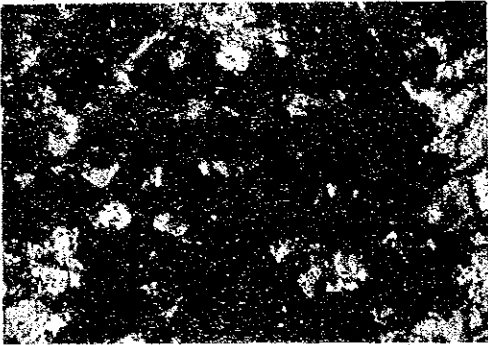
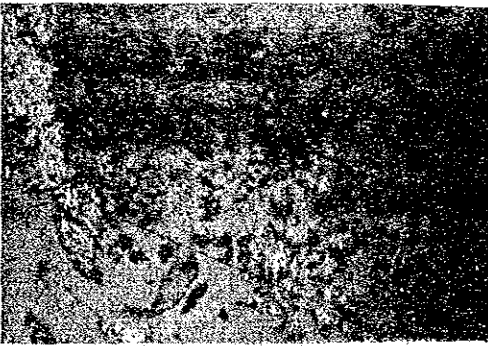


Sample No : 6M045R  
Rock Name : Carbonitized feldspathic rock  
Sector : Kangankunde

(transmitted light, open nicol)



(transmitted light, crossed nicols)



Sample No : 6M053R  
Rock Name : Quartz druse rock  
Sector : Kangankunde

(reflected light)



(transmitted light, open nicol)

Sample No : 6M053R  
Rock Name : Quartz druse rock  
Sector : Kangankunde



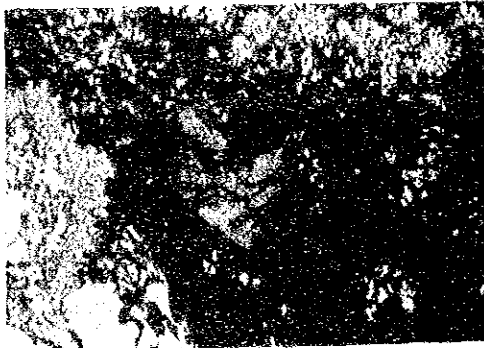
0 0.2mm

(transmitted light, crossed nicols)



0 0.2mm

(reflected light)



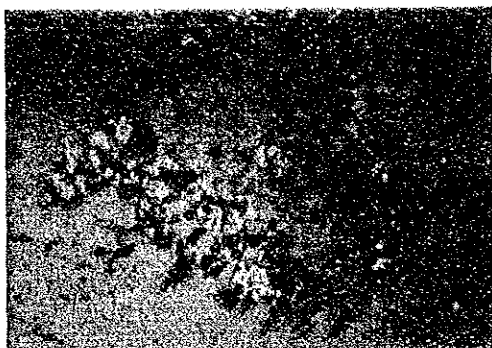
0 0.2mm

(transmitted light, open nicol)



0 0.2mm

(transmitted light, crossed nicols)



Sample No : 6M053R  
Rock Name : Quartz druse rock  
Sector : Kangankunde

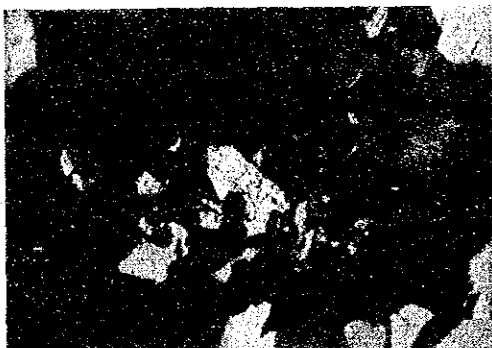
(reflected light)

0 0.2mm



(transmitted light, open nicol)

0 0.1mm



(transmitted light, crossed nicols)

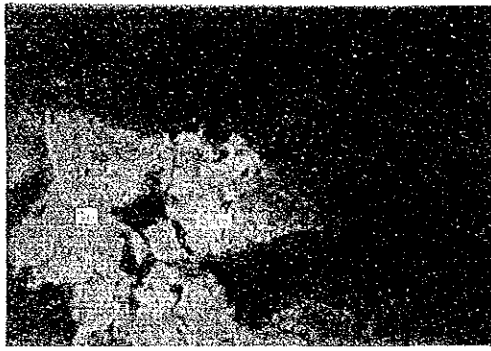
0 0.2mm



Sample No : 6Y003R  
Rock Name : Feldspathic rock  
Sector : Tundulu

(reflected light)

0 0.2mm



Sample No : 6Y003R  
Rock Name : Feldspathic rock  
Sector : Tundulu

(reflected light)

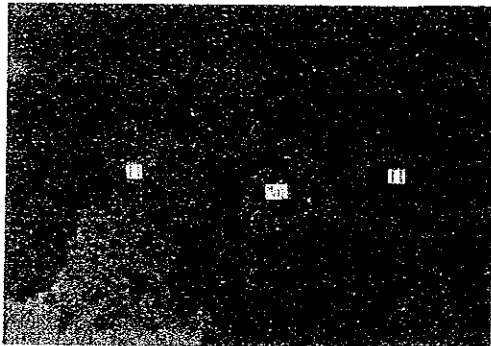
0 0.2mm



Sample No : 6Y005R  
Rock Name : Ankeritic carbonatite  
Sector : Tundulu

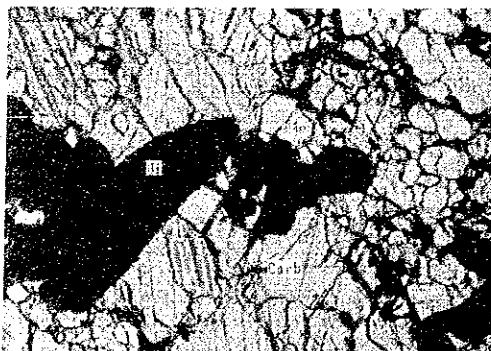
(reflected light)

0 0.5mm



(reflected light)

0 0.2mm



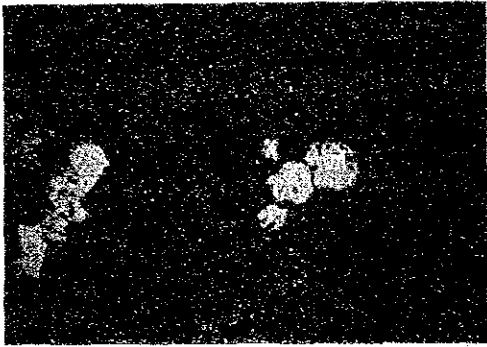
(transmitted light, open nicol)

0 0.5mm

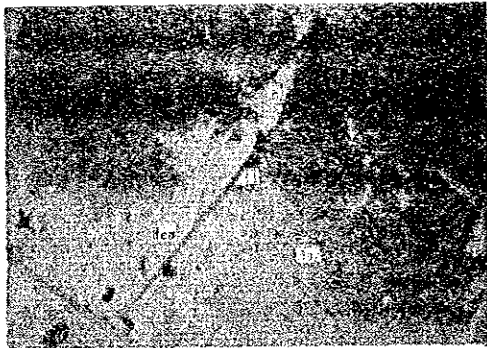
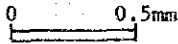


Sample No : 6Y005R  
Rock Name : Ankeritic carbonatite  
Sector : Tundulu

(transmitted light, crossed nicols)

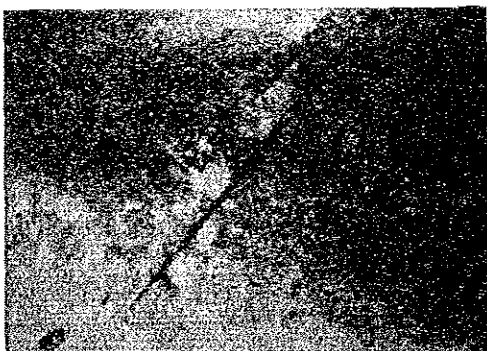
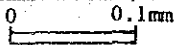


(reflected light)

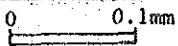


Sample No : 6Y007R  
Rock Name : Magnetite Ore  
Sector : Tundulu

(reflected light)



(reflected light, crossed nicols)





0 0.04mm

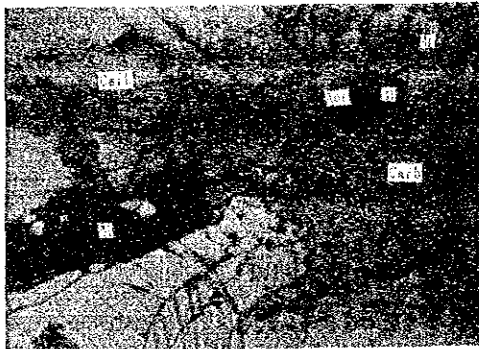
Sample No : 6Y007R  
Rock Name : Magnetite Ore  
Sector : Tundulu

(reflected light)



0 0.04mm

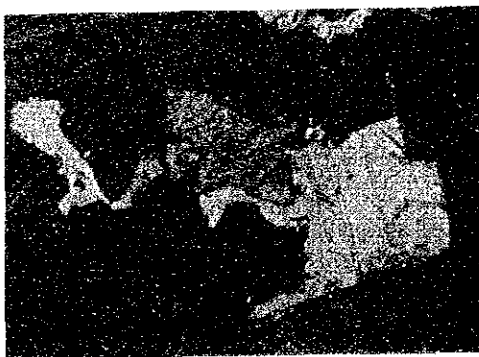
(reflected light)



0 0.2mm

Sample No : 6Y034R  
Rock Name : Sövite  
Sector : Tundulu

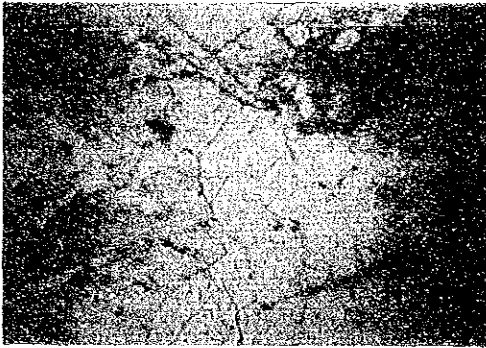
(transmitted light, open nicol)



0 0.2mm

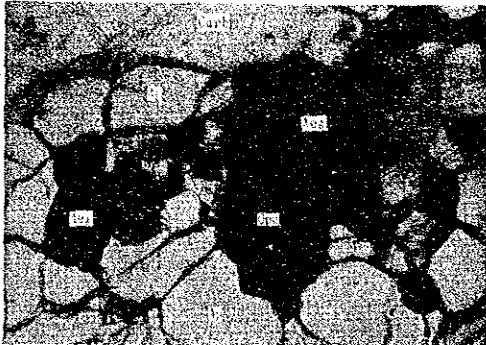
(transmitted light, crossed nicols)

Sample No : 6Y034R  
Rock Name : Sövite  
Sector : Tundulu



0 0.5mm

(Reflected light)



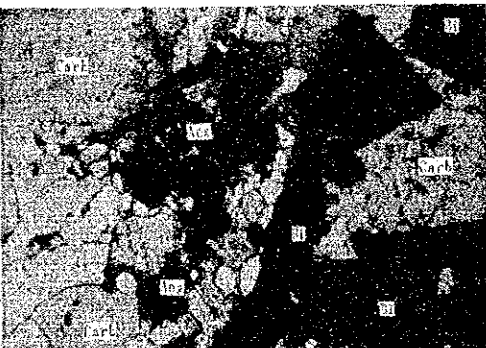
0 0.5mm

(transmitted light,  
plain polarized light)



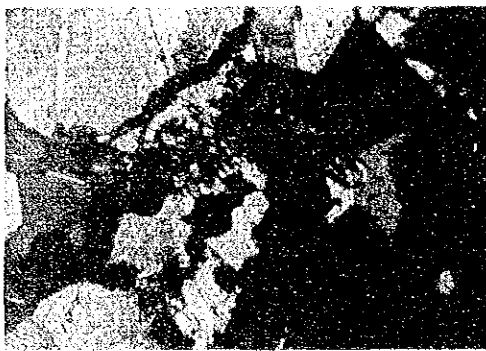
0 0.5mm

(transmitted light,  
crossed polarized light)



0 0.5mm

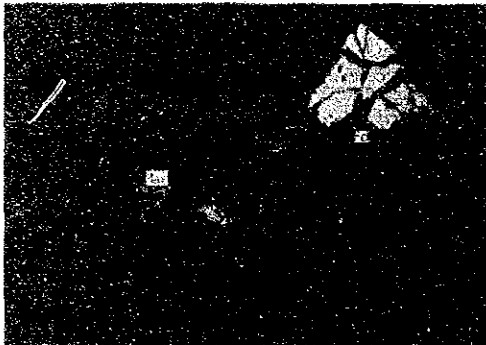
(transmitted light, open nicol)



0 0.5mm

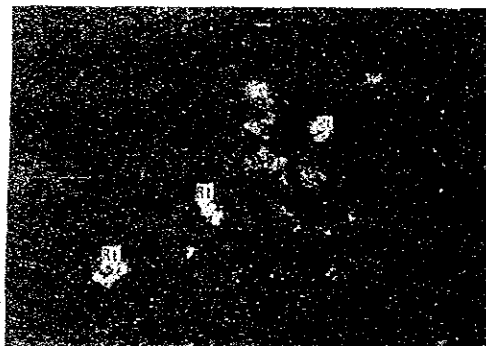
Sample No : 6Y034R  
Rock Name : Sövite  
Sector : Tundulu

(transmitted light, crossed nicols)



0 0.5mm

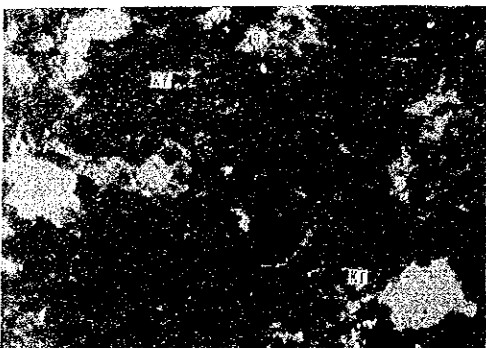
(reflected light)



0 0.5mm

Sample No : 6Y037R  
Rock Name : Ankeritic-carbonatite  
Sector : Chilwa Island

(reflected light)

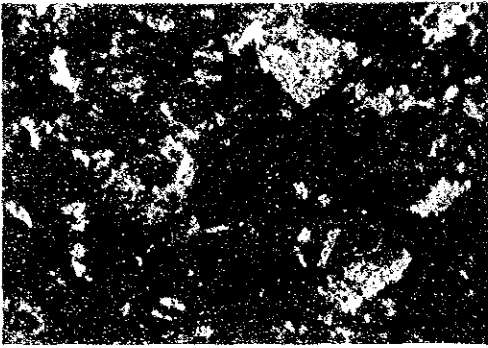


0 0.5mm

(transmitted light, open nicol)

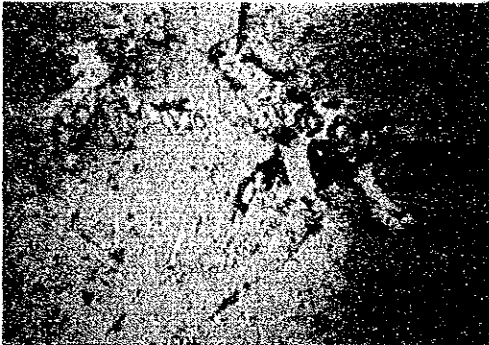


Sample No : 6Y037R  
Rock Name : Ankeritic-carbonatite  
Sector : Chilwa Island



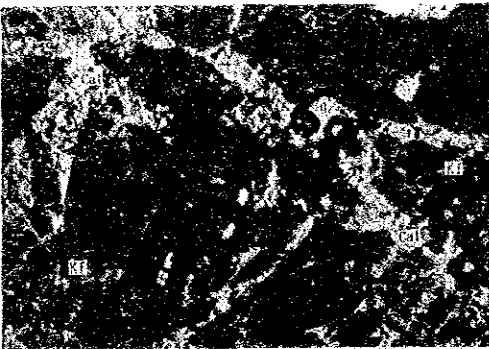
0 0.5mm

(transmitted light, crossed nicols)



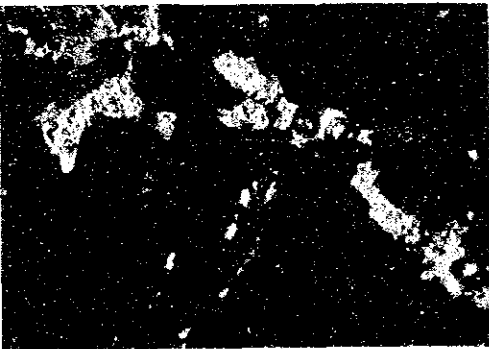
0 0.5mm

(reflected light)



0 0.5mm

(transmitted light, open nicol)



0 0.5mm

(transmitted light, crossed nicols)



Appendix 9 Results and Charts of X-Ray Diffractive Analysis

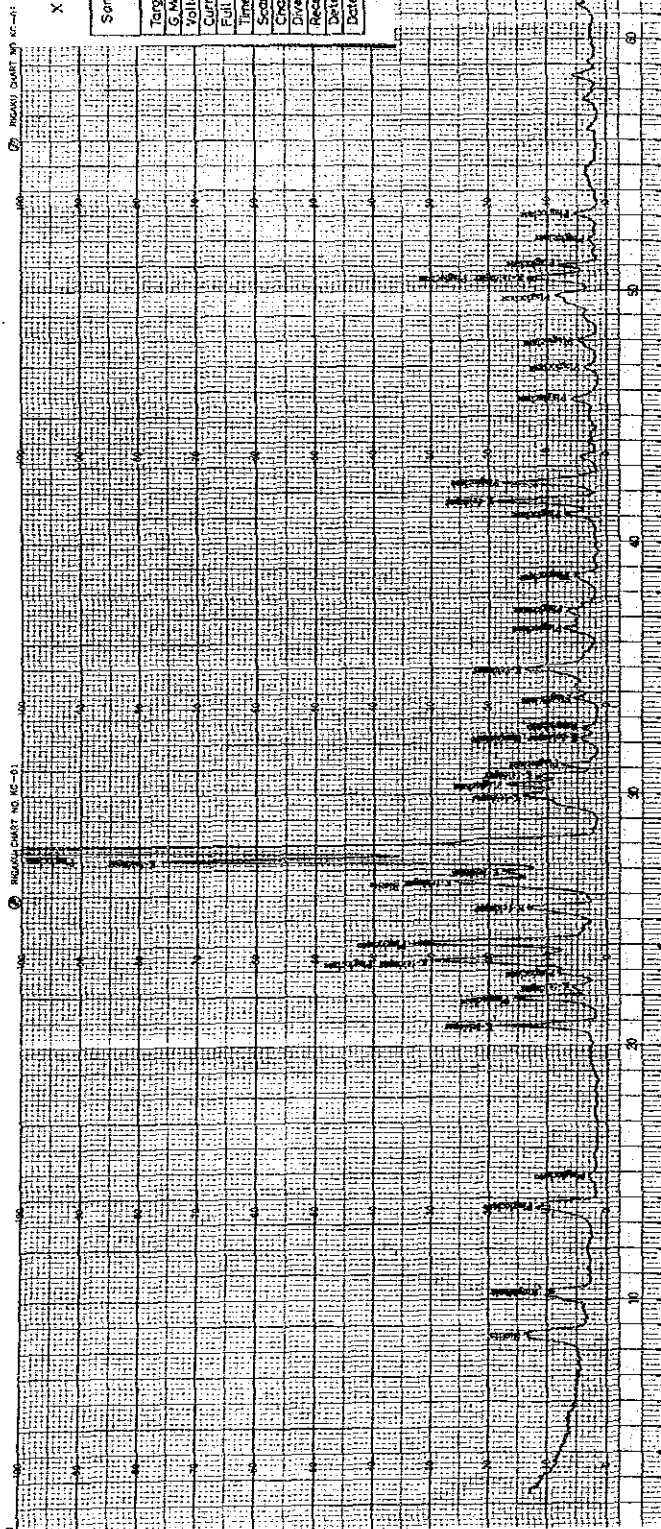
No.	Sample No.	Sector	Minerals		Quartz	Plagioclase	K-feldspar	Nepheline	Biotite	Clinopyroxene	Amphibole	Calcite	Ankerite	Siderite	Strontinite	Monazite	Apatite	Pyrochlore	Rutile	Barite	Sericite	Smectite	Halloysite	Analcite	Goethite
			Rock Name																						
1	6H014R	Mongolwe	Trachyte		⊙	○			△		△														
2	6H017R	Achirundu	Lamprophyre		○	○			△															○	
3	6M001R	Tundulu	Syenite aplite	⊙	⊙	⊙						△					*								△
4	6M002R	Tundulu	Trachyte	△	⊙	⊙			.*								.*					△			
5	6M003R	Tundulu	Nepheline syenite			⊙	△	⊙				○													
6	6M010R	Matoponi	Granulite	*	⊙	△			⊙																
7	6M012R	Namangale	Syenite porphyry		⊙	⊙															○				
8	6M018R	Tundulu	Monzonite	△	⊙	⊙						⊙													
9	6M030R	Chilwa Island	Carbonatite	⊙					*			⊙	△						△						*
10	6M041R	Chikala	Perthosite	⊙	⊙	○																			
11	6M055R	Kapiri	Carbonatite	○								⊙	△						*	△					△
12	6M062R	Nsala	Nepheline syenite		⊙	△			△																
13	6M065R	Aligomba	Lamprophyre		○	△		*			△	△	⊙												
14	6M073R	Mlindi	Trachyte		⊙	⊙																			*
15	6M078R	Mlindi	Clinopyroxenite						⊙		○	△													
16	6M079R	Mlindi	Gabbro		⊙	⊙			⊙		△	△													
17	6Y026R	Namangale	Phonolite		△	⊙	△	△	△		△														
18	6Y045R	Chikala	Amphibolite					△	△																
19	6Y047R	Mongolwe	Nepheline syenite		⊙	⊙			△		△	△													
20	6Y061R	Kangankunde	Carbonatite									○	⊙							△					
21	6Y062R	Kangankunde	Carbonatite	○								*	⊙												*
22	6Y063R	Kangankunde	Carbonatite	△									⊙												△
23	6Y064R	Kangankunde	Carbonatite	△								△	⊙												△
24	6Y072R	Kapiri	Carbonatized tuff	*	△	△							⊙	△											△
25	6Y074R	Nsala	Lamprophyre					△	⊙		△														△

⊙ Abundant ○ Common △ Little \* Rare

X - Ray Diffractometer

Sample No. 6H 014R

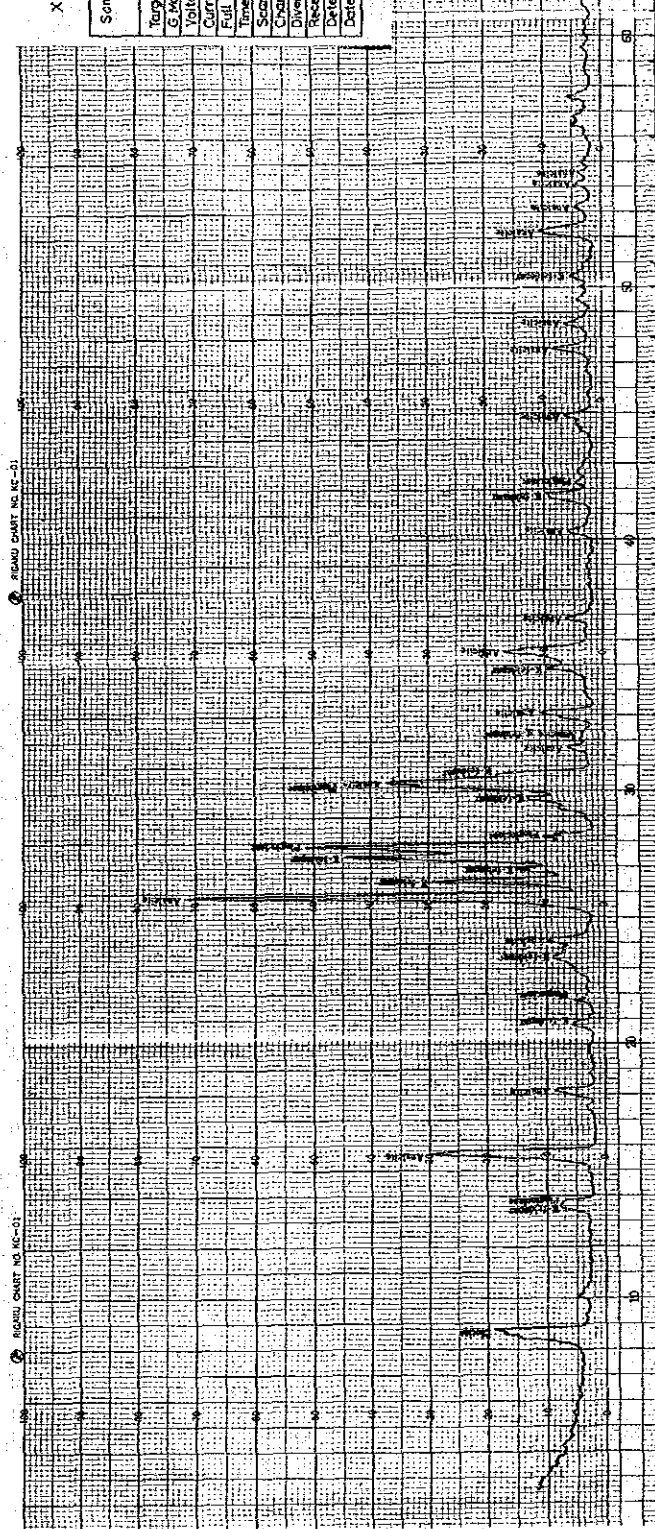
Target	Cu
G. Monochro	
Voltage	40 kv
Current	150 ma
Full Scale Range	4000 cps
Time Constant	0.5 sec
Scanning Speed	4.7/min
Chart Speed	4 cm/min
Divergency	1°
Receiving Slit	0.15 mm
Detector	SC
Date	1. 1987



X - Ray Diffractometer

Sample No. 6H 017R

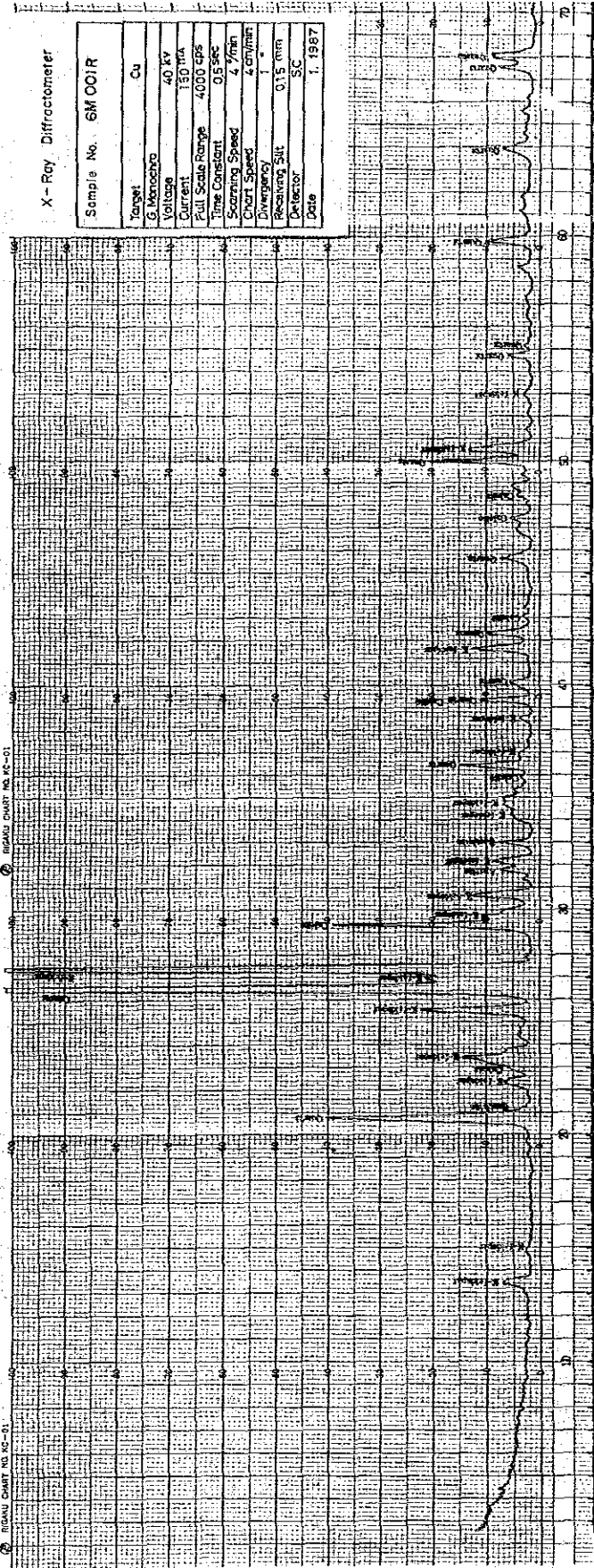
Target	Cu
G. Monochro	
Voltage	40 kv
Current	150 ma
Full Scale Range	4000 cps
Time Constant	0.5 sec
Scanning Speed	4.7/min
Chart Speed	4 cm/min
Divergency	1°
Receiving Slit	0.15 mm
Detector	SC
Date	1. 1987



X-Ray Diffractometer

Sample No. 6M 001R

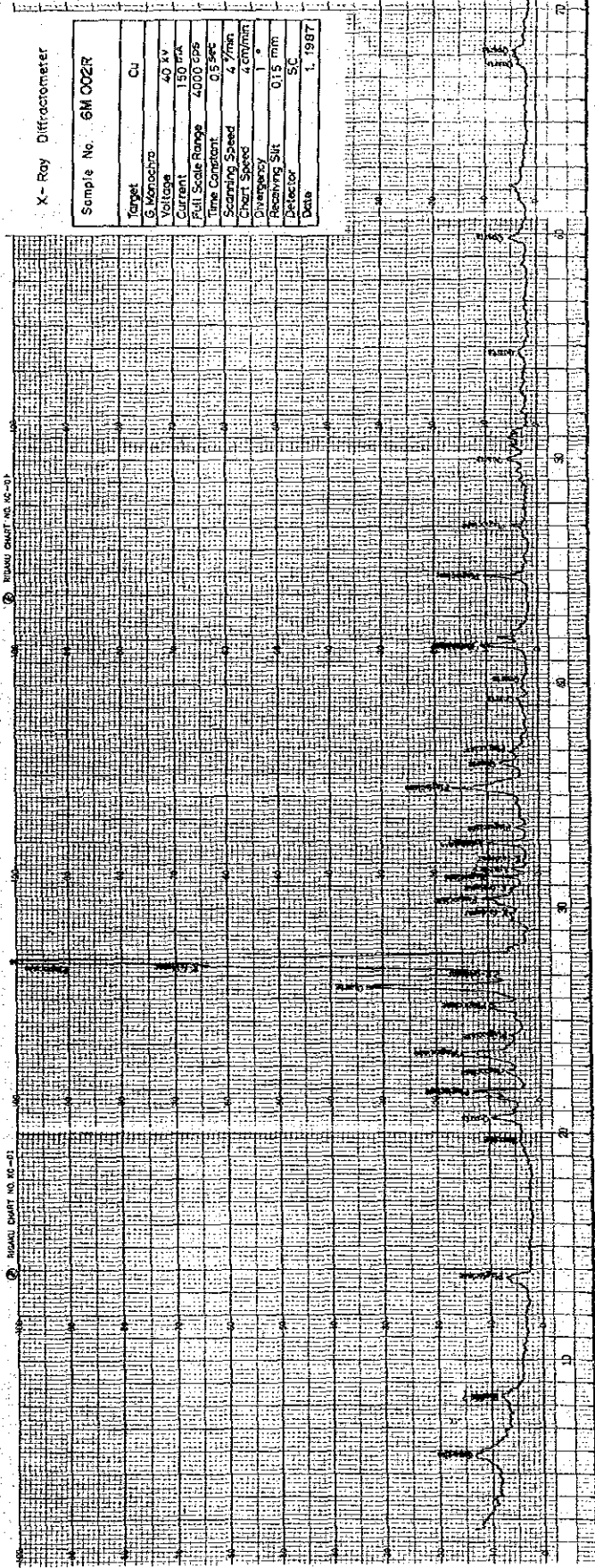
Target	Cu
G. Monochro	
Voltage	40 kV
Current	150 mA
Full Scale Range	4000 cps
Time Constant	0.5 sec
Scanning Speed	4 7/min
Chart Speed	4 cm/min
Divergency	1°
Receiving Slit	0.15 mm
Detector	SC
Date	1. 1987



X-Ray Diffractometer

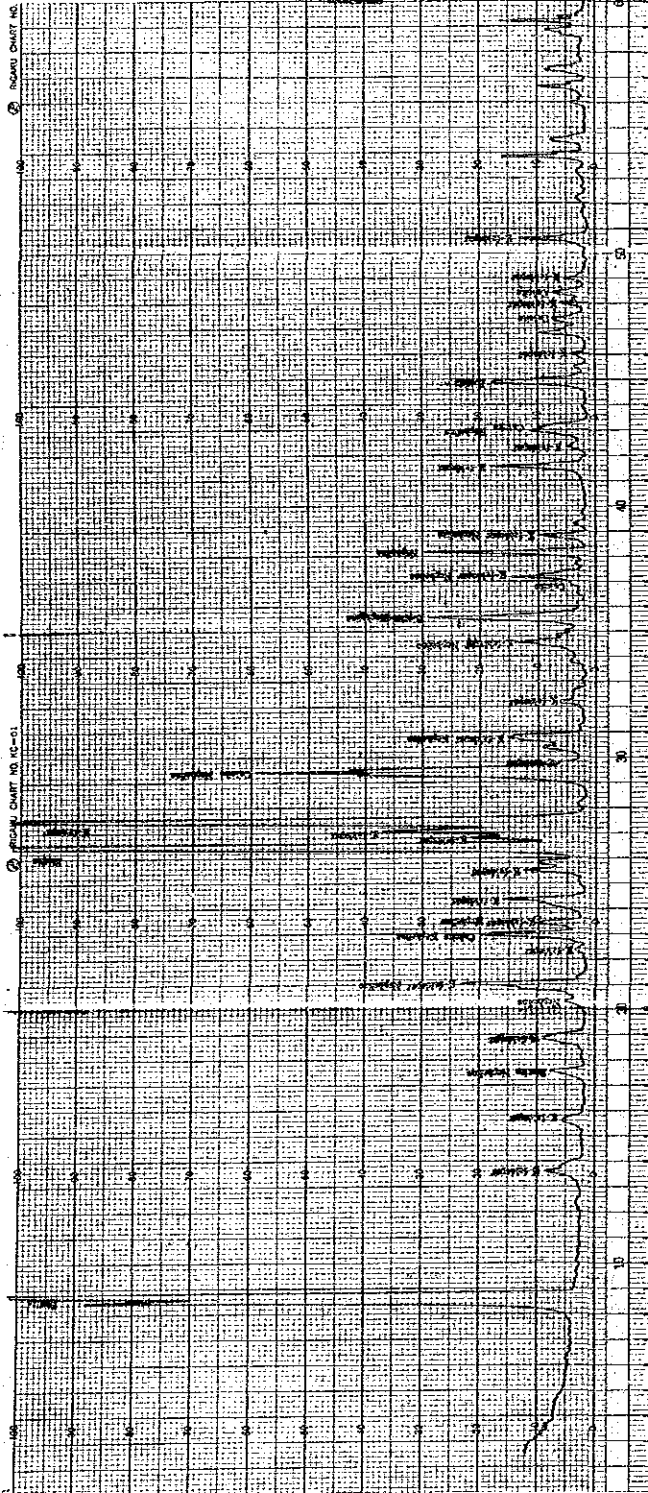
Sample No. 6M 002R

Target	Cu
G. Monochro	
Voltage	40 kV
Current	150 mA
Full Scale Range	4000 cps
Time Constant	0.5 sec
Scanning Speed	4 7/min
Chart Speed	4 cm/min
Divergency	1°
Receiving Slit	0.15 mm
Detector	SC
Date	1. 1987



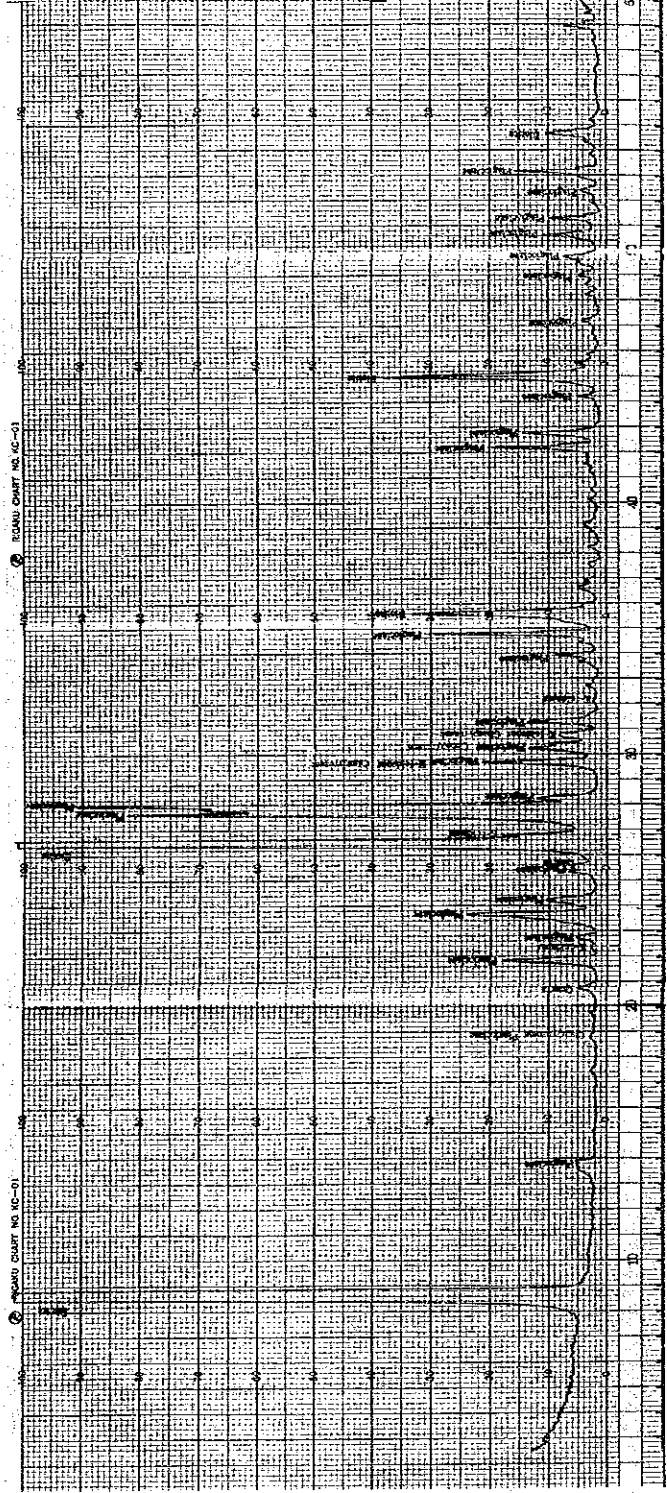
X-Ray Diffractometer

Sample No.	6M 003R
Target	Cu
G. Monochro	40 kV
Voltage	150 mA
Current	4000 cps
Full Scale Range	0.5 sec
Time Constant	4.7/min
Scanning Speed	4 cm/min
Chart Speed	1°
Divergency	0.15 mm
Receiving Slit	SC
Detector	SC
Date	1. 1987



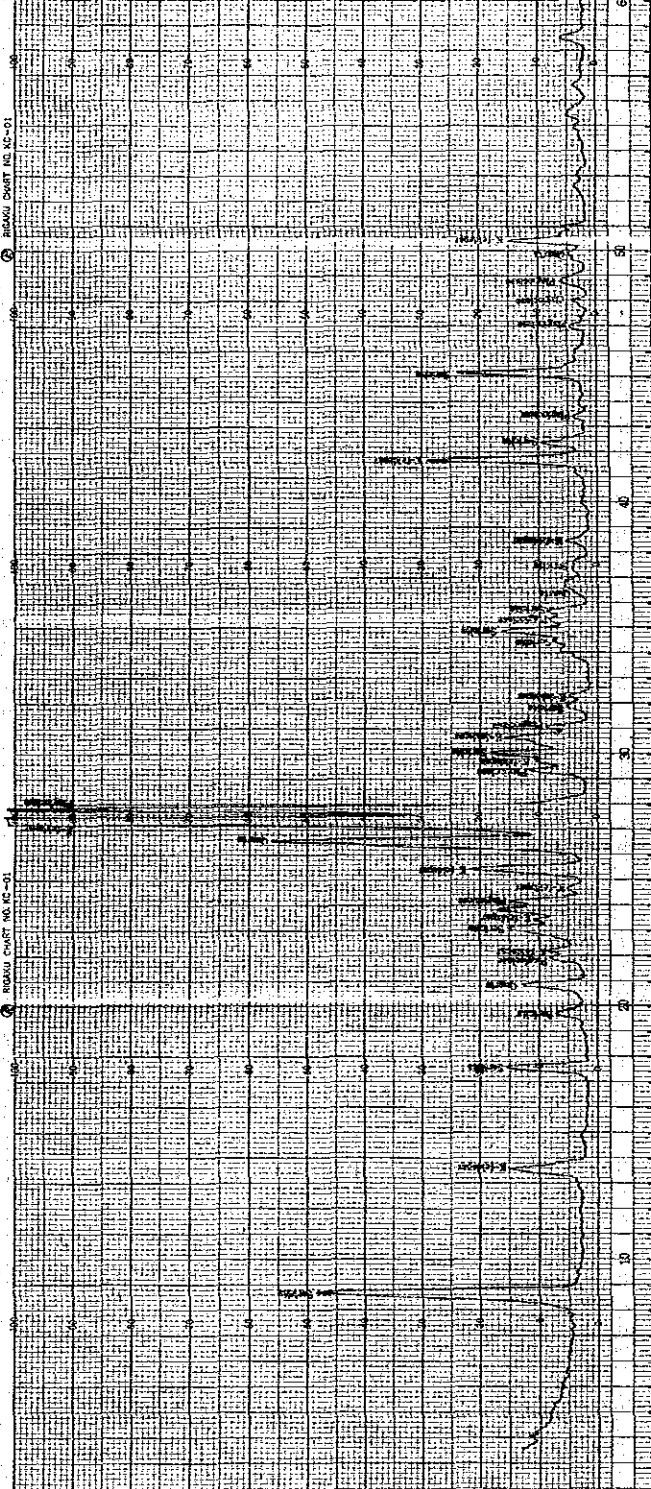
X-Ray Diffractometer

Sample No.	6M 010R
Target	Cu
G. Monochro	40 kV
Voltage	150 mA
Current	4000 cps
Full Scale Range	0.5 sec
Time Constant	4.7/min
Scanning Speed	4 cm/min
Chart Speed	1°
Divergency	0.15 mm
Receiving Slit	SC
Detector	SC
Date	1. 1987



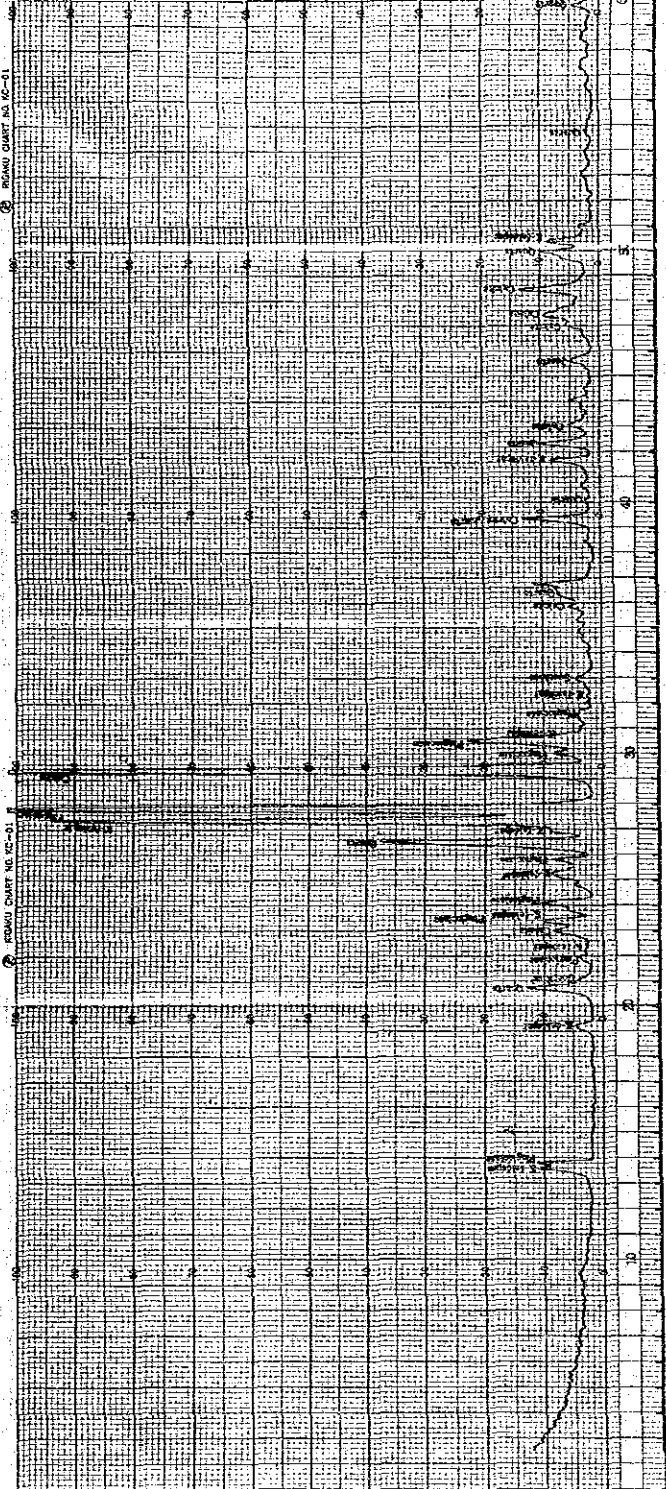
X-Ray Diffractometer

Sample No.	6M 012R
Target	Cu
G. Monochro	40 KV
Voltage	150 ma
Current	4000 cps
Full Scale Range	0.5 sec
Time Constant	4 7/min
Scanning Speed	4 cm/min
Chart Speed	1 *
Divergency	0.15 mm
Receiving Slit	SC
Detector	SC
Date	1. 1967



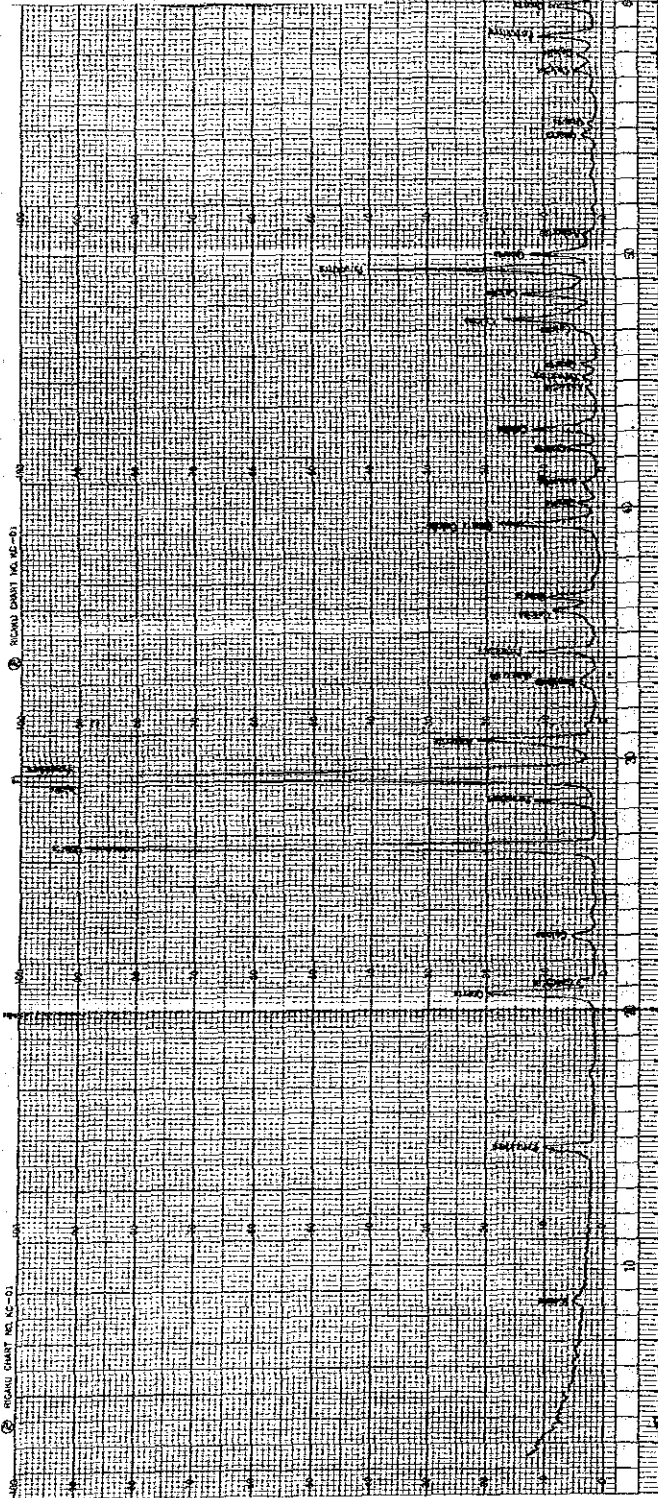
X-Ray Diffractometer

Sample No.	6M 018R
Target	Cu
G. Monochro	40 KV
Voltage	150 ma
Current	4000 cps
Full Scale Range	0.5 sec
Time Constant	4 7/min
Scanning Speed	4 cm/min
Chart Speed	1 *
Divergency	0.15 mm
Receiving Slit	SC
Detector	SC
Date	1. 1967



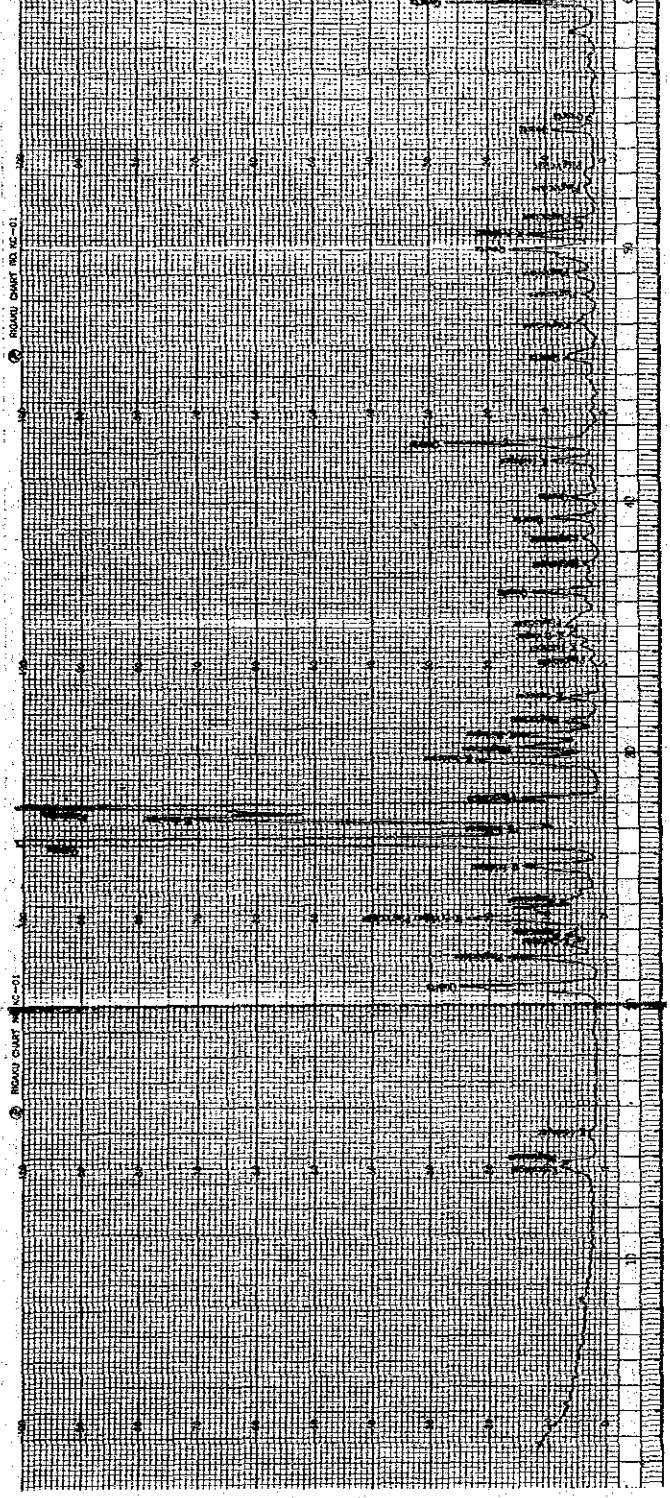
X-Ray Diffractometer

Sample No.	6M 030R
Target	Cu
G. Monochro	
Voltage	40 kv
Current	150 ma
Full Scale Range	4000 cps
Time Constant	0.5 sec
Scanning Speed	4 $\frac{1}{\text{min}}$
Chart Speed	4 $\frac{\text{cm}}{\text{min}}$
Divergency	1 $^{\circ}$
Receiving Slit	0.15 mm
Detector	SC
Date	1. 1987



X-Ray Diffractometer

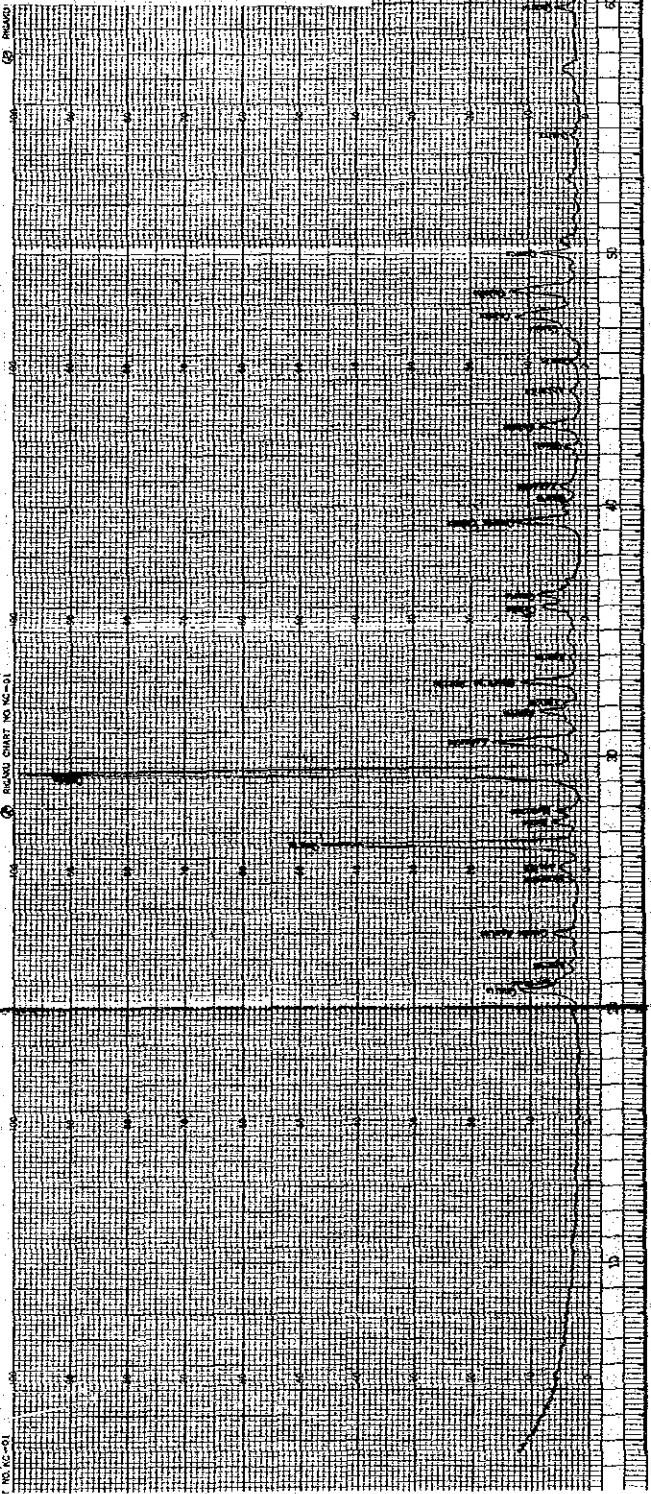
Sample No.	6M 041R
Target	Cu
G. Monochro	
Voltage	40 kv
Current	150 ma
Full Scale Range	4000 cps
Time Constant	0.5 sec
Scanning Speed	4 $\frac{1}{\text{min}}$
Chart Speed	4 $\frac{\text{cm}}{\text{min}}$
Divergency	1 $^{\circ}$
Receiving Slit	0.15 mm
Detector	SC
Date	1. 1987





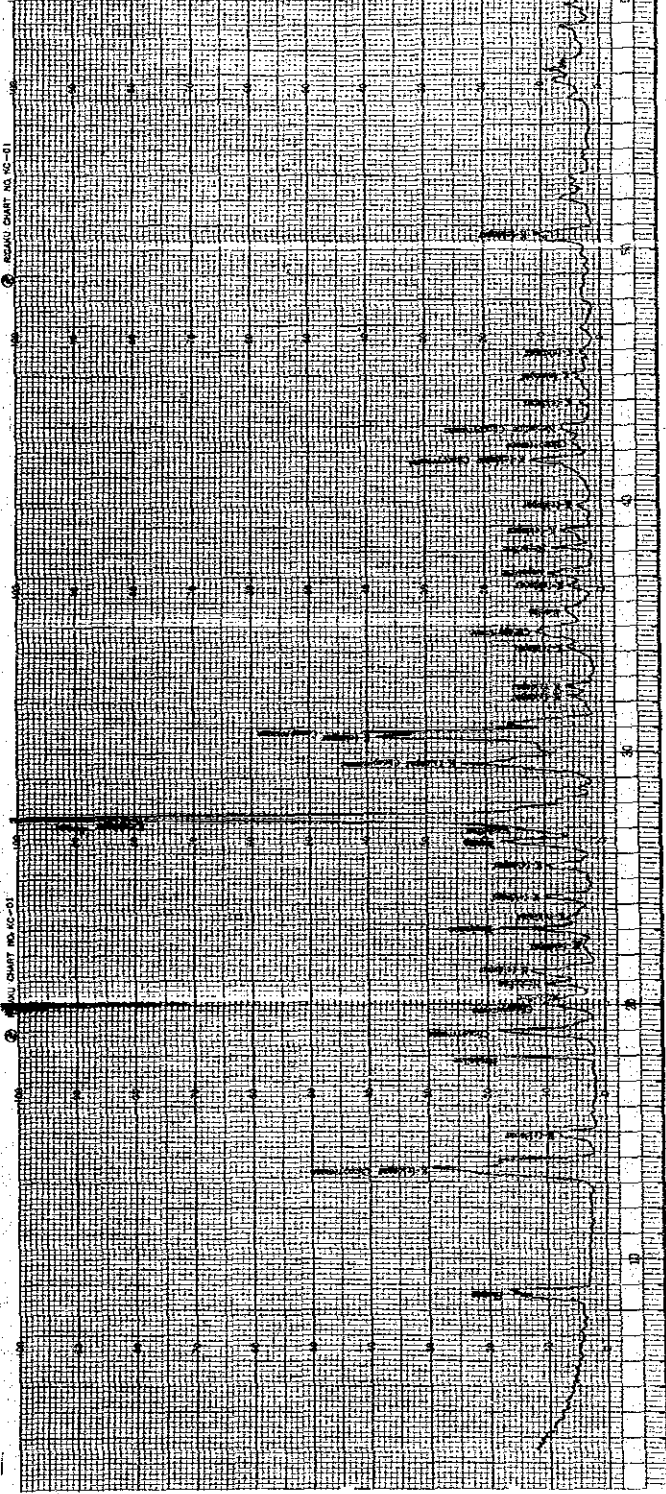
X-Ray Diffractometer

Sample No.	6M 055R
Target	Cu
G. Monochro	
Voltage	40 kv
Current	150 ma
Full Scale Range	4000 cps
Time Constant	0.5 sec
Scanning Speed	4 1/2 in
Chart Speed	4 cm/min
Divergency	1°
Receiving Slit	0.15 mm
Detector	SC
Date	1. 1987



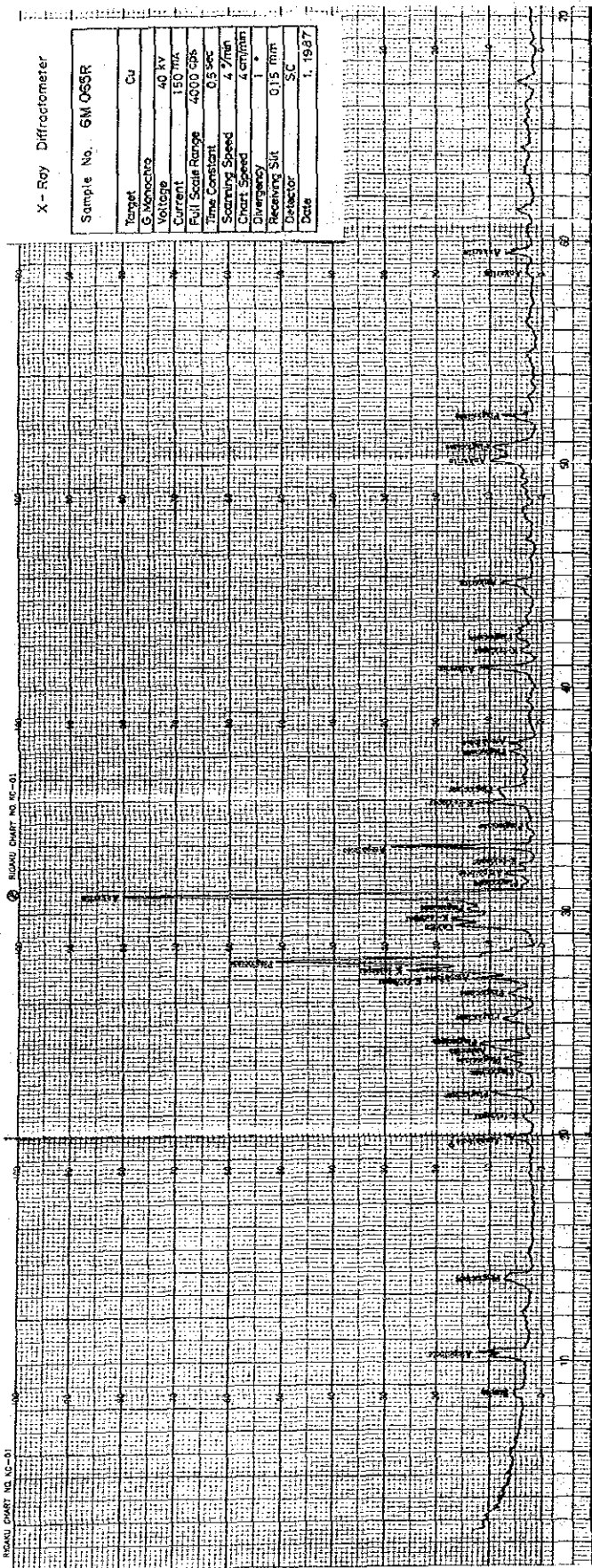
X-Ray Diffractometer

Sample No.	6M 062R
Target	Cu
G. Monochro	
Voltage	40 kv
Current	150 ma
Full Scale Range	4000 cps
Time Constant	0.5 sec
Scanning Speed	4 1/2 in
Chart Speed	4 cm/min
Divergency	1°
Receiving Slit	0.15 mm
Detector	SC
Date	1. 1987



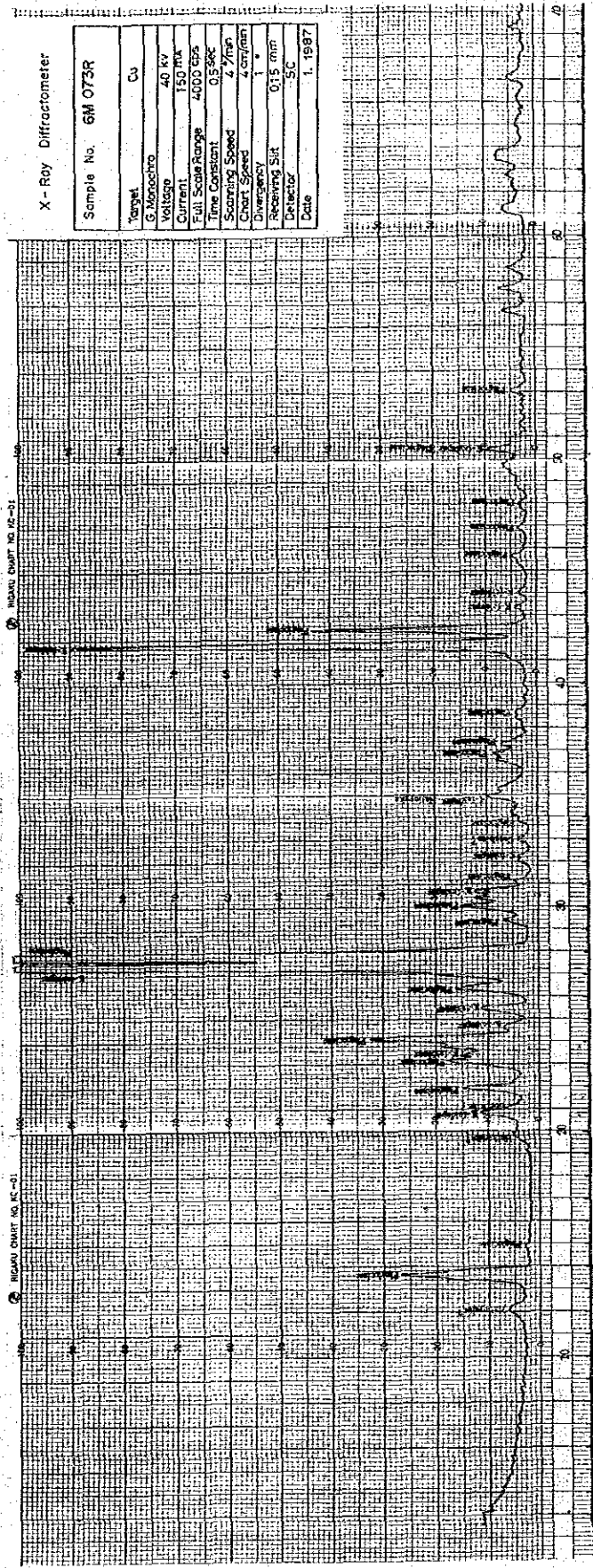
X-Ray Diffractometer

Sample No.	6M 055R
Target	Cu
G. Monochro	40 kv
Voltage	150 ma
Current	4000 cps
Full Scale Range	0.5 sec
Time Constant	4 1/2 in
Scanning Speed	4 cm/min
Chart Speed	1 "
Divergency	0.15 mm
Receiving Slit	SC
Detector	1. 1967
Date	



X-Ray Diffractometer

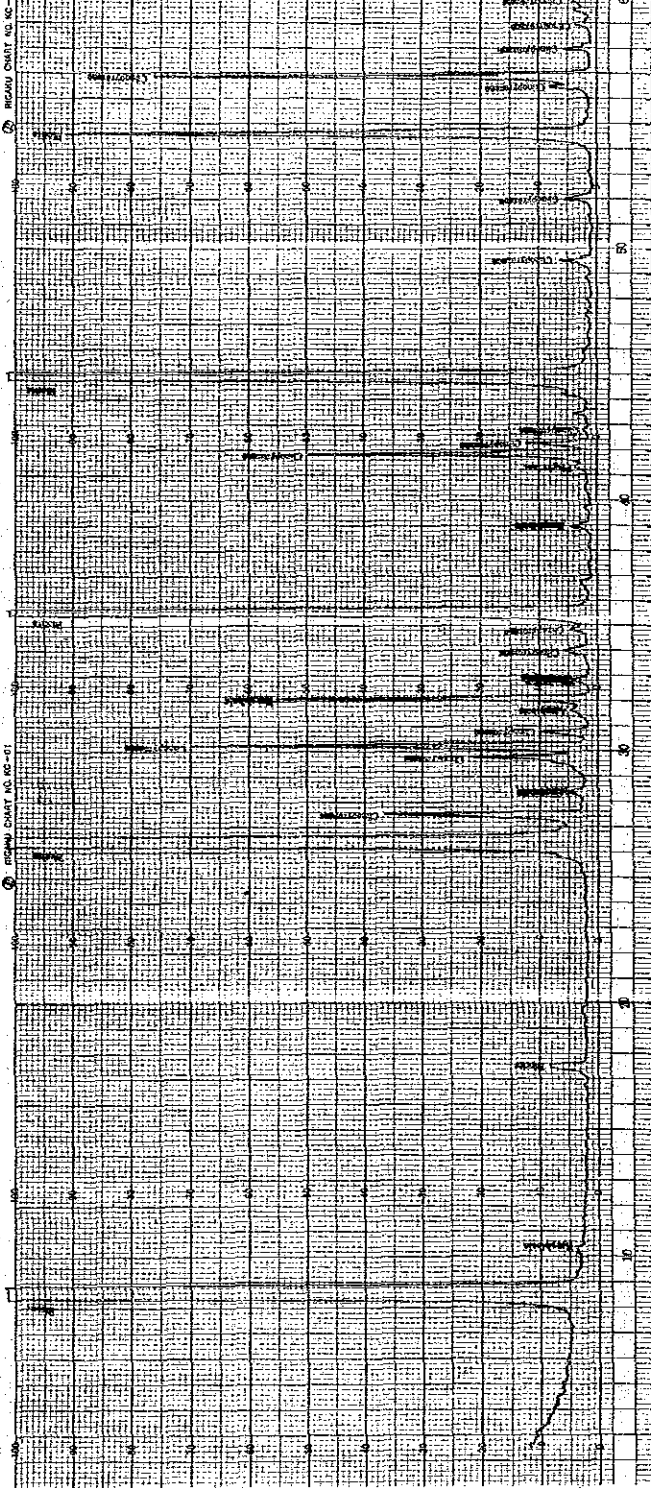
Sample No.	6M 073R
Target	Cu
G. Monochro	40 kv
Voltage	150 ma
Current	4000 cps
Full Scale Range	0.5 sec
Time Constant	4 1/2 in
Scanning Speed	4 cm/min
Chart Speed	1 "
Divergency	0.15 mm
Receiving Slit	SC
Detector	1. 1967
Date	



X - Ray Diffractometer

Sample No. 6M 078R

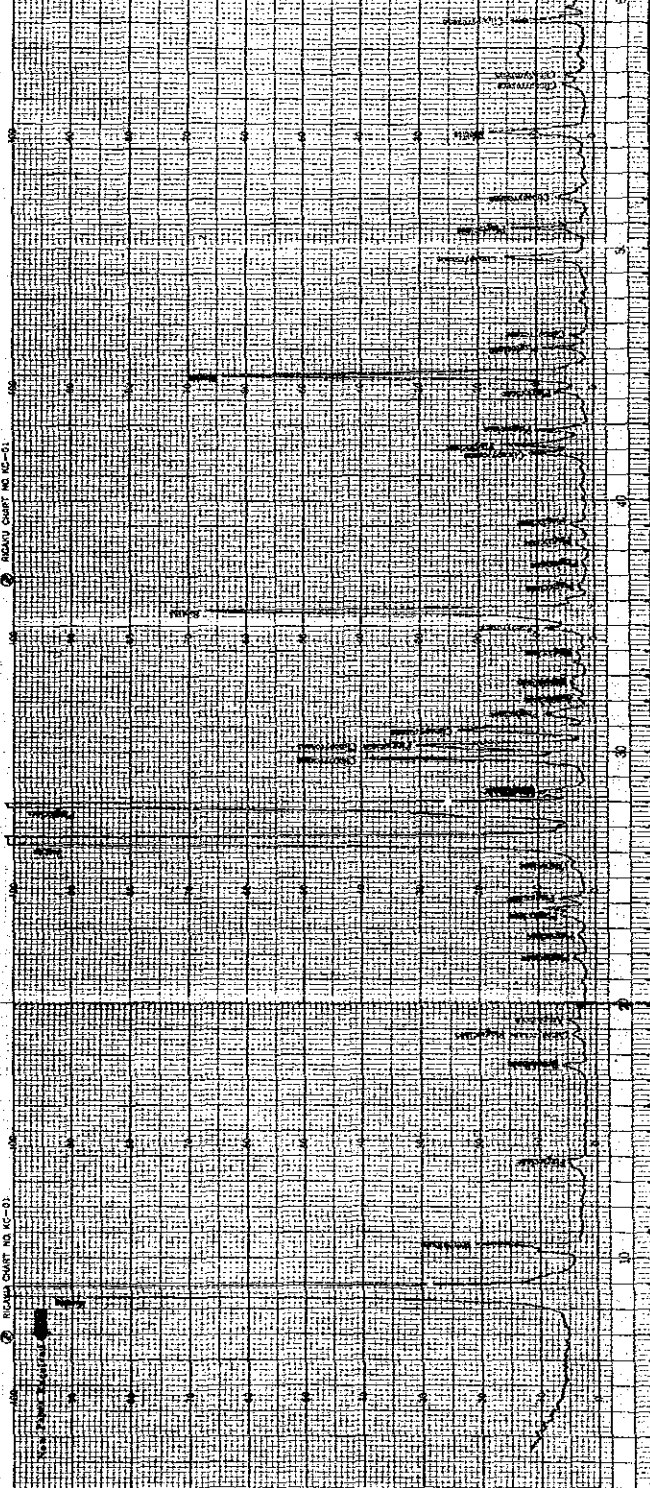
Target	Cu
G Monochro	
Voltage	40 KV
Current	150 mA
Full Scale Range	4000 cps
Time Constant	0.5 sec
Scanning Speed	4 /min
Chart Speed	4 cm/min
Divergency	1 °
Receiving Slit	0.15 mm
Detector	SC
Date	1. 1987



X - Ray Diffractometer

Sample No. 6M 079R

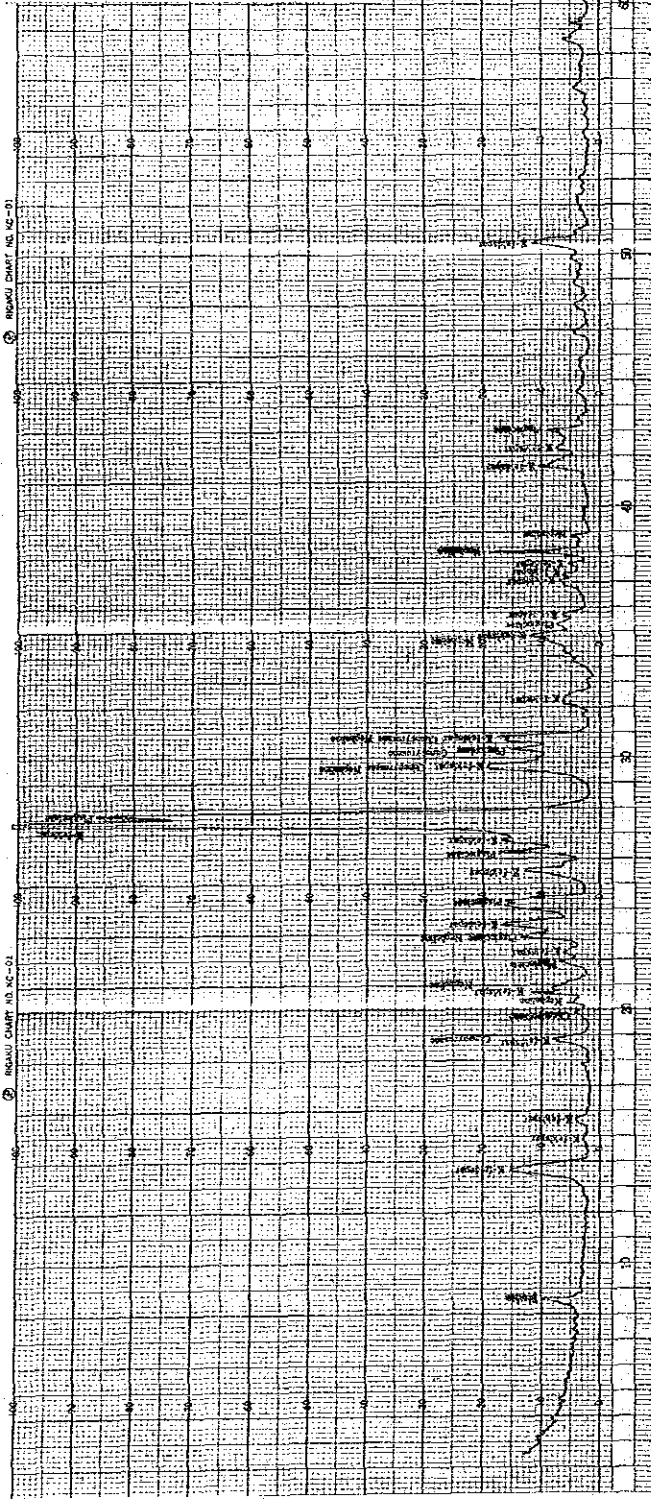
Target	Cu
G Monochro	
Voltage	40 KV
Current	150 mA
Full Scale Range	4000 cps
Time Constant	0.5 sec
Scanning Speed	4 /min
Chart Speed	4 cm/min
Divergency	1 °
Receiving Slit	0.15 mm
Detector	SC
Date	1. 1987



X-Ray Diffractometer

Sample No. 6Y 026R

Target	Cu
G Monochro	
Voltage	40 kv
Current	150 ma
Full Scale Range	4000 cps
Time Constant	0.5 sec
Scanning Speed	4 °/min
Chart Speed	4 cm/min
Divergency	1 °
Receiving Slit	0.15 mm
Detector	SC
Date	1. 1987



X-Ray Diffractometer

Sample No. 6Y 045R

Target	Cu
G Monochro	
Voltage	40 kv
Current	150 ma
Full Scale Range	4000 cps
Time Constant	0.5 sec
Scanning Speed	4 °/min
Chart Speed	4 cm/min
Divergency	1 °
Receiving Slit	0.15 mm
Detector	SC
Date	1. 1987

