

Ap. 2-2 全岩分析値及びノルム計算値

(1)

No de muestra	DR16	DR25	DR28	DR31	DR35	M10	M12
Simbolo	A	B	C	D	E	F	G
SiO2	69.90(%)	57.50(%)	55.10(%)	63.80(%)	55.40(%)	58.60(%)	66.70(%)
TiO2	0.10	0.80	1.50	0.60	1.10	1.00	0.30
Al2O3	14.50	17.60	17.20	16.70	17.60	16.10	15.50
Fe2O3	1.30	6.20	8.60	4.20	8.00	6.00	2.80
FeO	0.10	1.30	2.50	0.10	1.50	0.60	0.60
MnO	0.10	0.10	0.10	0.00	0.10	0.10	0.10
MgO	0.30	2.40	2.80	0.80	2.10	1.40	0.60
CaO	2.80	5.90	7.70	5.10	8.00	4.40	4.00
Na2O	2.00	2.90	2.90	3.00	3.10	3.60	3.10
K2O	4.30	2.70	2.70	2.90	2.20	2.90	3.40
P2O5	0.00	0.30	0.40	0.20	0.40	0.30	0.10
H2O+	3.90	2.40	0.70	2.40	1.40	4.90	2.50
H2O-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BaO	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	99.30	100.10	102.20	99.80	100.90	99.90	99.70
Q	35.36(%)	14.98(%)	10.43(%)	24.06(%)	11.84(%)	16.05(%)	26.66(%)
C	1.46	0.00	0.00	0.45	0.00	0.03	0.00
or	25.41	15.96	15.96	17.14	13.00	17.14	20.09
ab	16.92	24.54	24.54	25.39	26.23	30.46	26.23
an	13.89	27.03	25.94	22.31	27.61	19.12	18.34
lc	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ne	0.00	0.00	0.00	0.00	0.00	0.00	0.00
kp	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ac	0.00	0.00	0.00	0.00	0.00	0.00	0.00
wo	0.00	0.13	4.04	0.00	3.96	0.00	0.36
en	0.75	5.98	6.97	1.99	5.23	3.49	1.49
fs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
fo	0.00	0.00	0.00	0.00	0.00	0.00	0.00
fa	0.00	0.00	0.00	0.00	0.00	0.00	0.00
cs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
mt	0.36	2.20	4.04	0.00	1.97	0.00	1.39
hm	1.05	4.68	5.82	4.20	6.64	6.00	1.84
il	0.19	1.52	2.85	0.21	2.09	1.48	0.57
ru	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ap	0.00	0.71	0.95	0.47	0.95	0.71	0.24
FeO*/MgO	4.23	2.87	3.66	4.85	4.14	4.28	5.20
SI	3.81	16.13	15.02	7.56	13.04	10.07	5.87
D. I.	77.70	55.48	50.93	66.58	51.07	63.65	72.98
	CA	TH	TH	TH	TH	TH	TH

*: Total Fe as FeO

(2)

No de muestra	M14	M16	M18	M21	M24	M29	M35
Símbolo	H	I	J	K	L	M	N
SiO ₂	57.60(%)	52.40(%)	59.30(%)	62.00(%)	69.80(%)	58.00(%)	53.90(%)
TiO ₂	0.90	1.00	1.00	0.70	0.30	0.90	1.00
Al ₂ O ₃	15.80	14.30	16.10	13.50	14.70	15.00	17.30
Fe ₂ O ₃	6.10	8.40	6.90	5.20	2.80	6.10	8.60
FeO	1.10	2.80	1.10	0.50	0.70	2.90	2.90
MnO	0.00	0.10	0.10	0.00	0.00	0.10	0.10
MgO	2.00	4.10	2.70	1.30	0.70	2.80	3.40
CaO	4.70	9.10	5.00	4.80	3.50	5.60	7.10
Na ₂ O	1.50	2.60	3.10	1.80	3.20	2.30	3.10
K ₂ O	4.10	1.90	2.90	3.90	3.10	3.00	3.30
P ₂ O ₅	0.30	0.30	0.20	0.20	0.10	0.30	0.40
H ₂ O+	6.30	5.50	2.10	5.50	0.90	5.10	1.30
H ₂ O-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BaO	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	100.40	102.50	100.50	99.40	99.80	102.10	102.40
Q	20.97(%)	9.87(%)	16.43(%)	26.08(%)	31.09(%)	18.69(%)	6.04(%)
C	1.06	0.00	0.00	0.00	0.00	0.00	0.00
or	24.23	11.23	17.14	23.05	18.32	17.73	19.50
ab	12.69	22.00	26.23	15.23	27.08	19.46	26.23
an	21.38	21.74	21.45	17.24	16.59	21.74	23.54
lc	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ne	0.00	0.00	0.00	0.00	0.00	0.00	0.00
kp	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ac	0.00	0.00	0.00	0.00	0.00	0.00	0.00
wo	0.00	8.96	0.86	2.00	0.05	1.71	3.80
en	4.98	10.21	6.73	3.24	1.74	6.97	8.47
fs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
fo	0.00	0.00	0.00	0.00	0.00	0.00	0.00
fa	0.00	0.00	0.00	0.00	0.00	0.00	0.00
cs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
mt	0.94	6.45	0.97	0.00	1.39	7.06	6.77
hm	5.45	3.95	6.23	5.20	1.84	1.23	3.93
il	1.71	1.90	1.90	1.06	0.57	1.71	1.90
ru	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ap	0.71	0.71	0.47	0.47	0.24	0.71	0.95
FeO*/MgO	3.29	2.53	2.71	3.98	4.60	3.00	3.13
SI	14.10	21.63	16.87	10.67	6.85	16.98	16.64
D. I.	57.89	43.10	59.80	64.36	76.48	55.88	51.77
	TH	TH	TH	TH	TH	TH	TH

*: Total Fe as FeO

(3)

No de muestra	P147	DU7	AT25/50	AT20/38	BA	FN
Símbolo	O	P	Q	R	S	T
SiO ₂	50.30(%)	60.00(%)	58.10(%)	59.30(%)	50.30(%)	55.50(%)
TiO ₂	1.50	0.70	1.10	0.80	1.20	1.10
Al ₂ O ₃	16.90	15.90	16.50	15.00	15.90	16.10
Fe ₂ O ₃	10.20	5.90	7.40	5.90	7.40	8.80
FeO	1.70	2.40	3.30	1.90	4.70	3.50
MnO	0.10	0.00	0.10	0.10	0.20	0.10
MgO	3.30	2.30	2.50	2.50	5.00	3.30
CaO	9.80	4.40	5.70	5.10	9.40	7.20
Na ₂ O	2.30	2.70	2.90	2.90	2.90	3.20
K ₂ O	2.60	3.20	2.60	3.20	1.60	2.80
P ₂ O ₅	0.30	0.20	0.40	0.30	0.30	0.40
H ₂ O+	2.10	3.70	1.90	4.20	3.10	0.90
H ₂ O-	0.00	0.00	0.00	0.00	0.00	0.00
BaO	0.00	0.00	0.00	0.00	0.00	0.00
Total	101.10	101.40	102.50	101.20	104.00	102.90
O	5.90(%)	19.75(%)	16.75(%)	17.43(%)	4.66(%)	9.50(%)
C	0.00	0.47	0.00	0.00	0.00	0.00
or	15.37	18.91	15.37	18.91	9.46	16.55
ab	19.46	22.85	24.54	24.54	24.54	27.08
an	28.11	20.54	24.32	18.46	25.64	21.30
lc	0.00	0.00	0.00	0.00	0.00	0.00
ne	0.00	0.00	0.00	0.00	0.00	0.00
kp	0.00	0.00	0.00	0.00	0.00	0.00
ac	0.00	0.00	0.00	0.00	0.00	0.00
wo	7.75	0.00	0.57	2.05	7.96	4.94
en	8.22	5.73	6.23	6.23	12.45	8.22
fs	0.00	0.00	0.00	0.00	0.00	0.00
fo	0.00	0.00	0.00	0.00	0.00	0.00
fa	0.00	0.00	0.00	0.00	0.00	0.00
cs	0.00	0.00	0.00	0.00	0.00	0.00
mt	1.46	5.71	7.77	4.13	12.32	8.42
hm	9.20	1.96	2.04	3.05	0.90	2.99
il	2.85	1.33	2.09	1.52	2.28	2.09
ru	0.00	0.00	0.00	0.00	0.00	0.00
ap	0.71	0.47	0.95	0.71	0.71	0.95
FeO*/MgO	3.30	3.35	3.98	2.88	2.63	3.46
SI	17.30	14.46	13.92	15.81	22.07	15.93
D. I.	40.73	61.51	56.66	60.88	38.66	53.12
	TH	TH	TH	TH	TH	TH

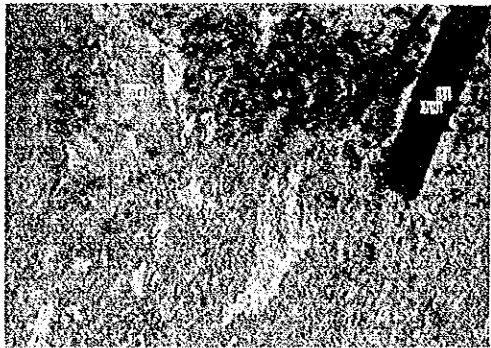
*: Total Fe as FeO

Ap. 2-3-2 薄片顯微鏡写真

No.	No. de muestra	Tipo de roca
(1), (2)	OR-16	Riolita
(3), (4)	OR-25	Andesita
(5), (6)	OR-28	Andesita
(7), (8)	OR-31	Andesita
(9), (10)	OR-32	Dacita
(11), (12)	OR-35	Andesita
(13), (14)	OR-48	Dacita
(15), (16)	M-10	Andesita
(17), (18)	M-12	Dacita
(19), (20)	M-14	Toba andesítica
(21), (22)	M-16	Andesita
(23), (24)	M-18	Toba andesítica
(25), (26)	M-21	Brecha andesítica
(27), (28)	M-24	Dacita
(29), (30)	M-29	Cuarzoandesita
(31), (32)	M-35	Monzonita
(33), (34)	P-147	Andesita
(35), (36)	DU-7'	Porfido andesítico
(37), (38)	AT-25/50	Andesita
(39), (40)	AT-20/38	Andesita
(41), (42)	BA	Andesita
(43), (44)	FN	Monzonita

Referencias

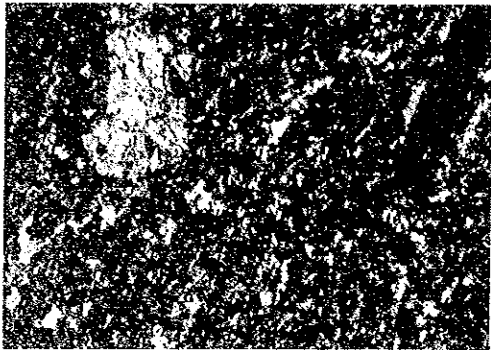
Ap	----	apatita
Bi	----	biotita
Carb	-----	minerales de carbonato
Chl	----	clorita
Cpx	----	piroxeno
Hb	----	hornblenda
Hem	----	hematita
Kf	----	feldespato K
Opq	-----	minerales de paco
Pl	----	plagioclasa
Qz	-----	cuarzo
Rf	----	fragmento de roca
Ser	----	sericita
Sph	-----	esfena



nicoles abiertos 0 0.5mm

(1) OR-16

Plagioclasa está carbonitada.
En la matriz, parcialmente
nacer warzos secundarios.



nicoles cruzados 0 0.5mm

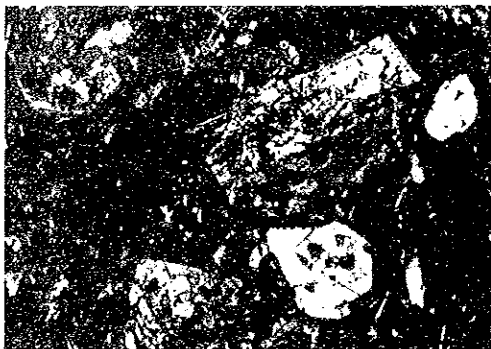
(2) OR-16



nicoles abiertos 0 0.5mm

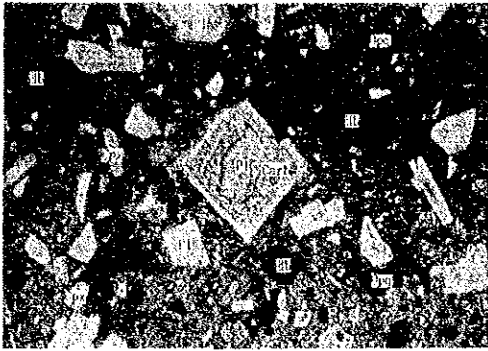
(3) OR-25

El centro de hornblendas es
de color pardo y el margen
verde. Su borde está opacitizado.



nicoles cruzados 0 0.5mm

(4) OR-25

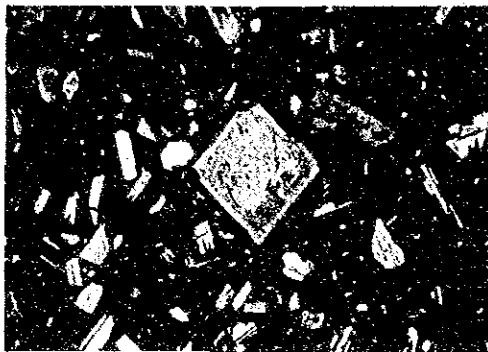


nicos abiertos

0 0.5mm

(5) OR-28

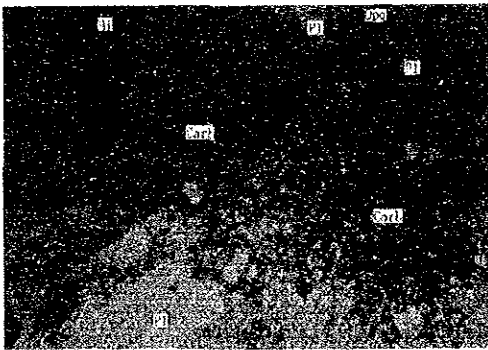
Hornblenda están opacitizadas.
Plagioclasas están parcialmente carbonatadas.



nicos cruzados

0 0.5mm

(6) OR-28



nicos abiertos

0 0.5mm

(7) OR-31

La biotita es de color castaño claro.
Carbonatos reemplaza fenocristal y la matriz.



nicos cruzados

0 0.5mm

(8) OR-31



nicoles abiertos

0 0.5mm

(9) OR-32

Se ve la biotita encarrujada por la fuerza. Se muestra titanita euhedral. La matriz consiste en vidrio casi totalmente.



nicoles cruzados

0 0.5mm

(10) OR-32



nicoles abiertos

0 0.5mm

(11) OR-35

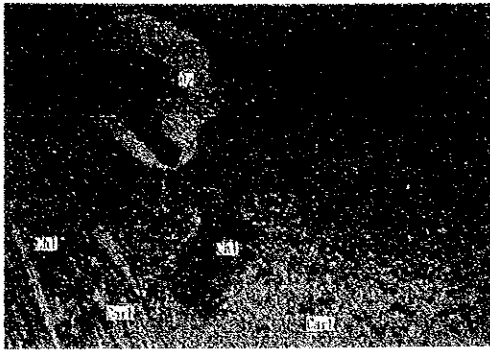
Hornblendas están opacitizadas. La red alveolar de carbonatos está extendida en la matriz.



nicoles cruzados

0 0.5mm

(12) OR-35

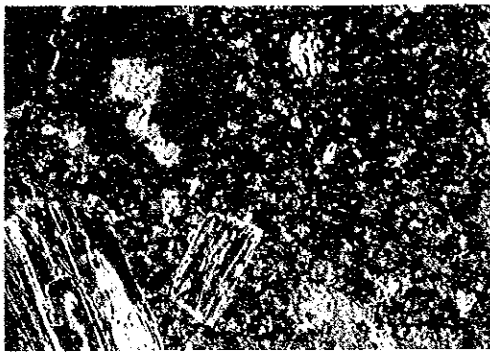


nicoles abiertos

0 0.5mm

(13) OR-48

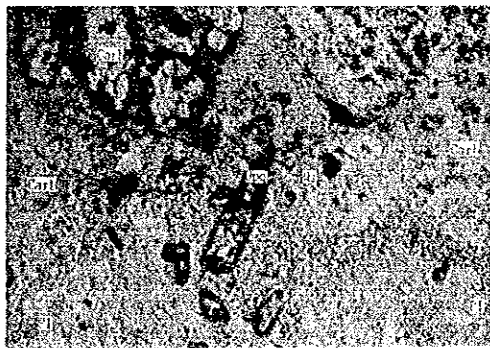
El cuarzo se muestra corrosional. Se ve mineral máfico cloritizado y carbonatado. Carbonatos se diseminan también en la matriz.



nicoles cruzados

0 0.5mm

(14) OR-48

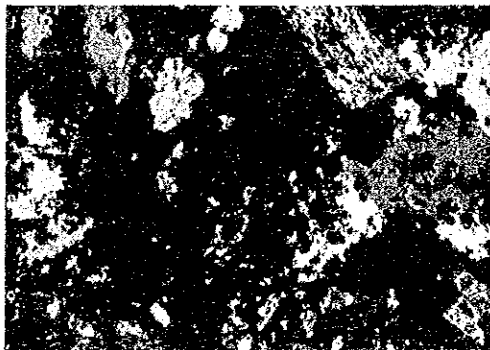


nicoles abiertos

0 0.5mm

(15) M-10

Minerales máficos están opacitizados. Carbonatados fuertemente, aunque su forma es bien conservada.



nicoles cruzados

0 0.5mm

(16) M-10



nicoles abiertos

0 0.5mm

(17) M-12

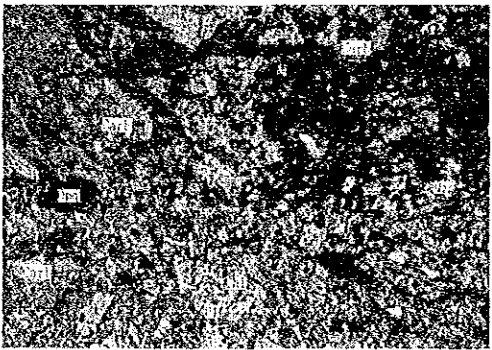
El cuarzo está corrosional. La matriz es llena de vidrio. Feldespatos están carbonatados parcialmente.



nicoles cruzados

0 0.5mm

(18) M-12



nicoles abiertos

0 0.5mm

(19) M-14

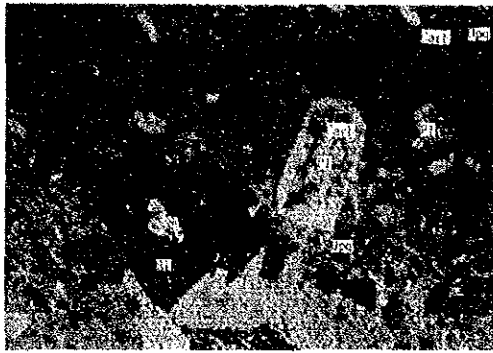
Se ven muchos fragmentos de minerales carbonatados. Minerales máficos son fuertemente alterados y la textura original no es clara.



nicoles cruzados

0 0.5mm

(20) M-14

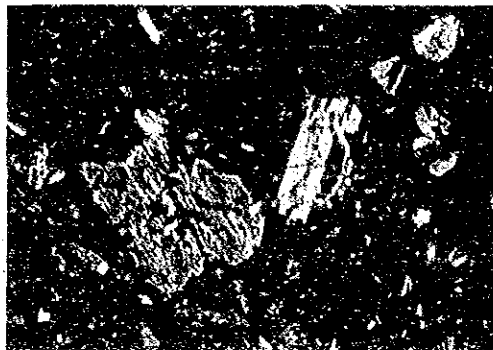


nicoles abiertos

0 0.5mm

(21) M-16

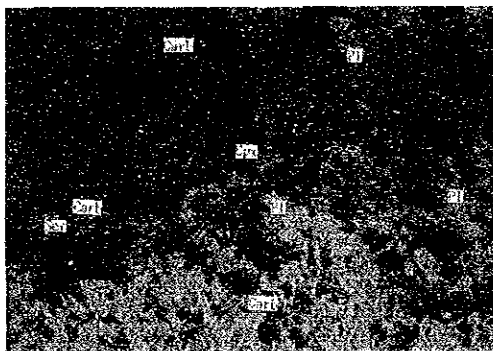
Biotitas son pardas. En su borde se desarrolla óxido de hierro.



nicoles cruzados

0 0.5mm

(22) M-16

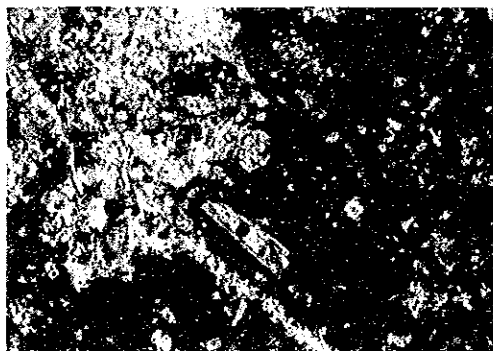


nicoles abiertos

0 0.5mm

(23) M-18

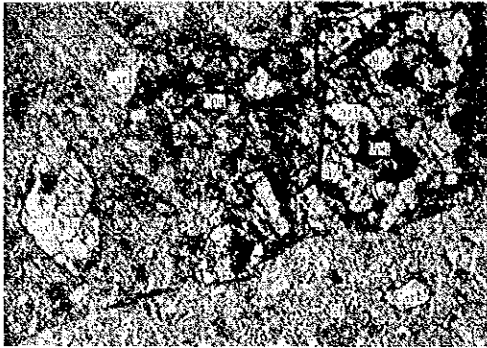
Minerales carbonáticos reemplazan fenocristales, forman faloncillos, y se diseminan también en la matriz.



nicoles cruzados

0 0.5mm

(24) M-18

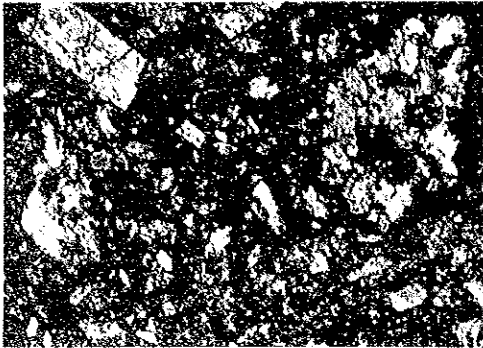


nicos abiertos

0 0.5mm

(25) M-21

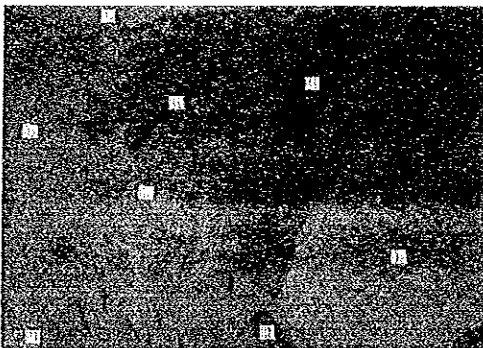
Consiste en la concentración de fragmentos de andesita. Parcialmente se muestra cuarzos de grano fino.



nicos cruzados

0 0.5mm

(26) M-21



nicos abiertos

0 0.5mm

(27) M-24

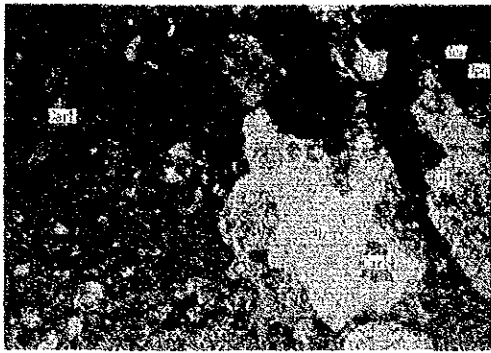
Cuarzos son corrosionales. En la matriz, se ven parcialmente concentraciones de cuarzos de grano grueso.



nicos cruzados

0 0.5mm

(28) M-24



nicoles abiertos

0 0.5mm

(29) M-29

Se muestran parcialmente el paragenesis de cuarzos anhedrales y minerales carbonáticos. Minerales máficos son fuertemente alterados, y a veces, se muestran corrosionales.



nicoles cruzados

0 0.5mm

(30) M-29

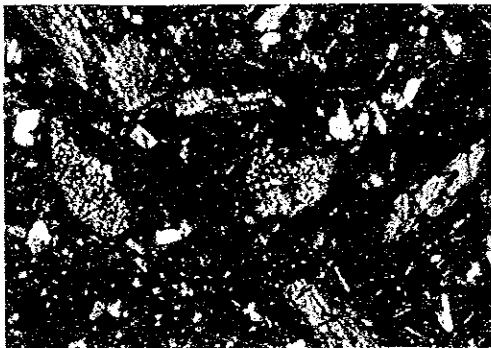


nicoles abiertos

0 0.5mm

(31) M-35

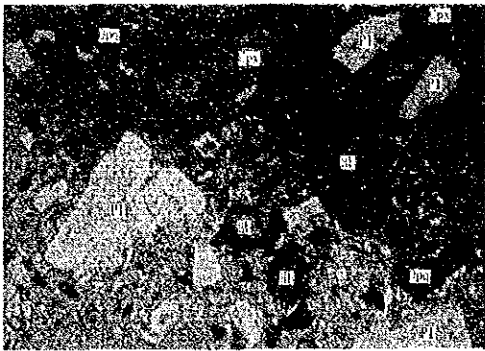
La hornblenda es de color pardo oscuro, y su borde opacitizado. Se ve la textura intersertal en la matriz.



nicoles cruzados

0 0.5mm

(32) M-35



nicoles abiertos

0 0.5mm

(33) P-147

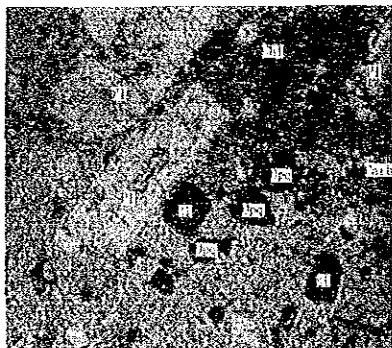
Hornblendas son opacitizadas.
Muchas opacitas se diseminan
en la matriz.



nicoles cruzados

0 0.5mm

(34) P-147

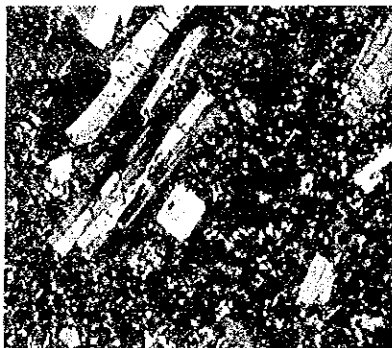


nicoles abiertos

0 0.5mm

(35) DU-7'

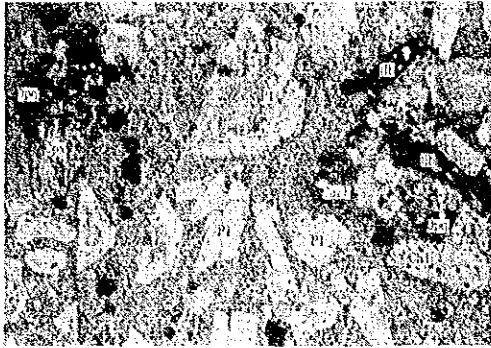
Se ven biotitas pardos oscuros.
Hay también minerales máficos
cloritizados.



nicoles cruzados

0 0.5mm

(36) DU-7'



nicoles abiertos

0 0.5mm

(37) AT-25/50

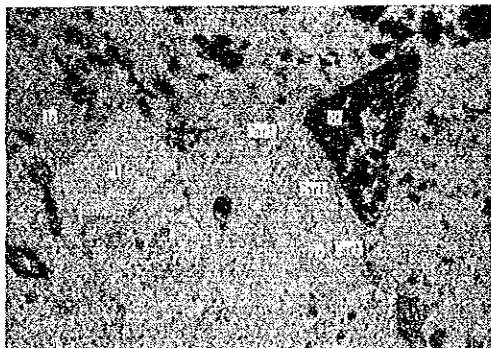
Hornblendas son opacizadas.
Piroxenos son reemplazados
por cloritas y carbonatos.



nicoles cruzados

0 0.5mm

(38) AT-25/50

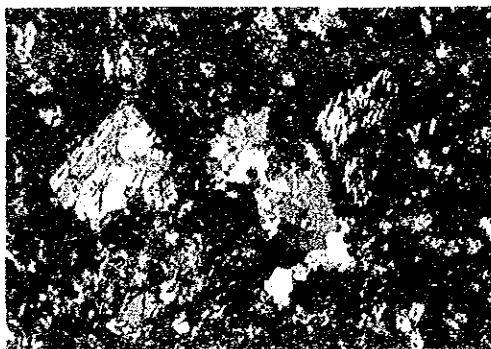


nicoles abiertos

0 0.5mm

(39) AT-20/38

En la matriz, nacen parcialmente
cuarzos anhedrales y carbonatos.
Hornblendas se descomponen y la
textura original no se hace
clara.



nicoles cruzados

0 0.5mm

(40) AT-20/38

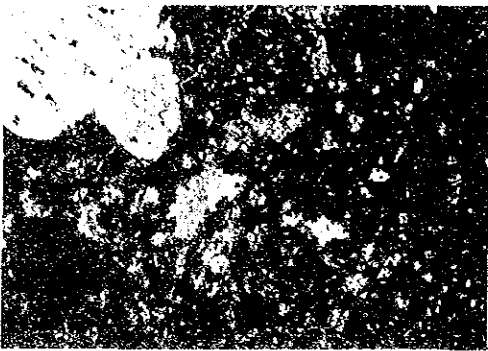


nicoles abiertos

0 0.5mm

(41) BA

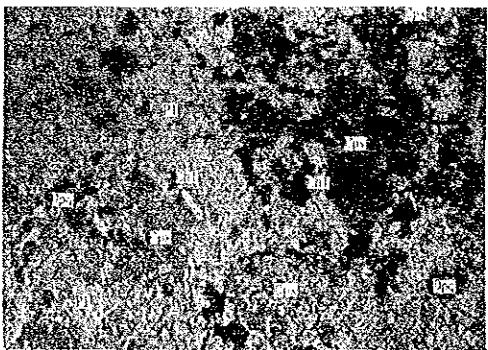
En la matriz, se diseminan
cloritas y carbonatos
anhedrales.



nicoles cruzados

0 0.5mm

(42) BA



nicoles abiertos

0 0.5mm

(43) FN

Clinopiroxenes se hacen
varias formas con el grado de
descomposición. Se ve
parcialmente la formación de
cloritas.



nicoles cruzados

0 0.5mm

(44) FN

Ap. 2-4-2 X線回折チャート

