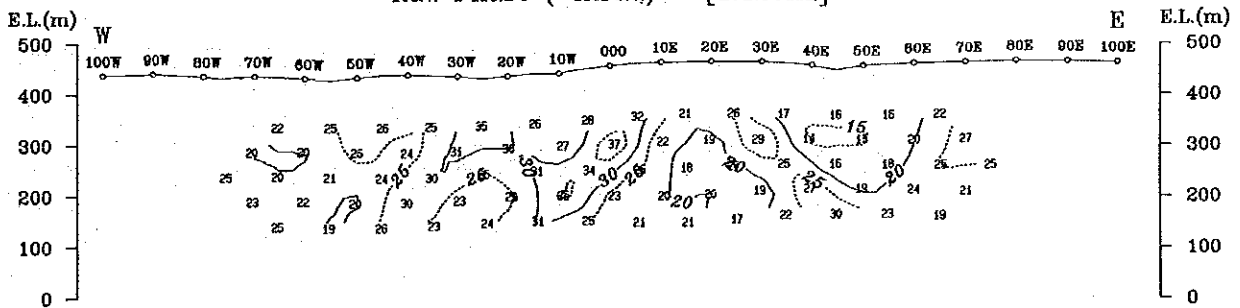
Raw Phase (-mrad) [0.625Hz]



Raw Phase (-mrad) [0.875Hz]

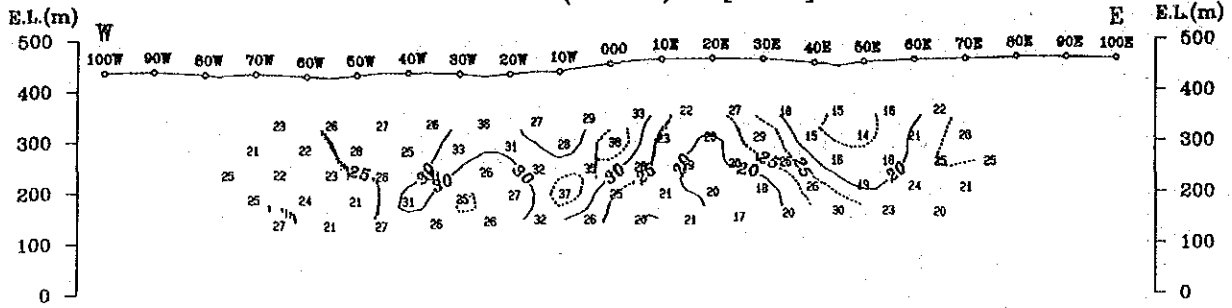


Raw Phase (-mrad) [1.125Hz]

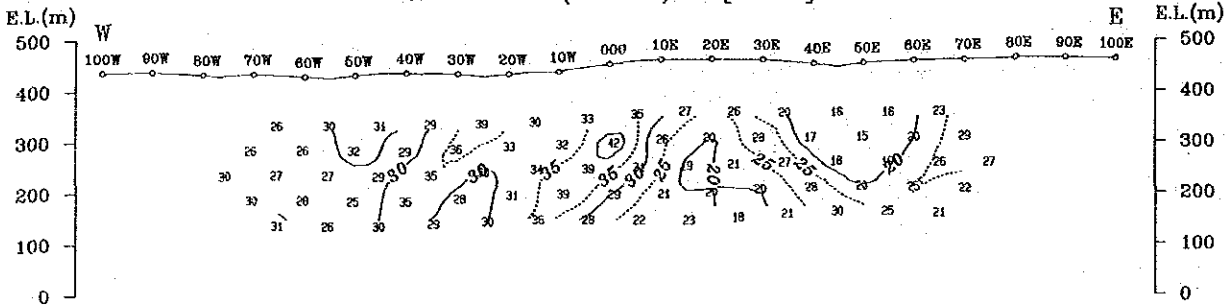


Line-1375S

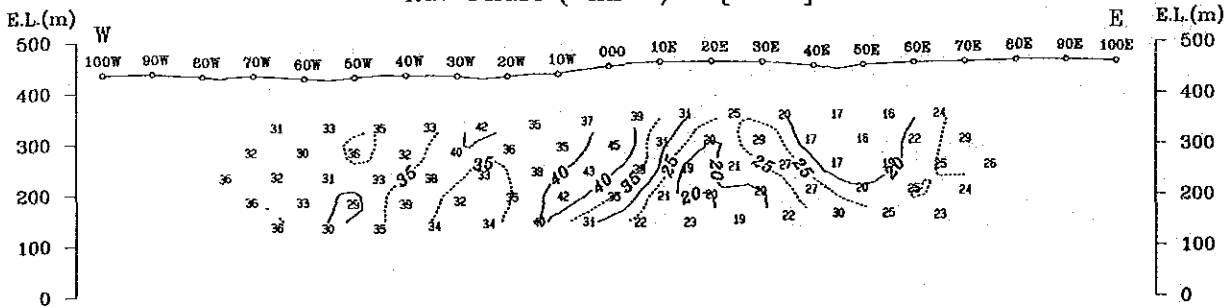
Raw Phase (-mrad) [1.0Hz]



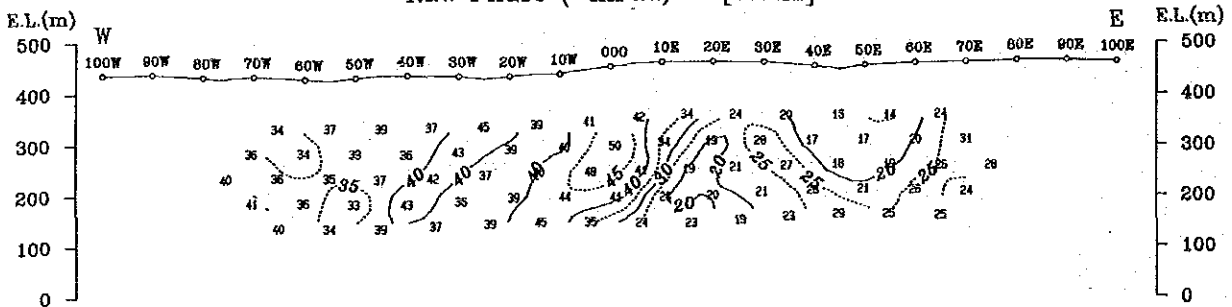
Raw Phase (-mrad) [3.0Hz]



Raw Phase (-mrad) [5.0Hz]

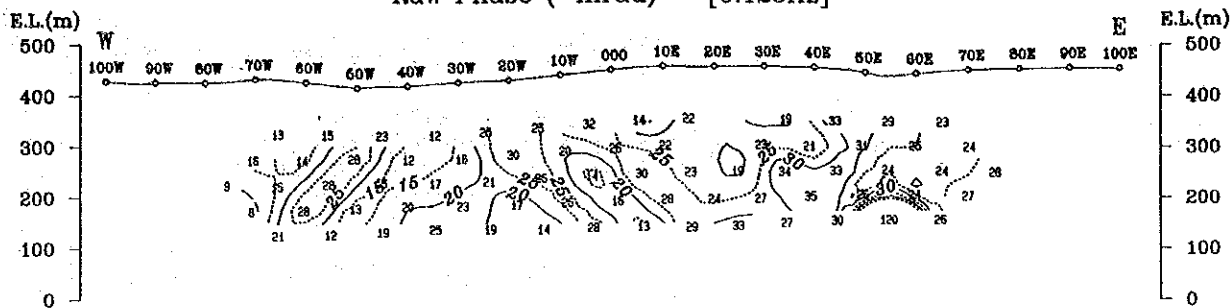


Raw Phase (-mrad) [7.0Hz]

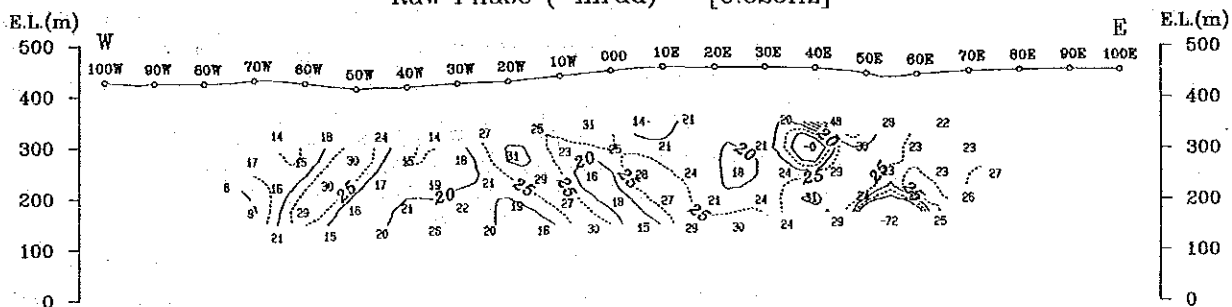


Line-1405S

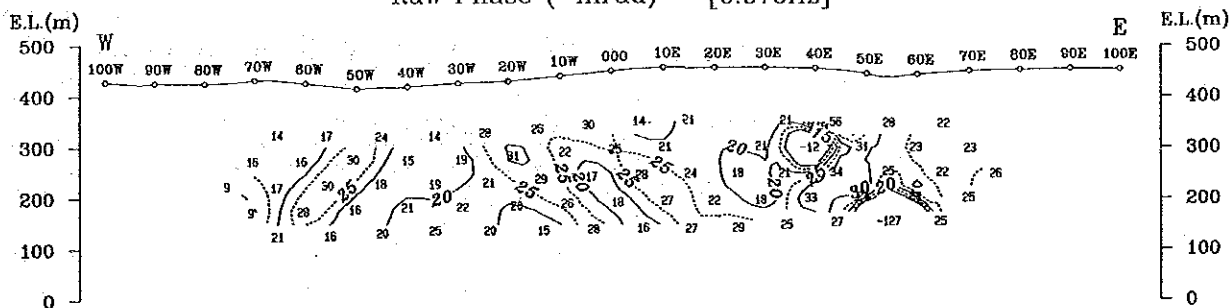
Raw Phase (-mrad) [0.125Hz]



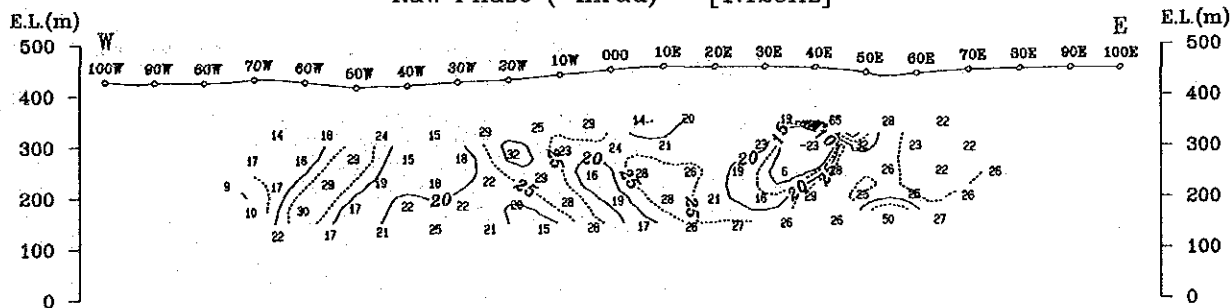
Raw Phase (-mrad) [0.625Hz]



Raw Phase (-mrad) [0.875Hz]

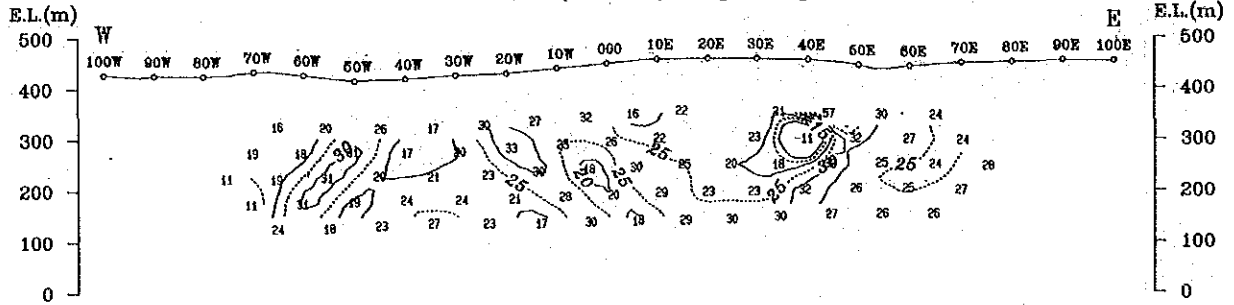


Raw Phase (-mrad) [1.125Hz]

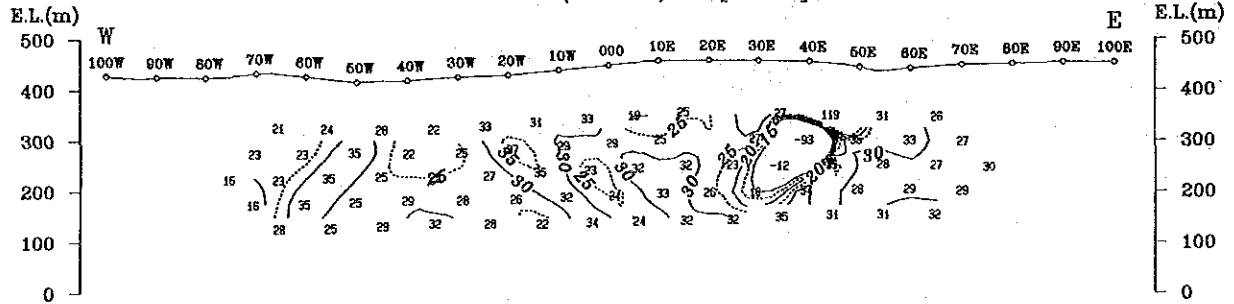


Line-1405S

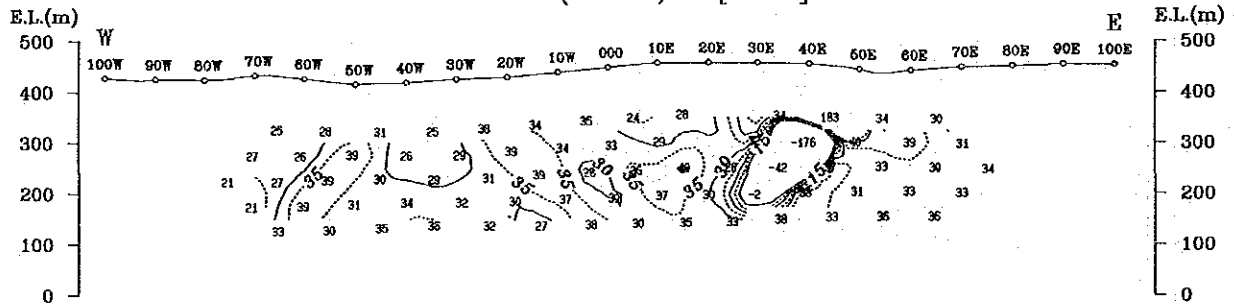
Raw Phase (-mrad) [1.0Hz]



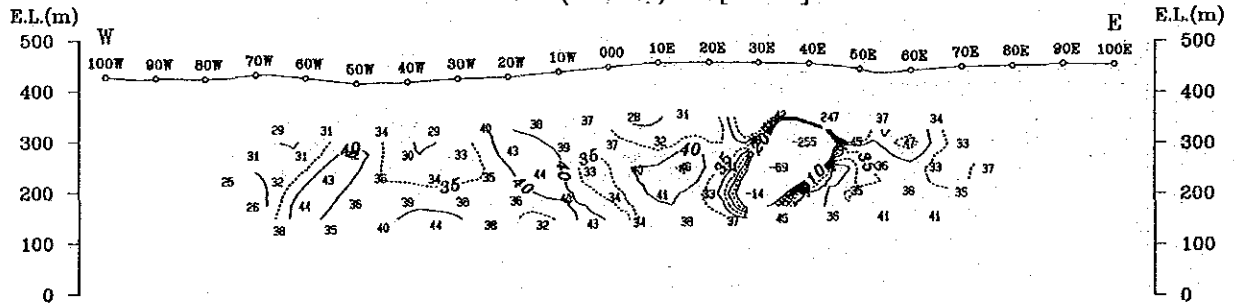
Raw Phase (-mrad) [3.0Hz]



Raw Phase (-mrad) [5.0Hz]

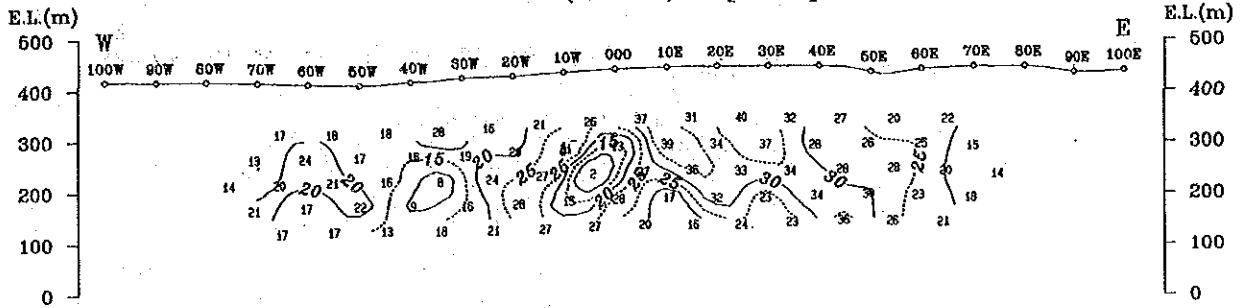


Raw Phase (-mrad) [7.0Hz]

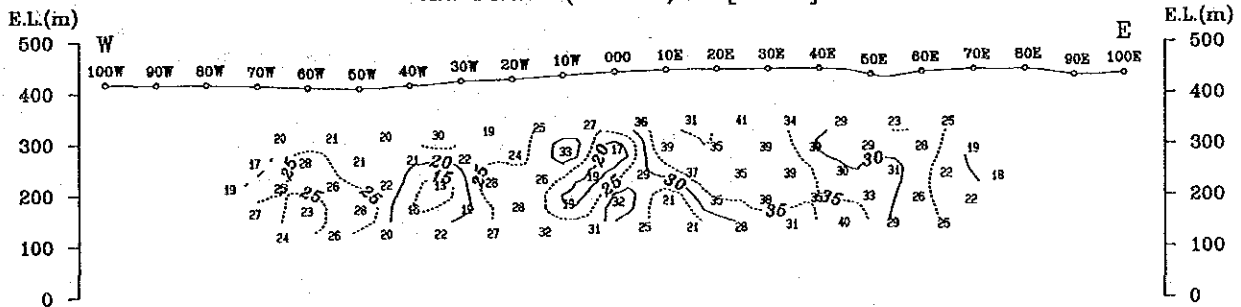


Line-1430S

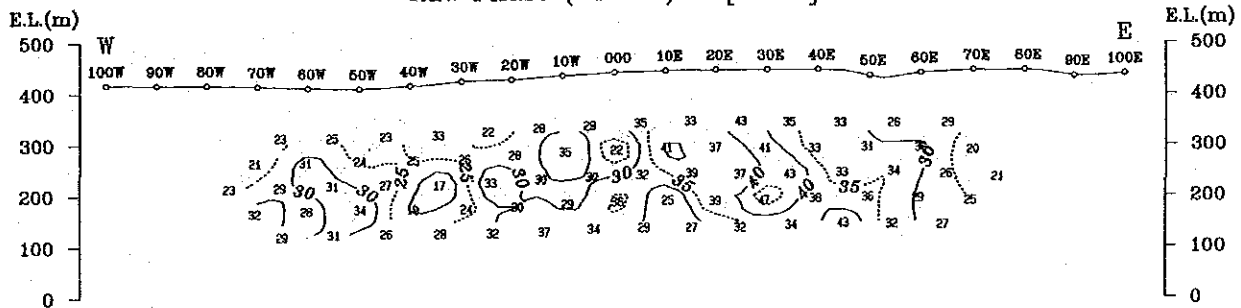
Raw Phase (-mrad) [1.0Hz]



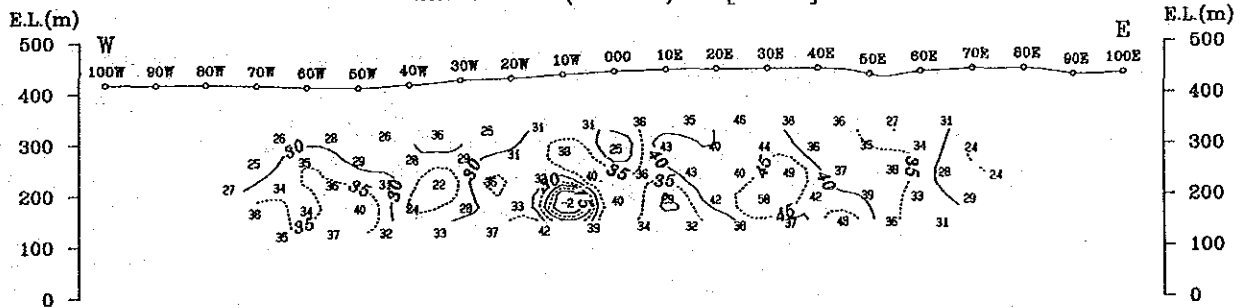
Raw Phase (-mrad) [3.0Hz]



Raw Phase (-mrad) [5.0Hz]

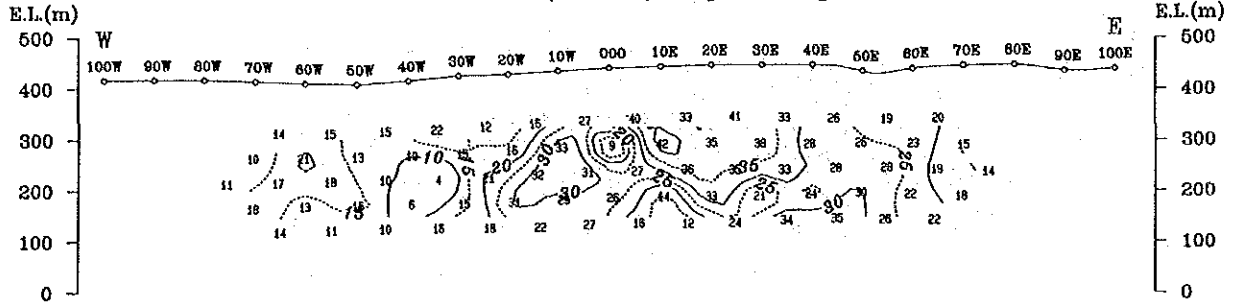


Raw Phase (-mrad) [7.0Hz]

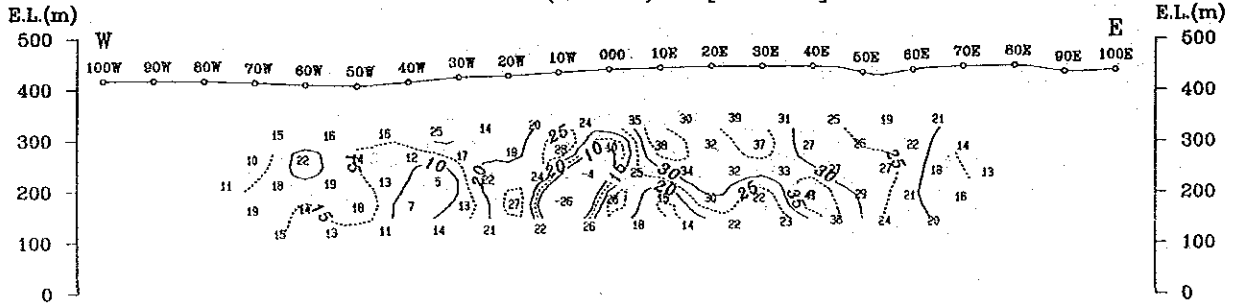


Line-1430S

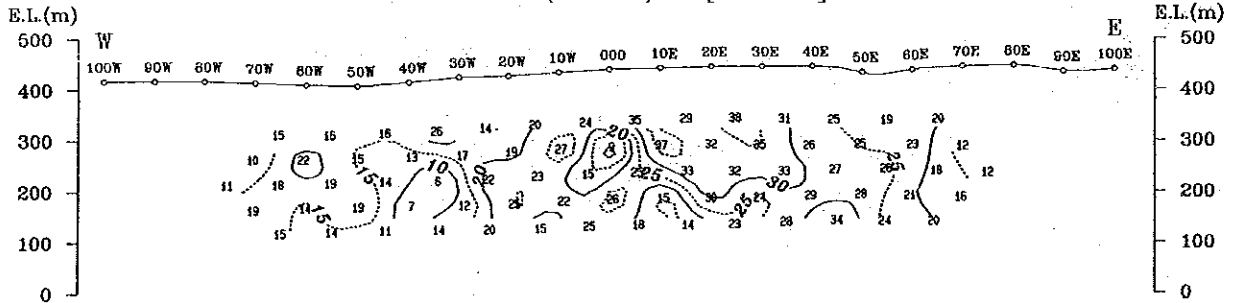
Raw Phase (-mrad) [0.125Hz]



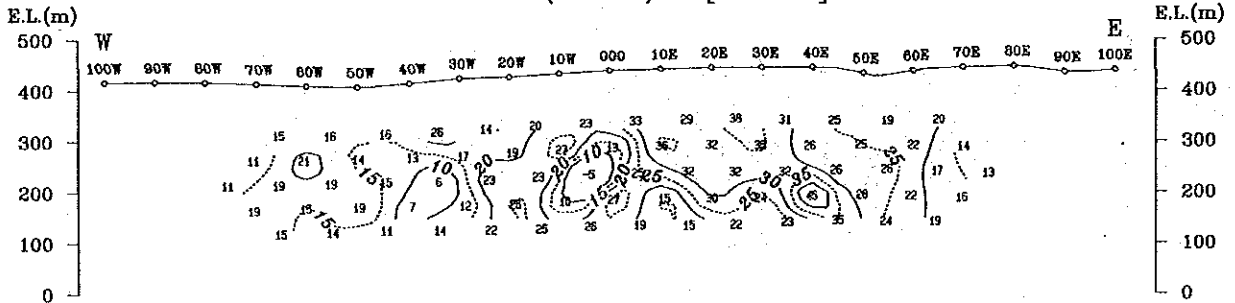
Raw Phase (-mrad) [0.625Hz]



Raw Phase (-mrad) [0.875Hz]

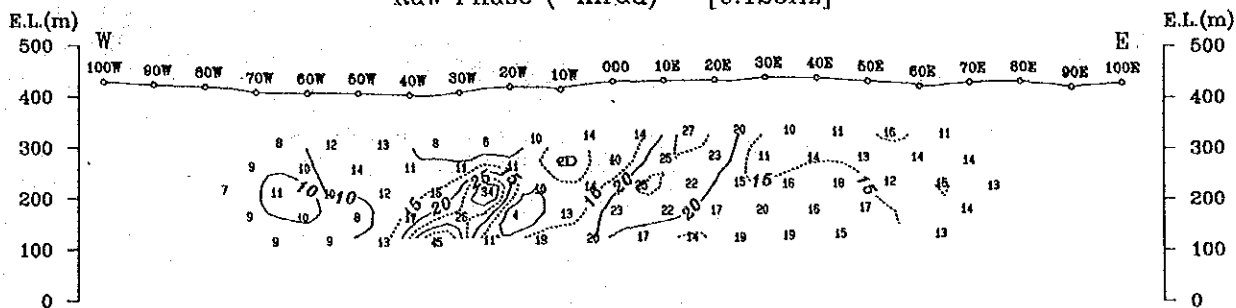


Raw Phase (-mrad) [1.125Hz]

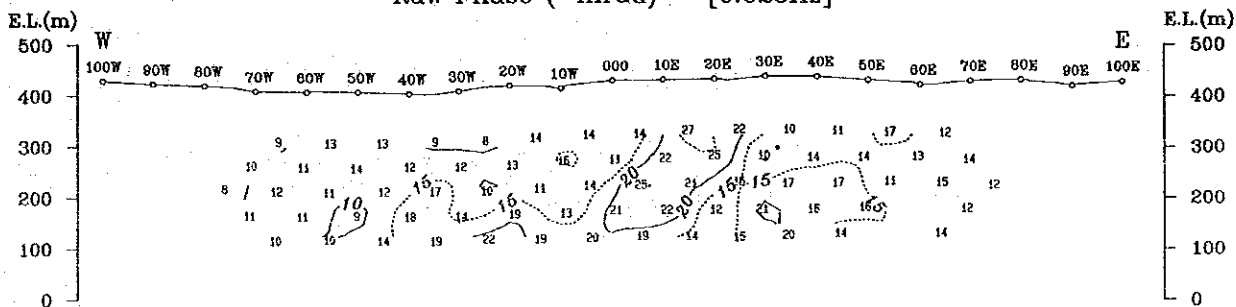


Line-1450S

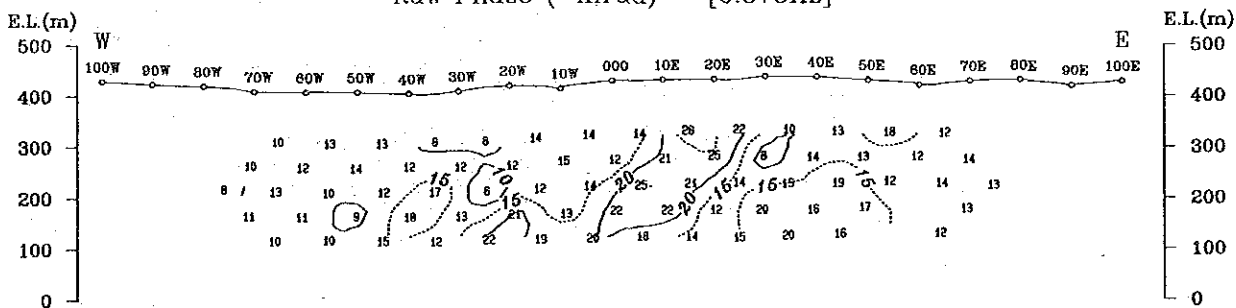
Raw Phase (-mrad) [0.125Hz]



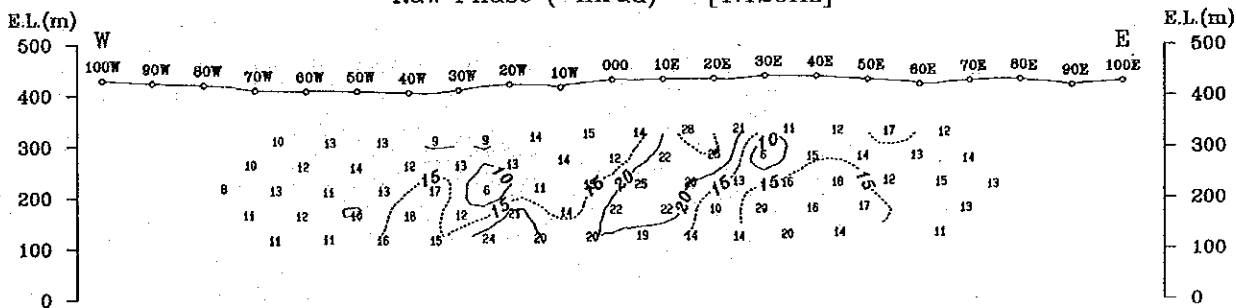
Raw Phase (-mrad) [0.625Hz]



Raw Phase (-mrad) [0.875Hz]

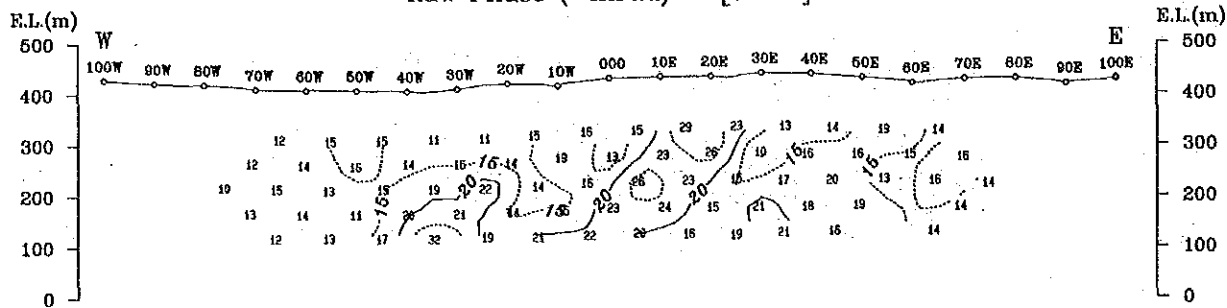


Raw Phase (-mrad) [1.125Hz]

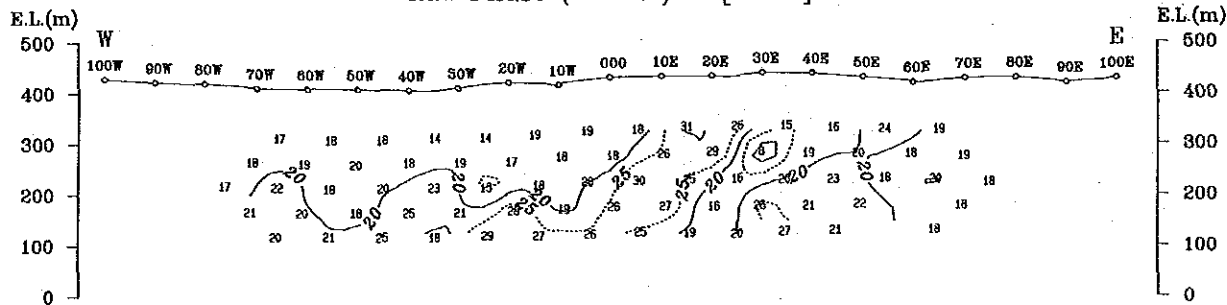


Line-1450S

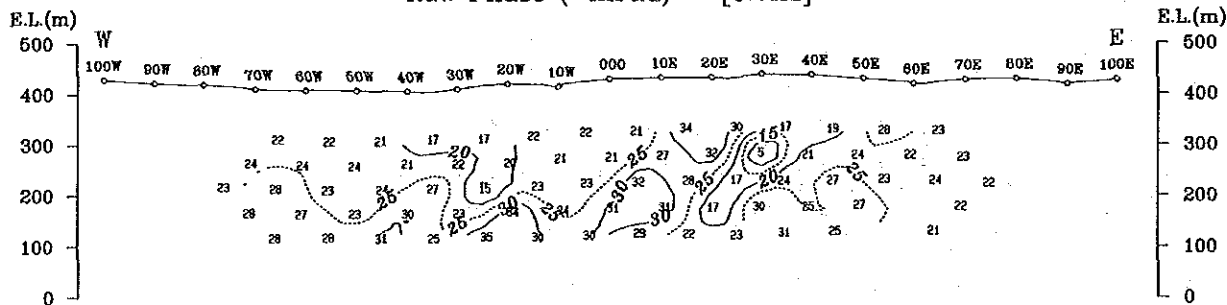
Raw Phase (-mrad) [1.0Hz]



Raw Phase (-mrad) [3.0Hz]



Raw Phase (-mrad) [5.0Hz]



Raw Phase (-mrad) [7.0Hz]

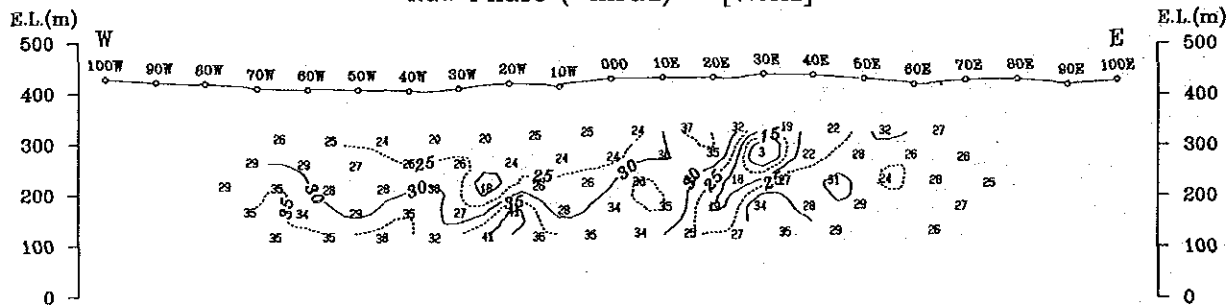
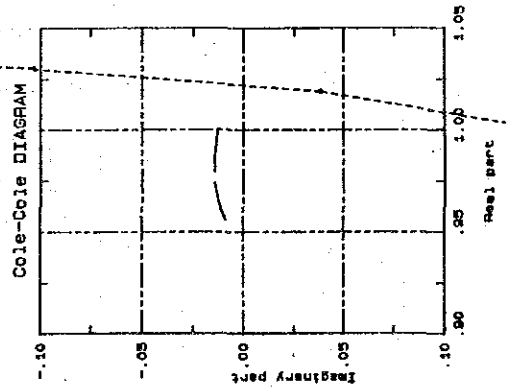
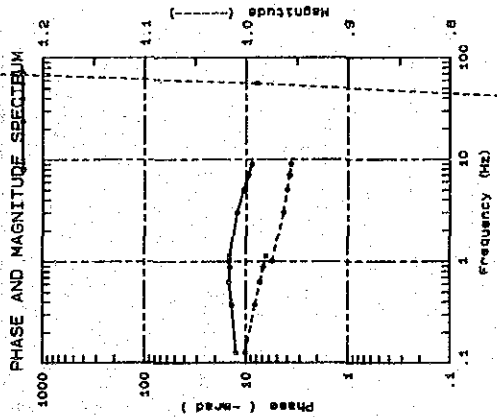
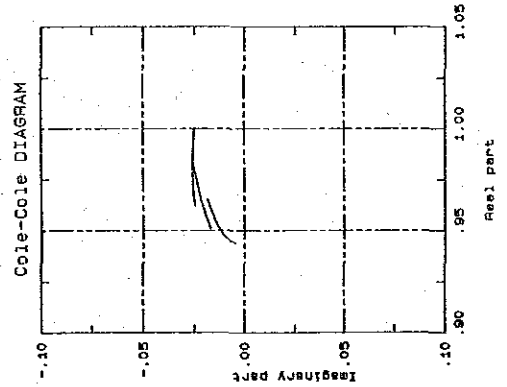
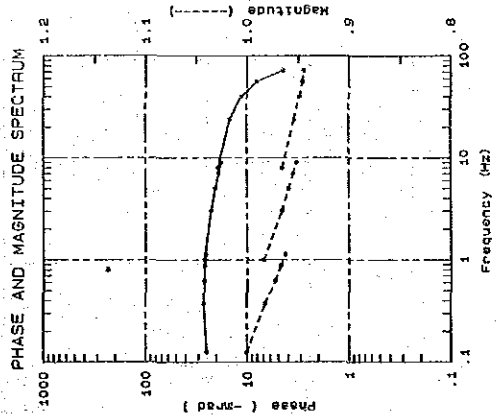


Fig. A-2 Spectra of Drilling Cores (26 Samples)

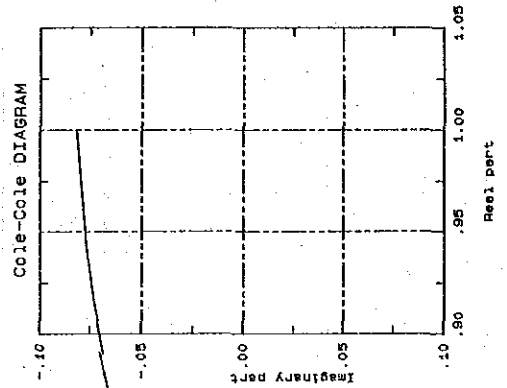
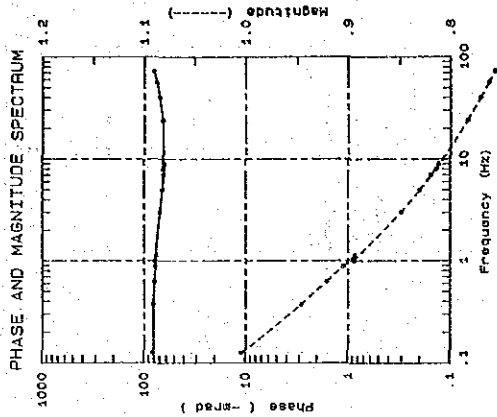
Ms-Ot Schist
 MBP-4 (15.80-16.85)
 Rho : 1030 [Ohm-m]
 P.F.E. : 1.9 [%]
 Rhase : 12 [-mrad]
 3-PT.P.: 12 [-mrad]



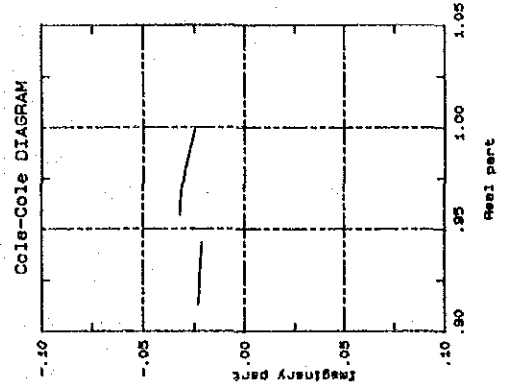
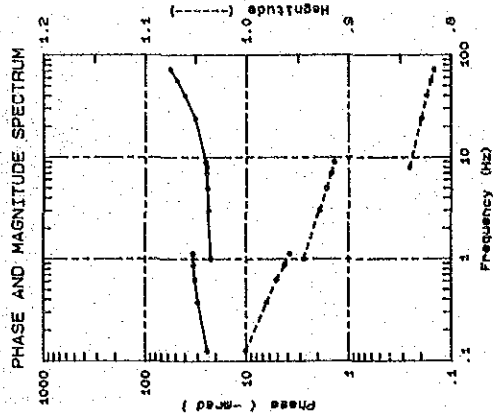
Ms-Bi-Ot Schist
 MBP-4 (24.40-24.45)
 Rho : 723 [Ohm-m]
 P.F.E. : 3.7 [%]
 Rhase : 25 [-mrad]
 3-PT.P.: 23 [-mrad]



Bi-Ms-Ot Schist
 MBP-4 (42.90-42.95)
 Rho : 5316 [Ohm-m]
 P.F.E. : 11.7 [%]
 Rhase : 81 [-mrad]
 3-PT.P.: 81 [-mrad]

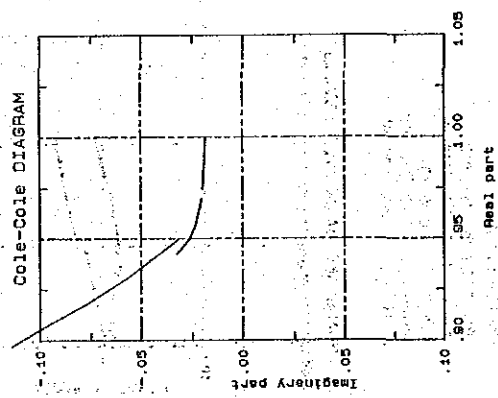
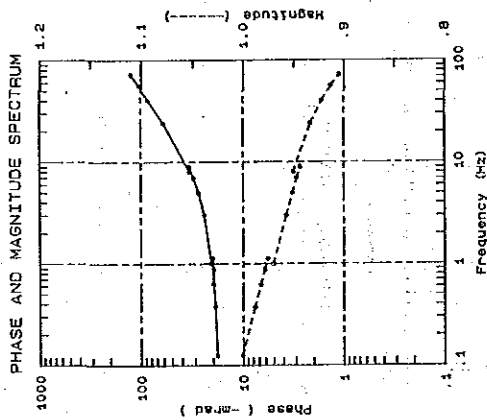


Bi-Ms-Ot Schist
 MBP-4 (46.70-46.75)
 Rho : 12410 [Ohm-m]
 P.F.E. : 4.2 [%]
 Rhase : 24 [-mrad]
 3-PT.P.: 20 [-mrad]



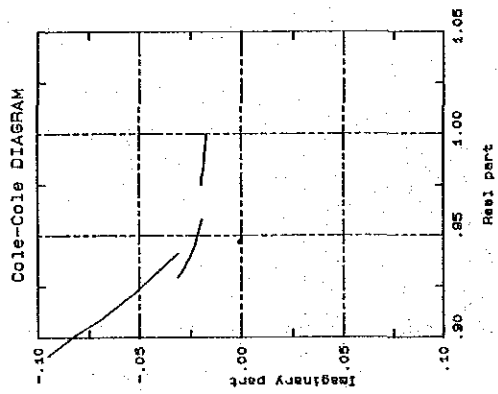
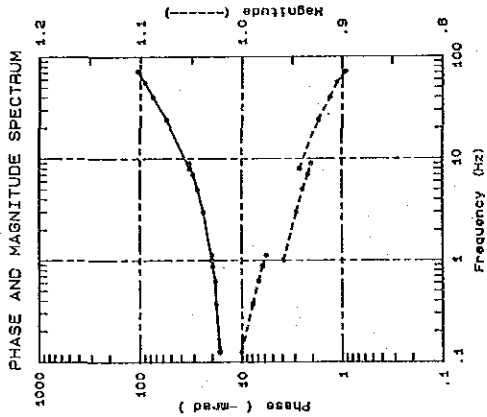
Pl-8i-Ot Schist

MSP-4 (85.90-85.95)
Rho : 12561 [Ohm-m]
P.F.E. : 2.4 [%]
Phase : 18 [-mrad]
3-PT.P.: 17 [-mrad]



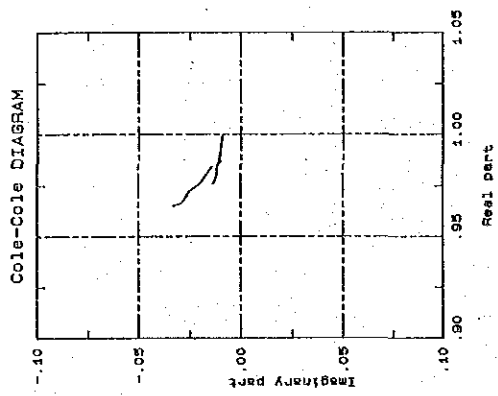
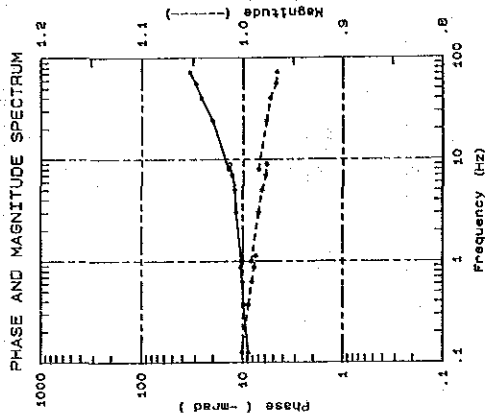
Am-8i-Ot Schist

MSP-4 (90.40-90.45)
Rho : 11061 [Ohm-m]
P.F.E. : 2.4 [%]
Phase : 17 [-mrad]
3-PT.P.: 16 [-mrad]



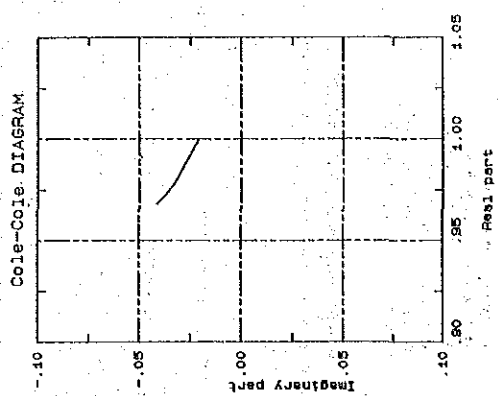
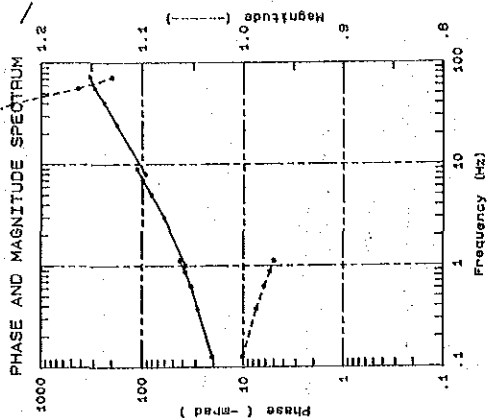
Pl-Gn-Bi-Ot Schist

MSP-4 (121.40-121.45)
Rho : 4301 [Ohm-m]
P.F.E. : 1.3 [%]
Phase : 9 [-mrad]
3-PT.P.: 8 [-mrad]



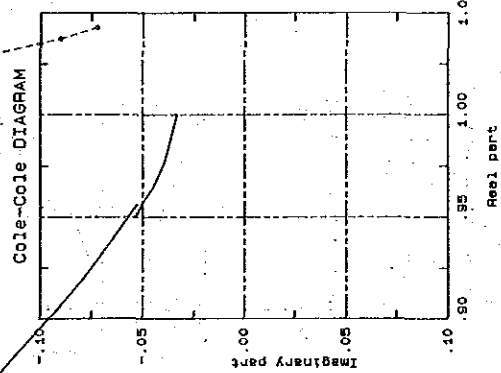
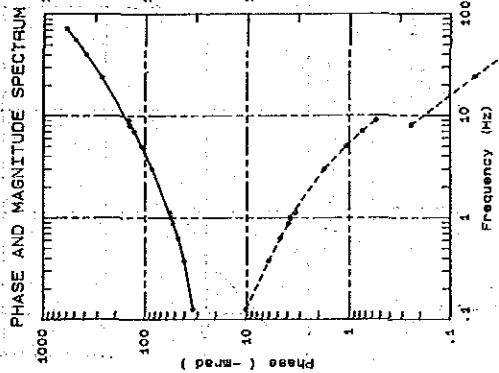
Pl-Bi-Ot Schist

MSP-4 (163.95-164.00)
Rho : 18000 [Ohm-m]
P.F.E. : 3.0 [%]
Phase : 21 [-mrad]
3-PT.P.: 15 [-mrad]



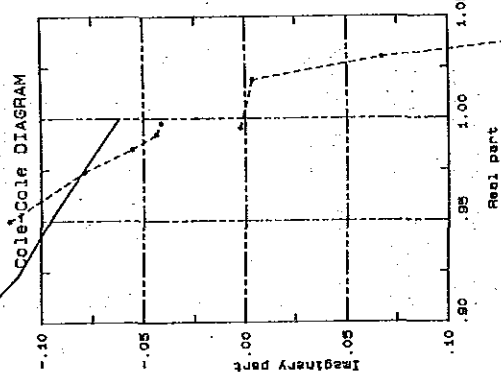
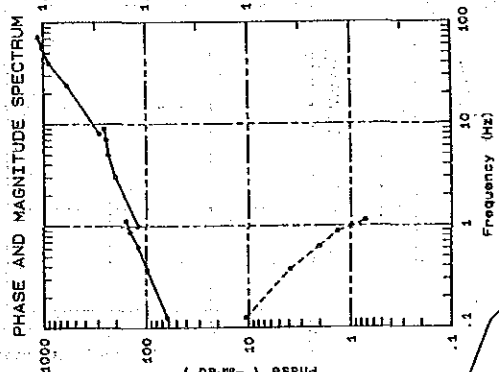
Gn-Ms-Bi-Ot-Schist

MBP-4 (203.70-203.75)
Rho : 35100 [Ohm-m]
P.F.E. : 4.8 [%]
Phase : 33 [-mrad]
3-PT.P.: 29 [-mrad]



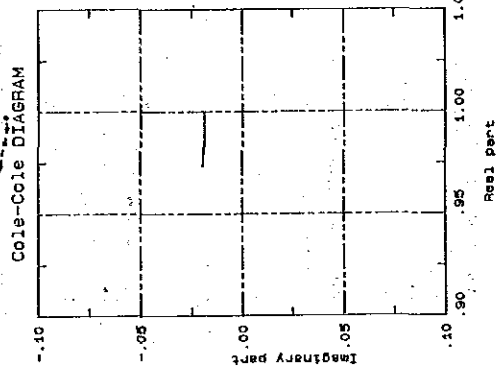
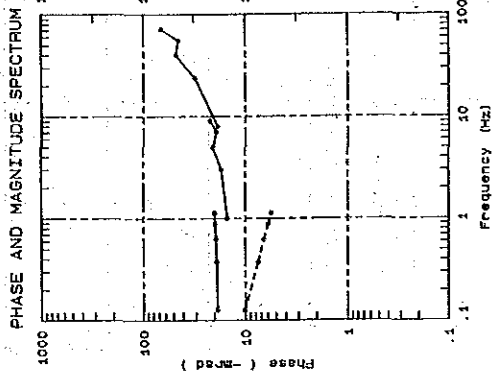
Gn-P1-Bi-Ot-Schist.

MBP-4 (245.20-245.25)
Rho : 43500 [Ohm-m]
P.F.E. : 11.5 [%]
Phase : 52 [-mrad]
3-PT.P.: 38 [-mrad]



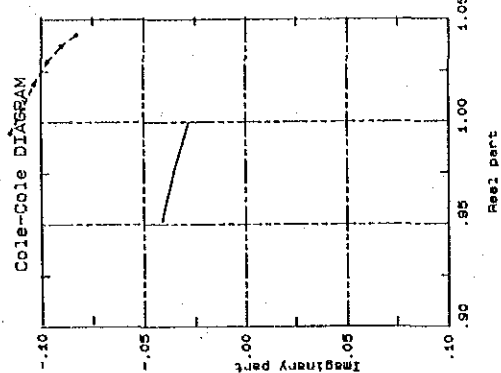
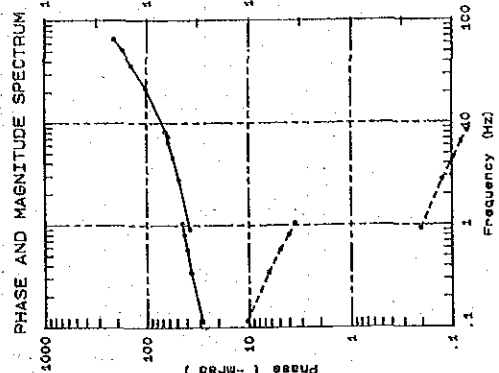
Gn-P1-Bi-Ot-Schist

MBP-4 (286.40-286.45)
Rho : 3281 [Ohm-m]
P.F.E. : 2.6 [%]
Phase : 18 [-mrad]
3-PT.P.: 18 [-mrad]

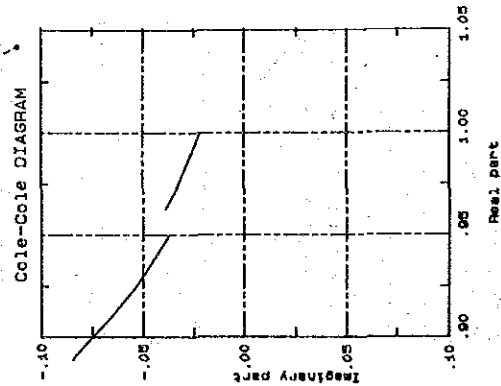
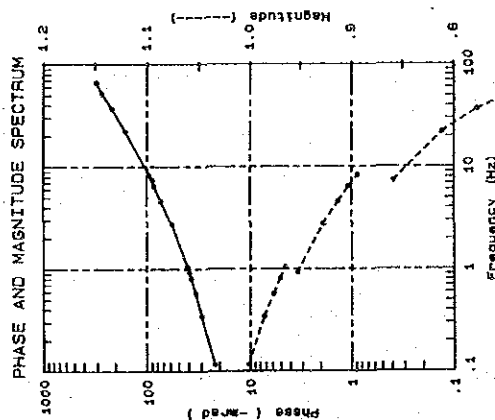


Amphibolite

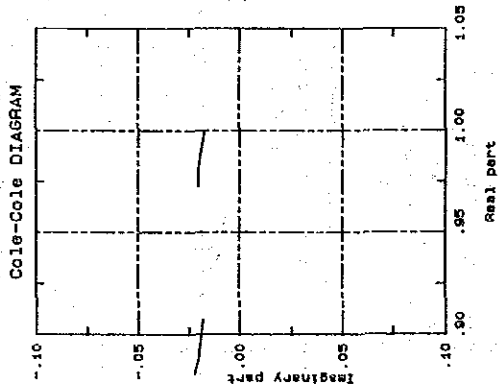
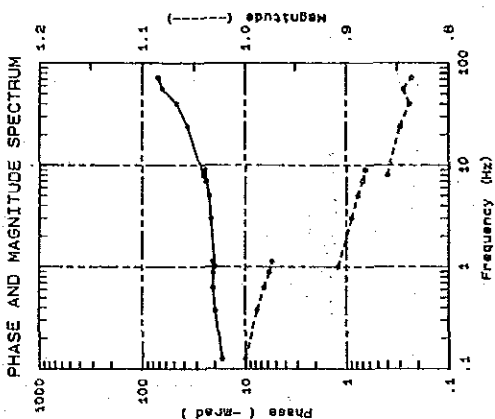
MBP-4 (295.45-295.50)
Rho : 9491 [Ohm-m]
P.F.E. : 4.7 [%]
Phase : 27 [-mrad]
3-PT.P.: 22 [-mrad]



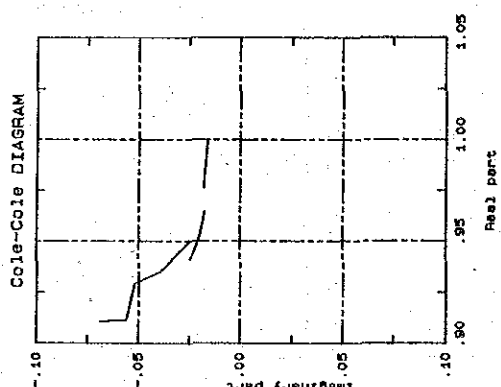
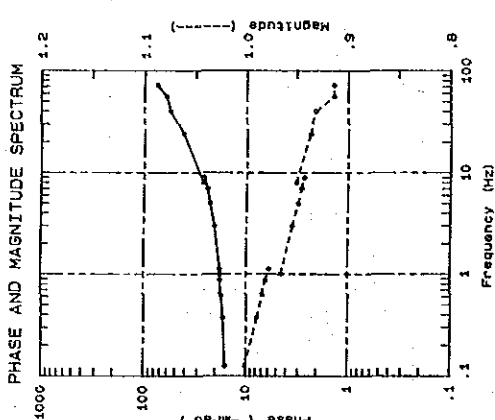
Bi-Ot Schist
 MBP-4 (313.80-313.85)
 Rho : 12480 [Ohm-m]
 P.F.E. : 3.5 [%]
 Rhase : 21 [-mrad]
 3-PT.P.: 16 [-mrad]



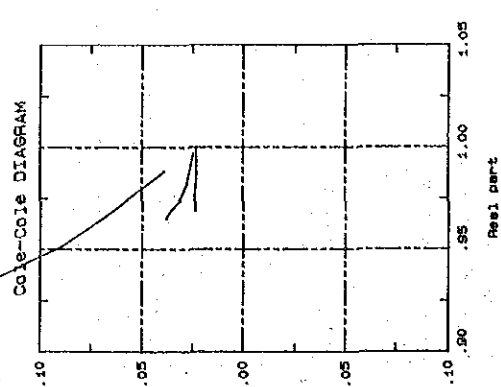
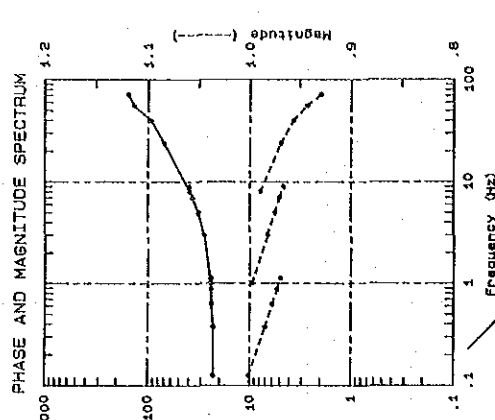
Amphibolite
 MBP-4 (348.10-348.15)
 Rho : 9500 [Ohm-m]
 P.F.E. : 2.7 [%]
 Rhase : 17 [-mrad]
 3-PT.P.: 15 [-mrad]



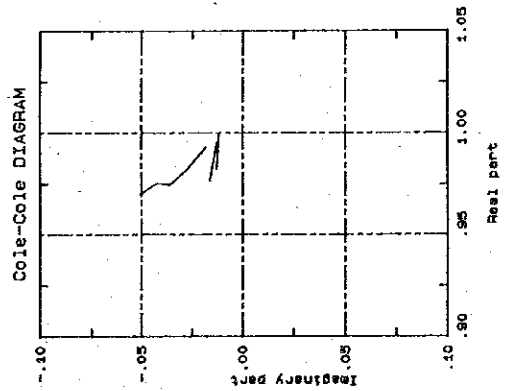
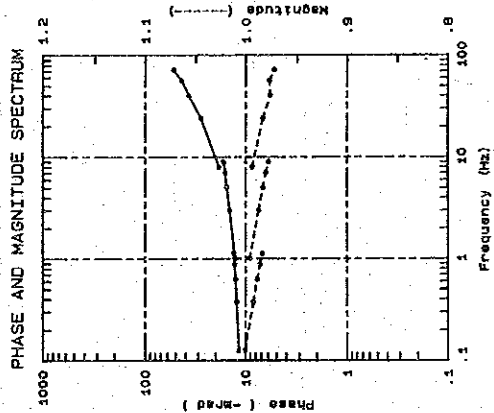
Gn-Ms-Bi-Ot Schist
 MBP-4 (358.95-358.40)
 Rho : 8661 [Ohm-m]
 P.F.E. : 2.3 [%]
 Rhase : 16 [-mrad]
 3-PT.P.: 15 [-mrad]



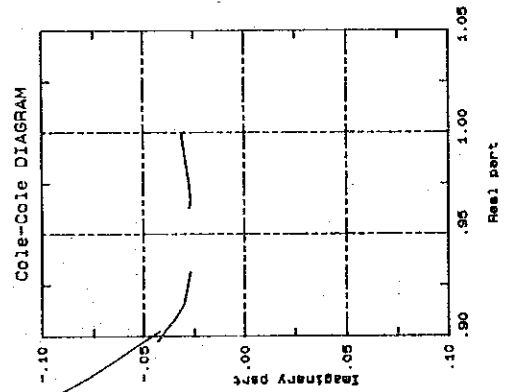
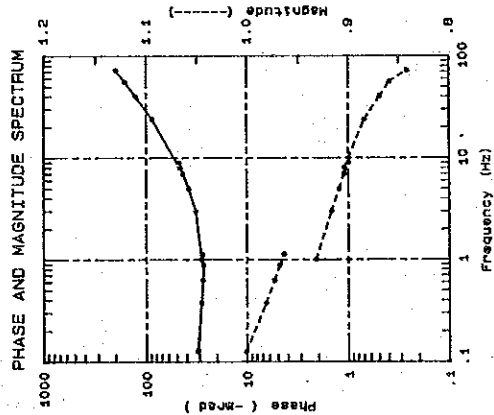
Bi-Ot Schist
 MBP-4 (381.10-381.15)
 Rho : 19000 [Ohm-m]
 P.F.E. : 3.1 [%]
 Rhase : 23 [-mrad]
 3-PT.P.: 23 [-mrad]



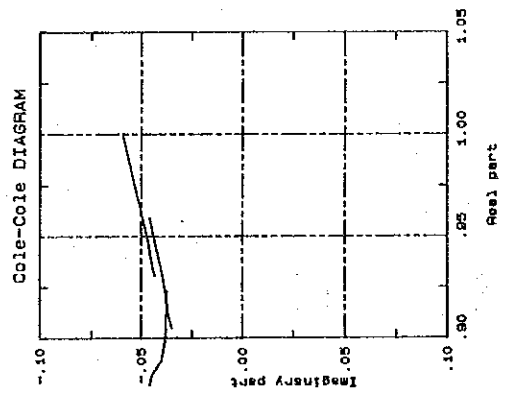
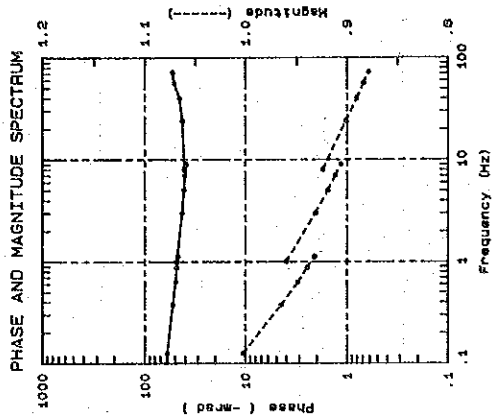
(Ms-Bi)-Qt Schist
 MBP-5 (79.55-79.60)
 Rho : 5900 [Ohm-m]
 P.F.E. : 1.6 [%]
 Rhase : 11 [-mrad]
 3-PT.P.: 11 [-mrad]



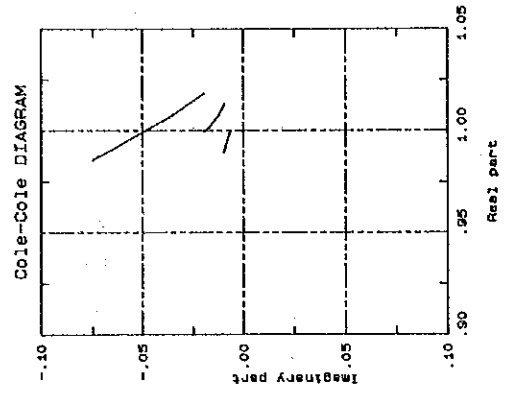
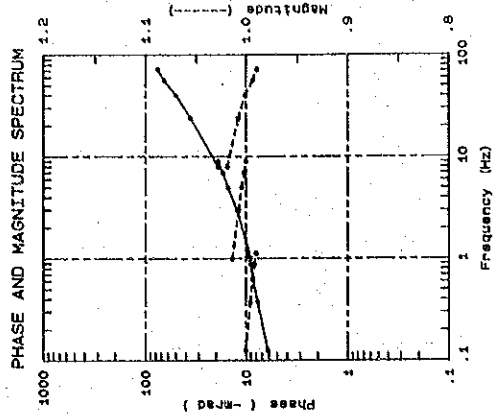
Pi-Bi-Qt Schist
 MBP-5 (120.90-120.95)
 Rho : 7581 [Ohm-m]
 P.F.E. : 3.6 [%]
 Rhase : 31 [-mrad]
 3-PT.P.: 33 [-mrad]



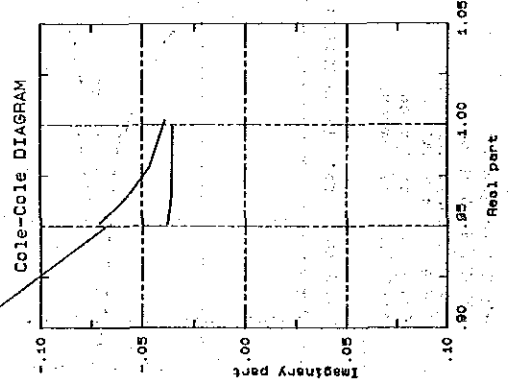
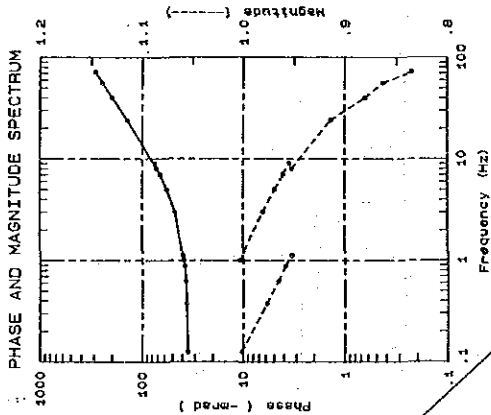
Ms-Bi-Qt Schist
 MBP-5 (217.95-218.00)
 Rho : 2710 [Ohm-m]
 P.F.E. : 7.1 [%]
 Rhase : 59 [-mrad]
 3-PT.P.: 64 [-mrad]



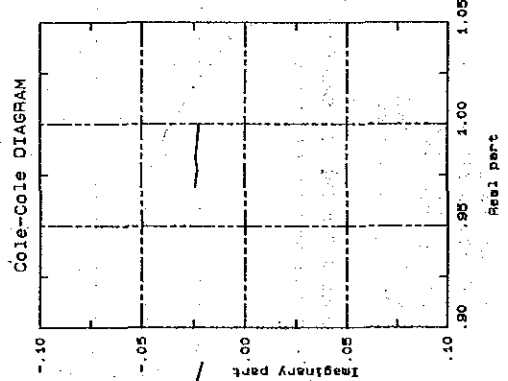
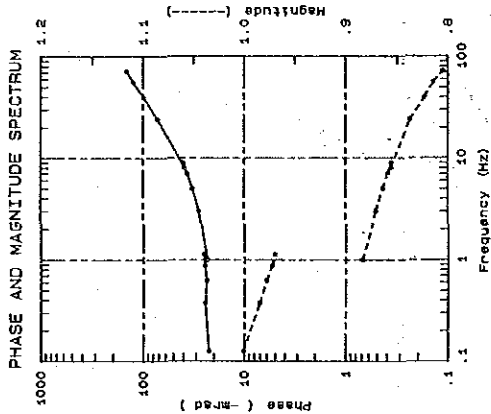
Amphibolite
 MBP-5 (249.65-249.70)
 Rho : 7160 [Ohm-m]
 P.F.E. : 1.0 [%]
 Rhase : 6 [-mrad]
 3-PT.P.: 5 [-mrad]



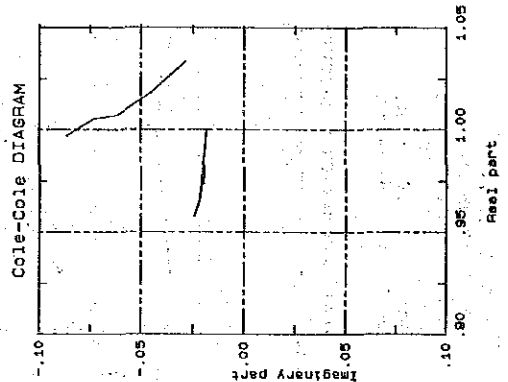
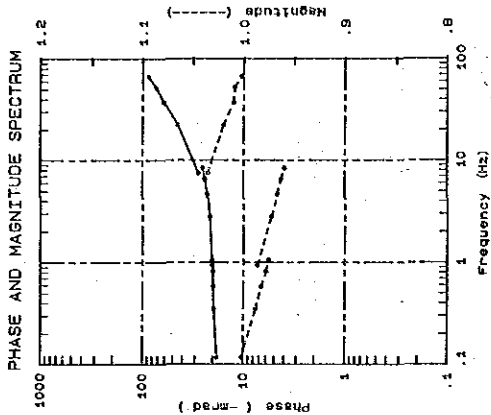
Pl-(Bi-Ms)-Qt Schist
 MBP-6 (72.95-73.00)
 Rho : 11361 [Ohm-m]
 P.F.E. : 4.8 [%]
 Phase : 35 [-mrad]
 3-PT.P.: 34 [-mrad]



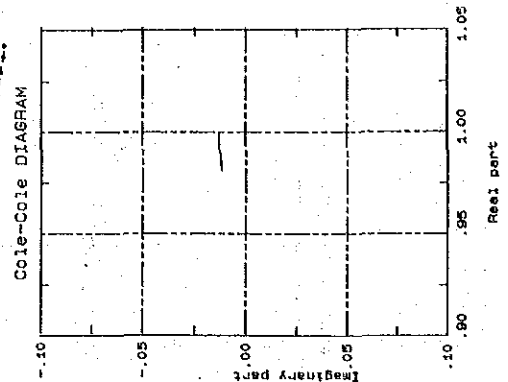
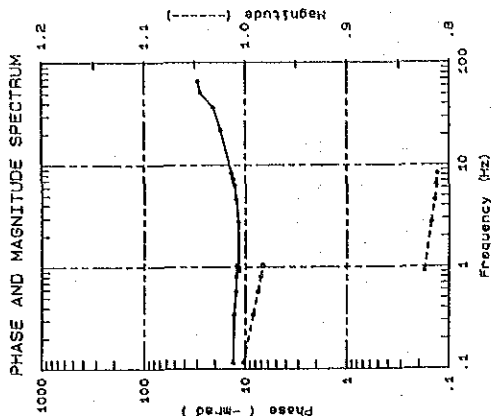
Gn-(Ms-Bi)-Qt Schist
 MBP-6 (155.10-155.15)
 Rho : 6151 [Ohm-m]
 P.F.E. : 3.0 [%]
 Phase : 22 [-mrad]
 3-PT.P.: 20 [-mrad]



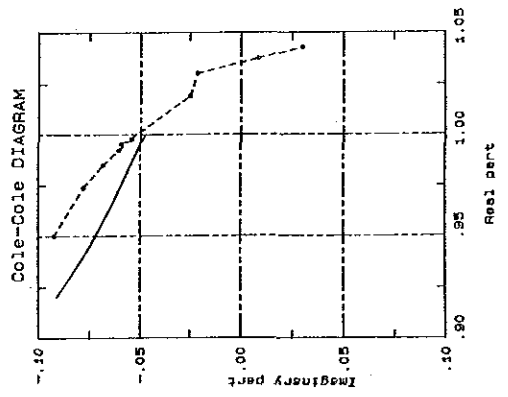
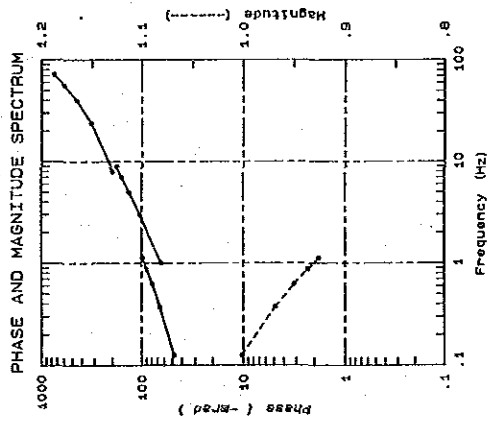
Gn-(Ms-Bi)-Qt Schist
 MBP-6 (200.05-200.10)
 Rho : 5200 [Ohm-m]
 P.F.E. : 2.6 [%]
 Phase : 18 [-mrad]
 3-PT.P.: 17 [-mrad]



Ms-Bi-Qt Schist
 MBP-6 (218.95-219.00)
 Rho : 4310 [Ohm-m]
 P.F.E. : 1.8 [%]
 Phase : 13 [-mrad]
 3-PT.P.: 13 [-mrad]



P1-Gn-Ms-Bi-Ot Schist
 MBP-6 (250.00-250.05)
 Rho : 19131 [Ohm-m]
 P.F.E. : 7.6 [%]
 Phase : 48 [-mrad]
 3-PT.P.: 36 [-mrad]



Gn-Ms-Bi-Ot Schist
 MBP-6 (387.45-387.50)
 Rho : 5120 [Ohm-m]
 P.F.E. : 4.0 [%]
 Phase : 30 [-mrad]
 3-PT.P.: 30 [-mrad]

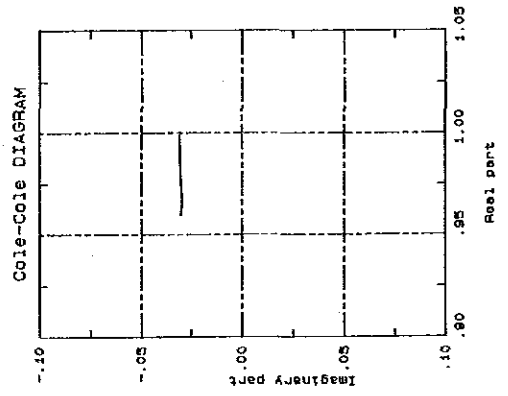
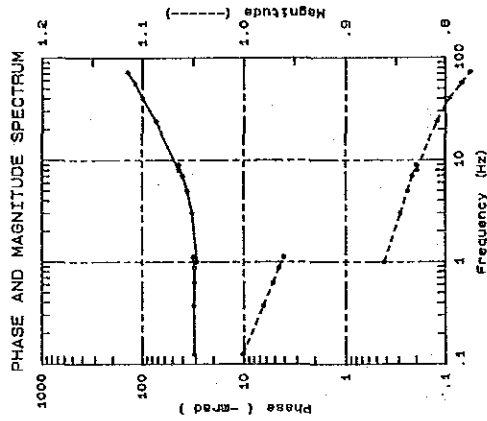


Fig. A-3

Lithologic Logs of Drilling Cores (1 : 200)

LITHOLOGIC LOG

HOLE NO. MBP-4

(1)

LOCATION : Palmeiropolis area
 DIRECTION : 0
 FINAL DEPTH : 400.00 m

COORDINATES : E792 62 , N854836
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS					
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity	grain size	mineral type (ore)
0-1.50	[stippled]	Soil																		0-1.50 dk brn-lt brn soil		
1.50-14.50	[diagonal lines]																			1.50-14.50 brn~lt brn strong weathered		
7.90-8.05	[diagonal lines]																		80 m			
8.05-9.30	[diagonal lines]																		80 m			
9.30-10.1	[diagonal lines]																		70 m			
10.65-11.00	[diagonal lines]																					
12.25-12.38	[diagonal lines]																	70 m	14.50-14.70 mass qt			
14.50-14.70	[diagonal lines]																	70 m	14.70-22.70 weathered zone lim in schistosity			
14.70-17.50	[wavy lines]	Ms-Qt-Sch																80 m	17.50-17.62 qt, 40°			
17.50-20.00	[wavy lines]																	70 m				
20.00-22.70	[wavy lines]																	70 m				
22.70-25.73	[wavy lines]																	70 m	25.73-26.43 26.50-26.55 Biotitite			
25.73-26.43	[wavy lines]																	70 m	28.10-28.20 qt			
26.43-26.50	[wavy lines]	Ms-Bi-Qt-Sch																80 m	27.00~ py dissem			
26.50-26.55	[wavy lines]																	40 m d	29.25-30.05 minearalized network, py>sph>ga			
26.55-28.80	[wavy lines]																	50 m d				
28.80-30.50	[wavy lines]	MBP4-1-3																70 m n	30.50-30.60 qt, py in fracture			
30.50-30.60	[wavy lines]																	80 m d				
30.60-39.20	[wavy lines]	Bi-Ms-Qt-Sch																80 m d				
30.60-31.00	[wavy lines]																	80 m d				
31.00-31.50	[wavy lines]																	80 f d				
31.50-32.00	[wavy lines]																	80 f d	py in schistosity			
32.00-32.50	[wavy lines]																	80 f d				
32.50-33.00	[wavy lines]																	80 f d				
33.00-33.50	[wavy lines]																	80 f d				
33.50-39.20	[wavy lines]																80 f d	39.20-39.25 biotitite				
39.20-40.00	[wavy lines]																80 f d					

LITHOLOGIC LOG

HOLE NO. MBP-4

(2)

LOCATION : Palmeiropolis area
 DIRECTION : 0
 FINAL DEPTH : 400.00 m

COORDINATES : E792.62 , N8548.36
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER			ORE MINERAL			REMARKS					
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite		chalcocopyrite	galena	sphalerite	schistosity	grain size
50	~	Bi-Ms-Qt-Sch	○			•	○						○					70	m	d	py stringars partly occur
	~		○			•	○						○					70	m	d	
	~		○			•	○						○					70	m	d	43.40-44.80 mineralization
	~		○			•	○						○					70	m	n	py > sph > ga
	~		○			•	○						○					70	m	d	
	~		○			•	○						○					70	m	d	
	~		○			•	○						○					70	m	d	
	~		○			•	○						○					65	m	d	
	~		○			•	○						○					80	f	d	51.00-52.00 many mass qt irregular shape
	~		○			•	○						○					80	f	d	
60	~	Bi-Ms-Qt-Sch	○			•	○						○					80	m	d	
	~		○			•	○						○					85	m	d	
	~		○			•	○						○					85	f	d	
	~		○			•	○						○					85	f	d	
	~		○			•	○						○					80	f	d	
	~		○			•	○						○					80	f	d	
	~		○			•	○						○					80	f	d	
	~		○			•	○						○					80	f	d	
	~		○			•	○						○					80	f	d	
	~		○			•	○						○					70	f	d	
70	~	Bi-Ms-Qt-Sch	○			•	○						○					70	m	d	
	~		○			•	○						○					50	m	d	
	~		○			•	○						○								65.10-66.10 } 66.30-66.60 } 67.60-67.80 } mineralization str, dissem py > sph > ga
	~		○			•	○						○					65	f	d	
	~		○			•	○						○					65	f	d	
	~		○			•	○						○					Fd	f	d	
	~		○			•	○						○					Fd	f	d	
	~		○			•	○						○					Fd	f	d	70.60-73.70 mineralization subparallel to schist, at intervals
	~		○			•	○						○					70	f	d	
	~		○			•	○						○					Fd	f	d	
73.50	~	Bi-Qt-Sch	○			•	○						○					Fd	f	d	74.00-75.50 qt mass, irregular shape dispersed
	~		○			•	○						○					Fd	f		
	~		○			•	○						○					80	f	d	
76.30	~	Altered rock	○			•	○						○					40	f	d	78.25-78.30 mineralization py > sph > ga, bedded-like
	~		○			•	○						○					40	f	d	chl occurs as hydrothermaly altered product
	~		○			•	○						○					40	f	d	
80	~	Altered rock	○			•	○					○						40	f	d	

LITHOLOGIC LOG

HOLE NO. MBP-4

(3)

LOCATION : Palmeiropolis area
 DIRECTION :
 FINAL DEPTH : 400.00 m

COORDINATES : E792.62 , N8548.36
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS							
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhorite	pyrite	chalcocopyrite		galena	sphalerite	schistosity	grain size	mineral type (ore)		
80.40	~	PI-Bi-Qt-Sch	○			•			○		○							80	f	d	75.20-80.40 } 80.90-81.25 } 81.70-82.20 } strong chloritization hydrothermally			
	~		○			○				○		○							80	f		d		
	~		○			○				○		○								80		f	d	
	~		⊙			○				○		○										f	d	
	~		⊙			○				○		○										85	f	d
96.00	~	⊙			○				○		○									85	m	d		
87.50	~	Bi-Qt-Sch	○			⊙					○								Fd	f	d			
	~	Am-Bi-Sch	○			⊙		○			○									85	f	d		
90	~		○			⊙					○									80	f	d		
	~		⊙			⊙		○			○										80	f	d	
92.60	~	(PI)-Bi-Qt-Sch	○			⊙					○									80	f	d	87.50-97.00 epidote occurs as stringers 87.50-92.50 amphiboles occurs as lenticular shape	
	~		○			⊙					○										80	f		d
	~		○			⊙					○										65	m		d
	~		○			⊙					○										70	m		d
	~		○			⊙					○										80	m		d
	~		○			⊙					○										80	m		d
	~		○			⊙					○										70	m		d
	~		○			⊙					○										70	m		d
	~		○			⊙					○										70	m		d
	~		○			⊙					○										75	m		d _{fr}
100	~	(Gn)-PI-Bi-Qt-Sch	○			⊙					○									55	m	d	99.30 slickenside L55°, rake 65°	
	~		○			⊙					○											f		d
	~		○			⊙					○										85	f		d
	~		○			⊙					○										80	f		d
	~		○			⊙					○										80	f		d
	~		○			⊙					○										80	m		d
	~		○			⊙					○										80	m		d
	~		○			⊙					○										85	m		d
	~		○			⊙					○										80	m		d
	~		○			⊙					○										80	m		d
110	~	(Gn)-PI-Bi-Qt-Sch	○			⊙				○										85	m	d	112.40-112.47 K-fed in qt 113.90-114.00 more siliceous 117.40-119.00 fracture zone, upper boundary L35° rake L70° lower boundary L40° rake L35°	
	~		○			⊙					○										80	m		d
	~		○			⊙					○										80	m		d
	~		○			⊙					○										80	m		d
	~		○			⊙					○										80	m		d
	~		○			⊙					○										85	m		d
	~		○			⊙					○										85	m		d
	~		○			⊙					○										85	m		d
	~		○			⊙					○										85	m		d
	~		○			⊙					○										85	m		d
117.40	~	Fracture Zone				⊙				○										85	m	d		
119.00	~					⊙					○										85	m	d	
120	~		○			⊙				○										40	m	d	119.80-120.05 qt, mass irregular shape	

LITHOLOGIC LOG

HOLE NO. MBP-4

(4)

LOCATION : Palmeiropolis area
 DIRECTION : o
 FINAL DEPTH : 400.00 m

COORDINATES : E792.62 , N8548.36
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS						PORPHYRO BLAST			OTHER			ORE MINERAL					REMARKS			
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite	galena	sphalerite	schistosity		grain size	mineral type (ore)	
130	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	⑤	○			⊙	•		•			•	•					85	f		120.45-120.50 qt mass		
			○			⊙	•		•		•	•							85	f		ms occurs around qt	
			○			⊙					•	•	•							80	f		120.10-122.25 only bi, pl
			○			⊙				•			•							Fd	f		129.00-129.25 qt mass
			○			⊙				•										80	f		irregular shape
			○			⊙							•							80	f		calcite occurs mainly as stringer
			○			⊙				•			•							80	f		
			⊙			⊙				•			•							80	f		130.25-130.45 only bi, am (bi>am)
			○			⊙	•													85	m		
			○			⊙				•		•	•							80	m		130.45-130.50 qt mass
			○			⊙				•			•							Fd	f		irregular shape
			140	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	(Pl)-Gn-Bi -Qt-Sch	○			⊙			•									80	m	
○						⊙			•			•	•						75	f			
○						⊙			•				•						80	f		131.65-131.80 qt mass	
○						⊙			•				•	•					85	m		irregular shape	
○						⊙							•	•						85	m		132.15-132.80 fracture with cal
○						⊙				•			•							85	m		135.33-135.43
○						⊙				•			•							85	f		135.65-135.70
○						⊙				•			•							80	f		qt, mass irregular shape
○						⊙				•			•							80	f		
○						⊙				•			•							85	f		138.23-138.30 chl, K-feld occurs as hydrothermally altered products
○						⊙				•			•							85	f		
○						⊙				•			•							90	f		chl mainly follows schistosity
150	~ ~ ~ ~		○			⊙			•									80	f		152.95-153.00 qt bed-py, bi in qt am around qt		
			⊙			⊙			•			•							85	f			
			⊙			⊙			•					•					80	f	d	151.50-154.55 more siliceous	
			⊙			⊙			•			•	•						85	f			
154.50	~ ~ ~ ~		⊙			⊙			•									80	f		153.25-153.35 include am		
			○			⊙			•			•	•					Fd	f		155.35-160.00 limonite occurs in fracture & as dissem		
			○			⊙			•			•	•						85	f			
			○			⊙			•			•	•						80	f		156.95-157.10 more siliceous	
160	~		○			⊙			•								85	f					

LITHOLOGIC LOG

HOLE NO. MBP-4

(5)

LOCATION : Palmeiropolis area
 DIRECTION : o
 FINAL DEPTH : 400.00m

COORDINATES : E792.62 , N854836
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS						PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS				
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcocopyrite	galena		sphalerite	schistosity	grain size	mineral type (ore)
170	~	PI-Bi-Qt-Sch	○			●					•							85	m		160.50-161.50 wh clay mineral in fracture	
			○			●					•								80	m		160.30-160.50 qt mass irregular shape
			○			●					•	•			•				85	m	d	162.30-162.40 qt mass irregular shape, including py
			○			●					•	•							75	m		163.50-163.80 cal, str
			○			●					•	•							80	m		165.32-165.80 wh clay mineral in fracture
			○			●					•	•							80	m		167.00-168.00 K-feld aroind chl
			○			●					•	•							75	m		167.90-167.95 } 170.25-171.00 } 173.70-173.75 }
			○			●					•	•							85	m		qt, K-feld, chl
			○			●					•	•							80	f		174.70-175.00 qt, mass irregular shape, include bi
			○			●					•	•							75	f		chl occurs as hydro- thermally altered product cal, usually occurs as stringers
173.50	~	PI-Gn-Bi -Qt-Sch	○			●				•							70	m		186.90-187.50 fracture zone (fault), including cal		
			○			●					•							70	m		193.95-194.20 qt v, w=5cm ∠30°	
177.50	~	(PI)-Gn-Ms -Bi-Qt-Sch	○			●				•							70	m		194.70-195.00 qt v, w=1~2cm		
			○			●					•							65	m		196.80-197.00 qt mass irregul shape	
180	~	(PI)-Gn-Ms -Bi-Qt-Sch	○			●				•							65	m				
			○			●					•							65	m			
186.90	~	Fracture Zone	○			●				•							75	m				
			○			●					•							80	m			
187.50	~	Fracture Zone	○			●				•							80	m				
			○			●					•							80	m			
190	~	(PI)-Gn-Ms -Bi-Qt-Sch	○			●				•							75	m				
			○			●					•							60	m			
193.95	~	(PI)-Gn-Ms -Bi-Qt-Sch	○			●				•							65	m				
			○			●					•							50	m			
194.70	~	(PI)-Gn-Ms -Bi-Qt-Sch	○			●				•							60	m				
			○			●					•							55	m			
196.80	~	(PI)-Gn-Ms -Bi-Qt-Sch	○			●				•							50	m				
			○			●					•							65	m	d		
197.00	~	(PI)-Gn-Ms -Bi-Qt-Sch	○			●				•							Fd	m				
			○			●					•							60	m			
200	~	(PI)-Gn-Ms -Bi-Qt-Sch	○			●				•							60	m				
			○			●					•							65	m	d		

LITHOLOGIC LOG

HOLE NO. MBP-4

(6)

LOCATION : Palmeiropolis area
 DIRECTION :
 FINAL DEPTH : 400.00 m

COORDINATES : E792.62 , N8548.36
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS					
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity	grain size	mineral type (ore)
200.70	~	(S)	○			●				○	●		●					70	m	fr	200.70-201.05 biotitite	
201.05	~		○			●		●			○	●							70	f		py in fracture
201.80	~		○			●													65	f		201.80-202.00
202.00	~		○			●													55	f		am . bi schist
	○		○			●			●			●							Fd	f	d	209.10-209.20
	○		○			●			●			●							Fd	f	d	209.35-209.50
	○		○			●			●			●							50	f		209.05-209.15
	○		○			●			●			●							Fd	f		209.40-209.50
	○		○			●			●			●							65	m	d	214.55-214.66
210	○		○			●			●			●							70	m		qt mass, irregul shape
	○		○			●			●			●							60	m		216.90-217.30
	○		○	(PI)-Gn-Ms		●			●			●							Fd	m		6 qt mass sub-
	○		○	-Bi-Qt -Sch		●			●			●							70	m		parrallel to schistosity, max w=6cm, ms around qt
	○		○			●			●			●							70	m	d	
	○		○			●			●			●							80	m		217.75-217.90
	○	○			●			●			●							70	m		2 qt mass	
	○	○			●			●			●							70	m		sub-porrallal to schistosity, ms	
	○	○			●			●			●							70	f		around qt	
	○	○			●			●			●							70	m		219.40-219.75	
220	○	○			●			●			●							65	m	d	qt mass, irregular shape	
	○	○			●			●			●							70	m		cal, occur mainly	
	○	○			●			●			●							70	m		as str	
	○	○			○			●			●							80	m		219.55-219.65	
	○	○			○			●			●							75	m		epi, cut schist	
224.00	○	○			○			●			○							65	m		220.00-220.75	
	○	○			○			●			○							75	m		wh clay mineral	
	○	○			○			●			○							65	m		in fissure $\angle 15^\circ$	
	○	○			○			●			○							75	m		222.90-223.15	
	○	○			○			●			○							80	m		223.40-223.60	
	○	○			○			●			○							70	m	d	qt mass, irregular shape	
	○	○			○			●			○							75	m		226.10	
	○	○			○			●			○							65	m		qt mass w=3cm	
230	○	○			○			●			○							75	m		py in fissure	
	○	○			○			●			○							75	m		fissure cuts qt a	
	○	○			○			●			○							75	m	d	schistosity	
	○	○			○			●			○							75	m	d	233.50-233.90	
	○	○	PI-Ms-Bi		○			●			○							70	m		qt mass, irregular shape	
	○	○	-Qt -Sch		○			●			○							75	m			
	○	○			○			●			○							80	m	fr	232.50-232.60	
	○	○			○			●			○							80	m		strong chloritization	
	○	○			○			●			○							80	m		by hydrothermal	
	○	○			○			●			○							65	f	d	alteration	
	○	○			○			●			○							45	f		236.40-237.70	
	○	○			○			●			○							75	m	fr	ditto	
240	○	○			○			●			○							75	m	fr		

LITHOLOGIC LOG

HOLE NO. MBP-4

(7)

LOCATION : Palmeiropolis area
 DIRECTION : o
 FINAL DEPTH : 400.00 m

COORDINATES : E792.62 , N8548.36
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS				
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcocopyrite		galena	sphalerite	schistosity	grain size
244.00	~	Pl-Ms-Bi -Qt-Sch	o			o				o	o							70	m	fr	243.70-244.05 qt mass irregular shape
	~		o			o												80	f		243.00-272.00 more siliceous
	~		o			o												80	f		245.65-246.05 cal v. lets L40°
	~	Ⓢ	o			o		o													244.20-244.80 many qt mass irregul shape
250	o		o			o		o													246.50-247.50 cal str
	~		o			o		o										60	f	d	247.15 -247.40 } 250.00-250.25 } many qt mass
	~		o			o		o										60	f	d	
	~		o			o		o										80	f	d	247.95-248.40 qt mass irregular shape cut schistosity
	~		o			o		o										80	f	d	
	~		o			o		o										50	f		
	~		o			o		o										80	f	d	253.85-254.30 qt mass
260	o	Gn-Pl-Bi -Qt-Sch	o			o		o										80	f		261.30-261.70 chloritization hydrothermal alteration
262.90	o		o			o		o										80	f	d	262.05-262.30 qt mass L60°
263.65	∇		o			o		o													262.90-263.65 bi-am schist (bi>am) include cal str
	~	(intercalate) (Am - Bi-Sch)	o			o		o										75	m	d	
	~		o			o		o										80	f		
265.20	∇		o			o		o													265.20-265.55 ditto
265.55	∇		o			o		o										65	m	d	
	~		o			o		o										60	f	d	268.70-269.15 ditto
	~		o			o		o										65	m	d	
268.70	∇		o			o		o													272.40-272.50 cal str
269.15	∇		o			o		o										55	m	d	
270	o		o			o		o										70	f	d	
	~		o			o		o										75	m		272.70-273.00 am bi schist
	~		o			o		o													
272.70	∇		o			o		o										70	m		269.15-272.70 many qt mass irregular shape
273.00	∇		o			o		o										80	m		
	~		o			o		o										70	m		
	~		o			o		o										65	m		
	~		o			o		o										70	f		
	~		o			o		o										70	f		279.40-279.55 rich in bi
280	o		o			o		o										70	m		

LITHOLOGIC LOG

HOLE NO. MBP-4

(9)

LOCATION : Palmeiropolis area
 DIRECTION : o
 FINAL DEPTH : 400.00 m

COORDINATES : E792.62 , N8548.36
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS										
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity	grain size	mineral type (ore)					
	✓	Amphibolite				•	⊙				•	•	•				80	f	d	322.90-322.95 qt mass 323.40 qt w=3cm 324.80 qt w=7cm 324.90-325.30 spotted cal β = 1mm 328.50-329.30 banded structure of qt & am 333.70-335.30 fine banded structure of qt & am 338.10-339.00 banded structure of qt , cal & am 349.40-350.10 irregular banded strudure of qt & am 350.10-350.60 rich in qt seg- regations							
	✓					•	⊙				•	•	•					65	f		d						
	✓						⊙				○		•						75		f	d					
	✓						⊙				○		•									f	d				
	✓						⊙				○		•										f	d			
	✓						⊙				○		•										f	d			
	✓						⊙				○		•										m	d			
330	✓						○				○		•	•									45	m	d		
	✓						○				○		•	•										40	m	d	
	✓						○				○		•	•											m		
	✓						○				○		•	•										90	f		
	✓						○				○		•	•											f	d	
	✓						○				○		•	•											f	d	
	✓						○				○		•	•										60	m	d	
	✓						○				○		•	•											m	d	
	✓						○				○		•	•											f	d	
	✓						○				○		•	•											55	m	d
340	✓						○				○		•	•											60	f	d
	✓						○				○		•	•											50	f	d
	✓						○				○		•	•											50	f	d
	✓					○				○		•	•										60	f	d		
	✓					○				○		•	•										60	f	d		
	✓					○				○		•	•										60	m	d		
	✓					○				○		•	•											f	d		
	✓					○				○		•	•										70	m	d		
	✓					○				○		•	•										70	m	d		
350	✓					○				○		•	•										65	m	d		
350.10	~	Ms-Bi-Qt-Sch	○			○	•			○		•											70	m			
	~		○			○	•				○		•											75	m		
353.50	~	Gn- Ms- Bi -Qt- Sch	○			○	•			○		•											70	m			
	~		○			○	•				○		•											70	m		
	~		○			○	•				○		•											60	m		
	~		○			○	•				○		•											65	m		
	~		○			○	•				○		•											50	m		
	~		○			○	•				○		•											55	m		
360	~		○			○	•			○		•											45	m			

LITHOLOGIC LOG

HOLE NO. MBP-4

(10)

LOCATION : Palmeiropolis area
 DIRECTION :
 FINAL DEPTH : 400.00m

COORDINATES : E792.62 , N8548.36
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS					
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity	grain size	mineral type (ore)
	~	Gn - Ms - Bi - Qt - Sch	○			○	•					○	•					55	f	d	360.60-360.95 rich in chl	
	○		○			○	○												60	m		361.05-361.25 many irregular qt mass, sub parallel to the schistosity
	○		○			○	○						•						65	m	d	363.65-364.50 } 366.85-367.30 } more siliceous
	○		○			○	•						•						60	m	d	
	○		○			○	○						•						65	m	d	
367.80	○		○			○	•						•	•		•			70	f	d	367.80-369.15 bi am schist
369.15	○	Bi-Am - Sch	○			○													m	d	367.90-368.00 qt segregation v. accompanied by, pr cp	
370	○	(Gn) - Bi - Qt - Sch	○			○				•								60	f			
	○		○			○													f			
	○		○			○													80	m	d	
	○		○			○							○	•					70	m	d	
	○		○			○							○	•	•				60	m	d	
	○		○			○							•	•					65	m	d	
	○		○			○							○	•					90	m	d	
	○		○			○													85	m	d	
	○		○			○													90	m		
	○		○			○													90	m	d	
380	○	Bi - Qt - Sch	○			○						○	•					60	m	d	377.90-378.00 } 379.25-379.50 } co-gr am	
381.00	○		○			○						•	•					65	m	d		
	○		○			○							○	•				70	m	d		
	○		○			○							•	•				60	m	d		
	○		○			○							•	•	•				70	f	d	
	○		○			○							•	•	•				85	m	d	
	○		○			○							•	•					90	m	d	
	○		○			○							•	•					85	m		
	○		○			○							•	○					85	f		
	○		○			○							•	•					85	f		
	○	○			○							•	•					85	m			
	○	○			○							•	•					85	f	d		
	○	○			○							•	•					85	f	d		
	○	○			○							•	•					85	f	d		
	○	○			○							•	•					85	f	d		
	○	○			○							•	•					85	f	d		
	○	○			○							•	•					85	f	d		
394.70	○	Bi-Am - Sch	○			○						•	•					60	f	d		
395.45	○	○			○							•	•					60	c	d		
	○	Amphibolite	○			○						•	•						f			
	○	○			○							•	•						f			
399.85	○	Bi-Am - Qt - Sch	○			○						•	•						f			
400	○	○			○							•	•					60	f			

LITHOLOGIC LOG

HOLE NO. MBP-5

(1)

LOCATION : Palmeiropolis area
 DIRECTION : °
 FINAL DEPTH : 400.45 m

COORDINATES : E792.95 , N8548.46
 INCLINATION : -90 °

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER			ORE MINERAL				REMARKS						
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity	grain size	mineral type (ore)	
1.40		Soil	○			•	○												f				
			○			•	○													f			
			○			•	○													f			
			○			•	○													f			
			○			•	○													f			
			○			•	○													f			
			○			•	○													f			
			○			•	○													f			
			○			•	○													f			
			○			•	○													f			
			○			•	○													f			
			○			•	○													f			
			○			•	○													f			
21.90			Ms-Bi-Qt-Sch	○	○	○													65	m			
		○		○	○														70	m			
		○		○	○															70	m		
		○		○	○															70	m		
		○		○	○															Fd	m		
		○		○	○															Fd	f		
		○		○	○															65	m		
		○		○	○															Fd	m		
28.50		(St)-Gn-Ms -Bi-Qt-Sch	○	○	○			○												Fd	m		
			○	○	○				○												70	c	
			○	○	○				○												50	c	
			○	○	○				○												Fd	m	
			○	○	○				○												70	m	
			○	○	○				○												60	c	
			○	○	○				○												Fd	c	
			○	○	○				○												Fd	c	
			○	○	○				○												Fd	c	
			○	○	○				○												Fd	m	
			○	○	○				○												Fd	m	
40				○	○	○			○												Fd	m	

LITHOLOGIC LOG

HOLE NO. MBP-5

(2)

LOCATION : Palmeiropolis area

COORDINATES : E792.95 , N8548.46

DIRECTION : 0

INCLINATION : -90 °

FINAL DEPTH : 400.45 m

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS				
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity	grain size
42.40	~	(St)-Gn-Ms-Bi-Qt-Sch	⊙			○		○	•									Fd	m	42.40-42.60	
42.60	~		⊙			○		○											Fd	m	bi-am schist
	~		○			○		○											50	f	42.70-42.28
	~		○			○		○											70	f	qt mass
	~		⊙			○		○											Fd	m	44.50-44.55
	~		○			○		○											70	m	qt include py
47.00	~		○			○		○						○					Fd	c d	45.85-45.90
	~		○			○	⊙							⊙					70	c d	qt include py
	~		○			○								○					Fd	m d	46.90-48.00
	~		○			○								•					Fd	f d	py following schistosity
50	~	○			○								•					Fd	f d	48.00-48.10	
	~	○			○								•					Fd	f d	qt include py	
	~	○			○								•					Fd	m	49.60-49.70	
	~	○			○								•					Fd	f d	py in schistosity	
	~	○			○								•					Fd	m	35.00-	
	~	○			○								•					Fd	m	strong microfolding	
	~	○			○								•					Fd	m	49.90-50.00	
	~	○			○								•					Fd	m d	py in schistosity	
	~	○			○								•					Fd	m	50.50-50.75	
	~	○			○								•					Fd	m	qt	
60	~	○			○								•					Fd	m		
	~	○			○								•					60	m d	61.65-61.73	
	~	⊙ MBP5-1			○								•		•	•		Fd	m d	sph > ga > py	
	~	○			○								•					Fd	m d	dissem following schistosity	
	~	○			○								•					Fd	m	64.98-65.03	
	~	○			○								•					Fd	m d	qt , L60°	
	~	○			○								•					Fd	m	67.70-68.55	
	~	○			○								•					Fd	f d	siliceous, include py	
	~	⊙			○								○					70	d	66.65	
	~	⊙			○								○					Fd	d	secondary chl, L60°	
70	~	○			○								•					Fd	f	67.05-67.15	
	~	○			○								•					Fd	f d	silicified, include py	
	~	○			○								•					Fd	f d	72.80-72.82	
	~	○			○								•					Fd	m d	am , garn, qt	
	~	○			○								•					80	f d	74.70-74.80	
	~	⊙			○								•					75	m	bleached, py	
	~	⊙			○								•					Fd	f d	73.38-73.40	
	~	⊙			○								•					70	f d	lenticular, qt , am	
	~	○			○								•					75	f d		
	~	○			○								•					70	m		
80	~	⊙			○								•					70	m d		
	~	⊙			○								•					70	m		

LITHOLOGIC LOG

HOLE NO. MBP-5

(3)

LOCATION : Palmeiropolis area
 DIRECTION : o
 FINAL DEPTH : 400.45 m

COORDINATES : E792.95 , N8548.46
 INCLINATION : -90 °

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS					
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcocopyrite		galena	sphalerite	schistosity	grain size	mineral type (ore)
80.00-80.10	~	(Ms-Bi)-Qt -Sch	○			○	○											75	m	d	80.00-80.10 qt mass, L40° include py	
	~		○			○	○												75	m	d	
	~		○			○	○												Fd	m	d	
	~		○			○	○												70	f		84.55-85.20 almost bi
	~		○			⊙	○												Fd	c	d	84.85-84.94 qt
	~		○			○	○												75	m	d	
	~		○			○	○												80	m		85.20-85.50 4 irreg qt mass
	~		○			○	○												Fd	m	d	
90	~		○			○	○												80	m		
91.40-91.65	~		○			○	○	⊙											Fd	m	d	90.60-91.30 weak alteration weak chl, py included
	~	○			○	○	○											70	m	d		
	~	⊙			○	○	○											75	f	d	91.40-91.65 am · bi-schist, L60°	
	~	⊙			○	○												80	m	d		
	~	⊙			○	○												80	m	d	92.50-92.55 chl secondary	
	~	⊙			○	○												Fd	m	d	92.70-94.20 silicified accompanied by py	
97.25-97.55	~	○			⊙	○	⊙											Fd	m	d		
	~	○			○	○												Fd	m	d	95.05-95.25 weak silicified	
100	~	○			○	○												Fd	m	b		
	~	⊙			○	○												Fd	m	d	97.25-97.55 bi-am schist, folded	
101.70-102.05	~	○			○	○	⊙			○								Fd	f	d		
	~	○			○	○		○		○								65	m	d	98.40-99.70 qt fragments, irregular shape	
	~	○			○	○												75	f	c		
	~	⊙			○	○												Fd	m	d	101.10-101.70 silicified, py	
	~	○			○	○												75	m	d		
106.50	~	○			○	○												70	f		101.70-102.05 am · bi schist qt, cal included	
	~	○			○	○												70	f			
	~	○			○	○												80	f		102.10-102.15 secondary chl	
110	~	○			○	○												80	f			
	~	○			○	○												75	f		103.28 w=2cm chl. garnet	
	~	○			○	○												80	f		103.85 garnet in qt	
	~	○			○	○												80	f			
	~	○			○	○												80	f		105.60-106.20 secondary chl, L80°90° with Py	
	~	○			○	○												70	f	d		
	~	○			○	○												80	f	d		
118.50	~	○			○	○												75	f		118.45-165.00 gry wh alteration with width of few mm to 2cm	
120	~	○			○	○												80	f	c		

LITHOLOGIC LOG

HOLE NO. MBP-5

(4)

LOCATION : Palmeiropolis area
 DIRECTION : o
 FINAL DEPTH : 400.45m

COORDINATES : E792.95 , N8548.46
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS				
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhoite	pyrite	chalcopyrite		galena	sphalerite	schistosity	grain size
130	~	PI-Bi-Qt-Sch	⊙		o		•		o		o		•				80	f	d	120.25 w=5cm qt, include am	
	~		⊙		o				o		o		•					80	f	d	120.80-121.30 chloritization accompanied by v. little cal, py
	~		⊙		o				o				•					80	f	d	126.45-126.50 qt
	~		⊙		o		•		o		•		•					80	f	d	127.90-127.93 qt, lenticular
	~		⊙		o				o		•		o					Fd	f	d	128.65-128.70 qt irregular shape
	~		⊙		o				o									85	f		132.20 py in fissure
	~		⊙		o				o									80	f		132.60-132.63 qt irregular shape with py & ms
	~		⊙		o				o					•				80	f	d	135.65 qt, cal, py, ms chlorite w=2cm, L60°
	~		⊙		o		o		o		•		o					75	f	d	145.60-145.65 qt, chl, py w=3cm, L45°
	~		⊙		o		•		o									85	m		149.90-150.30 rich in bi
140	~	PI-Bi-Qt-Sch	⊙		o				o								70	f		151.90 w=3cm qt, am	
	~		⊙		o				o								85	f		151.90-152.65 qt frags	
	~		⊙		o				o				•				80	f	d	152.05-154.15 am, bi schist include qt, cal str	
	~		⊙		o				o				•				70	f	d	154.25-154.35 am, bi ballshape 7x15cm upper part: am	
	~		⊙		o				o				•				80	f	d	154.10-154.15 ditto 5x2cm	
	~		⊙		o				o		•		•				80	f	d	154.70-154.95 rich in bi, include amph upper part: qt, irregular shape	
	~		⊙		o		o		o				•					f	d		158.55-158.70 bi > am, am lenticular, in bi
	~		⊙		o		o		o		•		•					Fd	m	d	158.80 bi, qt, am w=2cm
	~		⊙		o				o									Fd	f		159.50 w=3cm rich in bi, include chl
	~		⊙		o				o									70	f		
152.05	~	Amph-Bi-Sch					⊙		•		•					70	f	d			
154.15	~	(Pl)-Bi-Qt-Sch	⊙		o		o				•						m	d			
158.55	~		⊙		o		o		•		•					Fd	m	d			
158.70	~		⊙		o		o		•		•					Fd	m	d			
160	~		⊙		o		o									Fd	f				

LITHOLOGIC LOG

HOLE NO. MBP-5

(5)

LOCATION : Palmeiropolis area
 DIRECTION : o
 FINAL DEPTH : 400.45 m

COORDINATES : E792.95 , N8548.46
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS					
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity	grain size	mineral type (ore)
163.85	~	(Pl)-Bi-Qt-Sch	●			○				●	●							70	f	d	160.10 secondary chl	
163.95	~		○			○												70	f	d	L90° crosses schist	
164.75	~		●			○	⊙		○					○				Fd	f	d	163.85-163.95 cogr. am < bi	
165.05	~		○			○	⊙		○				●	●				Fd	f	d	164.02-164.05 am < bi	
170	~	(Gn)-Amphibolite				⊙						●						60	f	d	164.75-165.05 am in schist, schst changes gradually in am	
	~					⊙							●						f	d	168.75-169.00 cal str (network) & chl	
	~					⊙		●					●	●					f	d	garnet	
	~					⊙		●					●	○					f	d	∅ < 1mm	
	~					⊙		●					○	○					f	d	176.00-176.40 qt, Bi, amph	
	~					⊙		⊙	○				○	○					f	d	176.70-177.25 bi am schist	
176.00	~	Bi-Qt-Sch	⊙		●	○												70	f		177.35-177.55 ditto	
	~		⊙		●	○			●										80	f	d	177.65-177.80 ditto
178.40	~		⊙		●	○													80	f		177.97-178.15 ditto
180	~		⊙		●	○			○										85	f	d	178.30-178.40 ditto
	~		⊙		○	○			○										Fd	m	d	178.10-179.10 cal. chl, w=0.5cm
	~		⊙		○	○			○										Fd	f	d	178.85-179.10 siliceous
	~	Bi-Amph-Sch				⊙						●	●					85	f	d	180.00-180.30 include am < bi	
	~		○			○	⊙		●				●	●					85	f	d	181.90-183.20 include am < bi
187.70	~		⊙		○	○	●		○				●	●					Fd	m	d	184.60-187.70 qt < bi < am schist
	~		○			○	●						●						Fd	m	d	188.00-188.20 am < bi schist
	~		○			○	○						●						Fd	m	d	190.15-190.35 bleached alteration with chl
	~		○			○	○						●						Fd	m	d	191.30-192.10 bi < am included
	~	Ms-Bi-Qt-Sch	○			⊙						●						Fd	m	d	122.45-122.80 qt, irregular masses	
	~		○			○	●						○						Fd	m	d	192.95-193.05 chl, epid, infissure
	~		○			○	○						●						Fd	m	d	
200	~		○			○	○						●						Fd	m	d	

LITHOLOGIC LOG

HOLE NO. MBP-5

(6)

LOCATION : Palmeiropolis area
 DIRECTION : _____
 FINAL DEPTH : 400.45 m

COORDINATES : E792.95 , N8548.46
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS						
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity	grain size	mineral type (ore)	
205.45	~	Ms-Bi-Qt-Sch	○			○	•						○						m	d	205.45 - 205.58		
	~		○			○	•							○						m	d	sph > py little	
	~		○			○								○					Fd	m	d	with qt	
	~		○			⊙								○						Fd	m	d	205.00 - 205.58
	~		○			⊙								○						Fd	m	d	silicified
	~		○			⊙								○						Fd	m	d	top is chloritized
	~		○			○								○						Fd	f	d	203.25 - 203.35
	~		○			○								○						Fd	f	d	204.15 - 204.25
	~		○			○								○						Fd	f	d	weak chloritized
	~		○			○	○							○						80	f	d	204.20 - 205.00
	~		○			○	○							○						80	m	d	weak bleached
210	~		○			○	○							○								d	cal network veinlets
	~		○			○	○							○								d	208.12
	~		○			○	○							○								d	208.40 - 208.80
	~		○			○	○							○								d	sph > py
	~	○			○	○							○						Fd	m	d	very little, network	
	~	○			○	○							○						Fd	m	d	dissem	
	~	○			○	○							○						Fd	f	d	208.40 - 208.50	
	~	○			○	○							○						Fd	f	d	secondary chl in fissures	
	~	○			○	○							○						80	f	d	210.35	
	~	○			○	○							○						75	m	d	sph > py very little	
	~	○			○	○							○						70	m	d	211.60 - 211.70	
	~	○			○	○							○						Fd	m	d	rich in bi with qt	
220	~	○			○	○							○						Fd	f	d	212.95 - 213.00	
	~	○			○	○							○						Fd	f	d	sph in schist	
	~	○			○	○							○						Fd		d	216.60 - 216.70	
	~	○			○	○							○						Fd		d	sph > py, very little	
	~	○			○	○							○						Fd		d	217.20 sph	
223.15	~	○			○	○							○								d	219.85 - 223.15	
	~	○			○	○							○								d	silicified	
	~	○			○	○							○								d	sph < py, very little	
225.93	~	○			○	○							○								d	chl in fissures	
226.15	~	○			○	○							○								d	223.15 - 223.93	
	~	○			○	○							○								d	strong silicified	
	~	○			○	○							○								d	k-feld included	
	~	○			○	○							○								d	sph > ga, very little	
230	~	○			○	○							○								d	224.45 - 224.50	
	~	○			○	○							○								d	sph in fissures	
	~	○			○	○							○								d	226.65 - 239.10	
	~	○			○	○							○								d	strong altered	
	~	○			○	○							○								d	dotted k-feld	
	~	○			○	○							○								d	with py, cal veinlets	
	~	○			○	○							○								d	229.30 - 231.40	
	~	○			○	○							○								d	cal v. with py	
	~	○			○	○							○								d	230.90 - 231.40	
	~	○			○	○							○								d	cal with py	
	~	○			○	○							○								d	230.95 - 231.70	
	~	○			○	○							○								d	originally brecciated	
239.70	~	○			○	○							○								d	231.00 - 236.30	
240	~	○			○	○							○								d	limonite in fissures	

LITHOLOGIC LOG

HOLE NO. MBP-5

(7)

LOCATION : Palmeiropolis area
 DIRECTION : 0
 FINAL DEPTH : 400.45 m

COORDINATES : E792.95 , N8548.46
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL				REMARKS				
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite		chalcopyrite	galena	sphalerite	schistosity
240.85	∨ ∨	← Amphibolite					●												c	240.85-242.95 strong altered k-feld, cal veinlets
242.95	∨ ∨	Altered Rock	○	○	○													Fd	f	
	∨ ∨		○	○	○													85	f	
	∨ ∨						●											Fd	c	242.60-242.95 cal, chl, qt brecciated
	∨ ∨						●											Fd	c	250.40-250.80 cal with chl w = 0.5cm
	∨ ∨						●											60	c	
	∨ ∨						●											60	c	250.55-250.60 secondary chl in fissures
250	∨ ∨	⊙ ⊙					●											60	c d	
	∨ ∨						●											Fd	c d	
	∨ ∨						●											55	c	
	∨ ∨						●											60	c d	252.25-253.00 cal, chl veinlet w = 1.5cm
	∨ ∨						●											50	c d	
	∨ ∨						●												c d	
	∨ ∨						●											Fd	c d	
	∨ ∨						●											70	c d	258.80-259.00 bi > am > cal weak argillized
	∨ ∨						●											80	m d	
	∨ ∨						●												m	
260	∨ ∨	Amphibolite					●											70	m d	261.05-261.55 rich in bi
	∨ ∨						●											70	c d	
	∨ ∨						●											65	c	265.40-265.80 rich in bi
	∨ ∨						●											65	c	
	∨ ∨						●											70	c d	
	∨ ∨						●											55	Vc d	268.30-268.85 rich in bi includ qt
	∨ ∨						●											60	Vc	
	∨ ∨						●											40	Vc	
	∨ ∨						●												Vc	
	∨ ∨						●											Fd	Vc	
270	∨ ∨						●												Vc	
	∨ ∨						●												Vc	
	∨ ∨						●												Vc	
	∨ ∨						●												Vc	
	∨ ∨						●												Vc d	
	∨ ∨						●												Vc	
	∨ ∨						●												Vc	
	∨ ∨						●												Vc d	
276.85	∨ ∨						●												Vc	
277.60	∨ ∨		○		○		○												f	d
	∨ ∨						●												c	
280	∨ ∨						●												Vc	

LITHOLOGIC LOG

HOLE NO. MBP-5

(8)

LOCATION : Palmeiropolis area
 DIRECTION : o
 FINAL DEPTH : 400.45 m

COORDINATES : E792 95 , N854846
 INCLINATION : -90 °

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS					
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity	grain size	mineral type (ore)
280.43	∨ ~ ∨					o	●											Fd	Vc	d	280.43-281.33 qt, am, chl, bi schist	
281.33						o	●											Fd	m			
	∨ ∨						●												Vc			
	∨						●											70	Vc			
	∨ ∨						●												Vc			288.70-289.60 am schist weak chloritization
	∨						●												Vc	d		
							●											55	c			
							●											40	Vc			289.45-289.48 } 290.90-291.05 }
288.70	∨ ~ ∨						●											70	c			k-feld qt schist interbedded
289.60	~ ~						●											65	m			
290	~ ~	Qt - Sch	●	o	o					o								60	f	d		289.60-291.05 qt schist
291.05	∨ ~ ∨	Bi - Am - Sch				●	●											55	m	d		k-feld py, chl, bi included, silicified
292.00	∨ ~ ∨					●	●											50	m	d		
292.15	∨ ~ ∨					●	●															
292.90	~ ~		o	o	o				o		o	o						70	m	d		291.05-291.40 rich in bi in am schist
	~		o	o	o				o		o	o						75	f	d		
	~		o	o	o				o		o	o						80	f	d		292.00-292.15 qt schist
	~		o	o	o				o		o	o						85	f	d		
	~		o	o	o				o		o	o						80	f	d		292.15-292.90 bi, am schist
	~		o	o	o				o		o	o						75	f	d		
300	~	(PI)-(Ms-Bi) -Qt-Sch	o	o	o				o		o	o						60	f	d		292.30 includ k-feld
	~		o	o	o				o		o	o						65	f	d		
	~		o	o	o				o		o	o						65	f	d		293.60-295.80 weak k-feld, chl, pr following schistosity
	~		o	o	o				o		o	o						75	f	d		
303.20	∨ ~ ∨					o	●											Fd	f			299.15-299.50 second chl following schistosity
304.30	~ ~		●	o	o													55	f	d		
	~ ~		●	o	o													55	f	d		300.60-301.50 chloritization
306.70	~ ~	Bi - Am - Sch	●	o	o	●												Fd	c	d		
307.80	∨ ~ ∨					o	●												c			305.90-306.00 bleached chloritization
309.00	~ ~		o	o	o					o	o	o						Fd	f	d		
310	∨ ~ ∨					o	●											Fd	m	d		306.00-306.40 silicified, pr
310.30	~ ~		o	o	o		●	o										Fd	m	d		
310.60	~ ~		o	o	o													Fd	m	d		306.40-306.70 qt massive
310.95	~ ~		o	o	o													Fd	m	d		
	~		o	o	o													Fd	m	d		306.70-307.80 bi am sch, include qt
	~		o	o	o													Fd	m	d		
	~		o	o	o													Fd	m	d		309.00-310.30 bi am sch
	~		o	o	o													80	m	d		
	~		o	o	o													85	m	d		310.60-310.95 bi am sch, qt include
	~		o	o	o													75	m	d		
320	~		o	o	o													85	m	d		311.15-311.40 bleached chloritized

LITHOLOGIC LOG

HOLE NO. MBP-5

(9)

LOCATION: Palmeiropolis area
 DIRECTION: o
 FINAL DEPTH: 400.45 m

COORDINATES: E792.95, N8548.46
 INCLINATION: -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL				REMARKS						
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite		chalcopyrite	galena	sphalerite	schistosity	grain size	mineral type (ore)
330	~	(Pl)-(Ms-Bi) -Qt-Sch	o			o	o												75	m	d	320.70-320.95 } 321.50-321.70 } weak chloritized
	~		o			o	o												70	m	d	321.95-322.20 bi < ms & qtz frag irregular shape
	~		o			o	o												80	m	d	
	~		o			o	o												80	m	d	
	~		o			o	o												Fd	m	d	333.90-337.95 altered & fractured fracture filled with limonite & wh clay
	~		o			o	o												Fd	m	d	
	~		o			o	o												80	m	d	
	~		o			o	o												80	f	d	333.90-335.30 silicified, k-feld
	~		o			o	o												85	f	d	334.50 fault brec (clay) w=2cm, L50°
	~		o			o	o												85	f	d	
	~		o			o	o												85	m	d	334.50-338.00 fractuated a fragile
	~		o			o	o												85	f	d	
333.90	~	Altered Rock	o			o	o															335.30 fault brec, w=2cm slickenside, L50°
	~		o			o	o															335.30-336.30 silicified, chloritized
	~		o			o	o															336.30-337.95 silicified, chl, k-feld
337.95	~		o			o	o															
338.18	~		o			o	o															
338.64	~		o			o	o															
340	~		o			o	o															337.95-338.18 ms · bi sch
	~		o			o	o															338.18-338.64 bi · am sch
	~		o			o	o															338.64-338.70 qt sch. include garnet chloritized
	~		o			o	o															
	~		o			o	o															339.85-341.65 silicified, chloritized
	~		o			o	o															
	~		o			o	o															341.65-341.85 am · bi · chl sch
350	~	(Pl)-(Ms-Bi) -Qt-Sch	o			o	o															340.00-352.18 chloritized at intervals
	~		o			o	o															
	~		o			o	o															345.45-346.40 silicified with py achl
	~		o			o	o															
	~		o			o	o															
	~		o			o	o															355.05-355.60 am << bi schist
	~		o			o	o															
	~		o			o	o															
	~		o			o	o															
360	~		o			o	o															

LITHOLOGIC LOG

HOLE NO. MBP-6

(1)

LOCATION : Palmeiropolis area
 DIRECTION : o
 FINAL DEPTH : 401.32 m

COORDINATES : E792.93 , N8549215
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL				REMARKS				
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite		chalcopyrite	galena	sphalerite	schistosity
0-1.60		Soil																		0-1.60 dark brown ~ brown soil
1.60-8.50		Soil																		1.60-8.50 strong weathered rock, f,grained & argillized, very soft only mica is defined
8.50-19.10		Soil																		8.50-19.10 strong weathered & argillized rock, very soft, f-m grained, ms, bi, qt are defined
19.10-20.00		(Pl) - Gn - Ms - Bi - Qt - Sch	o			o	o	o										45 m		19.10-20.00 limonite in schistosity
20.00-24.30		(Pl) - Gn - Ms - Bi - Qt - Sch	o			o	o	o										Fd m		20.00-24.30 garnet, $\phi < 1mm$
24.30-26.20		Ms - Bi - Qt - Sch	o			o	o	o										70 m		24.30-26.20 strong limonitization partly argillized
26.20-28.20		Ms - Bi - Qt - Sch	o			o	o	o										70 m		26.20-28.20 brecciated
28.20-29.00		Ms - Bi - Qt - Sch	o			o	o	o										75 m		28.20-29.00 wh massive qt $\angle 65^\circ$
29.00-32.90		Ms - Bi - Qt - Sch	o			o	o	o										60 m		29.00-32.90 strong limonitization with clay, in contact slickenside
32.90-35.50		Ms - Bi - Qt - Sch	o			o	o	o										65 m		32.90-35.50 cal str: w = 1-2mm $\angle 5^\circ$
35.50-39.25		Ms - Bi - Qt - Sch	o			o	o	o										70 f d		35.50-39.25 mostly bi include am
39.25-40.85		Ms - Bi - Qt - Sch	o			o	o	o										75 m d		39.25-40.85 silicified
40.85-401.32		Ms - Bi - Qt - Sch	o			o	o	o										70 f d		

LITHOLOGIC LOG

HOLE NO. MBP-6 (2)

LOCATION : Palmeiropolis area
 DIRECTION : o
 FINAL DEPTH : 401.32 m

COORDINATES : E792.93 , N8549.215
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS						
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcocopyrite		galena	sphalerite	schistosity	grain size	mineral type (ore)	
40.85	~	Am - Bi-Sch	●			•							o					80	f	d	40.85-42.20 am < bi sch		
42.20	~		○			⊙								•					Fd	m	d	43.00-43.25 am < bi sch	
43.00	~		○			⊙								•					Fd	m	d	am is spherical	
43.25	~		○			○								•					80	m	d	43.80-45.00 fracture, L5° filled with clay, py	
	~		○			○													75	m			
	~	Ms-Bi-Qt-Sch	○			⊙													70	m			
	~		○			⊙								•					60	m	d	47.10-47.30 3 qt masses irregular shape ms surrounding qt	
	~		○			○													60	m			
50	~		○			○													65	m			
50.50	~		○			○								•					70	m	d	51.15-51.30 silicified	
	~	(PI)-Gn-(Ms-Bi)-Qt-Sch	⊙			•							•						60	f	d	50.50-51.50 garnet, ϕ < 1mm	
	~		⊙			•														55	f		51.50-59.30 garnet, ϕ ≤ 3mm pink
	~		⊙			•															f		
	~		⊙			•															f		
	~		⊙			•															f		
	~		⊙			•															f		
	~		⊙			•															f		
	~		⊙			•															f		
60	~	Bi-Am - Qt-Sch	⊙			•							•						80	f	d	61.05-61.90 bi < am sch, upper part: bit qt	
61.05	~		○			⊙								•						Fd	m	d	61.90-63.25 rich in qt mass
61.90	~	(PI)-(Bi-Ms)-Qt-Sch	○			○							•						Fd	m	d	66.30-66.40 qt mass irregular shape	
	~		○			○								•						Fd	m	d	75.60-75.90 rich in bi, with qt mass
	~		○			○								•						Fd	m		
	~		○			○														85	m	d	75.90-76.85 pr dissem. medium
70	~		○			○								•						Fd	f	d	76.85-77.40 qt mass
	~		○			○								•						85	f	d	77.50-77.57 qt mass
	~		⊙			○								•						Fd	f	d	78.00-78.13 bi < am sch f, gr, with py
	~		⊙			○								•						70	m	d	
	~		⊙			○								•						70	m	d	
	~		⊙			○								•						90	f	d	78.75-78.84 include bi, am
78.00	~	Ⓢ Ⓣ MBP6-1~2	⊙			•							•						75	f	d		
78.13	~		○			○								•						70	f	d	
80	~	○			⊙								•						Fd	m	d		

LITHOLOGIC LOG

HOLE NO. MBP-6

(3)

LOCATION : Palmeiropolis area
 DIRECTION :
 FINAL DEPTH : 401.32 m

COORDINATES : E792.93 , N8549.215
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS						
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity	grain size	mineral type (ore)	
	~	(PI)-(Bi-Ms)-Qt-Sch	○			⊙	○											Fd	m	d			
	~		○			⊙	○												Fd	m	d		
	~		○			○													70	f	d		
	~		○			○													70	f			
	~		○			○													75	f	d		
86.25	∨	Amphibolite				⊙													v	c	d	86.25-92.35 amphibolite with very few bi	
	∨					⊙														m	d		
90	∨					⊙														m	d	86.25-86.50 89.30-90.60 very co gr.	
	∨	(PI)-Bi-Qt-Sch				⊙													90	v	c	d	87.60-87.85 qt mass in amphibolite
92.35	~		○			○													70	m	d		
	~		○			○													80	f			
	~		○			○													85	f			
	~		○			○													85	f			
	~		○			○													85	f	d	99.75-99.85 cbiorite networky str.	
	~		⊙			○													85	f	d		
	~		⊙			○													85	f			
100	~		⊙			○													85	f		101.00-116.00 scattered micaceous mineral, wh metallic luster crossing schistosity	
	~		⊙			○													80	f			
	~	⊙			○													75	f				
	~	⊙			○													Fd	f	d	107.75-107.90 chl, str. secondary L20°		
	~	⊙			○													Fd	f				
	~	⊙			○													90	f		111.35-112.00 chl, str. secondary at intervals		
	~	⊙			○													85	f	d			
	~	⊙			○													85	f		113.60-114.30 strong chloritized with cal str		
110	~	⊙			○													85	f				
	~	⊙			○													80	f		114.30-114.65 chl, str. secondary at intervals		
	~	⊙			○													70	f				
	~	⊙			○													65	f		114.65-114.80 mostly bi		
	~	○			⊙													Fd	m	d	115.75-115.85 cal, str. L30° with chl		
	~	○			○													Fd	f	d			
116.80	~	Gn-Bi-Qt-Sch	○			○												80	f	d	116.80-120.40 garnet, ϕ < 1mm		
	~		⊙			○													80	f	d		
120	~	⊙			○													75	f	d	118.65-120.00 silicified, chl ?		
	~	⊙			○													70	f	d			

LITHOLOGIC LOG

HOLE NO. MBP-6

(4)

LOCATION : Palmeiropolis area
 DIRECTION :
 FINAL DEPTH : 401.32 m

COORDINATES : E792.93 , N8549.215
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS			
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity
123.70	~	Gn-Bi-Qt-Sch	○			○												Fd	f	121.10 -121.45 silicified, chloritized
	○		○			○												Fd	f	123.20-123.50 rich in bi
	~	Qt	○			○												Fd	f	123.70-125.05 wh. qt : meta chert ?
125.05	○		○			○												Fd	m d	126.25-125.40 qt
	~		○			○												75	m d	127.00 very few amphibole leuticular
	○		○			○												80	m d	
130	~		○			○												75	f	120.00-132.00 garnet, $\phi \leq 0.5\text{mm}$
	○		○			○												80	f	
	~		○			○												Fd	f d	131.20-131.70 } 132.30-132.60 } 133.15-133.45 }
	○		○			○												Fd	m d	
	~		○			○												Fd	f d	rich in bi with cal, chl
	○		○			○												Fd	f d	134.35-136.00 silicified, strong chloritized
	~		○			○												80	f	136.30-136.40 cal str. w/ $\leq 1\text{mm}$ L30°
	○	Gn-(Ms-Bi)- Qt-Sch	○			○												85	f d	136.60-136.75 cal. druse
140	~		○			○												70	f	136.75-139.00 chloritized at intervals
	○		○			○												Fd	m	
	~		○			○												Fd	m d	[138.75-138.90 strong chloritized]
	○		○			○												Fd	m	
	~		○			○												Fd	f d	139.10-139.50 rich in bi, cal, chl
	○		○			○												Fd	f d	
	~		○			○												Fd	m d	141.65-141.85 rich in bi, chl
	○		○			○												Fd	m	
	~		○			○												Fd	m d	143.00-144.77 chl at intervals
	○		○			○												Fd	m	
	~		○			○												Fd	f d	144.12-144.27 silicified, chloritized
150	○		○			○												Fd	f d	
	~		○			○												Fd	m d	145.00-158.50 qt, bedded like w < 1cm at intervals mostly folding within core, crossing schistosity lower contact: at qt upper: gradually
	○		○			○												Fd	m d	
	~		○			○												Fd	m d	
	○		○			○												Fd	f	
	~		○			○												Fd	m	
	○	⑤	○			○												Fd	f d	147.75-147.95 rich in bi
	~		○			○												Fd	m d	
	○		○			○												Fd	m d	158.50-158.63 light brownish wh. qt. old faultplane ?
160	~		○			○												Fd	m d	
	○		○			○												85	f d	

LITHOLOGIC LOG

HOLE NO. MBP-6

(5)

LOCATION : Palmeiropolis area
 DIRECTION :
 FINAL DEPTH : 401.32 m

COORDINATES : E792.93 , N8549.215
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS			
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity
	~		○			○	•										85	f	d	
	○		○			○	•										85	f	d	
	○		○			○	•										85	f	d	168.15-168.45 } 168.60-168.75 } 169.10-169.20 }
	○		○			○	•										85	f	d	rich in qt mass bedded like
	○		○			○	•										85	m	d	
	○		○			○	•										Fd	m	d	168.30-168.45 bi > amph, qt
	○		○			○	•										80	m	d	
168.30 168.45	~		○			○	•										80	m	d	169.70-169.80 pale brown qt
170	~		○			○	•										50	m	d	
170.60 170.85	~		○			○	•										Fd	f	d	170.00-170.30 brecciated
	~		○			○	•										Fd	f	d	slickenside on breccia
	~		○			○	•										Fd	f	d	
173.92 174.00 174.55	~		○			○	•										80	f	d	170.60-170.85 am < bi sch irregular contact
175.85	~	← Am - Bi -Sch	○			○	•										Fd	f	d	
	~		○			○	•										Fd	m	d	173.92-174.00 am < bi schist
	~		○			○	•										Fd	f	d	174.55-175.85 ditto
	~		○			○	•										Fd	m	d	
	~		○			○	•										Fd	f	d	175.85-176.10 rich in bi,qt
180	~		○			○	•										Fd	f	d	176.25-176.35 qt mass
180.25 180.50	~		○			○	•										Fd	f	d	180.25-180.50 bi,qt (lower half) include amph
	~		○			○	•										Fd	m	d	
	~	Gn-(Ms-Bi)- Qt-Sch	○			○	•										55	m	d	180.80-181.36 qt mass, ms in it
	~		○			○	•										Fd	m	d	
	~		○			○	•										Fd	f	d	182.05-182.42 qt mass
	~		○			○	•										80	f	d	
	~		○			○	•										Fd	f	d	186.45-186.60 qt, L15° ms around qt
	~		○			○	•										85	f	d	
	~		○			○	•										Fd	f	d	186.75-186.85 qt mass, L65°
	~		○			○	•										Fd	f	d	
	~		○			○	•										85	f	d	186.55-186.70 chloritized with py
	~		○			○	•										90	f	d	
	~		○			○	•										Fd	f	d	194.55-194.75 strong chloritized
	~		○			○	•										80	f	d	
	~		○			○	•										75	f	d	
	~		○			○	•										Fd	f	d	
	~		○			○	•										Fd	m	d	
	~		○			○	•										85	f	d	
200	~		○			○	•										Fd	f	d	

LITHOLOGIC LOG

HOLE NO. MBP-6

(6)

LOCATION : Palmeiropolis area
 DIRECTION : 0
 FINAL DEPTH : 401.32 m

COORDINATES : E792.93 , N8549.215
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS						PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS			
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite	galena		sphalerite	schistosity	grain size
210	~	⑤ Gn-(Ms-Bi) -Qt-Sch	●			○	●		○									85	f		
	~		●			○	●		○					●					Fd	m	d
	~		●			○	●		○					●					Fd	m	d
	~		●			○	●		○					●					Fd	m	d
	~		○			○	○		○					●					Fd	f	d
	~		○			○	○		○					●					Fd	f	d
	~		○			○	○		○					●					Fd	f	d
	~		○			○	○		○					●					Fd	f	d
211.00	~	Ms-Bi-Qt-Sch	○			○	○											Fd	f	d	
	~		○			○	○											Fd	f	d	
	~		○			○	○											Fd	f	d	
	~		○			○	○											Fd	f	d	
	~		○			○	○											Fd	f	d	
	~		○			○	○											Fd	f	d	
	~		○			○	○											Fd	f	d	
	~		○			○	○											Fd	f	d	
220	~	① MBP6-3-5	○			○	○											Fd	f	d	
	~	⑤	○			○	○											Fd	f	d	
	~	①	○			○	○											Fd	f	d	
221.00	~	① MBP6-6-9	○			○	○		●			○	○					Fd	f	d	
	~		○			○	○						○	○				Fd	f	d	
	~		○			○	○						○	○				Fd	f	d	
	~		○			○	○						○	○				85	f	d	
	~		○			○	○						○	○				Fd	f	d	
	~		○			○	○						○	○				85	f	d	
	~		○			○	○						○	○				85	f	d	
	~		○			○	○						○	○				55	f	d	
	~		○			○	○						○	○				70	f	d	
	~		○			○	○						○	○				60	f	d	
230	~	Pl-Gn-Ms- Bi-Qt-Sch	○			○	○		●				○	○				f	d		
	~		○			○	○							○	○				f	d	
	~		○			○	○							○	○				Fd	f	d
	~		○			○	○							○	○				Fd	f	d
	~		○			○	○							○	○				Fd	f	d
	~		○			○	○							○	○				Fd	f	d
	~		○			○	○							○	○				Fd	f	d
	~		○			○	○							○	○				Fd	f	d
240	~		○			○	○		○			○	○					85	f	d	
	~		○			○	○					○	○					55	f	d	

LITHOLOGIC LOG

HOLE NO. MBP-6

(7)

LOCATION : Palmeiropolis area
 DIRECTION : o
 FINAL DEPTH : 401.32 m

COORDINATES : E792.93 , N8549.215
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS					
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity	grain size	mineral type (ore)
250	~ o ~ o ~ o ~ o ~ o ~ o ~ o ~ o	PI-Gn-Ms-Bi -Qt-Sch	o			o			o		o							Fd	f	d		
			o			o			o		o		o						Fd	f		d
			o			o			o		o		o						Fd	f		d
			o			o			o		o		o						Fd	f		d
			o			o			o		o		o						Fd	f		d
			o			o			o		o		o						Fd	f		d
			o			o			o		o		o						Fd	f		d
			o			o			o		o		o						Fd	f		d
			o			o			o		o		o						Fd	f		d
			o			o			o		o		o						Fd	f		d
			o			o			o		o		o						Fd	f		d
			o			o			o		o		o						Fd	f		d
			o			o			o		o		o						Fd	f		d
			o			o			o		o		o						Fd	f		d
			o			o			o		o		o						Fd	f		d
260	~ o ~ o ~ o	PI-Gn-Ms-Bi -Qt-Sch	o			o			o		o							Fd	f	d		
			o			o			o		o		o					Fd	f	d		
			o			o			o		o		o					Fd	f	d		
			o			o			o		o		o					Fd	f	d		
			o			o			o		o		o					Fd	f	d		
26300	~ o ~ o ~ o	PI-Gn-Ms-Bi -Qt-Sch	o			o			o		o							Fd	f	d		
			o			o			o		o		o					Fd	f	d		
			o			o			o		o		o					Fd	f	d		
			o			o			o		o		o					Fd	f	d		
			o			o			o		o		o					Fd	f	d		
270	~ o ~ o ~ o	(Gn)-PI-Ms -Bi-Qt-Sch	o			o			o		o							Fd	f	d		
			o			o			o		o		o					Fd	f	d		
			o			o			o		o		o					Fd	f	d		
			o			o			o		o		o					Fd	f	d		
			o			o			o		o		o					Fd	f	d		
280	~ o ~ o ~ o	(Gn)-PI-Ms -Bi-Qt-Sch	o			o			o		o							Fd	f	d		
			o			o			o		o		o					Fd	f	d		
			o			o			o		o		o					Fd	f	d		
			o			o			o		o		o					Fd	f	d		
			o			o			o		o		o					Fd	f	d		

LITHOLOGIC LOG

HOLE NO. MBP-6

(8)

LOCATION : Palmeiropolis area
 DIRECTION : 0
 FINAL DEPTH : 401.32 m

COORDINATES : E792.93 , N8549.215
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER		ORE MINERAL					REMARKS				
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity	grain size
~	~		○			○	○											Fd	m	d	282.20-282.30 cal str. w _≤ 0.5mm L20°
~	~		⊙			○	○											Fd	m	d	
~	~		⊙			○	○											Fd	f	d	
~	~		⊙			○	○											Fd	f	d	285.50-285.55 chloritized with py
~	~		⊙			○	○											Fd	f	d	
~	~		⊙			○	○											Fd	f	d	288.70-289.25 bi<am sch. with py. bi: mostly uppermost part upper contact L45° lower contact L80°
288.70	~		○			○	○											50	m	d	
289.25	~		⊙			○	○											Fd	f	d	291.40-291.50 bi, am sch with garnets upper crntact L60° lower contact L70°
290	~		⊙			○	○											Fd	f	d	
291.40	~		⊙			○	○											Fd	f	d	293.65-294.15 rich in qt fragments wh. translucent
291.50	~		⊙			○	○											Fd	f	d	
~	~		⊙			○	○											70	f		298.66-298.68} 298.70-298.76} am < bi, a garnet
~	~		⊙			○	○											70	f	d	
~	~	(Gn)-Pl-Ms	○			○	○											Fd	m	d	307.80-307.90} 308.80-308.90} cal str
~	~	-Bi-Qt-Sch	○			○	○											Fd	m	d	
~	~		⊙			○	○											Fd	f	d	308.10-308.27} 308.43-308.52} wh. qt. translucent irregular shape
~	~		⊙			○	○											Fd	f	d	
~	~		⊙			○	○											75	f	d	308.52-308.60 bi<am schist below 10cm: chloritised
~	~		⊙			○	○											Fd	f	d	
300	~		⊙			○	○											Fd	f	d	310.00-311.74 bi<am sch upper part 10cm: rich in bi
~	~		⊙			○	○											Fd	f	d	
308.52	~		⊙			○	○											Fd	f	d	310.90-311.00} include qt
308.60	~		⊙			○	○											Fd	f	d	
310	~		⊙			○	○											Fd	f	d	314.00-314.20 chloritized at intervals
310.00	~		⊙			○	○											Fd	f	d	
311.74	~	← Bi-Am - Sch	⊙			○	○											Fd	m		318.10-318.15 wh. qt, irregular shape
~	~		⊙			○	○											Fd	f	d	
~	~		⊙			○	○											Fd	f	d	318.10-318.15 wh. qt, irregular shape
~	~		⊙			○	○											Fd	f	d	
320	~		⊙			○	○											60	f	d	

LITHOLOGIC LOG

HOLE NO. MBP-6

(9)

LOCATION : Palmeiropolis area
 DIRECTION : o
 FINAL DEPTH : 401.32 m

COORDINATES : E792.93 , N8549.215
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS					PORPHYRO BLAST		OTHER			ORE MINERAL					REMARKS				
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite	galena		sphalerite	schistosity	grain size	mineral type (ore)
322.50	~	Am - Bi - Sch	⊙			o												Fd	f	d	322.50-322.75 bi < am , qt , sch	
322.75	~		⊙			o												Fd	f	d	324.25-324.30 bi < am sch	
324.25	~		⊙			o												Fd	f	d	325.50-325.65 bi < am sch	
324.30	~		⊙			o												Fd	f	d		
325.50	~		⊙			o	o											Fd	f	d	327.63-328.50 am < bi , qt , sch with garnet, folded pale yell grn mineral with qt	
325.65	~		⊙			o	o											Fd	m	d		
327.63	~		⊙			o												Fd	f	d		
328.50	~		⊙			o		⊙										Fd	m			
330	~		⊙			o												Fd	f	d	328.75-328.80 am < bi sch	
	~		⊙			o												Fd	f	d	327.05-327.10 weak chloritized	
	~	⊙		o	o						o						70	f	d	331.00-331.05 am < bi sch with garnet		
	~	⊙		o	o						o						70	f	d			
334.80	~	⊙		o			o				o						65	m	d	331.70-332.30 chl, K-feld, py		
335.10	~	⊙	?	o			o		o								60	f	d	332.70-333.30 chloritized at intervals		
	~	⊙	?	o			o		o								70	f				
	~	⊙	?	o			o		o								70	f	d	332.75-332.85 qt v. w=2cm, L30°		
340	~	(Gn)-Pl-Bi - Qt-Sch	⊙	?	o				o								70	f	d	334.70-334.80 weak chl		
	~		⊙	?	o				o		o						70	f		334.80-335.10 am < bi sch		
	~		⊙	?	o				o		o						70	f	d	335.70-335.90 wh, qt translucent chl in fissures		
	~		⊙		o						o						75	f	d	337.90-337.95 qt , am , chl , bi		
	~		⊙		o						o						70	f	d	335.60-342.10 chloritized at intervals		
	~		⊙		o				o		o						70	f	d	343.40-343.60 qt with chl, py L80~70°		
350	~		⊙		o	o			o		o						65	f	d			
	~		⊙		o	o			o		o						65	f		344.10-346.10 silicified, chloritized		
	~		⊙		o				o		o							f				
	~		⊙		o				o		o						85	f		346.10-347.85 ditto, at intervals		
	~		⊙		o				o		o						85	f				
	~		⊙		o				o		o							f	d	347.85-349.40 silicified, chloritized		
	~		⊙		o				o		o						85	f	d	352.40-353.50 chloritized at intervals		
	~		⊙		o				o		o							f				
	~		⊙		o				o		o						70	f		353.50~ weak chloritized silicified		
	~		⊙		o				o		o						85	f	d			
360	~		⊙		o				o		o						90	f	d			

LITHOLOGIC LOG

HOLE NO. MBP-6

(10)

LOCATION : Palmeiropolis area
 DIRECTION :
 FINAL DEPTH : 401.32 m

COORDINATES : E792.93 , N8549.215
 INCLINATION : -90°

DEPTH (m)	COLUMN	ROCK	PRINCIPAL CONSTITUENTS						PORPHYRO BLAST		OTHER		ORE MINERAL				REMARKS					
			quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	garnet	staurolite	plagioclase	calcite	chlorite	pyrrhotite	pyrite	chalcopyrite		galena	sphalerite	schistosity	grain size	mineral type (ore)
362.52	~	(Gn)-Pl-Bi -Qt-Sch	⊙			?						⊙							60	f		
362.77	~		⊙			?						⊙							f	d		
	~		⊙			?		⊙					⊙						f	d		
	~		⊙			?							⊙						60	f	d	363.33-363.40 wh qt translucent
367.00	~	Gn-Ms-Bi -Qt-Sch	⊙			o	o					o							75	f	d	
	~		⊙			o	o					o							70	f	d	
	~		⊙			o	o					o							Fd	f	d	
	~		⊙			o	o					o							Fd	f	d	
	~		⊙			o	o					o							65	f	d	
	~		⊙			o	o					o							70	f	d	
	~		⊙			o	o					o							75	f	d	
	~		⊙			o	o					o							80	f	d	
	~		⊙			o	o					o							75	f	d	
	~		⊙			o	o					o							85	f	d	
370	~	Ⓟ Ⓡ Ⓢ MBP6-10-12	⊙			o	o				o								75	f	d	
	~		⊙			o	o					o							80	f	d	
	~		⊙			o	o					o							80	f	d	
	~		⊙			o	o					o							75	f	d	
	~		⊙			o	o					o							70	f	d	
	~		⊙			o	o					o							75	f	d	
	~		⊙			o	o					o							80	f	d	
	~		⊙			o	o					o							75	f	d	
	~		⊙			o	o					o							85	f	d	
	~		⊙			o	o					o							85	f	d	
380	~	Gn-Ms-Bi -Qt-Sch	⊙			o	o				o								85	f	d	
	~		⊙			o	o					o							85	f	d	
	~		⊙			o	o					o							80	f	d	
	~		⊙			o	o					o							80	f	d	
	~		⊙			o	o					o							85	f	d	
	~		⊙			o	o					o							85	f	d	
	~		⊙			o	o					o							85	f	d	
	~		⊙			o	o					o							80	f	d	
	~		⊙			o	o					o							85	f	d	
	~		⊙			o	o					o							85	f	d	
390	~	Ⓢ Ⓢ MBP6-13-15	⊙			o	o				o								90	f	d	
	~		⊙			o	o					o							85	f	d	
	~		⊙			o	o					o							75	f	d	
	~		⊙			o	o					o							75	f	d	
	~		⊙			o	o					o							80	f	d	
	~		⊙			o	o					o							80	f	d	
393.25	~	Ⓢ Ⓢ MBP6-16-17	⊙			o	o				o								80	f	d	
393.52	~		⊙			o	o					o							80	f	d	
	~		⊙			o	o					o							85	f	d	
	~		⊙			o	o					o							90	f	d	
	~		⊙			o	o					o							85	f	d	
	~		⊙			o	o					o							85	f	d	
400	~	Ⓢ Ⓢ MBP6-13-15	⊙			o	o				o								80	f	d	
	~		⊙			o	o					o							70	f	d	
	~		⊙			o	o					o							80	f	d	
	~		⊙			o	o					o							80	f	d	
401.32	~		⊙			o	o				o							80	f	d		

1941