

307 : Meta mudstone

The rock shows granular texture, consisting of abundant quartz grains. Main components of grains are quartz, plagioclase with less potash feldspar and rare zircon. All the grains are smaller than 0.1 mm across. Secondary minerals are chlorite, biotite, opaque mineral and sphene.

309 : Chlorite schist

The rock has schistose texture. Schistosity is constructed by abundant chlorite in preferred orientation. The other components of the rock are quartz, opaque mineral, albite and carbonate. Quartz occurs as grains with ragged outline. Opaque mineral has irregular forms.

313 : Meta rhyolite

The rock shows granular texture with weak bedding and grading. The main constituents are quartz and plagioclase. Both the minerals are sometimes up to 1 mm across, but usually smaller than 0.01 mm across. Plagioclase is replaced by carbonate. Secondary minerals are abundant flaky sericite, less abundant carbonate, and minor biotite and opaque mineral and accessory hematite.

317 : Meta siltstone

The rock has granular texture. The granules are exclusively quartz. Quartz grains are smaller than 0.1 mm across and have ragged outlines. Secondary minerals are muscovite, chlorite, biotite, albite, opaque mineral and rare goethite. Muscovite and biotite are arranged in preferred orientation.

322 : Meta dolerite

The rock shows porphyritic texture. Phenocrysts are plagioclase, potash feldspar and quartz. Plagioclase and potash feldspar phenocrysts are abundant and up to 1.5 and 1 mm in size, respectively. Quartz phenocrysts are less abundant and have ragged outlines. The most abundant secondary mineral is nontronite. And minor secondary minerals are biotite and carbonate.

336 : Biotite schist

The rock has granular texture with weak foliation. Granular texture is due to abundant occurrence of quartz grains smaller than 0.04 mm across. Sericite and biotite are major secondary minerals. Carbonate is minor and opaque mineral and hematite are accessory secondary minerals.

338 : Biotite-sericite semischist

The rock is spotted with biotite up to 0.4 mm in granular matrix consisting of quartz and plagioclase grains. Secondary minerals are spotted biotite, flaky sericite, minor chlorite, accessory hematite and sphene.

360 : Calcite-quartz semischist

The rock shows granular texture. Granular grains are mainly of quartz and less of plagioclase and potash feldspar. Quartz grains are up to 0.1 mm. Plagioclase and potash feldspar grains are both smaller than 0.1 mm across. Secondary minerals are biotite and calcite with rare grains of hematite and sphene.

367 : Meta rhyorite

The rock shows porphyritic texture. Phenocrysts are plagioclase up to 2 mm or more. The groundmass is holocrystalline and consists mainly of plagioclase, potash feldspar, quartz with very small amounts of sphene, opaque mineral and apatite. Secondary minerals are sericite, the most abundant, calcite and chlorite.

372 : Meta rhyorite

The rock has granular texture caused by arrangement of abundant quartz and less abundant plagioclase grains. Average grain sizes of the both minerals are 0.15 mm. Quartz grains up to 1.0 mm across are included frequently. Rarely zircon grains are present. Secondary minerals are predominantly sericite and accessory chlorite, opaque mineral and goethite.

AP. I-4-2 Microphotograph of Thin Sections

(1)

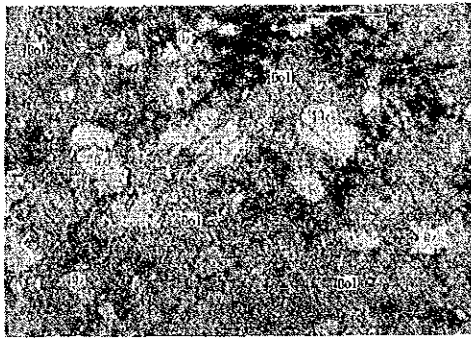
No.	Sample No.	Rock Name
(1), (2)	60	Dolomitic limestone
(3), (4)	121	Olivine basalt
(5), (6)	187	Meta rhyolite
(7), (8)	301	Meta siltstone
(9), (10)	313	Meta rhyolite
(11), (12)	317	Meta siltstone
(13), (14)	322	Meta dolerite
(15), (16)	336	Biotite schist

(Abbreviation)

Ap : apatite
 Bi : biotite
 Carb : carbonate minerals
 Chl : chlorite
 Dol : dolomite
 Kf : potash feldspar
 Ms : muscovite
 Ov : olivine
 Pl : plagioclase
 Qz : quartz
 Ser : sericite

(2)

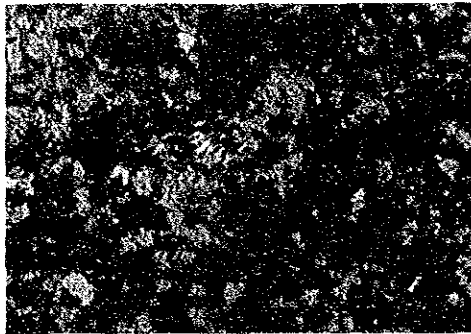
(1) 60



The major components are dolomite and quartz. They have granular texture.

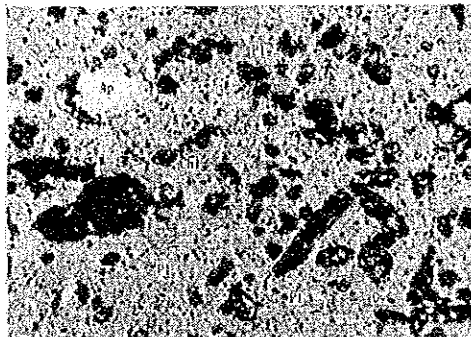
Plain polarized light 0 0.5mm

(2) 60



Crossed polarized light 0 0.5mm

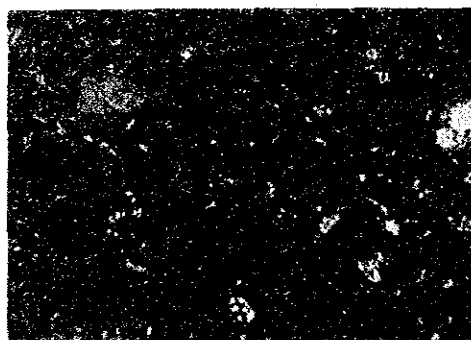
(3) 121



The rock is porphyritic with abundant olivine and apatite. The groundmass is made up of plagioclase laths and altered olivine.

Plain polarized light 0 0.5mm

(4) 121



Crossed polarized light 0 0.5mm

(3)

(5) 187



Plain polarized light 0 0.5mm

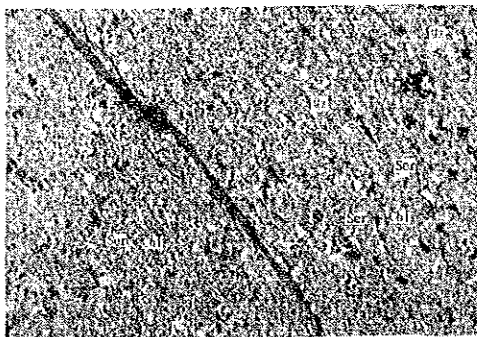
The rock shows mosaic texture. Main constituent minerals are quartz, plagioclase and magnetite. Secondary minerals are consist mainly of sericite and chlorite.

(6) 187



Crossed polarized light 0 0.5mm

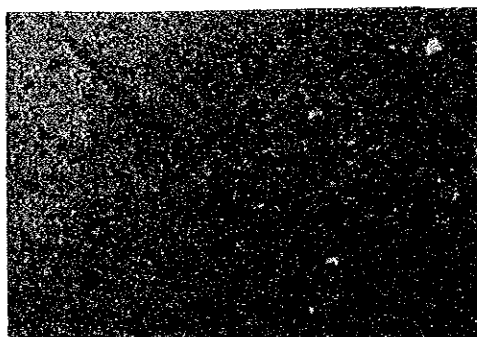
(7) 301



Plain polarized light 0 0.5mm

The photograph shows banding texture. Clastic grains are fine-grained, smaller than 0.2mm across, and composed of quartz and plagioclase.

(8) 301

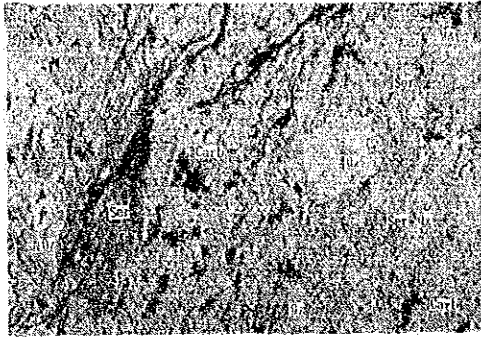


Crossed polarized light 0 0.5mm

(4)

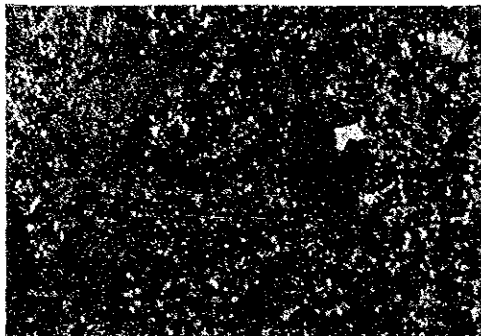
(9) 313

The photograph shows granular texture with weak bedding and grading. It is composed mainly of quartz and plagioclase. Secondary minerals are sericite, carbonate and minor biotite.



Plain polarized light 0 0.5mm

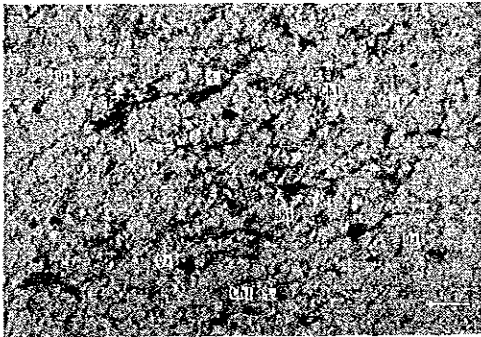
(10) 313



Crossed polarized light 0 0.5mm

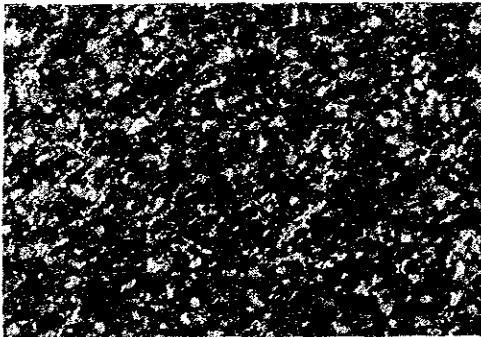
(11) 317

It is composed exclusively of fine-grained quartz, the outline of which are ragged. Secondary minerals are mainly muscovite and biotite.



Plain polarized light 0 0.5mm

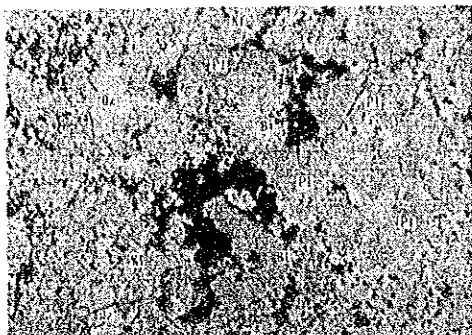
(12) 317



Crossed polarized light 0 0.5mm

(5)

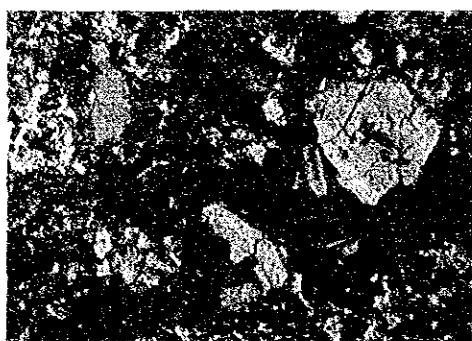
(13) 322



Plain polarized light 0 0.5mm

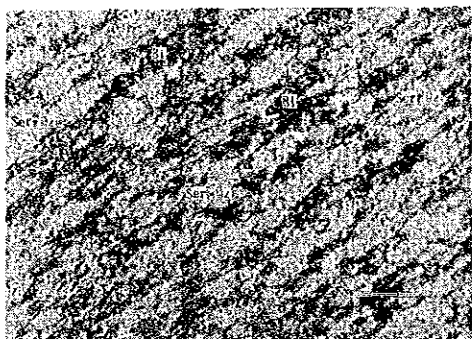
The rock shows porphyritic texture, with less strong alteration. Phenocrysts are plagioclase, potash feldspar and quartz.

(14) 322



Crossed polarized light 0 0.5mm

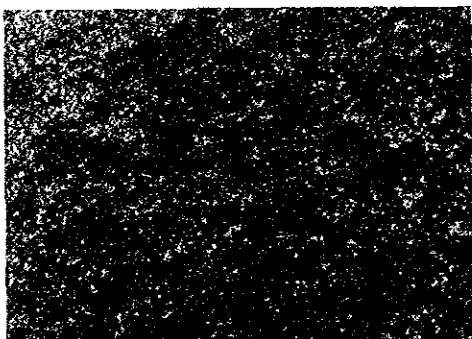
(15) 336



Plain polarized light 0 0.5mm

The rock has granular texture with weak foliation. It is composed mainly of quartz, sericite and biotite.

(16) 336



Crossed polarized light 0 0.5mm

AP. I-5-1 Microscopic Observation of Polished Sections

(1)

No.	Sample No.	Rock Name	Location	Observed Minerals														
				Primary Minerals							Secondary Minerals							
				Chalcopyrite	Sphalerite	Galena	Pyrrhotite	Pyrite	Stannite	Macknowite	Ilmenite	Marcasite	Covellite	Vallerite	Hematite	Goethite	Limonitic material	Fe oxide
1	29	Quartz vein	W - Ar	3	4	3												4
2	120	Gossan with malachite	W - Mk	1							1	4	4				1	
3	124	Quartz vein	W - Nz	1	1		1					3						
4	302	Low-grade ore	E - Ha	3	4	4	4	3	1		2							1
5	303	High-grade ore	E - Ha	3	4	4	4	2	1	1	2							1
6	306	Dissemination ore	E - Ha	3	3		2	4		2	1							
7	327	Gossan	E - Ou									4	4	4				
8	334	Gossan	E - Ou	1	1							1	4	4				
9	335	Gossan	E - Ou									4		4				
10	401	Quartz vein	W - Nz					1				3						

4 : Abundant

3 : Common

2 : Little

1 : Rare

29 : Quartz vein with galena

Galena occurs filling interstices among quartz grains. The mineral may contain a small quantity of Ag, as described below. UK (II) is a supergene alteration product after galena, and occurs commonly as an extremely fine-grained aggregate and occasionally as an aggregate of radial and needle-like crystals. The optical properties of the mineral are as follows : color, grey; anisotropy, strong; internal reflection, white to yellowish white. Qualitative analysis of the mineral with an electron microprobe revealed that the mineral contains Pb as a major constituent and minor to trace quantities of S, Ag and Zn. Although the origin of Zn is obscured (possibly sphalerite origin), S and Ag are considered to be derived from the parental galena. The mineral is essentially Pb oxide. There are four phases of Pb oxides in nature, which are similar to each other in optical and compositional aspects. An additional data is necessary for identification of the mineral. UK (III) occurs filling interstices of silicate minerals and is not necessarily in association with sulfides. The optical properties are : color, grey; bireflectance, weak; anisotropy, strong; internal reflection, white. Chemical analysis with electron microprobe revealed that the mineral is Pb oxide.

120 : Gossan with malachite

Hematite and goethite are closely associated with each other, and are supergene products which formed from iron-riched solution. Chalcopyrite, considered to be a primary mineral, is sparsely dispersed as an irregular-shaped grain (less than 30 mm in diameter) in the rock. Covellite rarely occurs surrounding chalcopyrite grain, indicating a supergene alteration product after chalcopyrite. UK (I) rarely occurs in association with chalcopyrite and covellite. The mineral is identified as either iron oxide or iron hydroxide mineral based upon its optical properties and electron microprobe test data.

124 : Quartz vein

Hematite occurs along fractures of a silicate mineral (quartz), indicating the formation from supergene solutions which penetrated the fractures. Chalcopyrite is sparsely dispersed as a particle with the diameter of less than 20 mm generally independent of other ore minerals. Only one particle of sphalerite, which shows a chalcopyrite-sphalerite assemblage, is found in the specimen. Pyrite also occurs as minute euhedral to subhedral grain. Since the sulfides are included in unfractured parts of silicate mineral (quartz) and any genetical relations are not observed between the sulfides and hematite, the sulfides are considered to be primary minerals.

302 : Low-grade ore

Pyrrhotite shows a granular texture and is partly replaced by pyrite and marcasite. Sphalerite includes small grains of pyrrhotite, chalcopyrite and galena developed in, possibly, sphalerite-sphalerite boundaries. Sphalerite contains a significant quantity of Fe based upon electron microanalysis. UK (IV) occurs as an euhedral to subhedral crystal (less than 30 mm) in close association with sphalerite and occasionally with pyrrhotite and galena. In polished section, the material shows a grey-white color (slightly lighter than sphalerite). The bireflectance is weak to moderate, and the anisotropy is rather strong. The internal reflection is white. Microprobe analysis revealed that the mineral is a Ti oxide with small amounts of Fe, Zn and Sn, either rutile or anatase. The mineral identification was impossible because of similarity between them in morphology and optical properties. Stannite occurs usually as an irregular-shaped grain (less than 20 mm in diameter) closely associated with sphalerite. A small amount of Zn was detected from the mineral.

303 : High-grade ore

This ore is very similar to that of Sample No. 302 in mineralogy and modes of occurrence of ore minerals. Stannite and UK (IV) are less abundant in this ore as compared with the ore of Sample No. 302.

Mackinawite rarely occurs in chalcopyrite near boundaries with pyrrhotite.

306 : Dissemination ore

Pyrite occurs as a coarse-grained euhedral crystal with an abundant inclusion of pyrrhotite. Sphalerite is widely and abundantly disseminated in the rock rather independent of other sulfides. The modes of occurrence may be divided into two types. One is a straight or curved stick-like crystal with the maximum dimensions of 50 x 700 mm². The other is an irregular-shaped minute grain (commonly less than 40 mm in diameter). Pyrrhotite is usually included in a pyrite crystal commonly as an angular grain and occasionally as a stringer. Marcasite is developed in a small amount near peripheries of the pyrite crystal. Ilmenite is widely and rather abundantly disseminated in the rock as a minute subhedral grain (less than 50 mm in diameter).

327 : Gossan

In the present report, a non- or low-crystalized iron hydroxide with a strong internal reflection of reddish brown color is called as limonitic material whereas a well-crystalized equivalent is called as goethite.

Hematite, goethite and limonitic material, closely associated with each other, occur filling fractures of gangue minerals. Goethite occurs as an aggregate of granular and radiated crystals. Any primary ore mineral was not found in this specimen.

334 : Gossan

The modes of occurrence of hematite and goethite are the same as those of Sample No. 327. Chalcopyrite rarely occurs as a minute grain (less than 20 mm in diameter). Valleriite is very rare. The mineral occurs as an aggregate of radiated crystals surrounding chalcopyrite, suggesting a secondary alteration product after chalcopyrite. The mineral is easily identified from the strong anisotropy. Only one particle of sphalerite in contact with chalcopyrite was found in this specimen.

335 : Gossan

The modes of occurrence of hematite and limonite material are the same as those of Sample No. 327. Any other ore mineral was not found in this specimen.

401 : Quartz vein

The origin of hematite is the same as that of Sample No. 124. Pyrite rarely occurs as an euhedral to subhedral crystal (less than 10 mm in diameter) dispersed in a silicate mineral and shows no genetical relation with hematite.

AP. I-5-2 Microphotograph of Polished Sections

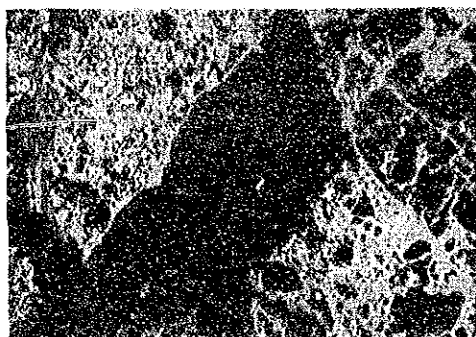
(1)

No.	Sample No.	Rock Name
(1)	120	Gossan with malachite
(2)	302	Low-grade ore
(3)	303	High-grade ore
(4)	303	High-grade ore
(5)	306	Dissemination ore
(6)	327	Gossan
(7)	334	Gossan
(8)	335	Gossan

(Abbreviation)

Cp	:	chalcopyrite
G	:	gangue minerals
Gn	:	galena
Goe	:	goethite
Hm	:	hematite
Lim	:	limonite
Ms	:	marcasite
Po	:	pyrrhotite
Py	:	pyrite
Sp	:	sphalerite

(2)



(1) 120

Closely association of hematite and goethite, the light gray part is hematite and the dark gray part is goethite.

Open nicol

0 0.2mm



(2) 302

Sphalerite occurs as an euhedral crystal in close association with chalcopyrite, pyrrhotite and galena.

Open nicol

0 0.2mm



(3) 303

Intergrowth of sphalerite, chalcopyrite, pyrrhotite and galena. Pyrite, cream yellow, is replaced by marcasite, creamy white (below).

Open nicol

0 0.1mm



(4) 303

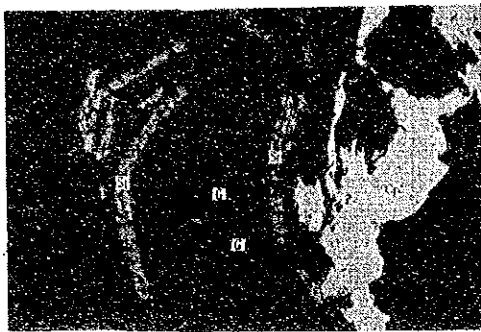
Pyrrhotite and marcasite show the strong anisotropy respectively.

Open nicol

0 0.2mm

(3)

(5) 306



Open nicol

0 0.2mm

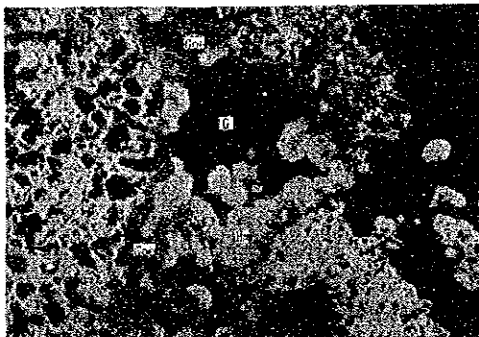
(6) 327



Open nicol

0 0.1mm

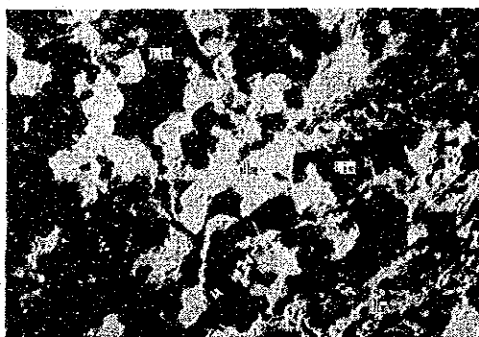
(7) 334



Open nicol

0 0.1mm

(8) 335



Open nicol

0 0.1mm

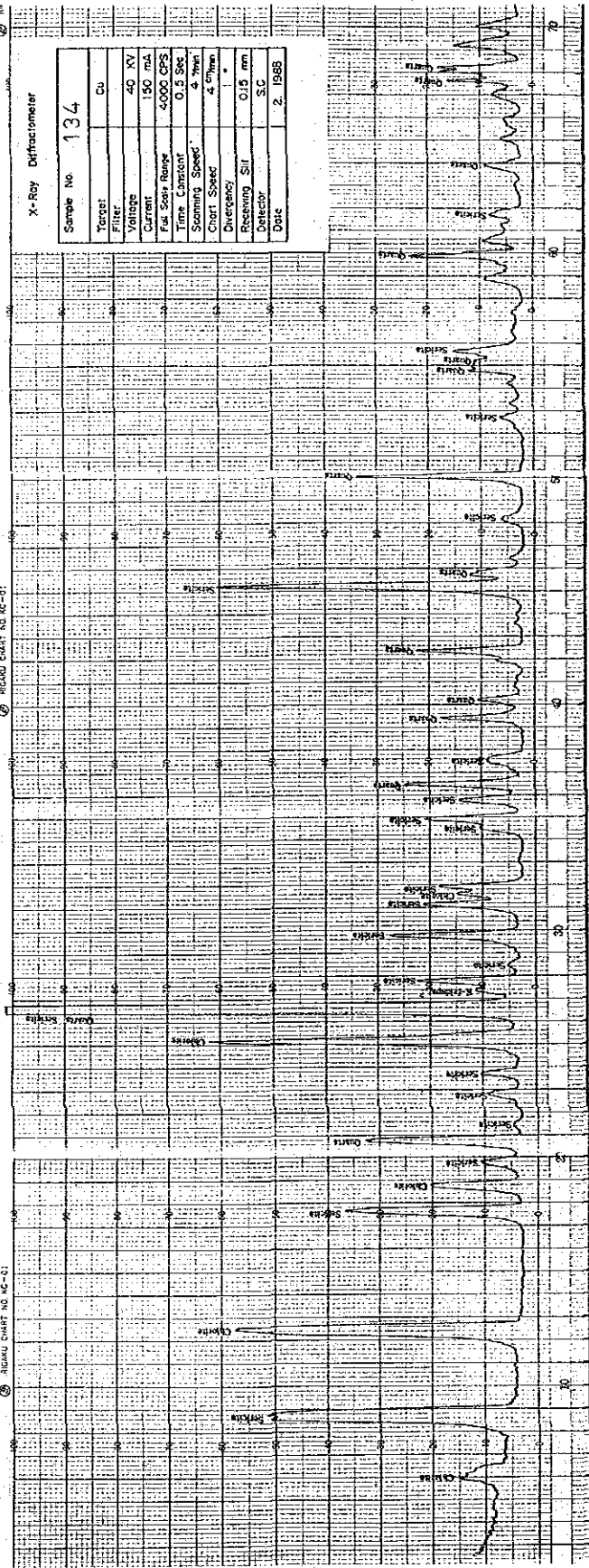
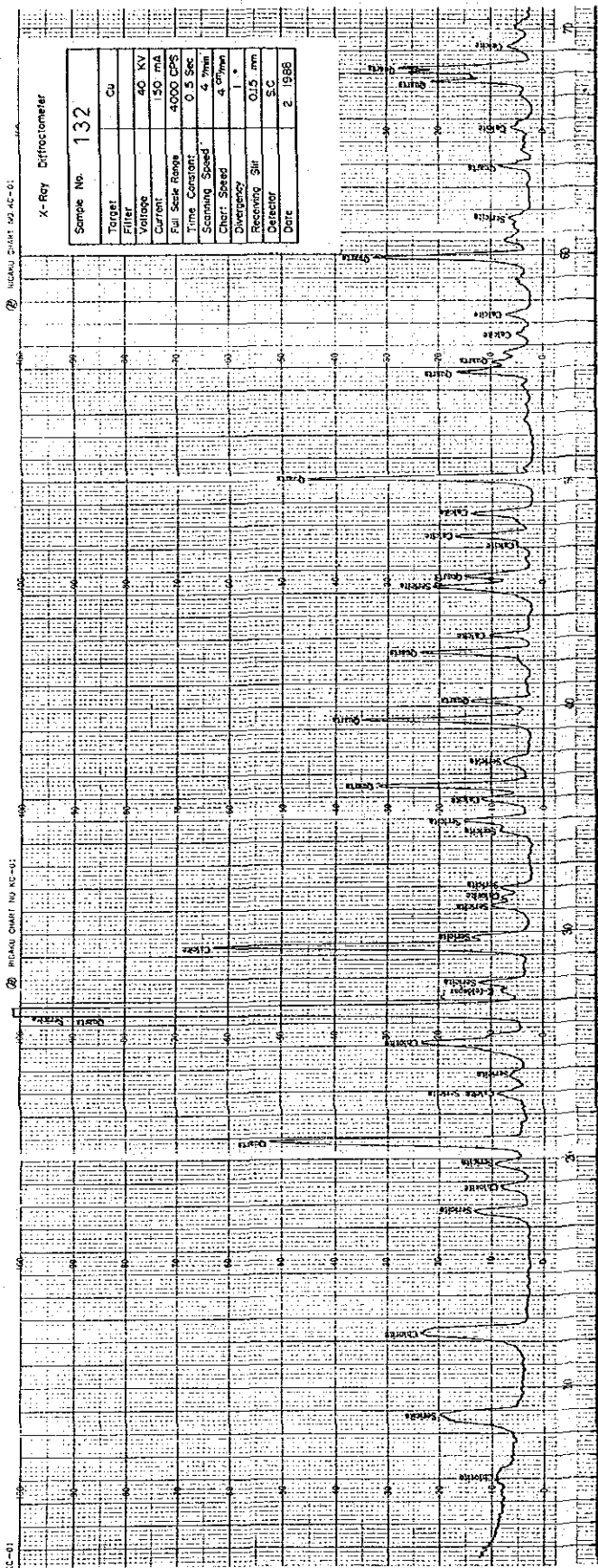
The mode of occurrence of hematite, light gray, and limonite material, dark gray.

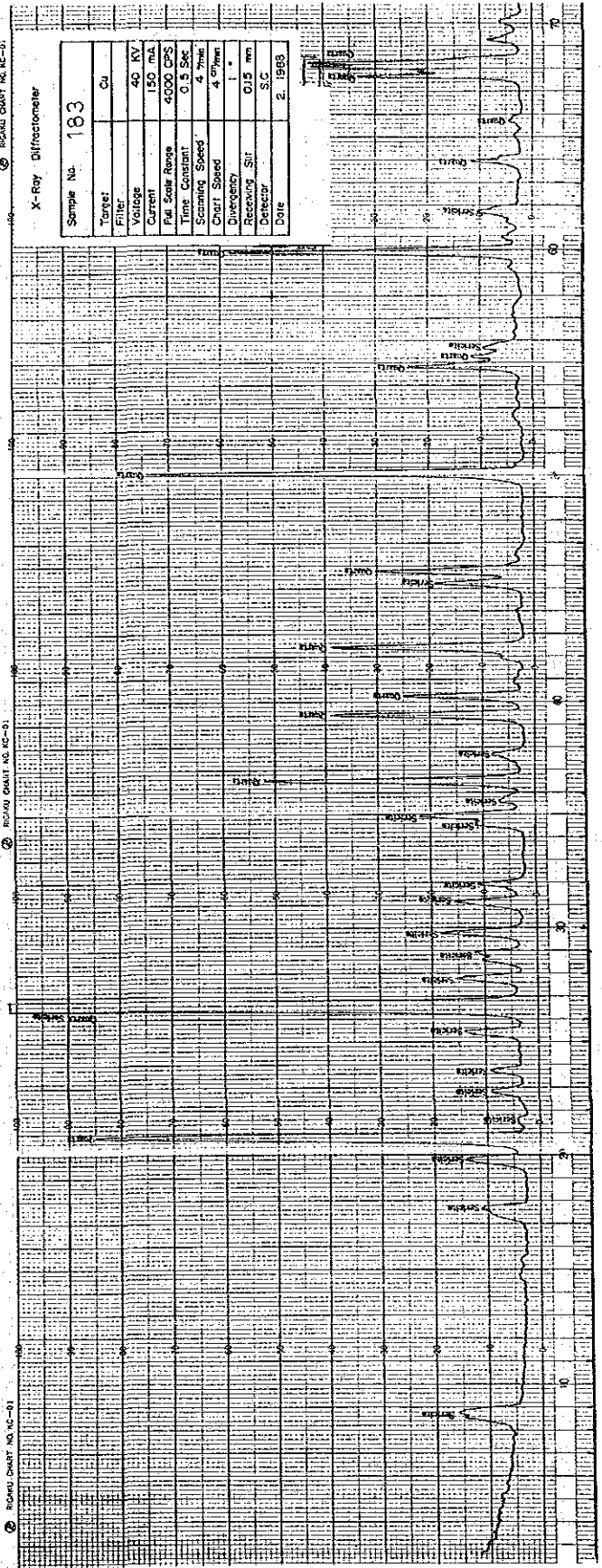
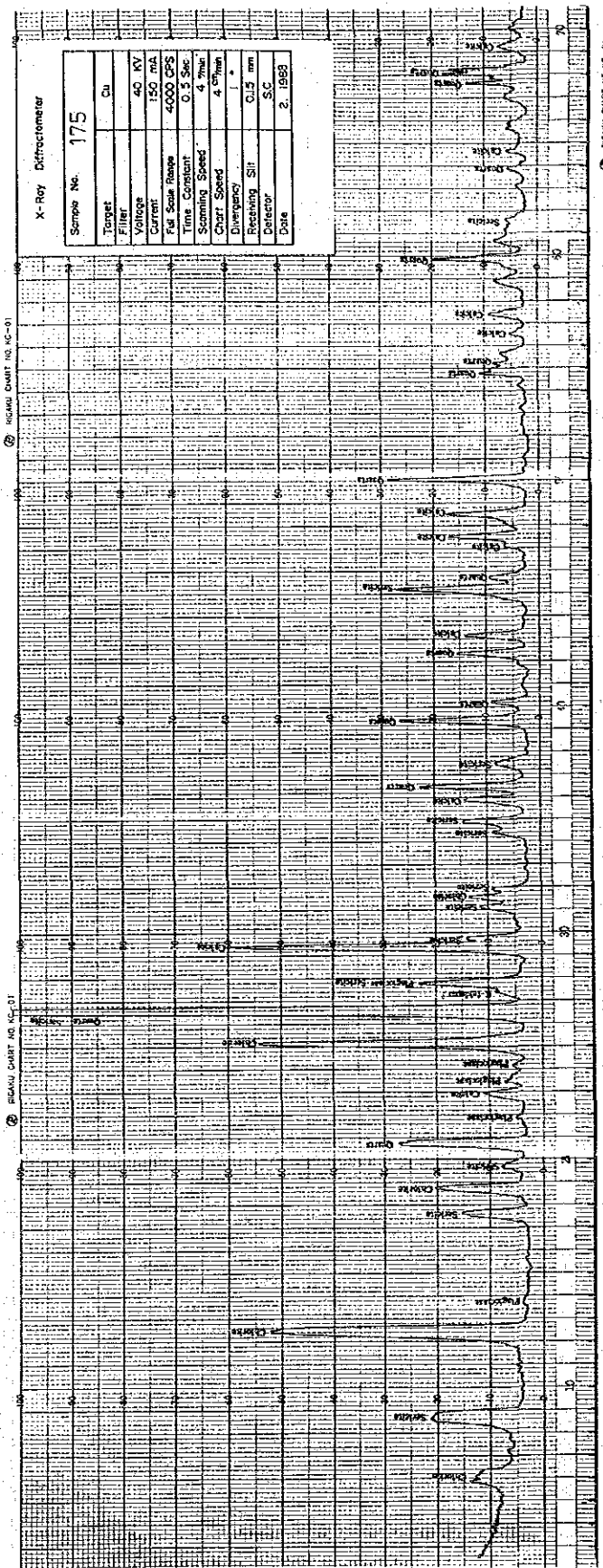
AP. I -6 Results and Charts of X-Ray Diffractive Analysis

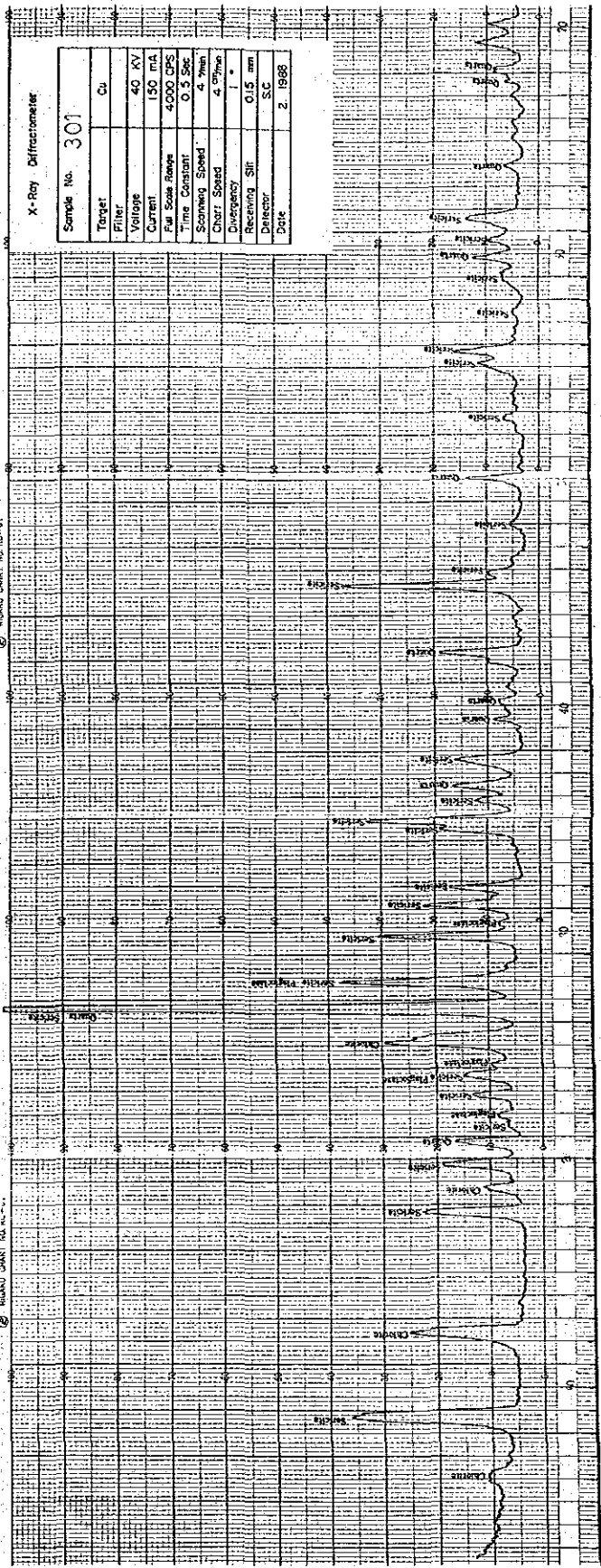
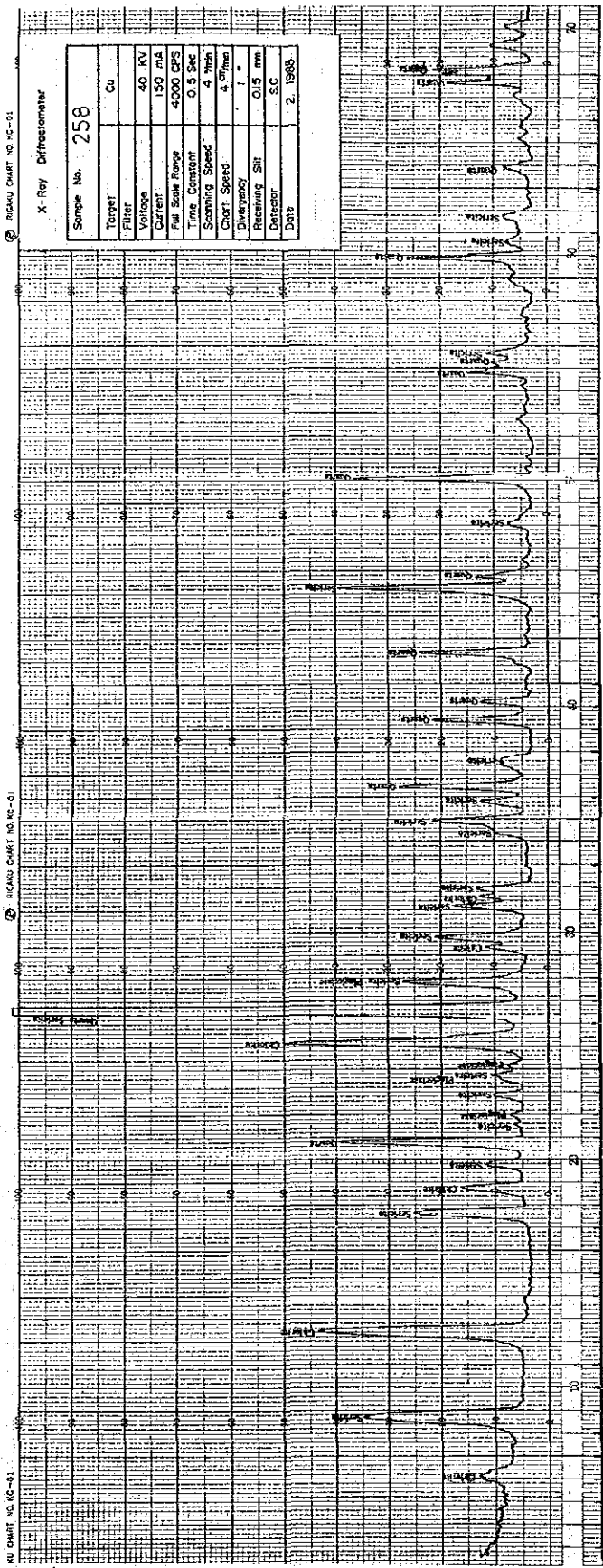
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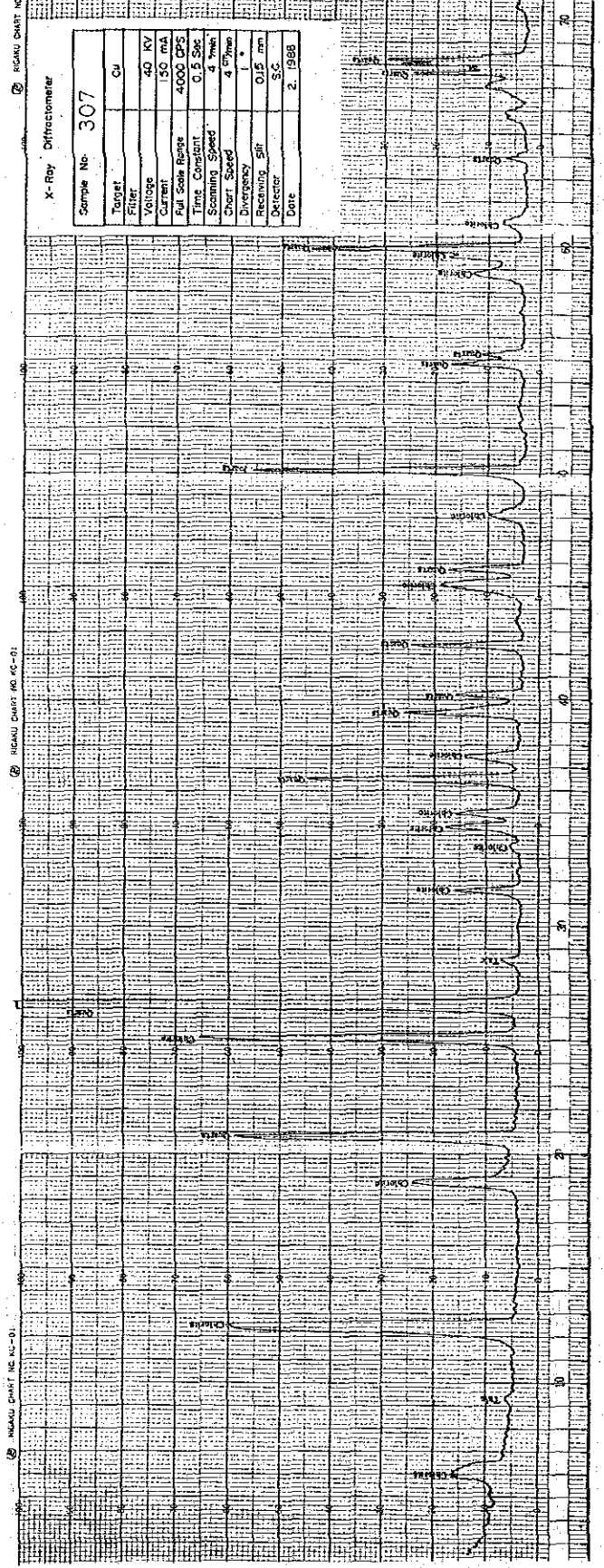
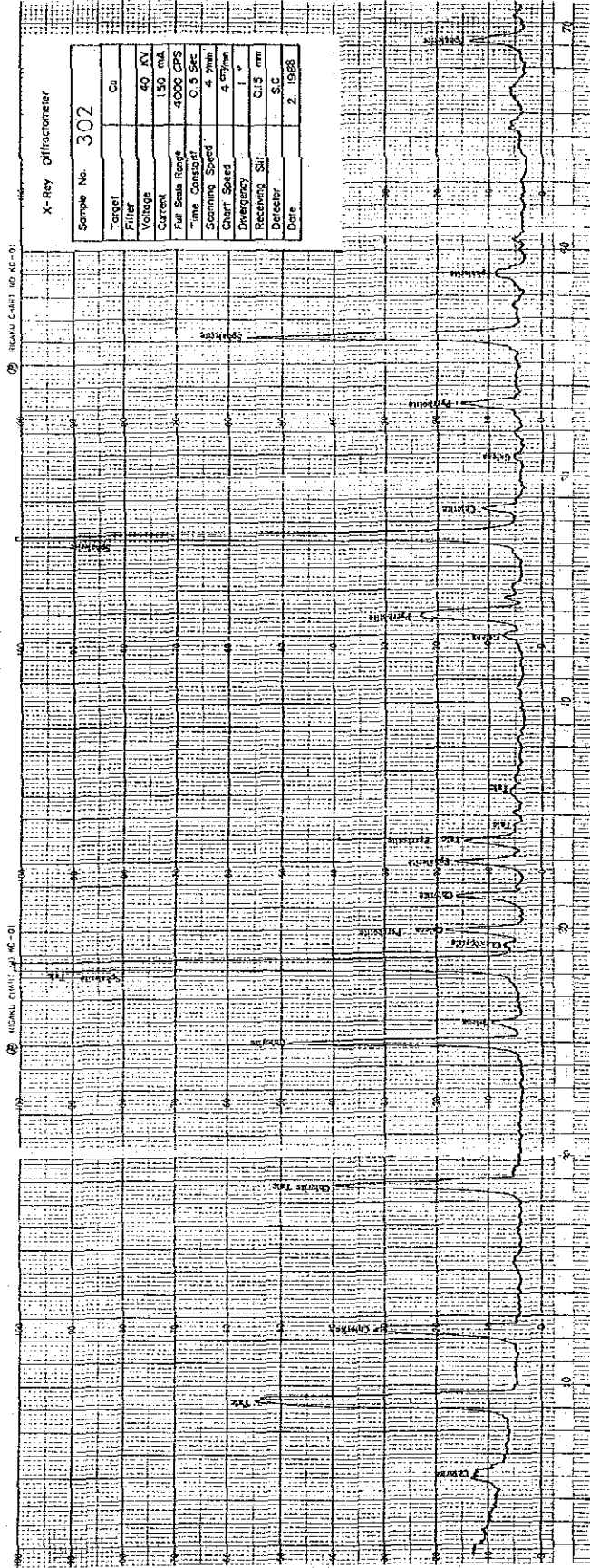
No.	Sample No.	Type of Sample	Location	Quartz	Plagioclase	K-feldspar	Calcite	Sericite	Phlogopite	Talc	Chlorite	Galena	Sphalerite	Chalcopyrite	Pyrite	Pyrrhotite	Hematite	Goethite	
1	103	Pel sch	W-Nz	4	2		2	2			3								
2	106	Calc sch	W-Mj	4	2	1	3	2			3								
3	132	Calc sch	W-Mk	4		1	3	2			2								
4	134	Pel sch	"	4		1		3			3								
5	175	Calc sch	W-Mj	4	2	1	3	2			3								
6	183	Rhyolite	W-Fr	4				2											
7	215	Calc sch	W-Da	4		1	3	2			2								
8	242	Pel sch	W-Mk	4		1		2			3								
9	258	"	W-Ka	4	2		1	2			3								
10	301	Green rock	E-Ha	4	2			2			2								
11	302	Low-grade ore	"							3	2	2	4	1		2			
12	307	Green rock	"	4						1	3								
13	313	Meta rhyolite	E-Am	4		1		2											
14	317	Green rock	"	4				2			3								
15	323	Slate	"	4			1	2			3								
16	327	Gossan	E-Ou	2													3	3	
17	335	"	"	4				1									3		
18	336	Green rock	"	4			1	2											
19	340	Limestone	E-Ak				4												2
20	360	Calc semischist	E-Im	4	2		4		2						1				2

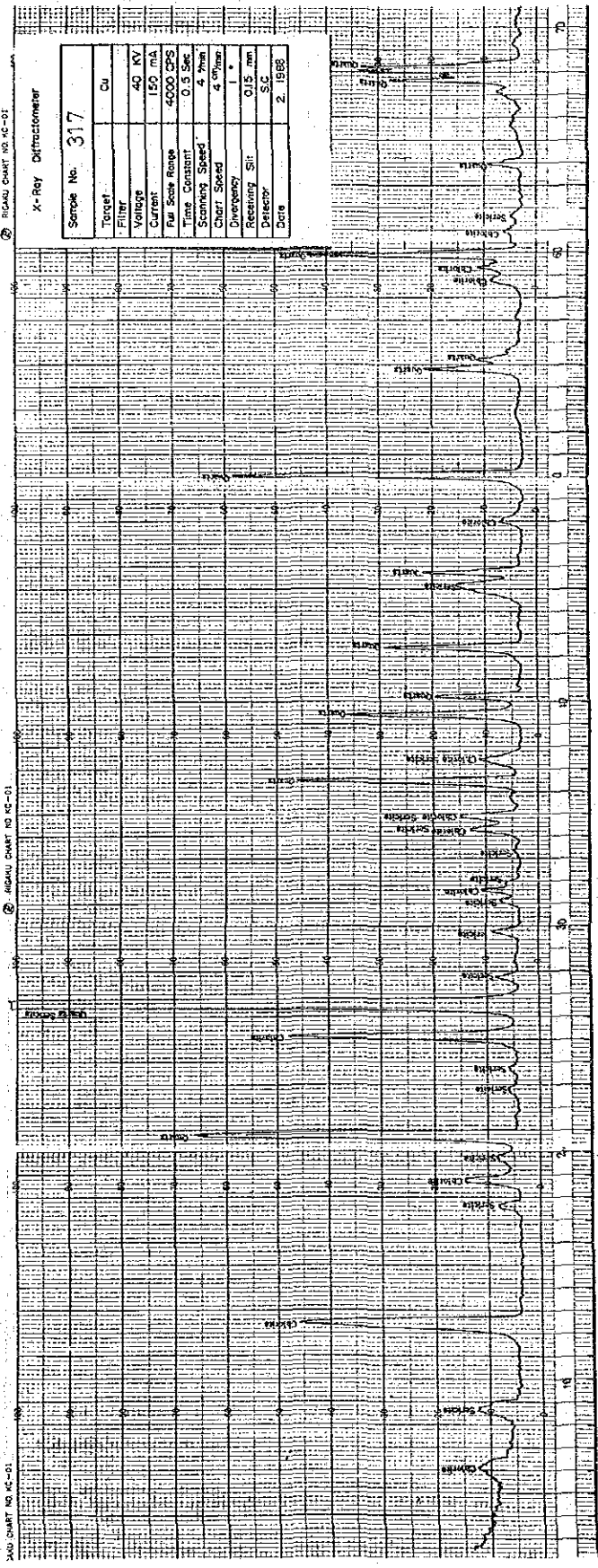
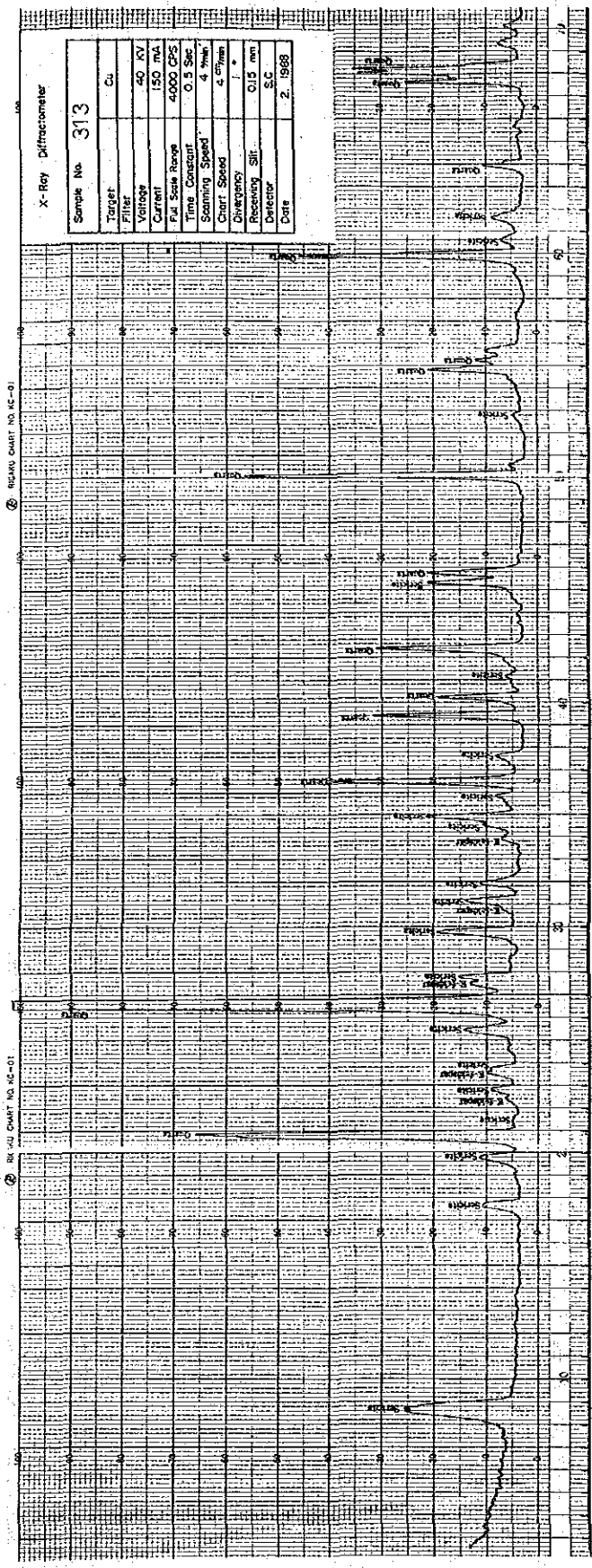
Calc sch: Calcareous schist 4 abundant 3 common 2 poor 1 rare
 Pel sch: Pelitic schist

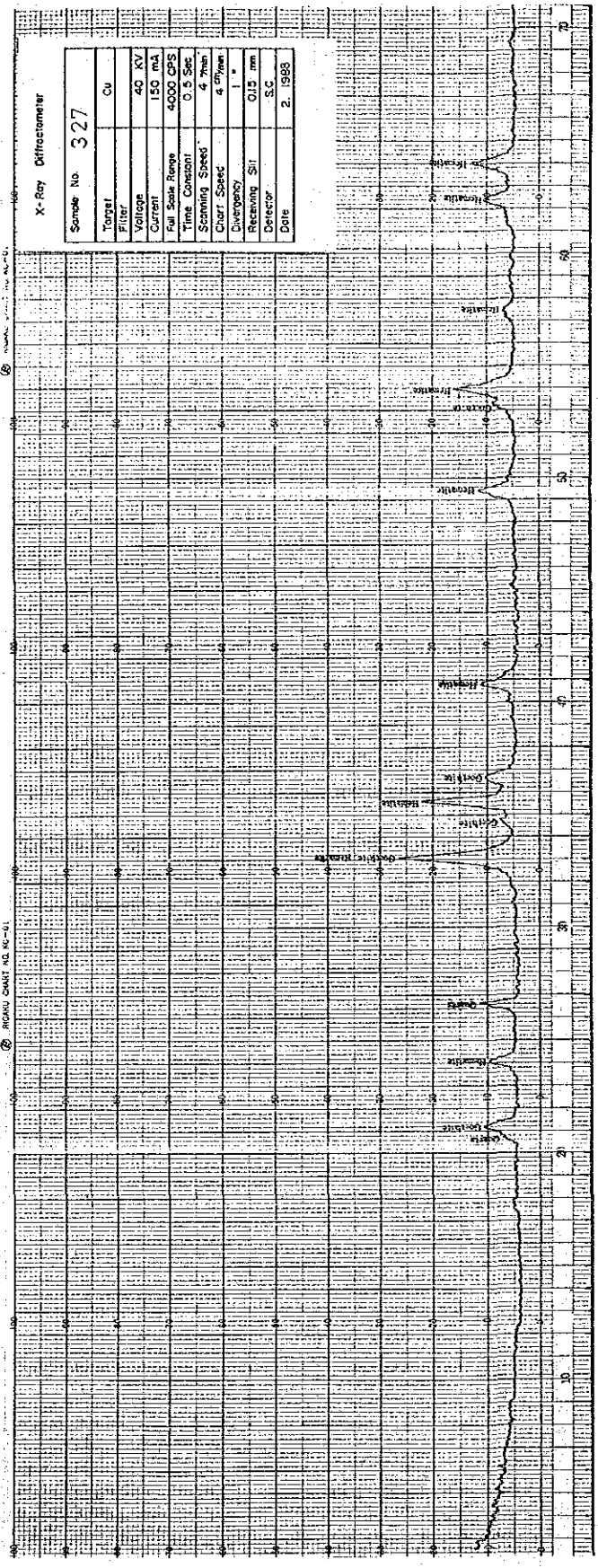
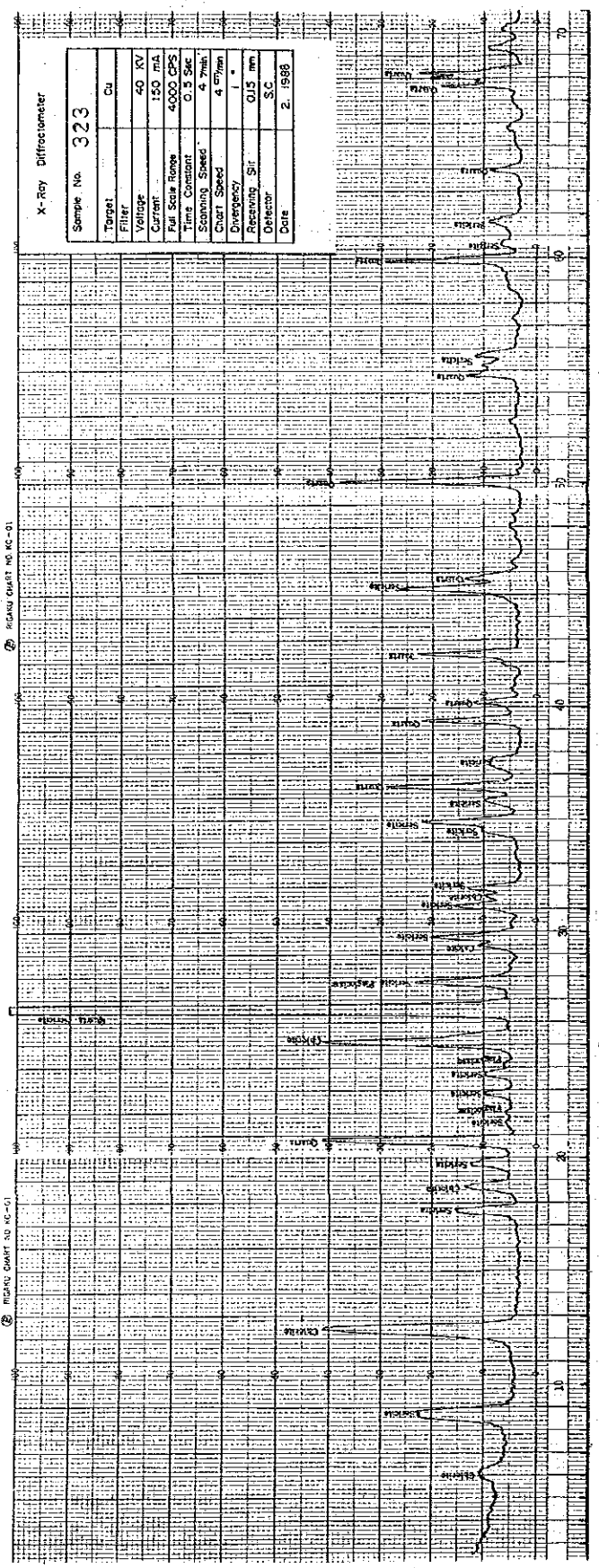


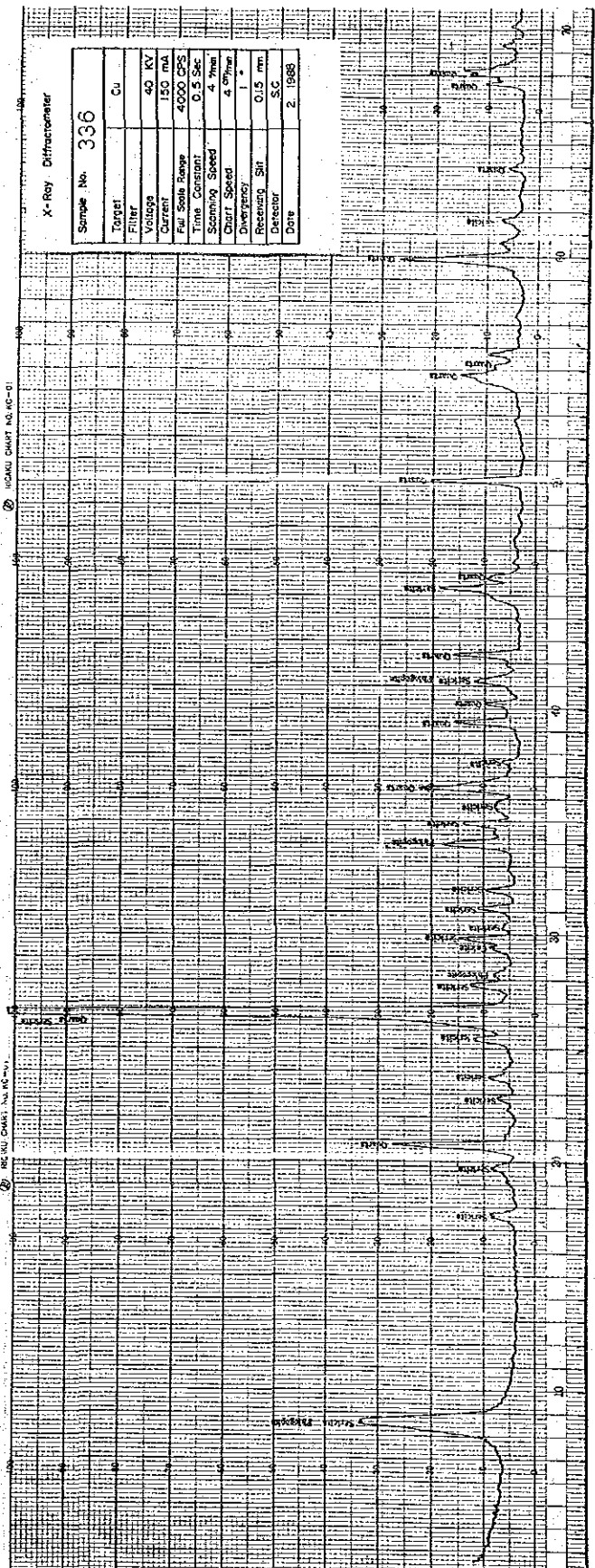
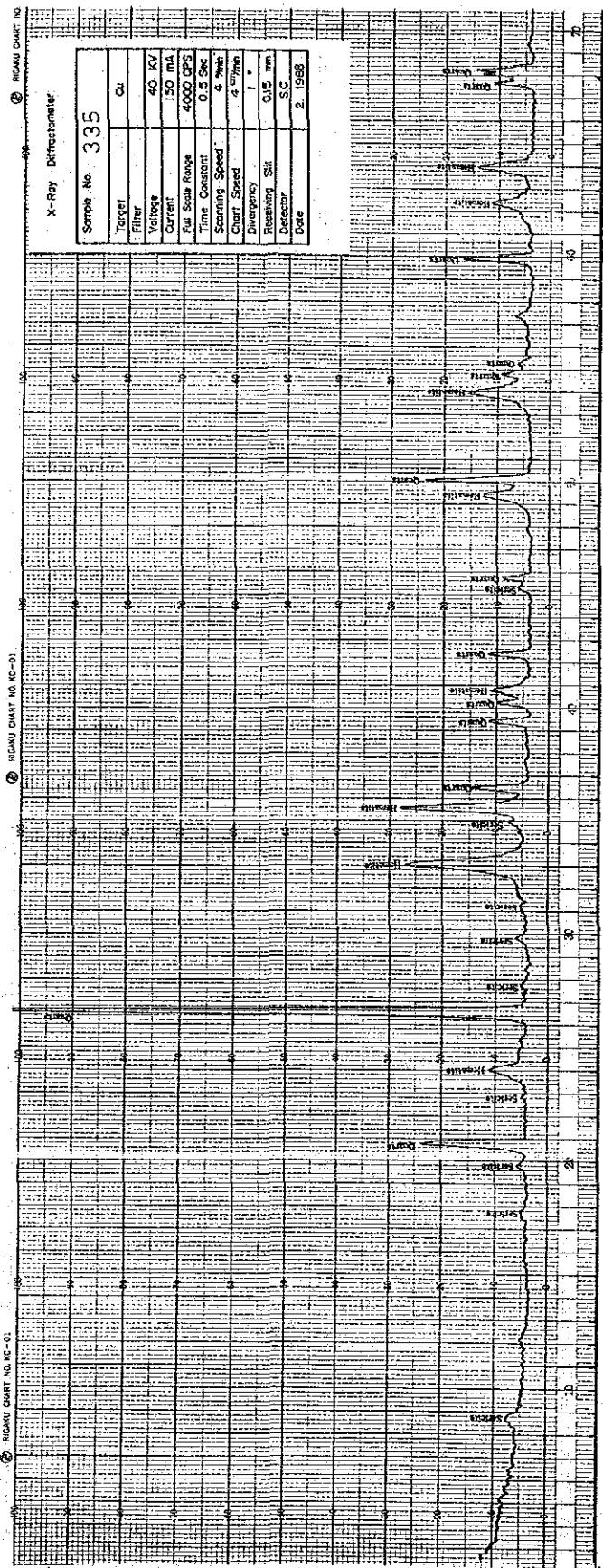


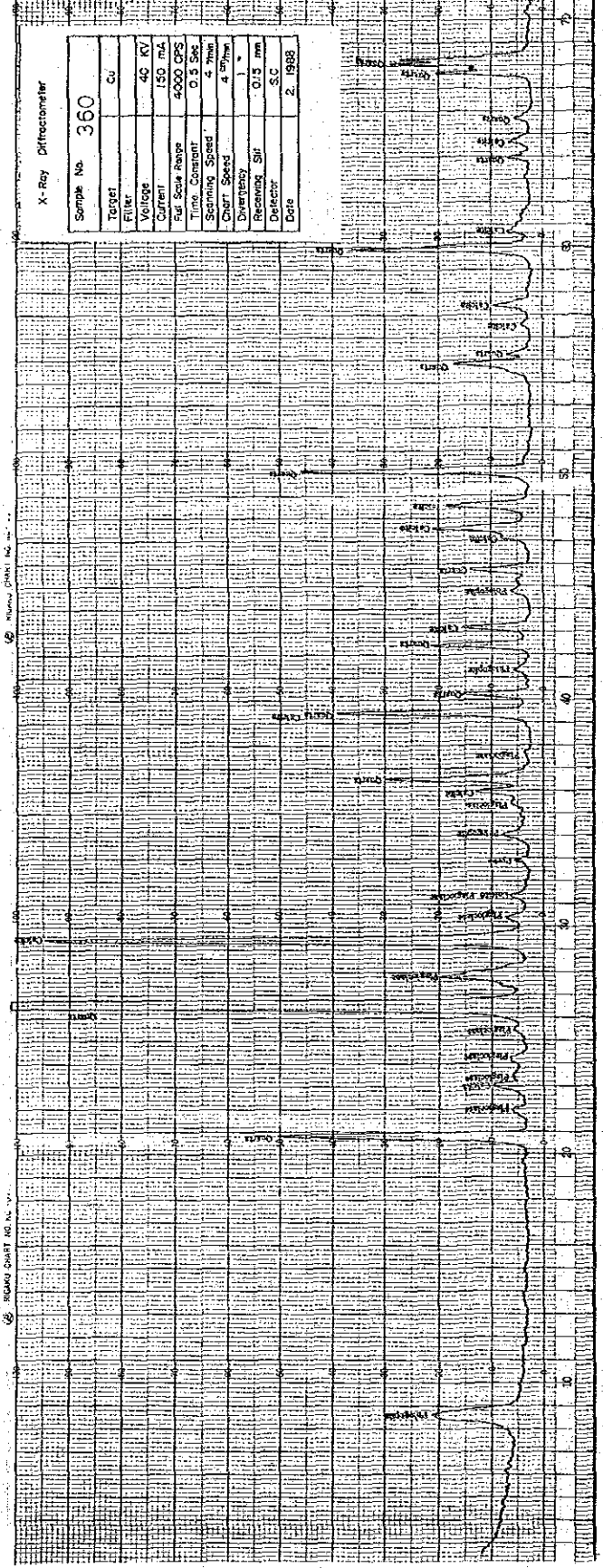
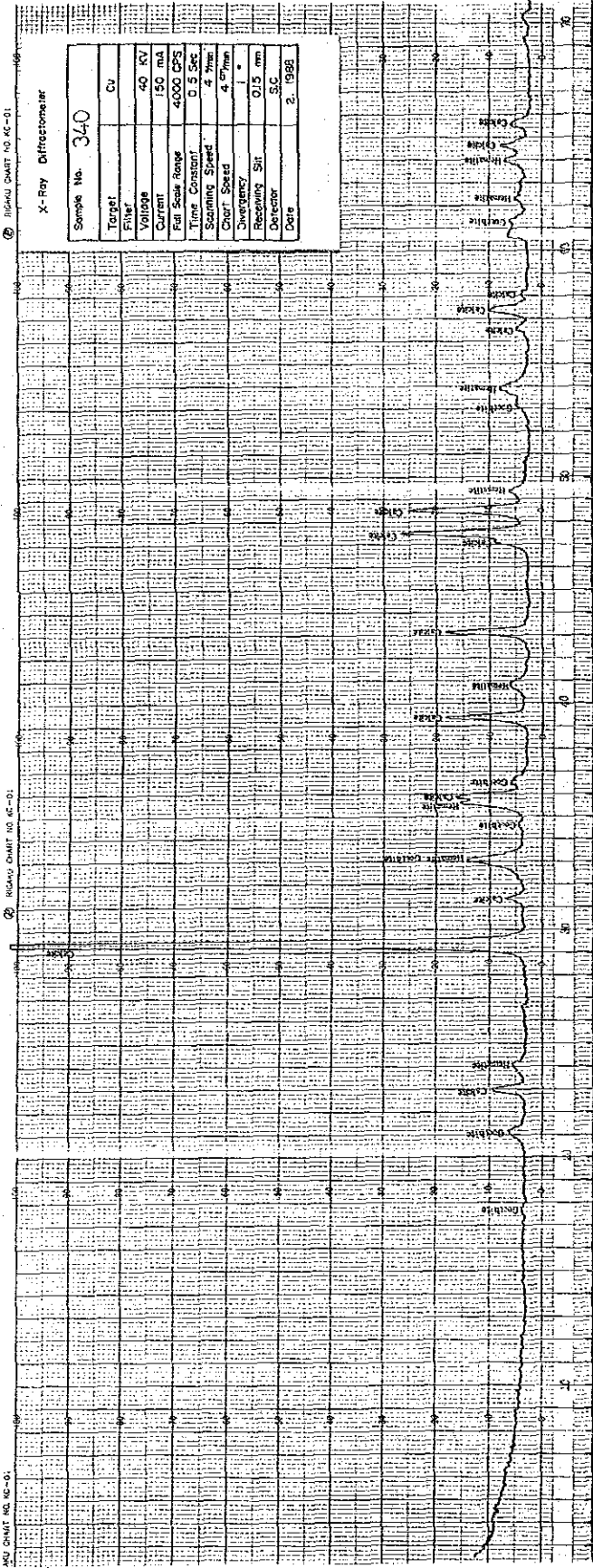












AP. I - 7 Assay Results of Geochemical Rock Samples

PAGE 1

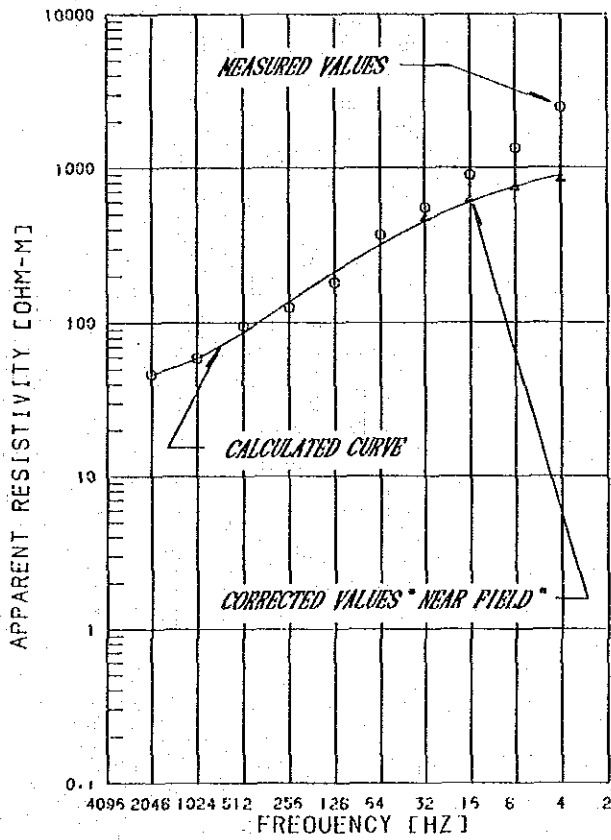
NO	SMP	TYPE	UNIT	GRP	LCT	GRADE (PPM)			
						AG	CU	PB	ZN
1	102	PL	1C	3	W-NZ	0.4	38	32	128
2	103	PL	1PS	1	W-NZ	1.2	40	16	164
3	104	CL	1C	3	W-MJ	0.8	24	8	116
4	105	PL	1P	4	W-MJ	1.6	40	64	228
5	107	PL	1P	4	W-KA	1.6	16	40	176
6	108	PL	1P	4	W-KA	0.8	18	24	128
7	109	CL	1P	4	W-KA	1.2	54	64	276
8	110	CL	1P	4	W-NZ	2.4	168	24	132
9	111	CL	1P	4	W-DA	4.0	14	32	72
10	112	PL	1PS	1	W-NZ	3.2	60	40	440
11	113	PL	1PS	1	W-NZ	2.4	30	24	460
12	114	PL	1P	4	W-MK	1.6	34	16	88
13	115	PL	1P	4	W-MK	0.4	54	24	124
14	116	PL	1PM	3	W-MK	0.4	20	112	320
15	117	BD	1C	3	W-MK	2.8	8	144	48
16	119	PL	1C	3	W-MK	0.8	16	56	116
17	122	PL	1C	3	W-NZ	1.6	54	16	112
18	123	PL	1PS	1	W-NZ	1.2	18	8	173
19	126	CL	1C	3	W-MK	2.4	1760	16	1750
20	130	PL	1C	3	W-MK	2.4	14	46	156
21	131	PL	1C	3	W-MK	2.0	54	48	100
22	132	PM	1PM	3	W-MK	4.6	22	32	116
23	133	PL	1C	3	W-MK	1.6	18	24	500
24	134	PL	1C	3	W-MK	2.0	24	8	140
25	135	BD	1PS	1	W-AR	0.4	420	10	148
26	136	PL	1PS	1	W-AR	1.2	4	10	80
27	137	PL	1PS	1	W-AR	1.6	16	64	172
28	138	PL	1PS	1	W-AR	0.4	6	10	60
29	139	PL	1PS	1	W-AR	0.4	6	32	168
30	140	PL	1PS	1	W-AR	2.4	82	48	384
31	141	PL	1PS	1	W-AR	0.8	36	24	120
32	142	PL	1PS	1	W-AR	1.6	64	16	40
33	143	PL	1PS	1	W-AR	0.8	26	24	144
34	144	PL	1PS	1	W-AR	2.0	14	48	44
35	146	PL	1PS	1	W-AR	1.2	20	40	204
36	147	PM	1PS	1	W-AR	4.0	640	56	1040
37	149	SS	1PS	1	W-AR	0.8	6	8	4
38	150	PL	1PS	1	W-AR	0.8	30	16	56
39	151	PL	1PS	1	W-AR	1.6	12	16	36
40	152	TF	1PS	1	W-AR	0.4	12	8	32
41	153	PM	1PS	1	W-AR	0.4	40	48	84
42	154	PL	1PS	1	W-AR	0.4	48	24	132
43	155	PM	1PS	1	W-AR	0.4	26	32	240
44	156	PL	1PS	1	W-AR	0.4	110	16	120
45	159	PL	1P	4	W-KA	0.4	20	24	160
46	160	PL	1P	4	W-KA	1.2	30	16	116
47	161	PL	1P	4	W-KA	0.4	32	64	192
48	162	PL	1P	4	W-KA	1.2	30	40	100
49	163	PL	1P	4	W-MJ	0.4	26	24	104
50	164	PL	1P	4	W-MJ	0.4	32	32	160
51	165	BD	1P	4	W-MJ	0.4	38	160	188
52	166	PL	1P	4	W-MJ	1.6	40	72	104
53	168	PL	1P	4	W-MJ	2.0	30	40	104
54	169	PL	1C	3	W-MJ	2.4	48	24	128
55	170	PL	1C	3	W-MJ	2.0	44	48	80
56	171	PL	1P	4	W-MJ	1.2	28	40	116
57	172	PL	1P	4	W-MJ	2.0	24	48	72
58	173	PL	1P	4	W-MJ	1.6	32	48	104
59	174	PL	1P	4	W-MJ	1.6	30	24	140
60	176	PL	1P	4	W-MJ	0.8	36	16	132

NO	SMP	TYPE	UNIT	GRP	LCT	GRADE (PPM)			
						AG	CU	PB	ZN
61	177	CL	1C	3	W-KA	0.8	18	24	64
62	178	CL	1P	4	W-MJ	1.6	24	24	184
63	179	CL	1P	4	W-MJ	1.2	128	48	180
64	181	TB	1V	2	W-MK	0.4	24	288	132
65	182	PL	1C	3	W-MK	1.6	44	64	352
66	184	RY	1V	2	W-MK	4.0	540	248	216
67	185	CL	1C	3	W-MK	1.6	20	8	96
68	186	CL	1C	3	W-MK	2.4	22	56	100
69	188	GS	1V	G	W-FR	5.6	7000	5250	5800
70	189	PL	1V	2	W-FR	1.6	104	144	1840
71	191	GS	1V	G	W-FR	10.0	360	6900	2580
72	192	PM	1PS	1	W-AR	2.4	16	48	208
73	193	BD	1PS	1	W-FR	1.6	56	24	352
74	194	GS	1PS	G	W-AR	8.0	4500	288	8400
75	195	CL	1PS	1	W-AR	1.6	24	8	100
76	196	GS	1PS	G	W-AR	5.0	4800	3200	960
77	198	PL	1PS	1	W-NZ	2.4	28	64	200
78	199	PL	1PS	1	W-NZ	1.6	24	24	280
79	200	PL	1PS	1	W-NZ	1.6	38	24	204
80	201	PL	1PM	3	W-DA	2.4	6	48	124
81	202	CL	1C	3	W-DA	4.0	18	40	60
82	204	PL	1P	4	W-KA	2.4	16	16	100
83	205	CL	1C	3	W-DA	3.0	14	8	120
84	206	PL	1PM	3	W-DA	0.4	70	96	116
85	207	PL	1PM	3	W-DA	0.8	1300	120	760
86	208	PL	1P	4	W-KA	1.6	38	40	140
87	209	PL	1PM	3	W-DA	1.6	22	24	80
88	210	PL	1PM	3	W-DA	2.4	6	108	176
89	211	CL	1C	3	W-DA	2.0	28	16	72
90	212	PL	1PM	3	W-DA	2.4	22	40	132
91	213	PL	1P	4	W-KA	2.8	20	16	96
92	214	CL	1C	3	W-DA	3.2	44	600	1400
93	215	CL	1C	3	W-DA	3.2	18	96	1120
94	216	CL	1C	3	W-DA	5.0	154	560	680
95	217	CL	1C	3	W-DA	4.0	40	80	48
96	218	PL	1C	3	W-DA	1.6	420	24	84
97	219	CL	1C	3	W-DA	4.0	14	32	100
98	226	PL	1PS	1	W-AR	4.0	36	8	68
99	227	PL	1PS	1	W-AR	4.8	142	40	8
100	228	PM	1PS	1	W-AR	2.4	6	16	72
101	229	PM	1PS	1	W-AR	3.2	10	8	48
102	230	PL	1PS	1	W-AR	4.0	36	16	60
103	231	PL	1PS	1	W-AR	3.2	28	24	96
104	232	PL	1PS	1	W-AR	2.4	16	8	96
105	233	PL	1PM	3	W-DA	3.2	28	16	124
106	234	PL	1PM	3	W-DA	2.4	18	24	116
107	235	PL	1PM	3	W-DA	2.0	26	48	104
108	236	CL	1C	3	W-MK	2.2	20	32	76
109	237	CL	1PM	3	W-MK	1.2	14	24	72
110	238	PL	1PM	3	W-MK	0.4	28	16	80
111	239	PL	1PM	3	W-MK	1.2	26	104	92
112	240	PL	1PM	3	W-MK	2.4	12	40	68
113	241	CL	1C	3	W-MK	0.4	26	56	304
114	242	PL	1C	3	W-MK	0.8	42	24	116
115	243	PL	1PM	3	W-MK	2.0	28	48	312
116	244	CL	1C	3	W-MK	1.2	40	24	92
117	245	PL	1PM	3	W-MK	2.4	16	40	84
118	246	PL	1PM	3	W-MK	2.0	38	32	108
119	247	PL	1PM	3	W-MK	2.4	36	72	104
120	248	PL	1C	3	W-NZ	3.2	54	72	72

NO	SMP	TYPE	UNIT	GRP	LCT	AG	GRADE (PPM)		
							CU	PB	ZN
121	249	PL	1P	4	W-KA	1.2	26	40	116
122	250	PL	1P	4	W-KA	1.2	16	32	168
123	251	PL	1C	3	W-DA	0.8	30	56	128
124	252	PL	1PS	1	W-NZ	1.2	12	24	104
125	253	PL	1P	4	W-MJ	2.4	18	32	114
126	254	PL	1P	4	W-MJ	1.2	30	72	104
127	255	PL	1PS	1	W-AR	2.8	16	56	216
128	256	PL	1PS	1	W-AR	1.6	14	24	128
129	257	PL	1C	3	W-DA	2.0	24	64	68
130	258	PL	1P	4	W-KA	1.2	20	40	120
131	259	PL	1P	4	W-KA	2.8	28	24	116
132	260	PL	1PM	1	W-MK	2.0	32	40	104
133	261	PL	1C	3	W-MK	1.2	24	40	96
134	266	PL	2AL	6	W-MO	1.6	34	48	88
135	267	PL	2AS	6	W-MO	0.8	22	24	116
136	268	PL	1C	3	W-DA	2.4	26	104	1160
137	301	GR	2AT	6	E-HA	2.0	90	48	136
138	305	GR	2AT	6	E-HA	2.4	40	1120	3040
139	307	GR	2AT	6	E-HA	2.0	34	24	180
140	308	XR	2AT	6	E-HA	2.8	150	800	1960
141	309	OR	2OR	6	E-HA	3.6	4000	496	296
142	311	GS	2AV	6	E-AM	0.4	30	56	1880
143	312	AD	2AV	7	E-AM	1.6	16	24	192
144	313	AD	2AV	7	E-AM	0.8	8	32	36
145	314	GS	2AS	6	E-AM	2.4	4400	8400	256
146	315	GS	2AS	6	E-AM	0.8	18	16	136
147	316	LS	2L	8	E-AM	3.6	14	220	940
148	317	TF	2AT	6	E-AM	0.4	10	8	60
149	318	GS	2P1	6	E-AM	3.2	620	216	272
150	319	SL	1P	4	E-KH	1.2	22	40	108
151	320	SL	1P	4	E-KH	1.6	16	48	84
152	321	SL	1P	4	E-KH	2.4	20	56	200
153	322	DR	2R	0	E-AM	0.4	4	8	32
154	323	SL	2P1	5	E-AM	0.8	12	16	72
155	324	TF	2AT	6	E-OU	1.2	10	24	68
156	325	TF	2AT	6	E-OU	1.6	420	8	248
157	328	SL	2AS	6	E-OU	1.6	32	16	124
158	329	TF	2AT	6	E-OU	2.0	66	32	1000
159	330	TF	2AT	6	E-OU	0.4	12	8	92
160	331	TF	2AT	6	E-OU	0.8	14	8	136
161	332	TF	2AT	6	E-OU	1.6	6	16	108
162	333	GS	2AT	6	E-OU	1.2	440	112	116
163	336	TF	2AT	6	E-OU	1.6	18	112	72
164	337	SL	2P2	8	E-AK	4.4	30	168	48
165	338	LS	2P2	8	E-AK	0.4	50	128	120
166	339	SL	2P2	8	E-AK	0.8	32	104	60
167	340	LS	2P2	8	E-AK	3.2	14	152	84
168	341	SL	2P2	8	E-AK	0.4	32	112	96
169	342	SL	2P2	8	E-AK	1.2	30	96	28
170	343	DO	2C	9	E-IM	2.4	12	144	76
171	344	GS	2C	6	E-IM	0.4	22	120	28
172	345	BA	2C	6	E-IM	4.4	10	112	8
173	346	DO	2C	9	E-IM	1.2	32	96	160
174	347	SL	2C	9	E-OU	0.8	42	120	124
175	348	SD	2C	9	E-IM	3.2	20	112	12
176	349	DO	2C	9	E-IM	2.0	18	120	88
177	350	SL	2P2	8	E-IM	1.2	12	88	28
178	351	DO	2C	9	E-IM	2.4	10	104	56
179	352	TB	2C	9	E-IM	2.8	18	144	28
180	353	DO	2C	9	E-IM	2.0	20	120	68

NO	SMP	TYPE	UNIT	GRP	LCT	GRADE (PPM)			
						AG	CU	PB	ZN
181	354	DO	2C	9	E-IM	1.2	16	96	76
182	355	DO	2C	9	E-IM	2.4	22	24	76
183	356	SL	2P2	8	E-HA	0.4	44	16	68
184	357	SL	2P2	8	E-HA	1.6	26	40	108
185	358	DO	2C	9	E-IM	2.0	38	64	84
186	359	SD	2P2	8	E-IM	1.2	20	24	60
187	360	DO	2C	9	E-IM	1.6	12	16	48
188	361	DO	2C	9	E-IM	1.2	22	48	80
189	362	DO	2C	9	E-IM	2.8	12	112	288
190	363	DO	2C	9	E-IM	2.4	14	48	72
191	364	SL	2P2	8	E-IM	0.4	32	24	76
192	365	TB	2P2	8	E-IM	1.2	42	40	100
193	366	SL	2P2	8	E-IM	2.4	14	24	56
194	367	RY	2R	0	E-IM	0.1	10	8	40
195	368	GS	2C	6	E-IM	0.1	28	16	12
196	369	DO	2C	9	E-IM	2.0	16	24	68
197	370	SL	2P2	8	E-IM	0.4	24	40	84
198	371	RY	2R	0	E-OU	0.4	10	16	120
199	372	RY	2R	0	E-AK	0.4	6	16	16
200	373	SD	1P	4	W-MJ	1.4	16	24	60
201	403	PL	1PS	1	W-NZ	0.4	22	48	76
202	404	PL	1C	3	W-MK	0.4	30	24	108
203	406	PL	1PS	1	W-NZ	0.4	24	8	124
204	407	PL	1PS	1	W-NZ	0.4	320	24	880
205	408	PL	1PS	1	W-AR	0.4	16	16	156
206	409	PL	1PS	1	W-AR	0.4	28	16	104
207	410	PM	1PS	1	W-AR	0.4	36	24	248
208	411	PM	1PS	1	W-AR	0.4	12	8	76
209	412	BD	2P1	5	E-AM	0.4	10	40	224
210	421	CD	2AL	6	E-TA	2.4	16	32	72
211	422	CL	2AL	6	E-TA	2.8	76	216	352
212	423	CL	2AL	6	E-TA	1.6	18	48	88
213	424	CL	2C	9	E-IM	2.0	12	48	52
214	425	CL	2C	9	E-IM	0.4	26	16	160
215	426	CL	2C	9	E-IM	2.0	8	40	92

LEGEND

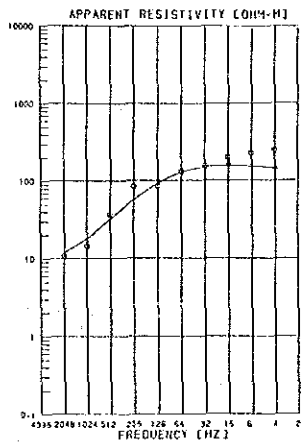


STATION NUMBER : 118

FREQUENCY (HZ)	APPARENT MEASURED (OHM-M)	RESISTIVITY CALCULATED (OHM-M)
2048	46.40	46.77
1024	58.89	59.22
512	95.20	87.13
256	125.00	136.36
128	181.00	212.60
64	369.00	318.81
32	472.93	451.81
16	625.63	601.12
8	742.11	752.09
4	840.56	891.29

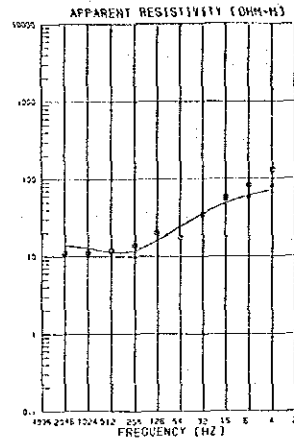
LAYERED MODEL

RESISTIVITY (OHM-M)	DEPTH (M)
R 1	49
R 2	222
R 3	1390



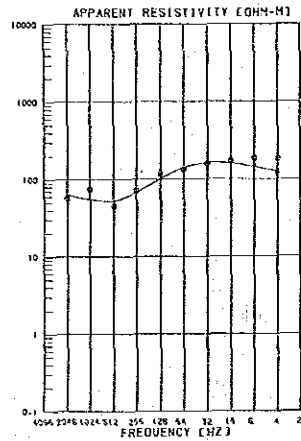
STATION NUMBER 1		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	10.50	12.00
1024	14.10	18.00
512	30.10	31.00
256	55.00	56.00
128	84.00	92.00
64	130.00	128.00
32	153.00	149.00
16	158.74	155.00
8	155.00	151.00
4	144.74	145.00

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	D. D.
R 1	14	
R 2	12100	40
R 3	120	503



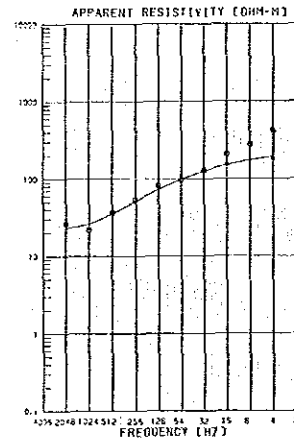
STATION NUMBER 5		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	10.00	15.47
1024	11.00	12.78
512	15.00	11.91
256	14.10	24.25
128	20.00	18.18
64	17.50	35.45
32	34.70	54.17
16	54.17	46.05
8	58.31	60.00
4	60.55	70.74

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	D. D.
R 1	15	
R 2	4310	115
R 3	100	425



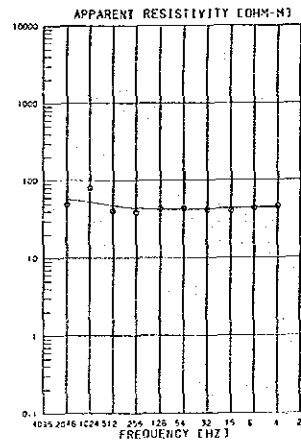
STATION NUMBER 2		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	59.70	53.34
1024	73.00	64.95
512	44.40	52.50
256	70.00	67.45
128	119.00	100.71
64	131.00	140.42
32	137.00	152.44
16	170.00	156.55
8	149.00	142.25
4	121.44	125.04

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	D. D.
R 1	53	
R 2	47	106
R 3	2930	176
R 4	79	644



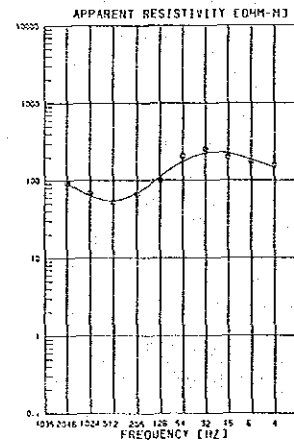
STATION NUMBER 6		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	25.00	23.27
1024	21.00	26.35
512	36.40	35.66
256	54.10	51.35
128	81.70	72.92
64	98.00	98.42
32	125.67	125.54
16	133.10	131.51
8	178.48	174.38
4	180.53	193.27

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	D. D.
R 1	27	
R 2	12100	72
R 3	250	149



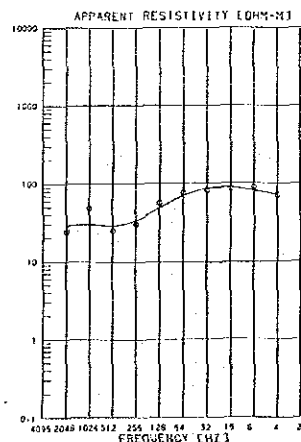
STATION NUMBER 3		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	49.00	56.86
1024	79.00	52.75
512	40.10	47.35
256	38.00	43.53
128	42.80	41.23
64	43.00	41.87
32	40.50	42.54
16	40.00	43.40
8	43.40	44.00
4	45.20	43.55

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	D. D.
R 1	47	
R 2	69	26
R 3	33	60
R 4	47	181



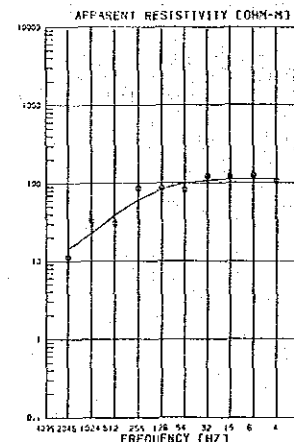
STATION NUMBER 7		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	92.00	94.70
1024	56.10	63.46
512	52.20	54.32
256	65.20	59.37
128	93.50	116.59
64	207.00	174.91
32	254.00	255.33
16	180.00	224.65
8	176.00	188.82
4	157.00	146.20

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	D. D.
R 1	160	
R 2	32	55
R 3	9840	143
R 4	54	1269



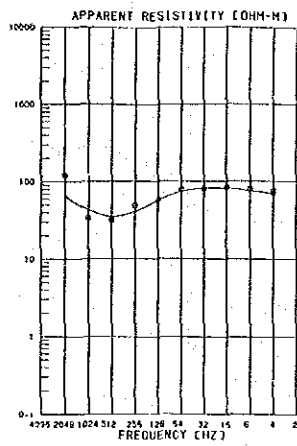
STATION NUMBER 4		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	24.40	29.00
1024	48.00	30.37
512	35.00	32.39
256	39.00	34.89
128	55.00	48.76
64	75.00	59.81
32	61.00	65.59
16	64.00	67.55
8	68.40	69.41
4	70.30	71.22

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	D. D.
R 1	14	
R 2	41	6.3
R 3	3920	104
R 4	45	685



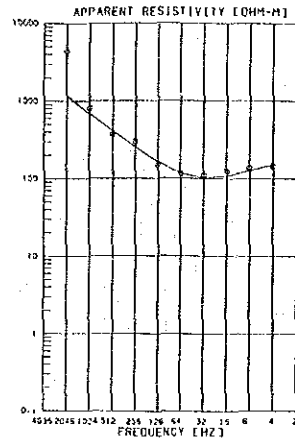
STATION NUMBER 6		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	11.20	14.52
1024	32.00	22.76
512	33.40	18.37
256	80.10	60.30
128	85.50	81.18
64	84.10	99.81
32	123.00	109.38
16	120.00	111.54
8	124.00	112.16
4	105.00	111.93

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	D. D.
R 1	15	
R 2	12100	37
R 3	110	307



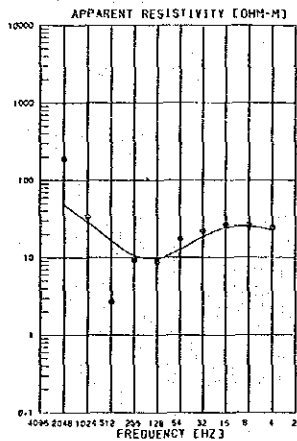
STATION NUMBER 9		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	121.00	65.67
1024	33.50	43.05
512	31.50	35.21
255	46.93	40.55
128	37.20	36.44
64	76.10	74.66
32	80.20	82.42
16	63.10	51.25
8	73.50	75.51
4	69.41	69.37

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	
R 1	6670	0.0
R 2	20	36
R 3	1930	120
R 4	52	521



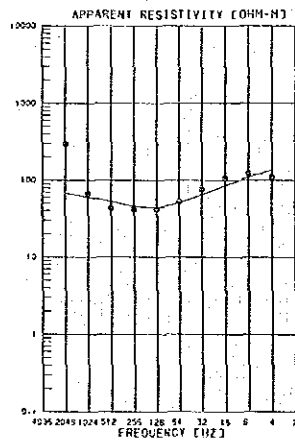
STATION NUMBER 13		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	4430.00	1168.41
1024	608.00	683.30
512	355.00	411.78
255	237.00	256.33
128	146.00	154.38
64	115.00	118.11
32	110.00	103.49
16	125.00	109.17
8	139.00	127.09
4	145.00	151.03

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	
R 1	6670	0.0
R 2	12100	94
R 3	50	232
R 4	261	605



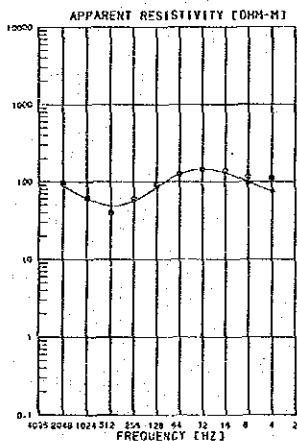
STATION NUMBER 10		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	187.00	46.37
1024	33.50	26.43
512	2.70	18.43
255	9.15	10.55
128	6.74	9.63
64	17.30	12.62
32	21.70	18.59
16	25.20	24.16
8	25.90	25.20
4	24.10	22.25

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	
R 1	6670	0.0
R 2	3.8	43
R 3	6670	98
R 4	8.5	604



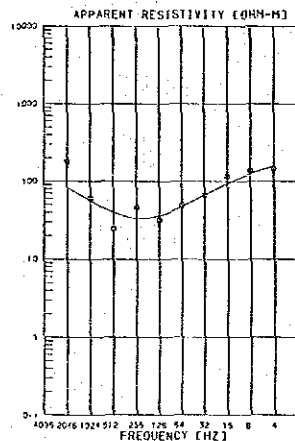
STATION NUMBER 14		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	255.00	58.26
1024	65.70	60.32
512	43.40	53.07
255	41.50	45.01
128	42.10	44.40
64	53.10	50.84
32	76.30	65.08
16	107.00	85.52
8	123.00	110.25
4	113.00	135.09

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	
R 1	145	0.0
R 2	43	26
R 3	250	289



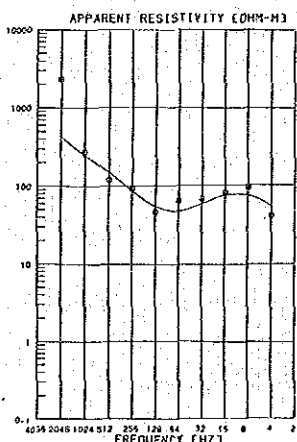
STATION NUMBER 11		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	95.40	65.70
1024	61.30	50.35
512	39.60	48.45
255	39.60	35.71
128	31.50	25.35
64	125.00	125.31
32	144.00	146.55
16	140.00	130.64
8	95.57	100.27
4	75.93	74.23

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	
R 1	199	0.0
R 2	32	45
R 3	6670	157
R 4	23	942



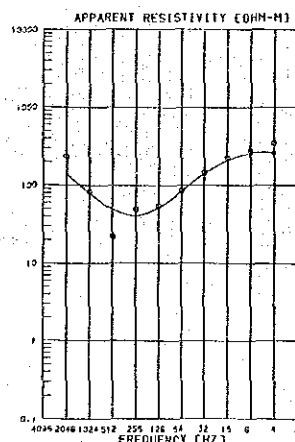
STATION NUMBER 15		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	180.00	82.45
1024	59.90	58.57
512	24.60	39.82
255	45.90	33.23
128	31.60	16.11
64	49.30	47.53
32	65.30	66.87
16	119.00	93.30
8	137.00	124.97
4	146.00	158.17

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	
R 1	1760	0.0
R 2	22	41
R 3	55	154
R 4	309	188



STATION NUMBER 12		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	2330.00	425.94
1024	272.00	236.34
512	20.00	47.28
255	92.50	65.62
128	47.00	55.41
64	64.40	47.89
32	87.30	76.67
16	81.60	76.49
8	92.60	74.07
4	41.50	53.30

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	
R 1	6670	0.0
R 2	19	137
R 3	6670	332
R 4	1.6	1290



STATION NUMBER 16		
FREQUENCY (HZ)	MEASURED APPARENT RESISTIVITY (OHM-M)	CALCULATED APPARENT RESISTIVITY (OHM-M)
2048	235.00	137.71
1024	62.70	80.97
512	22.10	59.08
255	49.80	41.26
128	54.50	52.00
64	85.20	84.54
32	146.00	141.33
16	254.00	202.89
8	276.45	205.93
4	261.85	261.24

LAYERED MODEL		
RESISTIVITY (OHM-M)	DEPTH (M)	
R 1	6670	0.0
R 2	16	66
R 3	6670	156
R 4	151	2050