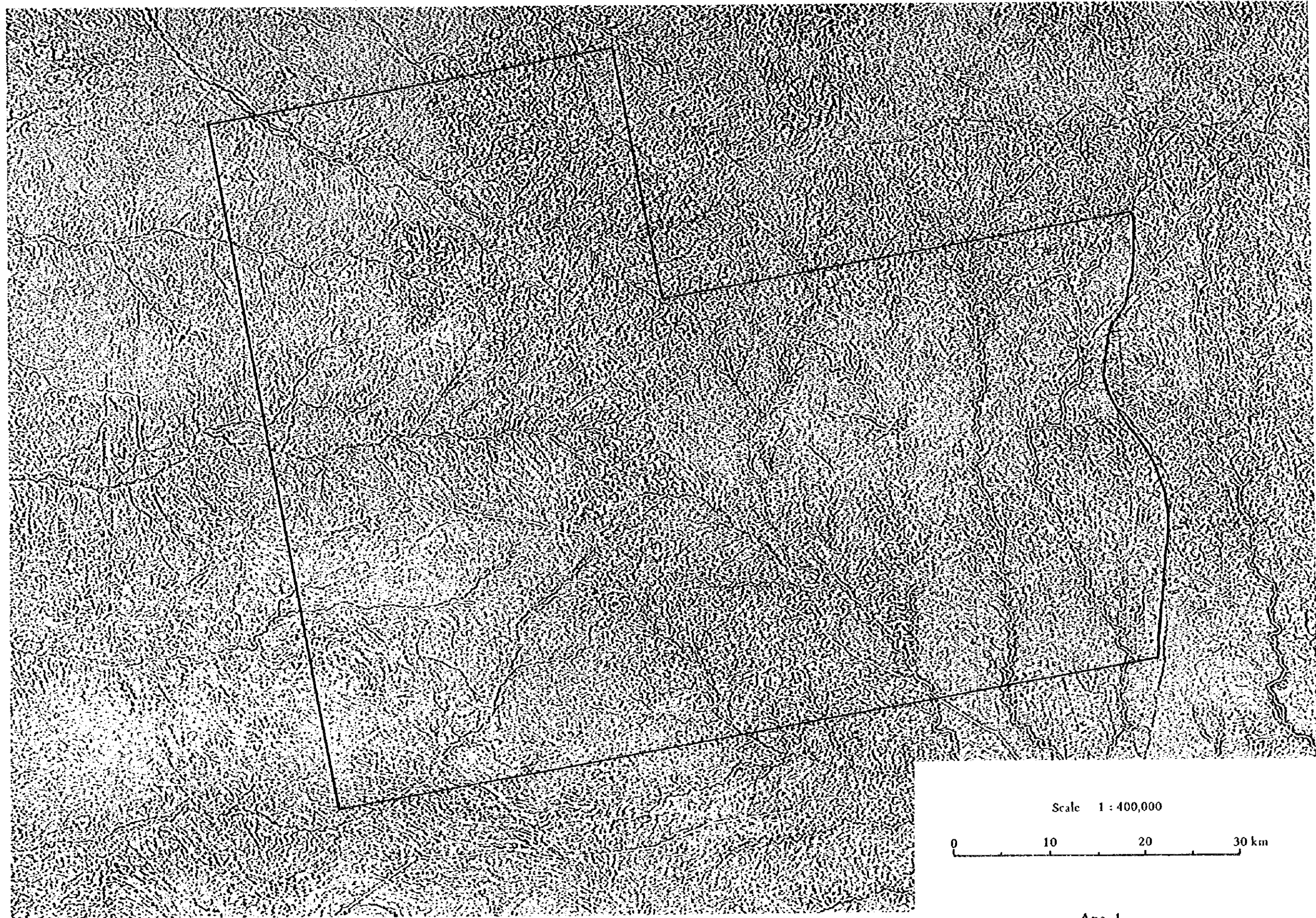


APPENDICES



Ape. 1

Apex. 2. List of Microscopic Observation (Thin Section)

Sample No.	Site	Rock Name	Mineral																	Texture	Stratigraphic Unit							
			g	kf	pl	ms	bi	hb	cpx	mg	cm	ap	zr	sph	cb	ep	chl	mon	ser			ur	sep	ga	cd			
1	X-1.1, Y-0.2	Amphibolite			●			●	○	x					x	x												Matsitama Schist and Metasedimentary Group
2	X-2, Y-7.4	Dolerite	Δ			Δ								●		x										mos	Mosetse River Gneiss Group	
3	X-2, Y-9.7	Chromite ore							●							●											Mosetse River Gneiss Group	
4	X-2, Y-13.8	Syenite	Δ	●	○	Δ										x		x								holo	Mosetse River Gneiss Group	
5	X-2, Y-15	Biotite granite gneiss	●	●	○	x	Δ			x					x	x		x								holo, porb	Mosetse River Gneiss Group	
6	X-2, Y-16.9	Biotite tonalite gneiss	●	●	●	○	○		Δ						Δ	Δ		Δ								holo	Mosetse River Gneiss Group	
7	X-2, Y-21.6	Biotite granite gneiss	●	●	○	x	○		x																	holo, porb	Mosetse River Gneiss Group	
8	X-3, Y-23	Biotite schist	○	○	●		○			x	x	x			x	x		Δ								sch	Mosetse River Gneiss Group	
9	X-3, Y-4	Amphibolite	Δ		Δ			●						Δ		x											Mosetse River Gneiss Group	
10	X-3, Y-9.4	Amphibolite	Δ		Δ		●								Δ	x		x									Mosetse River Gneiss Group	
11	X-4, Y-1	Biotite granite gneiss	●	●	●		Δ								x	x		x								holo, f	Mosetse River Gneiss Group	
12	X-4, Y-7.5	Biotite tonalite gneiss	●	○	●		Δ		x	x					x	x		x								holo	Mosetse River Gneiss Group	
13	X-3.9, Y-26.1	Biotite granite gneiss	●	●	○	Δ	Δ		x	x			x		x	x		x								holo	Mosetse River Gneiss Group	
14	X-3.6, Y-30	Sandstone	●	Δ	Δ	x	x		Δ							x	x										Mosetse River Gneiss Group	
15	X-5, Y-9.7	Aplite	●	Δ		x				x		x			○												Mosetse River Gneiss Group	
16	X-4.8, Y-13	Amphibolite	Δ		Δ		●		x			Δ		○	x		x						x				Mosetse River Gneiss Group	
17	X-5, Y-24.2	Biotite tonalite gneiss	●	●	○	x	○		x	x	x	x			x	x										cos, holo, porb	Mosetse River Gneiss Group	
18	X-5.3, Y-20.2	Biotite granite	●	●	○	x	Δ			x	x	Δ		x				x								holo	Mosetse River Gneiss Group	
19	X-6, Y-2.5	Biotite granite	●	○	●		Δ					x		x		x		x				x				holo	Matsitama Schist and Metasedimentary Group	
20	X-5.8, Y-15.3	Biotite tonalite gneiss	●	●	●	x	○			x		x			x	x		x								holo	Vumba and Tutume Group	
21	X-5.8, Y-25.2	Biotite granite	●	●	●		Δ		x	x	x	x			x	x		x								holo, med	Maitengwe and Tutume Group	
22	X-5.8, Y-26.6	Biotite tonalite gneiss	●	○	●	○				x		x			x	x		x								holo	Maitengwe and Tutume Group	
23	X-6.4, Y-23.1	Biotite granite	●	●	●		Δ		x	x					x	x		x								holo	Maitengwe and Tutume Group	
24	X-7, Y-15	Pyroxinite			Δ		Δ	●		x		x			Δ			x								holo	Vumba and Tutume Group	
25	X-7, Y-17	Biotite granite	●	●	●		Δ			x		x			x	x		x								holo, porb	Moshambale Granite (G4)	
26	X-6.9, Y-18.5	Biotite tonalite gneiss	●	○	●	x	○			x		x			x	x		x								holo	Vumba and Tutume Group	
27	X-7, Y-21.8	Hornblends biotite granite	●	●	○		○	Δ		x	x	x	x		x	x		x								holo, my	Vumba and Tutume Group	
28	X-7.1, Y-24.2	Dolerite			●			●	Δ				x			○		x	x							oph	Dolerite dyke	

Sample No.	Site	Rock Name	Mineral																	Texture	Stratigraphic Unit					
			g	kf	pl	ms	bi	hb	cpx	mg	cm	ap	zr	sph	cb	ep	chl	mon	ser			ur	sep	ga	cd	
29	X-7.5, Y-2.9	Granite gneiss	●	●	○	x	△			x		x	x	x		x	x		x					holo, porb, my	Vumba and Tutume Group	
30	X-7.7, Y-10.5	Tonalite gneiss	●	○	●		△	x		x		x	x		△	x		x						holo, gne	Vumba and Tutume Group	
31	X-8, Y-2.8	Gabbro			●		x	△	○	△		x				x		x						oph	Gabbro sheet – dyke	
32	X-8, Y-8	Quartz monzonite	●	●	●	x	△			x		x		x	x		x							holo, porb	Vumba and Tutume Group	
33	X-8, Y-19.9	Tonalite gneiss	●	●	●		○					x	x	x		x	x		x					holo	Vumba and Tutume Group	
34	A-1, Y-18.5	Tonalite gneiss	●	○	●		△			x		x		x	x		x							holo	Vumba and Tutume Group	
35	X-9, Y-2.5	Quartz monzonite	●	●	●	x	△			x		x	x	x	x	x		x						holo, gne, porb	Vumba and Tutume Group	
36	X-8.9, Y-6.3	Biotite granite	●	●	△	x	△			x		x		x	x	x	x	x						holo, equigr	Vumba and Tutume Group	
37	X-8.9, Y-7	Aplitic granite	●	●	○	x	x			x		x			x	x								holo	Vumba and Tutume Group	
38	A-3.2, Y-11	Serpentinite			○		○			△						△				●						Vumba Volcanic Group
39	A-3.1, Y-13.6	Amphibole schist			○		●			x			x											sch	Vumba Volcanic Group	
40	X-9, Y-19.7	Hornblende tonalite gneiss	△		●			●					x		○				△					holo, gne	Vumba Volcanic Group	
41	A-3, Y-18.3	Biotite tonalite gneiss	●	○	●		○			x					x	x		x						holo, gne	Shashe Drift Pluton (G ₁)	
42	A-4, Y-17	Sillimanite quartz schist	●			△	x					x		x		x		△						sch	Vumba Volcanic Group	
43	A-4, Y-17.8	Serpentinite								△						○				●						Vumba Volcanic Group
44	X-10, Y-2.9	Aplite gneiss	●	●	○		△			x		x		x	x		x							holo, porb	Vumba and Tutume Group	
45	X-10, Y-7.3	Quartz monzonite	●	●	●	△	△			x		x		x	x	x		x						holo	Vumba and Tutume Group	
46	X-10.1, Y-8	Tonalite gneiss	●	○	●		○					x	x	x		△	x		x					holo, gne	Vumba and Tutume Group	
47	A-5, Y-11.2	Biotite gneiss	●	△	●		△					x			x			x						holo	Vumba and Tutume Group	
48	X-10, Y-13.3	Hornblende epidote schist	●		△			○		x					●			x						sch	Vumba Volcanic Group	
49	X-10.2, Y-13.9	Hornblende schist	●		●			●		△		x			x	x								sch	Vumba Volcanic Group	
50	A-6, Y-13.1	Serpentinite								○						△				●						Vumba Volcanic Group
51	X-10, Y-17.4	Hornblende schist	●		●			○		x					x	x		x								Vumba Volcanic Group
52	X-10, Y-18.4	Biotite tonalite schist	●	○	●		○						x	x	x	△		x						holo	Shashe Drift Pluton (G ₁)	
53	A-5.8, Y-16.2	Amphibolite			△			●	△				x					x								Vumba Volcanic Group
54	A-6, Y-18.2	Quartz monzonite	●	●	○		△	△					x	x	x	x		△						holo	Kalakamate Monzonite (G ₁)	
55	X-10.9, Y-18.4	Biotite granite	●	●	○		△			△					x	x								holo, f	Kalakamate Monzonite (G ₁)	

Sample No.	Site	Rock Name	Mineral																	Texture	Stratigraphic Unit					
			g	kf	pl	ms	bi	hb	cpx	mg	cm	ap	zr	sph	cb	ep	chl	mon	ser			ur	sep	ga	cd	
56	A-6.4, Y-18.5	Aplitic granite	•	•	•		Δ								x		x							holo, porb, my	Kalakamate Monzonite (G ₁)	
57	X-10.9, Y-19.1	Biotite hornblende schist	○		•		Δ	•		x		x		x	x	x		Δ						sch	Kalakamate Monzonite (G ₁)	
58	X-10.8, Y-3.4	Pegmatite	•	•	•		Δ			x					x		x							holo	Vumba and Tutume Group	
59	X-10.9, Y-4.6	Aplitic granite	•	○	○	x	Δ			x					x	x		x						holo	Vumba and Tutume Group	
60	X-11, Y-5.8	Gabbro			•		Δ	•	Δ	Δ							Δ	Δ							Gabbro sheet	
61	A-8, Y-5.5	Tonalite gneiss	•	○	•		Δ			x		x		x	x	x	Δ	Δ						holo	Vumba and Tutume Group	
62	A-7, Y-6.6	Biotite granite gneiss	•	•	○	x	Δ			x		x		x	x	x		x						holo, porb	Vumba and Tutume Group	
63	X-11.1, Y-10	Biotite tonalite gneiss	•	○	•	Δ	○			Δ		x		x	x	x		x						holo	Vumba and Tutume Group	
64	X-11, Y-13	Serpentinite						○		○							○			•						Vumba Volcanic Group
65	X-11, Y-13.5	Chlorite muscovite schist	•		•	Δ	Δ			x		x		x	x	•		x								Vumba Volcanic Group
66	X-11.3, Y-14.1	Biotite granite	•	•	•		Δ			x		x	x	x	Δ	x		Δ								Central Vumba Stock (G ₄)
67	X-11, Y-14.5	Amphibolite						•	Δ	Δ						Δ										Vumba Volcanic Group
68	A-8.2, Y-16.4	Quartz schist	•		•		x								x	x		x						gran	Vumba Volcanic Group	
69	A-8.2, Y-16.6	Amphibolite			Δ			•			x		x		○	○		○								Vumba Volcanic Group
70	A-8, Y-17	Biotite granite	•	•	○		Δ			x		x			x	x		x						holo	Kalakamate Pluton (G ₁)	
71	A-7.8, Y-17.2	Chlorite schist	○		•						x					•				x				sch	Vumba Volcanic Group	
72	A-7, Y-17.8	Biotite granite	•	•	○	x	Δ			Δ		x			x	x		Δ						holo	Kalakamate Pluton (G ₁)	
73	A-8, Y-18.1	Biotite granite	•	•	•		Δ				x	x	x		x	○		○						holo	Dombashaba Granite (G ₄)	
74	A-8, Y-18.6	Biotite granite	•	•	•		Δ			Δ		x	x	x		x	x		x					holo	Dombashaba Granite (G ₄)	
75	X-12, Y-2.7	Biotite granite	•	•	○		Δ			x		x	x	x		x	x		x					holo	Vumba and Tutume Group	
76	X-12, Y-4.4	Biotite granite	•	•	○	x	Δ			x		x	x	x		x	x		x					holo	Vumba and Tutume Group	
77	A-10, Y-6	Biotite granite	•	•	○	Δ	Δ			Δ		x	x	x	x	x	x		x					holo	Timbale Granite	
78	A-9, Y-7	Biotite granite	•	•	•		Δ							x	x	x		x						holo	Vumba and Tutume Group	
79	X-12, Y-12.6	Biotite granite	•	•	○	Δ	○			Δ		x	x	x		x	x		Δ					holo, porb	Sechele Granite (G ₄)	
80	X-13.3, Y-2.9	Quartz monzonite	•	•	•	x	Δ			x		x	x	x		x	x		x					holo	Vumba and Tutume Group	
81	X-13.8, Y-4	Biotite granite	•	•	○	x	Δ			x		x		x	x	x		x						holo, my	Vumba and Tutume Group	
82	X-13, Y-7	Quartz monzonite	•	•	•	x	Δ			Δ		x			x	x		x						holo	Timbale Granite	
83	X-13.1, Y-7.4	Biotite granite	•	•	•	x	Δ								x	x		x						holo, f	Timbale Granite	
84	X-13, Y-8.2	Biotite granite	•	•	○	Δ	Δ			x					x	x		x						holo	Timbale Granite	

Sample No.	Site	Rock Name	Mineral																			Texture	Stratigraphic Unit	
			g	kf	pl	ms	bi	hb	cpx	mg	cm	ap	zr	sph	cb	ep	chl	mon	ser	ur	sep			ga
85	X-12.9, Y-9.2	Biotite tonalite	●	○	●		○				x		x		x	x		x					holo	Vumba and Tutume Group
86	X-13, Y-11.3	Amphibolite	Δ		Δ		●	○			x		x											Vumba and Tutume Group
87	X-13, Y-12.8	Gabbro			●		x		●	Δ					x		x						oph	Gabbro sill
88	X-14.1, Y-7.1	Quartz monzonite	●	●	●	Δ	Δ			x			x		x	x		x					holo	Timbale Granite
89	X-15.1, Y-1.5	Biotite tonalite	●	●	●	Δ	Δ			x			x		Δ	x		x					holo	Vumba and Tutume Group
90	X-15, Y-5	Dolerite		●					●	Δ						x							oph, intgr	Dolerite dyke
91	X-15, Y-5.5	Tonalite gneiss	●	○	●	x	○			x	x		x		x	x		x					holo	Anatectite (G ₃)
92	X-15, Y-8	Biotite tonalite	●	●	●		○			Δ	x				x	x		x					holo	Anatectite (G ₃)
93	X-15, Y-8.9	Biotite tonalite	●	●	●	Δ	Δ			x					x	x		x					holo	Anatectite (G ₃)
94	X-14.9, Y-9.7	Quartzite	●													x		x					gran	Anatectite (G ₃)
95	X-15, Y-9.9	Dolerite			●		●		○						○	○		x					oph	Dolerite dyke
96	X-15.1, Y-13.6	Biotite tonalite gneiss	●	○	●	x	Δ				x					x		x					holo	Anatectite (G ₃)
97	X-15, Y-16	Biotite granite	●	●	●	●				x	x				Δ	○		Δ					holo	Anatectite (G ₃)
98	X-15, Y-16.7	Dolerite			●		Δ	●	x					Δ	○	○							oph	Dolerite dyke
99	X-15, Y-17.9	Hornblende gabbro	x		●		Δ								x	x							holo	Gabbro dyke
100	X-15, Y-18	Biotite granite	●	●	○		Δ			x	x		x		Δ	○		○					holo	Vumba and Tutume Group
101	X-16, Y-7.5	Quartz monzonite	●	●	●	Δ	Δ			x					x	Δ		Δ					holo	Vumba and Tutume Group
102	X-7, Y-13	Quartz monzonite	●	●	●	x	Δ				x		x	x	x	x		x					holo	Vumba and Tutume Group
103	X-8, Y-18.8	Syenite	○	●			x		x						x								holo	Vumba and Tutume Group
104	X-11, Y-18.3	Hornblende biotite granite	●	●	○		Δ	Δ		x	x		x	x	x	Δ		Δ					holo	Kalakamate Monzonite (G ₁)
105	X-14, Y-12.8	Biotite granite	●	●	●	Δ	Δ								x	Δ		Δ					holo	Vumba and Tutume Group
106	A-10, Y-7.9	Biotite granite	●	●	●	x	Δ			x	x		x		Δ	Δ		Δ					holo	Vumba and Tutume Group
107	X-8, Y-29.2	Tonalite gneiss	●	○	●	x	Δ			x					x	x		x					holo	Maitengwe and Tutume Group

Abbreviation:

Mineral	
q	quartz
kf	potash feldspar
pl	plagioclase
ms	muscovite
bi	biotite
hb	hornblende
cpx	clinopyroxene
mg	magnetite
cm	chromite
ap	apatite
zr	zircon
sph	sphene
cb	carbonate mineral
ep	epidote
chl	chlorite
mon	montmorillonite
ser	sericite
ur	uralite
sep	serpentine
ga	garnet
cd	cordierite

Texture

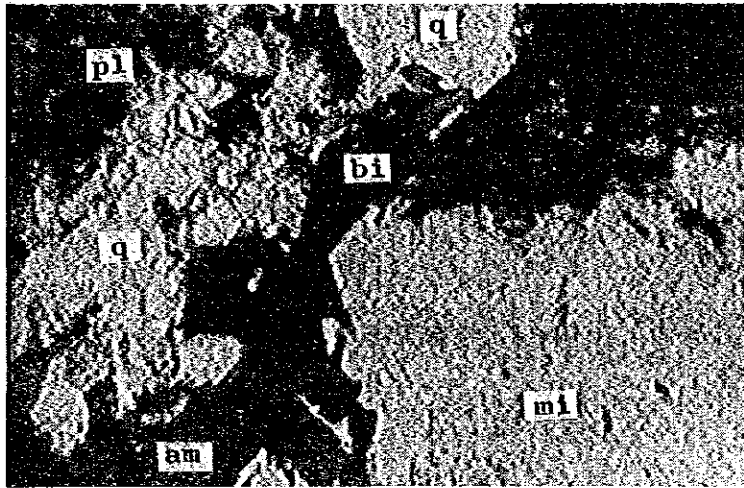
holo	holocrystalline	sch	schistose
por	porphyritic	mos	mosaic
gran	granular	intgr	intergranular
equi	equigranular	oph	ophitic
porb	porphyroblastic	cos	coarse-grained
my	myrmekite	med	medium-grained
gne	gneissose	f	fine-grained

Symbol

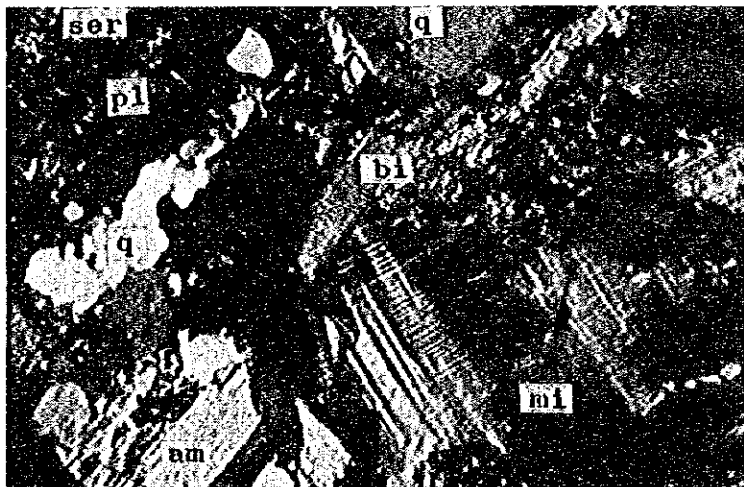
●	abundant
○	common
Δ	rare
x	very rare

Apex. 3. Microphotograph

q:	Quartz	bi:	biotite
pl:	Plagioclase	am:	amphibole
mi:	microcline	cpx:	clinopyroxene
ep:	epidote	ser:	sericite
Cp:	Chalcopyrite	Sp:	Sphalerite
Gn:	Galena	Po:	Pyrrhotite
Lo:	Loellingite		



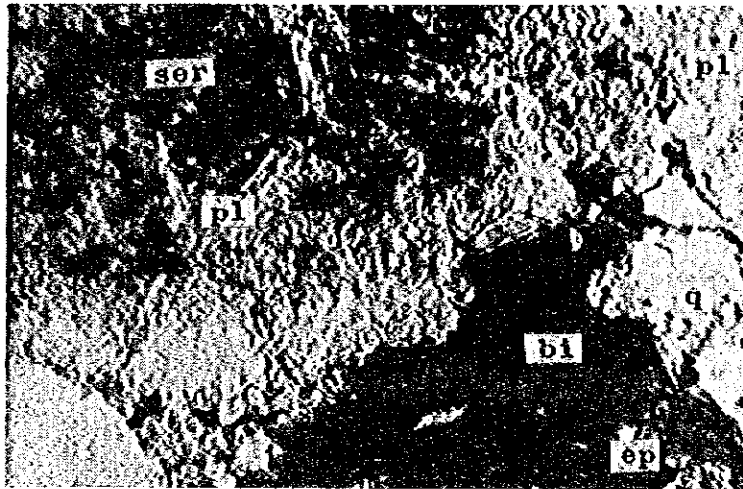
1. S-54 Quartz Monzonite (G₁) – Open nicol



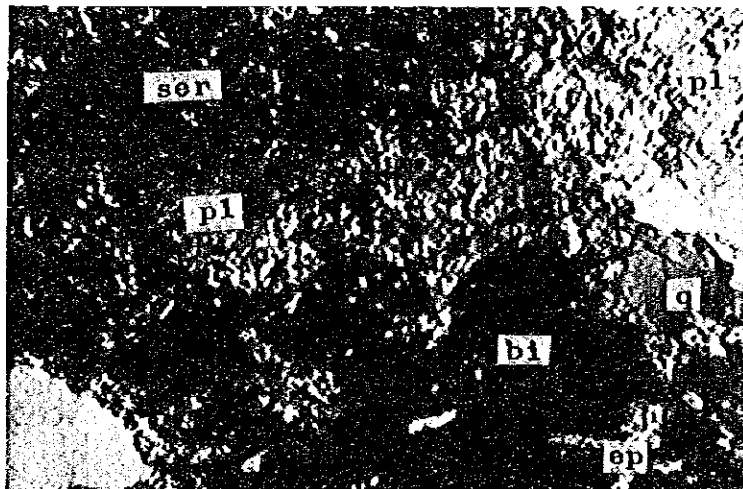
2. Same as the above – Crossed nicols

Considerably strong sericitisation, weak epidotisation, chloritisation are observed.

0 ————— 0.5 mm



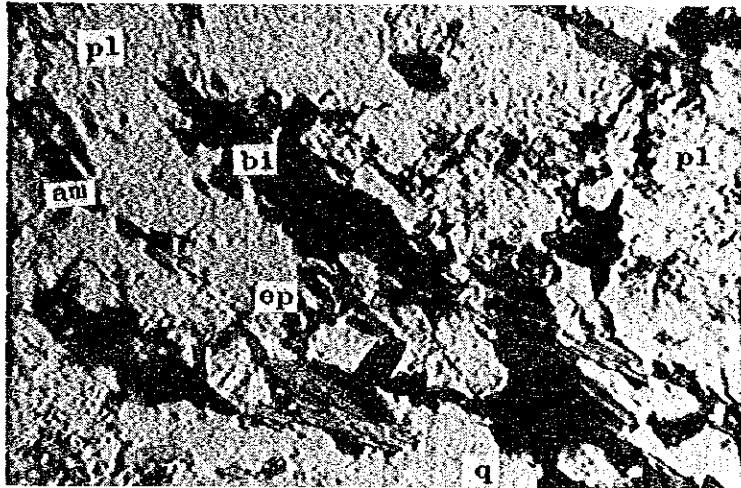
3. S-66 Biotite Granite (G₄) – Open nicol



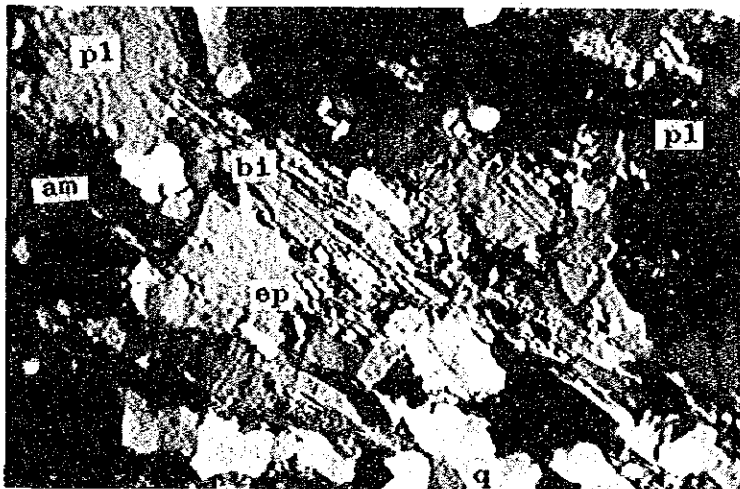
4. Same as the above – Crossed nicols

Strong sericitisation, epidotisation and weak chloritisation are observed.

0 ————— 0.5 mm



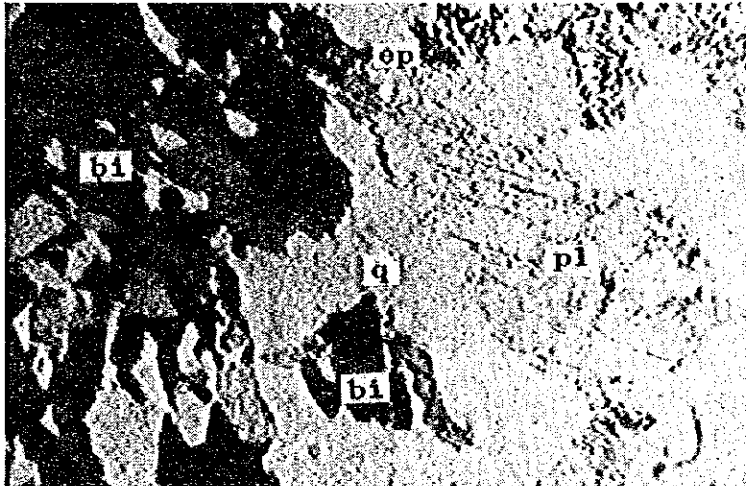
5. S-30 Granite Gneiss (G_{2g}) – Open nicol



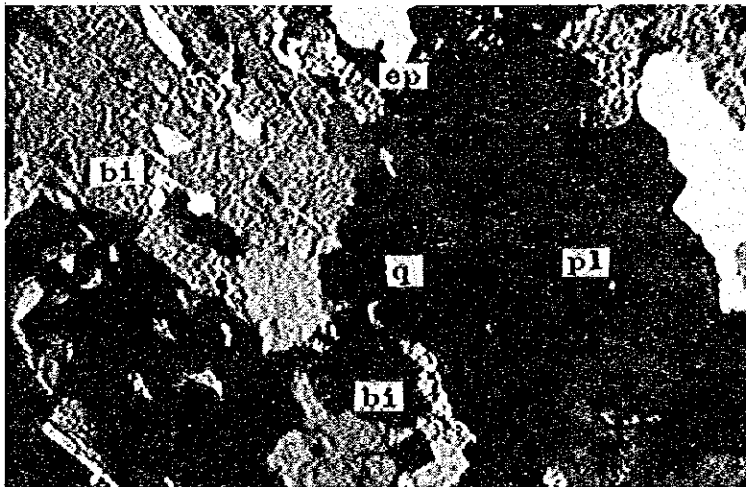
6. Same as the above – Crossed nicols

Strong epidotisation and weak sericitisation, chloritisation are observed.

0 ————— 0.5 mm



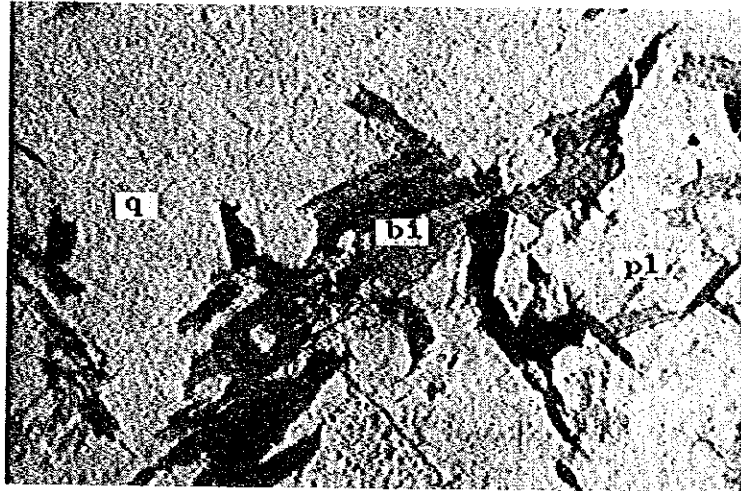
7. S-46 Tonalite Gneiss (G_{2t}) -- Open nicol



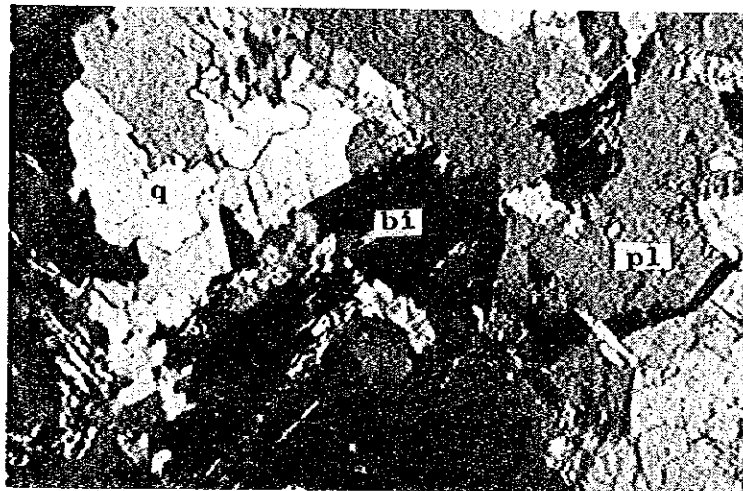
8. Same as the above -- Crossed nicols

Strong epidotisation and weak sericitisation, chloritisation are observed.

0 0.5 mm



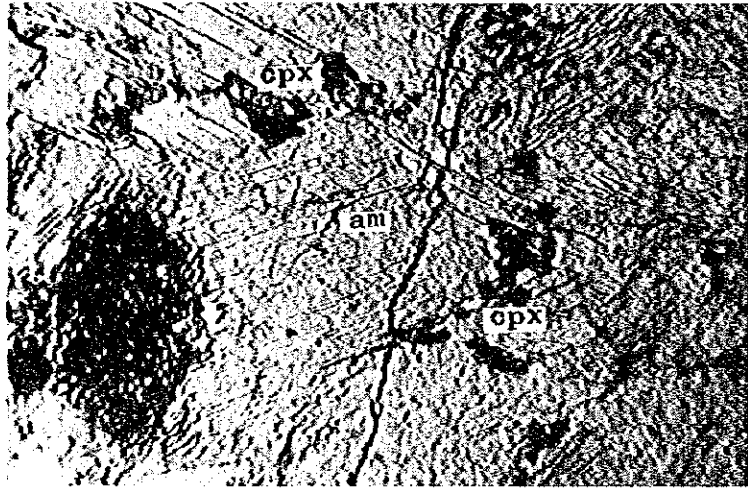
9. S-29 Porphyroblastic Granite Gneiss (PG_{2g}) – Open nicol



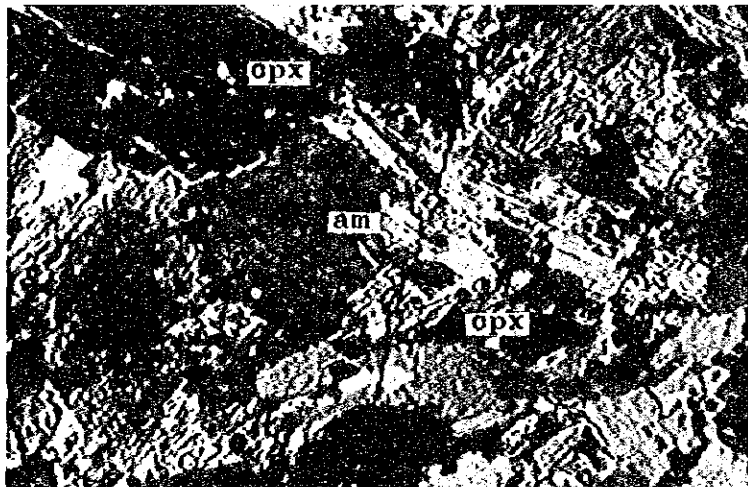
10. Same as the above – Crossed nicols

Weak epidotisation, sericitisation and chloritisation are observed.

0 0.5 mm



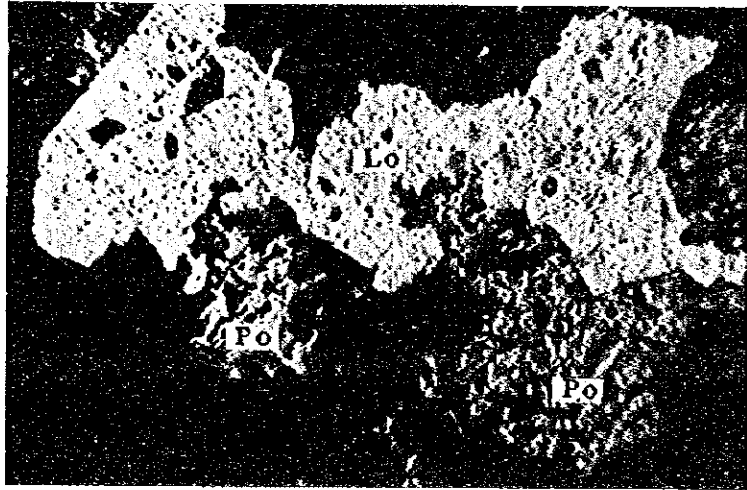
11. S-53 Amphibolite (Am) – Open nicol



12. Same as the above – Crossed nicols

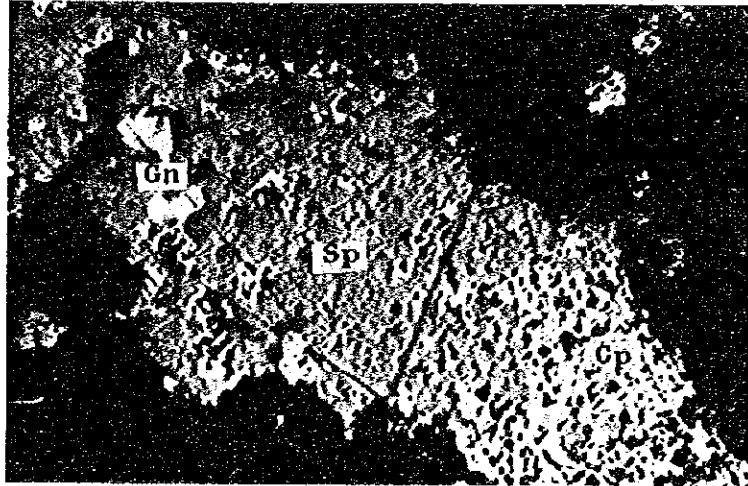
Small clinopyroxene crystals are observed.

0 0.5 mm



13. S-559 Gold Ore – Open nicol – Sheba mine

0 0.2 mm

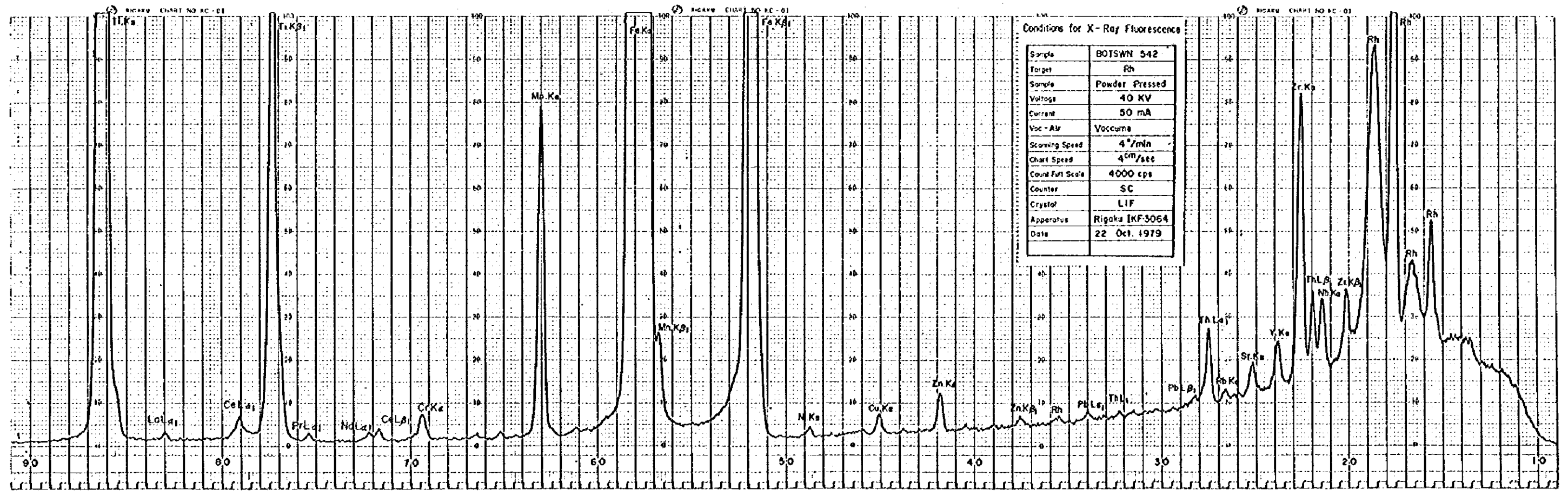
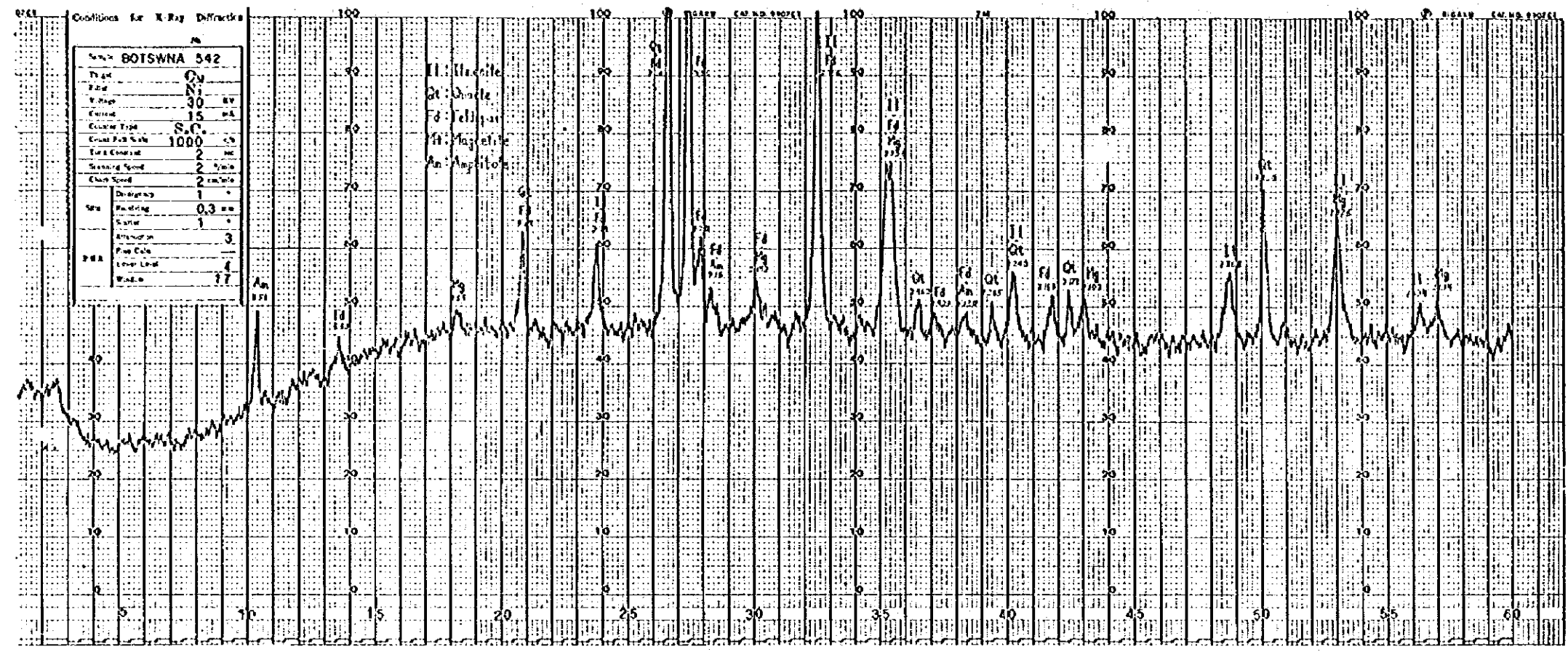


14. S-560 Copper Ore – Open nicol – Matsitama mine

0 0.4 mm

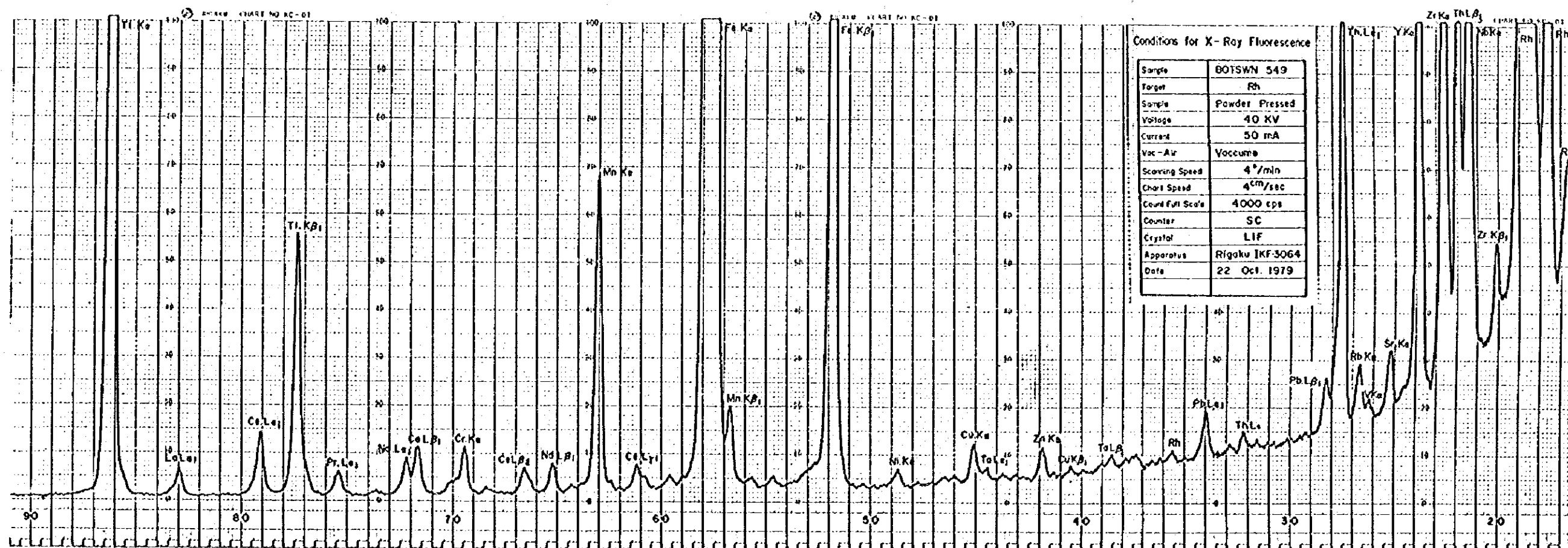
CHARTS OF X-RAY DIFFRACTION
AND FLUORESCENCE

SAMPLE S-542



CHARTS OF X-RAY DIFFRACTION
AND FLUORESCENCE

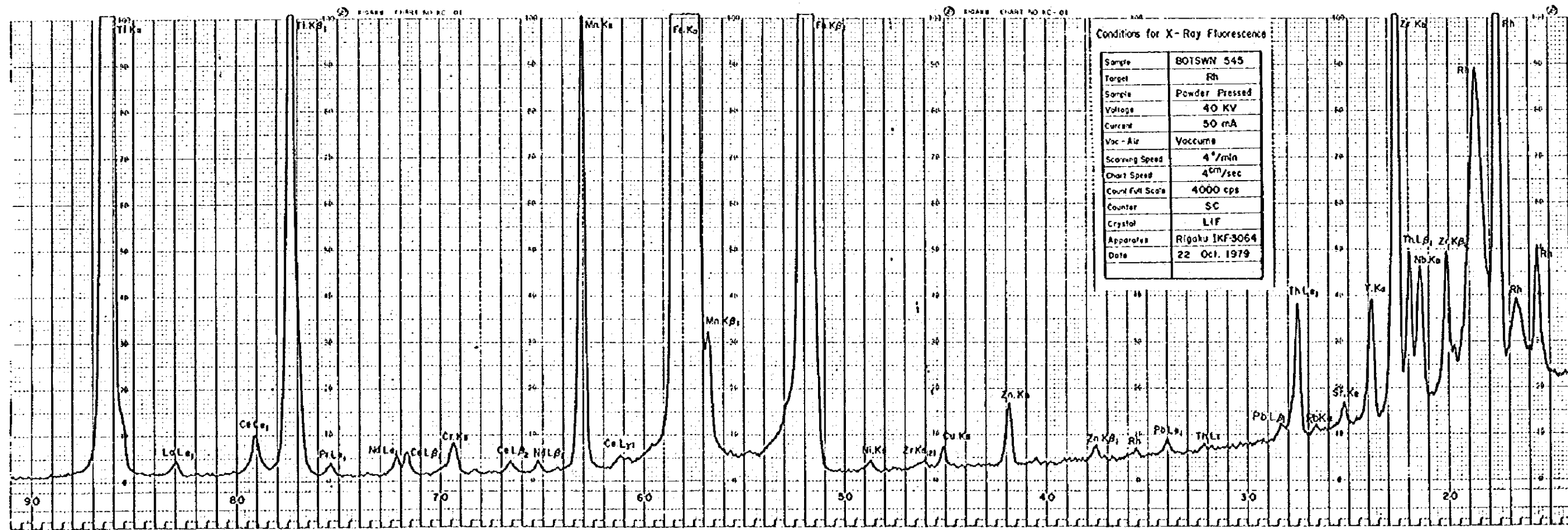
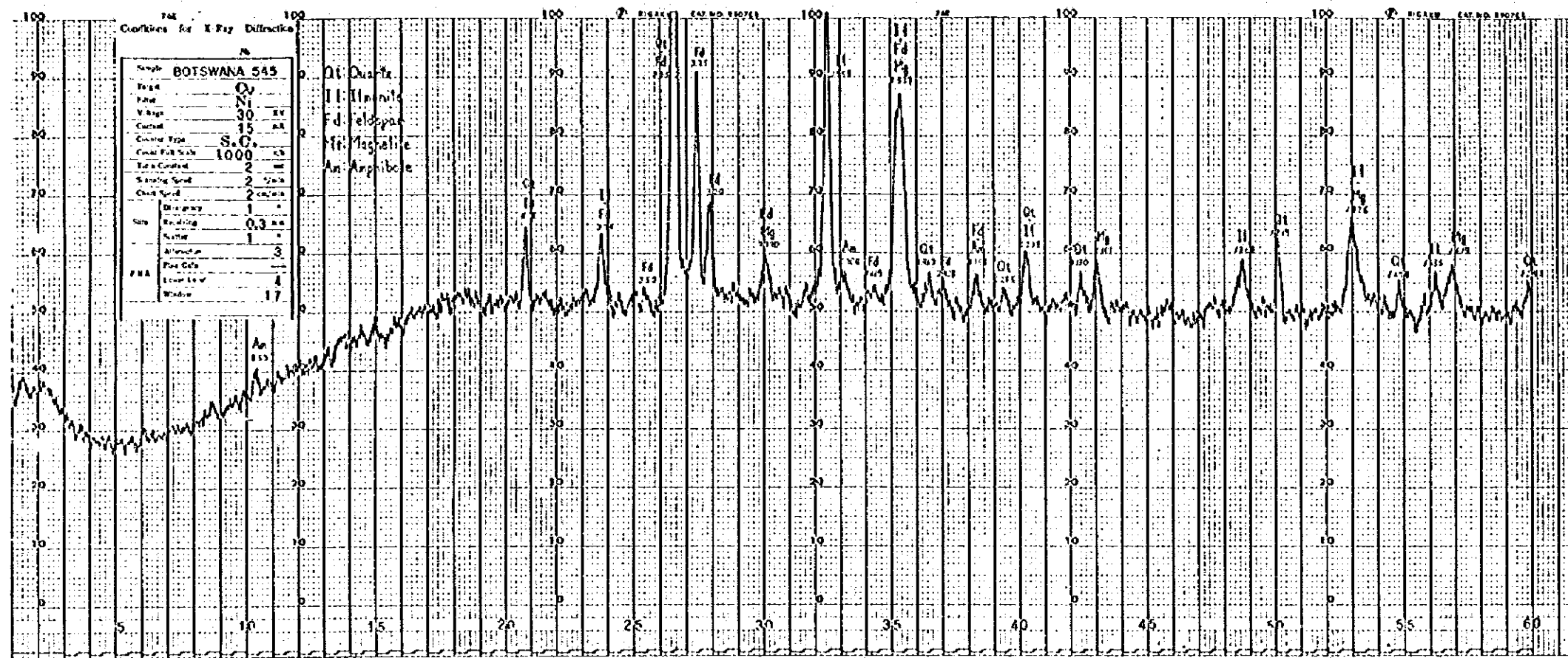
SAMPLE S--549



APEX.4-3

CHARTS OF X-RAY DIFFRACTION
AND FLUORESCENCE

SAMPLE S-545



APEX. 4-4

CHARTS OF X-RAY DIFFRACTION
AND FLUORESCENCE

SAMPLE S-546



Apex. 5. List of Soil Sample Natures and Other Characters Around Sampling Sites

SERIAL NO.	Serial sample number
SAMPLE NO.	Approximate sample location, showed by X-Line or A-Line (left column), and Y point (right column).
DEP	Sampling depth (cm)
COL	Color of soil sample; 10 Red (not subdivided), 11 Brick red, 12 Reddish brown, 20 Brown (not subdivided), 21 Light brown, 22 Grayish brown, 31 Light gray, 32 Dark gray - Black.
ROO	Plant roots; 1 a little, 2 Medium, 3 Abundant
VEG	Vegetation; 1 Tree savanna, 2 Shrub savanna, 3 Cultivation, Grass
TOP	Topography; 1 Mountain, Hill, 2 Flat, 3 River, Bank, 4 Swamp, Vlei
D/W	Dry and wet; 0 dry, 1 wet
NTU	Soil nature; 1 Clayey, 2 Sandy -0 Usual, -1 Lateritic, -2 Organiferous, -3 Stream sediment
SURF	Condition of ground surface: 0 and 1 existence of bed rock. 0 No, 1 Yes, -0 and -1 existence of float of bed rock. 0 No, 1 Yes, --0 and --1 existence of quartz float. 0 No, 1 Yes
PEB	Pebble in sampling horizon: 0 Soil only, 1 Scattered, 2 Pebble bed, -0 None, -1 Rounded, -2 Subangular, -3 Angular
R.P	Rock type of pebble or float except quartz: Same as symbols of R.B
R.B	Rock type of host rock cropped out; 1 Quartz monzonite - Granite, 2 Tonalite, 3 Tonalite gneiss, 4 Hornblende gneiss, 5 Granitic gneiss, 6 Porphyroblastic granite gneiss, 7 Porphyroblastic tonalite gneiss, 8 Fine granite rock - Aplite, 9 Pegmatite, 10 Undifferentiated granitoids, 11 Quartzite, 12 Calcrete, 13 Ultrabasic rock, 14 Amphibolite (schist), 15 Serpentinite, 16 Pyroxenite, 17 Felsic volcanics, 18 Mica schist, 19 Limestone, 20 Dolerite, Gabbro.
GEO	Geological unit; 1 G _{1m} Monzonite, 2 G ₁ Tonalite, 3 G _{2t} Tonalite gneiss, 4 G _{2ht} Hornblende gneiss (tonalitic), 5 G _{2g} Granite gneiss, 6 PG _{2g} Porphyroblastic granite gneiss, 7 PG _{2t} Porphyroblastic tonalite gneiss, 8 G _{3t} Tonalite, 9 G _{3g} Quartz monzonite, 10 G ₄ Granite - Quartz monzonite. 11 AK Meta-arkose, 12 Jan Jankee mixed gneiss assemblage, 13 Um Ultramafic schist, 14 Am Amphibolite, 15 Ser Serpentinite, 16 Px Pyroxenite, 17 Fel Felsic metavolcanics, 18 Al Aluminous schist, 19 Ls Limestone, 20 D Dolerite, Gabbro
GEO-CHEMICAL	Value in ppm: Cu · Pb · Zn · Ni · Mo

SOIL

PROFILE Soil profile; // soil, R Scattered pebbles, RR Pebble bed, ZZ Bed rock, R Rounded, V Sub-angular, A Angular

COORDI-

NATION XY Coordination: Origin is $X_1 Y_1$ and is located at Long. $26^{\circ}45'E$, Lat. $21^{\circ}00'S$

Co Supplementary geochemical value of Co in ppm

SER. NO. Serial sample number

SERIAL NO.	SAMPL NO.	DFP	ROQ COL	TOP VEG	NTU D/W	PEP SUPF	R.P	R.B GEO	GEOCHEMICAL VALUE IN PPM					SOIL PROFILE	COORDINATION		CO SER NO	
									CU	PB	ZN	NI	MO		10	20		30
1	1.	1.	30 20	1 2	2	0 20	011	11	14	54	13	46	42	<3	R R R R R R R R R	+000011	+000032	1
2	1.	2.	30 22	3 2	2	1 20	011	00	16	72	18	71	58	<3	//////////	-000005	+002341	2
3	1.	3.	30 10	2 2	3	0 20	001	11		52	13	42	45	<3	//////////R R R R	+000020	+004846	3
4	1.	4.	30 22	3 2	2	0 20	000	00		69	13	55	55	<3	//////////	+000030	+007368	4
5	1.	5.	30 12	2 2	2	0 20	010	00		60	15	44	31	<3	//////////R R	+000027	+009944	5
6	1.	6.	30 20	3 2	2	0 20	000	23		76	11	45	46	<3	//////////AAAAAA	+000050	+012524	6
7	1.	7.	30 20	3 2	2	0 20	001	12	19 19	67	12	38	38	<3	////V V V V V V	+000031	+015004	7
8	1.	8.	30 20	3 1	1	0 20	111	12		30	13	54	32	<3	V V V V V V	+000044	+017505	8
9	1.	9.	30 31	2 2	2	0 20	000	11	12	29	10	36	24	<3	R R R R R R	+000043	+020052	9
10	1.	10.	30 10	1 1	2	0 21	000	21		42	11	27	49	<3	//////////RRRRRR	+000025	+022547	10
11	1.	11.	30 10	1 2	2	0 21	000	00		26	14	29	26	<3	//////////	+000027	+024981	11
12	1.	12.	30 20	2 2	2	0 20	011	23	14	40	13	42	63	<3	////AAAAAAA	+000006	+027518	12
13	1.	13.	30 32	3 2	3	1 12	011	00	14	22	13	40	28	<3	//////////	+000069	+030056	13
14	1.	14.	30 22	2 2	2	0 20	000	00		24	13	33	29	<3	//////////	+000131	+032885	14
15	1.	15.	30 22	1 2	2	0 20	000	00		18	10	27	11	<3	//////////	+000000	+035052	15
16	1.	16.	30 12	1 2	2	0 21	000	00		21	11	37	19	<3	//////////	+000003	+037515	16
17	1.	17.	30 21	1 2	2	0 21	001	11		18	46	60	15	<3	R R R R R R	-000037	+039979	17
18	1.	18.	30 21	1 2	2	0 21	000	00		18	10	30	24	<3	//////////	-000066	+042567	18
19	1.	19.	30 22	1 1	2	0 20	001	11		13	9	18	9	<3	R R R R R R	-000015	+045026	19
20	1.	20.	30 31	2 1	2	0 20	000	00		14	9	16	18	<3	//////////	+000366	+047498	20
21	1.	21.	50 31	2 1	2	0 20	001	11		5	6	14	6	<3	R R R R R R R R R R	+000394	+050053	21
22	1.	22.	50 21	1 1	2	0 21	000	00		7	8	17	9	<3	//////////	+000421	+052554	22
23	1.	23.	30 31	1 1	2	0 20	000	00		8	13	22	10	<3	//////////	+000477	+055062	23
24	1.	24.	30 32	2 1	2	0 13	000	00		17	11	29	14	<3	//////////	+000501	+057655	24
25	1.	25.	30 21	1 2	2	0 20	001	21		12	15	38	19	<3	//////////RR	+000486	+060105	25
26	1.	26.	30 32	2 2	2	1 10	001	11		41	13	37	22	<3	R R R R R R	+000485	+062655	26
27	1.	27.	30 22	1 1	2	0 20	000	00		21	16	28	21	<3	//////////	+000560	+065112	27
28	1.	28.	30 32	2 2	4	1 13	001	11		19	15	32	20	<3	R R R R R R	+000661	+067668	28
29	1.	29.	30 21	1 1	2	0 20	000	00		5	10	12	8	<3	//////////	+000721	+070106	29
30	1.	30.	30 12	1 1	2	0 20	000	00		4	5	11	6	<3	//////////	+000764	+072589	30
31	2.	1.	30 10	2 2	2	0 21	010	12	12 12	51	15	42	45	<3	V V V V V V	+005979	+000049	31
32	2.	2.	30 21	0 1	1	0 20	111	23	19 19	8	10	30	13	<3	AAAAAAAAAAAAAAAAAZZZZ	+005974	+003059	32
33	2.	3.	30 10	2 2	2	0 20	011	23	12	38	10	34	43	<3	//////////AAAAAAA	+005922	+004975	33
34	2.	4.	30 20	3 1	2	0 20	011	11	12	28	8	31	27	<3	R R R R R R	+005974	+007540	34
35	2.	5.	30 32	3 1	2	1 12	001	11		39	8	35	23	<3	R R R R R R	+005875	+010021	35
36	2.	6.	30 22	1 1	2	0 20	000	00		8	8	16	6	<3	//////////	+005859	+012290	36
37	2.	7.	30 22	2 1	2	0 20	000	00		27	11	28	21	<3	//////////	+005797	+015003	37
38	2.	8.	30 21	1 1	2	0 20	000	00		53	13	38	33	<3	//////////	+005967	+017500	38
39	2.	9.	30 11	2 1	2	0 21	000	00		100	15	36	24	<3	//////////	+006314	+019926	39
40	2.	10.	30 22	2 1	2	1 20	000	00		64	15	51	29	<3	//////////	+005928	+022463	40
41	2.	11.	30 22	1 1	2	0 20	000	12		30	15	35	27	<3	V V V V V V	+006117	+024978	41
42	2.	12.	30 12	1 1	2	0 21	000	00		32	10	18	20	<3	//////////	+006238	+027562	42
43	2.	13.	30 22	2 1	2	1 20	011	12	24	34	13	35	39	<3	V V V V V V	+006455	+030302	43
44	2.	14.	30 22	1 2	3	0 23	111	12	20	22	11	31	25	<3	////V V V V V	+005961	+032578	44
45	2.	15.	30 32	3 2	4	1 12	111	00	7	20	15	39	20	<3	//////////	+006015	+035026	45
46	2.	16.	30 12	2 1	2	0 20	000	00		64	15	43	21	<3	//////////	+005957	+037520	46
47	2.	17.	30 22	0 2	2	0 23	111	11	3 3	6	7	15	8	<3	////R R R R ZZZZZZZZ	+005947	+039930	47
48	2.	18.	30 21	2 1	2	0 20	001	00		13	10	37	20	<3	//////////	+005953	+042538	48
49	2.	19.	30 21	2 1	2	0 20	001	00		25	11	31	19	<3	R R R //	+005928	+045024	49
50	2.	20.	30 31	2 2	2	0 20	000	00		10	10	22	14	<3	//////////	+005944	+047508	50

SERIAL NO.	SAMPL NO.	DFP	ROD COL	TOP VEG	NTU D/W	PFB SUPE	R.P	R.R GEO	GEOCHEMICAL VALUE IN PPM						SOIL PROFILE					COORDINATION		CO NO	SER NO
									CU	PB	ZN	NI	MO	10	20	30	40	50CM	X	Y			
51	2.	21.	30 31	1 2	2 0	20 001	11		5	8	12	5	<3	R R R R R R R						+005903	+049997	51	
52	2.	22.	30 21	1 1	2 0	20 001	11		11	11	28	22	<3	R R R R R R R						+005915	+052554	52	
53	2.	23.	30 32	3 2	4 1	12 001	11		9	10	20	13	<3	R R R R R R R						+006008	+055102	53	
54	2.	24.	30 32	3 2	4 1	12 001	11		18	14	43	20	<3	R R R R R R R						+004587	+057673	54	
55	2.	25.	30 32	3 2	4 1	12 001	11		15	10	26	16	<3	R R R R R R R						+004968	+060168	55	
56	2.	26.	30 22	2 2	2 1	21 001	11		25	16	33	30	<3	////R R R R						+005261	+062656	56	
57	2.	27.	30 11	2 1	2 0	11 000	00		6	10	18	12	<3	////////////////						+005584	+065145	57	
58	2.	28.	30 32	3 2	4 1	12 001	11		17	16	28	36	<3	R R R R R R R						+006047	+067677	58	
59	2.	29.	30 32	1 3	2 0	10 000	00		14	24	35	22	<3	////////////////						+005945	+070093	59	
60	2.	30.	30 32	1 2	2 1	10 000	00		20	20	31	25	<3	////////////////						+005941	+072580	60	
61	3.	1.	30 11	1 2	2 0	21 000	12		43	8	31	29	<3	V V V V V V V						+011975	+000033	61	
62	3.	2.	30 22	1 2	2 0	20 001	12		16	6	20	14	<3	///V V V V V						+011931	+002531	62	
63	3.	3.	30 22	1 2	2 0	20 010	22	3	9	5	19	13	<3	//////VVVVVV						+011968	+004960	63	
64	3.	4.	30 32	1 1	2 1	12 001	00		41	10	47	38	<3	////////////////						+011969	+007535	64	
65	3.	5.	30 22	1 1	2 0	20 000	22		11	11	33	12	<3	////VVVVVVVV						+011960	+010002	65	
66	3.	6.	30 32	1 1	4 1	12 001	00		44	14	56	35	<3	////VVVV////						+011949	+012453	66	
67	3.	7.	30 22	1 1	2 0	20 000	00		7	7	16	9	<3	////////////////						+011973	+014970	67	
68	3.	8.	30 32	1 2	2 1	12 001	00		24	16	36	23	<3	////////////////						+011948	+017446	68	
69	3.	9.	30 12	1 2	2 0	20 000	12		39	13	39	30	<3	V V V V V V V						+011952	+019923	69	
70	3.	10.	30 12	2 1	2 0	21 000	00		46	14	34	38	<3	////////////////						+011969	+022453	70	
71	3.	11.	30 22	1 1	2 0	20 100	12	5	5	6	13	7	<3	////////V V						+011953	+024966	71	
72	3.	12.	30 32	2 1	2 1	12 001	00		27	12	43	29	<3	////V V ////						+011994	+027619	72	
73	3.	13.	30 11	1 1	2 0	21 000	00		37	5	27	123	<3	////////////////						+011947	+030080	73	
74	3.	14.	30 11	2 1	2 0	20 000	00		20	11	26	23	<3	////////////////						+011481	+032517	74	
75	3.	15.	30 11	1 1	2 0	20 000	23		29	11	34	35	<3	////////AAAA						+011753	+035024	75	
76	3.	16.	30 21	1 1	2 0	12 000	13		12	10	29	12	<3	A A A A A A						+011958	+037510	76	
77	3.	17.	30 12	2 1	2 0	20 001	12		22	13	27	31	<3	////V V V V						+011930	+039952	77	
78	3.	18.	30 31	2 1	2 0	20 000	00		7	9	20	11	<3	////////////////						+011902	+042555	78	
79	3.	19.	30 31	1 1	2 0	20 000	00		9	12	21	10	<3	////////////////						+011936	+045059	79	
80	3.	20.	30 31	2 1	2 0	20 001	11		2	6	12	4	<3	////////R R						+011935	+047538	80	
81	3.	21.	30 21	1 1	2 0	12 000	00		13	12	24	20	<3	////////////////						+012360	+050009	81	
82	3.	22.	30 21	1 1	2 0	12 000	00		13	11	20	18	<3	////////////////						+012637	+052494	82	
83	3.	23.	30 11	1 1	2 0	21 000	00		12	15	37	22	<3	////////////////						+013244	+055079	83	
84	3.	24.	30 32	1 2	4 1	12 011	12	22	16	11	42	24	<3	V V V V V V V						+013159	+057284	84	
85	3.	25.	30 12	2 2	3 1	21 000	23	3	21	14	34	29	<3	V V V V V V V AA						+013305	+059888	85	
86	3.	26.	30 32	2 2	2 1	12 001	00		15	16	28	22	<3	////////////////						+013381	+062452	86	
87	3.	27.	30 32	1 1	3 1	12 001	12		17	15	35	21	<3	V V V V V V V						+013443	+065052	87	
88	3.	28.	30 31	3 2	2 0	20 001	11		15	24	35	22	<3	R R R R R R R						+013493	+068463	88	
89	3.	29.	30 32	2 2	2 1	12 000	00		23	21	31	25	<3	////////////////						+013409	+071061	89	
90	3.	30.	30 32	2 2	2 1	12 000	00		19	24	31	25	<3	////////////////						+013434	+073402	90	
91	3.9	1.	30 22	3 2	2 0	20 100	00	3	22	9	36	25	<3	////////////////						+017160	+000096	91	
92	3.9	2.	30 10	2 2	2 0	21 000	00		36	13	37	30	<3	////////////////						+017145	+002504	92	
93	3.9	3.	30 22	3 1	2 0	20 001	00		7	8	12	7	<3	//////////RRRR						+017130	+004997	93	
94	3.9	4.	30 21	1 2	2 0	20 100	00	3	20	12	31	18	<3	////////////////						+017122	+007926	94	
95	3.9	5.	30 20	2 1	2 0	20 000	00		41	14	38	31	<3	////////////////						+017170	+010647	95	
96	3.9	6.	30 32	2 1	2 0	12 000	00		28	13	30	23	<3	////////////////						+017177	+012498	96	
97	3.9	7.	30 22	2 1	2 0	20 001	00		35	7	35	26	<3	//////////RRRR						+017179	+015014	97	
98	3.9	8.	30 32	3 1	4 1	12 001	11		32	11	41	24	<3	R R R R R R R						+017156	+017912	98	
99	3.9	9.	30 22	2 2	2 0	20 011	11	3	6	9	16	9	<3	R R R R R R R						+017176	+020091	99	
100	3.9	10.	30 22	2 1	2 0	20 000	00		20	12	27	15	<3	//////////VVVV						+017209	+022981	100	

SERIAL NO.	SAMPL NO.	REP.	POO COL	TOP VEG	NTU D/W	PER SURF	R.P R.P	R.B GEO	GEOCHEMICAL VALUE IN PPM						SOIL PROFILE					COORDINATION		CO NO	SER NO
									CU	PB	ZN	NI	Mo	10	20	30	40	50CM	X	Y			
251	9.	11.	30 20	1 1	2 0	20 011	12 3	2	35	4	35	48	<3	V V V V V V	+048855	+025102	251						
252	9.	12.	30 10	2 2	3 0	21 100	00 20	20	40	8	32	38	<3	//////////	+048906	+028319	252						
253	9.	13.	30 10	2 2	3 0	21 011	22 14	14	42	9	34	76	<3	VVVVVVVVVVVV	+049332	+030317	253						
254	9.	14.	30 20	2 2	2 0	20 000	00	2	43	9	25	25	<3	//////////	+049035	+032628	254						
255	9.	15.	30 20	1 2	2 0	20 000	00	2	17	10	28	19	<3	//////////	+049189	+035120	255						
256	9.	16.	30 22	2 1	2 0	20 000	00	2	17	9	28	21	<3	//////////	+047907	+037619	256						
257	9.	17.	30 21	2 2	2 0	20 001	11	14	6	8	13	12	<3	R P R R R R	+047901	+040117	257						
258	9.	18.	30 21	2 2	3 1	20 000	00	14	14	15	9	19	20	<3	//////////	+048077	+042704	258					
259	9.	19.	30 20	2 1	2 0	20 000	00	5	19	10	20	18	<3	//////////	+048009	+045206	259						
260	10.	1.	30 20	3 3	2 0	20 100	00	6	6	3	4	4	<3	//////////	+053965	+000076	260						
261	10.	2.	30 20	3 3	2 0	20 100	00	6	6	4	6	10	6	<3	//////////	+053960	+002587	261					
262	10.	3.	30 22	1 1	2 0	20 100	00	6	6	15	9	13	12	<3	//////////	+053980	+005132	262					
263	10.	4.	30 21	1 1	2 0	20 100	00	11	29	14	18	20	<3	//////////	+053101	+007218	263						
264	10.	5.	30 12	1 2	2 0	21 010	12 9	11	49	16	38	45	<3	V V V V V V	+053367	+009812	264						
265	10.	6.	30 12	1 2	2 0	21 111	22 9	9	11	5	14	26	14	<3	V V VVVVVVVV	+053746	+012659	265					
266	10.	7.	30 21	1 2	2 0	20 000	22 1	11	44	11	23	27	<3	VVVVVVVVVVVV	+053831	+014711	266						
267	10.	8.	30 22	1 2	2 0	20 010	00 3	4	18	4	36	24	<3	//////////	+053889	+017602	267						
268	10.	9.	30 22	1 2	2 0	20 100	00	17	4	9	4	16	21	<3	//////////	+054013	+020030	268					
269	10.	10.	30 11	1 3	2 0	21 010	00 20	15	26	9	32	52	<3	//////////	+053948	+022470	269						
270	10.	11.	30 22	1 3	2 0	20 011	00 17	3	22	11	36	20	<3	//////////	+053650	+025046	270						
271	10.	12.	30 22	1 2	2 0	20 000	12	3	10	6	16	18	<3	V V V V V V	+054036	+027693	271						
272	10.	13.	30 21	1 2	2 1	20 011	00 14	14	70	7	58	115	<3	V V V V ////	+054127	+030127	272						
273	10.	14.	30 12	2 2	1 1	21 110	00 14	14	41	3	31	90	<3	//////////	+054084	+032676	273						
274	10.	15.	30 22	1 2	2 0	20 100	00	3	23	9	28	50	<3	//////////	+054051	+034833	274						
275	10.	16.	30 11	1 2	3 0	21 110	00 3	3	13	9	17	16	<3	//////////	+053961	+037822	275						
276	10.	17.	30 12	1 2	2 1	21 110	00 14	14	36	8	25	35	<3	//////////	+054062	+040325	276						
277	10.	18.	30 20	1 2	2 0	20 011	12 3	18	26	14	34	49	<3	V V V V V V	+054122	+042354	277						
278	10.	19.	30 22	2 2	2 0	20 010	00 3	2	16	9	17	11	<3	//////////	+054251	+045151	278						
279	11.	1.	30 22	1 2	3 0	23 000	00	3	8	9	17	9	<3	//////////	+060067	+000105	279						
280	11.	2.	30 22	2 2	2 0	20 111	00 17	17	17	19	27	24	<3	V V //	+058451	+002966	280						
281	11.	3.	30 12	1 2	2 0	21 110	12 9	9	8	12	35	56	<3	V V V V V V	+058750	+005064	281						
282	11.	4.	30 22	1 2	2 0	20 111	12 3	3	4	10	20	10	<3	V V V V V V	+058948	+007070	282						
283	11.	5.	30 22	1 2	2 0	20 011	12	11	34	8	28	24	<3	V V V V V V	+059057	+009138	283						
284	11.	6.	30 11	2 3	2 0	21 000	00	20	71	15	26	34	<3	//////////	+059370	+011966	284						
285	11.	7.	30 22	1 1	2 0	20 001	00	11	6	10	15	11	<3	//////////	+060015	+015064	285						
286	11.	8.	30 20	1 1	2 0	20 010	12 3	4	4	6	17	7	<3	V V V V V V	+059970	+017538	286						
287	11.	9.	30 20	2 3	2 0	20 000	00	4	12	9	27	30	<3	//////////	+059969	+020050	287						
288	11.	10.	30 20	3 1	2 0	20 010	00 3	3	14	8	10	22	<3	//////////	+059975	+022534	288						
289	11.	11.	30 20	3 2	2 0	20 000	00	3	24	14	26	30	<3	//////////	+059944	+025031	289						
290	11.	12.	30 20	3 3	2 0	20 000	00	3	48	8	27	64	<3	//////////	+060034	+027578	290						
291	11.	13.	30 32	3 2	2 0	12 011	12 15	15	20	4	27	883	<3	V V V V V V	+060026	+030167	291						
292	11.	14.	30 32	3 2	2 0	12 011	12	14	30	4	21	96	<3	V V V V V V	+060049	+032669	292						
293	11.	15.	30 32	3 2	2 0	12 000	11	15	30	10	20	58	<3	R P R R R R	+060049	+035132	293						
294	11.	16.	30 11	2 1	2 0	11 000	00	14	34	8	21	66	<3	//////////	+060122	+037883	294						
295	11.	17.	30 11	2 1	2 0	11 000	00	20	54	34	57	62	<3	//////////	+059927	+039605	295						
296	11.	18.	30 22	1 1	2 0	20 000	00	1	34	22	32	28	<3	//////////	+060018	+042631	296						
297	11.	19.	30 12	1 1	2 0	20 000	00	20	17	10	32	32	<3	//////////	+060034	+045168	297						
298	12.	1.	30 22	2 1	2 0	20 001	00	3	10	9	15	12	<3	//////////	+065994	+000054	298						
299	12.	2.	30 12	2 1	2 0	21 001	00	20	57	10	30	33	<3	//////////	+065891	+002577	299						
300	12.	3.	30 21	2 1	2 0	20 001	00	3	7	8	14	9	<3	//////////	+065939	+005105	300						

SERIAL NO.	SAMPL NO.	DEP.	ROO		TOP		HTU		PER		R.B		GEOCHEMICAL VALUE IN PPM					SOIL PROFILE					COORDINATION		CO	SER NO
			COL	VEG	D/W	SURF	R.P	GEO	CU	PB	ZN	NI	MO	10	20	30	40	50CM	X	Y						
501	5.	11.	15	31	1	2	2	0	20	000	00		5	10	12	9	<3	////////VVVV	+024014	+024995	6	501				
502	6.	1.	20	22	1	1	2	0	20	000	00		37	10	21	18	<3	/////////V			8	502				
503	7.	11.	20	22	1	3	2	0	20	000	00		5	12	9	13	14	<3	/////////V V	+035758	+024904	9	503			
504	8.	3.	20	22	1	2	2	0	20	000	00		6	11	8	7	<3	/////////V V	+042007	+005224	5	504				
505	8.	9.	20	22	1	2	2	0	20	110	00	3	3	5	7	8	16	14	<3	/////////V V	+042047	+019685	6	505		
506	10.	14.	30	32	2	2	2	1	12	110	12	14	14	14	48	13	37	102	<3	V V V V V V V	+054087	+032694	36	506		
507	14.	5.	30	22	1	2	2	0	20	100	00		3	3	20	21	15	13	<3	/////////V	+077736	+010119	7	507		
508	A 9.	7.	30	12	1	1	2	0	21	110	00	20	20	20	65	17	31	24	<3	/////////V	+067924	+015026	15	508		
509	M01		30	12	1	2	2	0	21	000	00				28	26	41	26	<3	/////////V			11	509		
510	M02		30	12	1	2	2	0	21	000	00				18	22	23	17	<3	/////////V			8	510		
511	M03		30	12	1	2	2	0	21	001	12				32	25	50	49	<3	V V V V V V			17	511		
512	M04		30	12	1	2	2	0	21	001	12				20	24	38	16	<3	V V V V V V			11	512		
513	M 1	0.0													200	46	114	38	<3				10	513		
514	M 1	- 1.0													225	22	76	44	<3				19	514		
515	M 1	- 2.0													140	26	105	56	<3				24	515		
516	M 1	- 3.0													70	22	74	57	<3				19	516		
517	M 1	- 4.0													41	15	50	34	<3				12	517		
518	M 1	- 5.0													43	14	42	29	<3				11	518		
519	M 1	- 5.7													86	16	40	37	<3				17	519		
520	M 1	- 6.2													56	11	29	29	<3				12	520		
521	M 1	- 7.0													84	20	55	35	<3				12	521		
522	M 1	- 7.5													64	15	50	30	<3				15	522		
523	M 1	1.0													617	109	103	22	<3				13	523		
524	M 1	2.0													99	18	76	44	<3				19	524		
525	M 1	3.0													192	19	111	31	<3				14	525		
526	M 1	4.0													72	13	66	31	<3				12	526		
527	M 1	5.0													88	24	101	33	<3				14	527		
528	M 1	6.0													79	17	56	41	<3				14	528		
529	M 1	7.0													91	11	41	23	<3				11	529		
530	M 2	0.0													583	37	92	28	<3				12	530		
531	M 2	- 5.0													72	12	25	41	<3				13	531		
532	M 2	- 7.5													33	8	22	22	<3				7	532		
533	M 2	-10.0													72	9	22	29	<3				10	533		
534	M 2	- 0.1													1673	49	110	32	<3				14	534		
535	M 2	- 1.0													93	21	59	46	<3				15	535		
536	M 2	- 2.0													367	32	34	28	<3				10	536		
537	M 2	0.1													3644	64	133	37	<3				14	537		
538	M 2	1.0													367	34	73	39	<3				15	538		
539	M 2	2.0													106	18	42	41	<3				15	539		

Apex. 6. Supplementary Data to the LANDSAT Digital Processing

