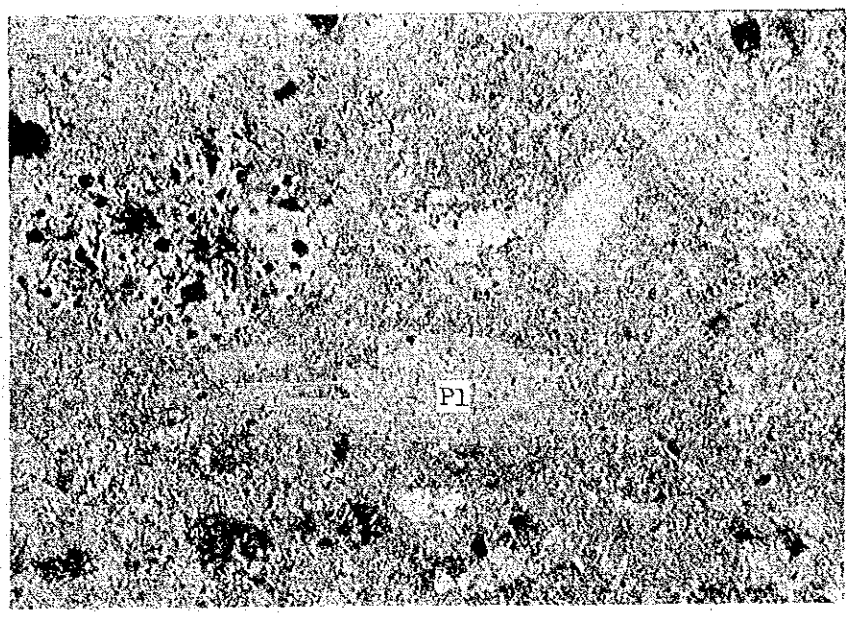
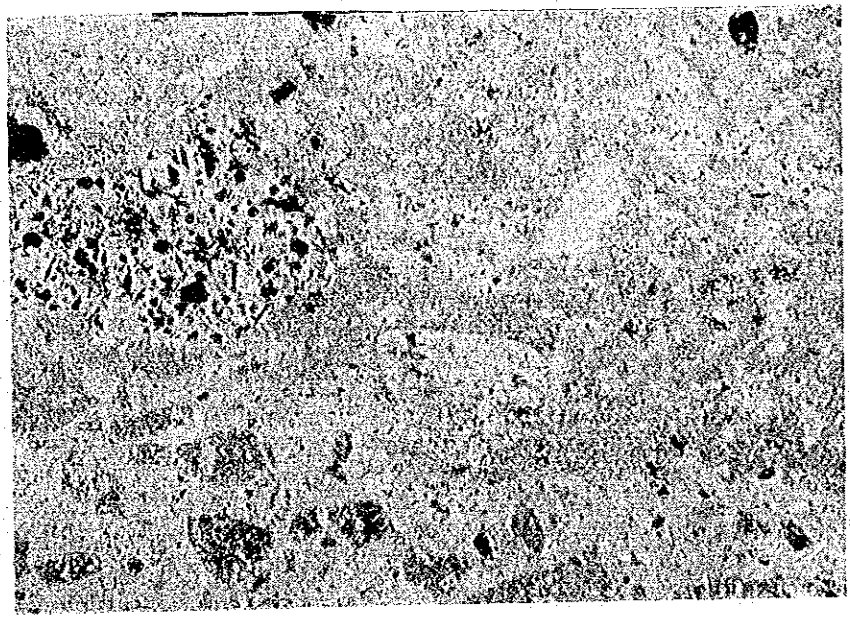


open nicol



crossed nicols

0 1mm

(7) Sample №: MJP－13－1T

Location: E＝680.455 N＝8330.305

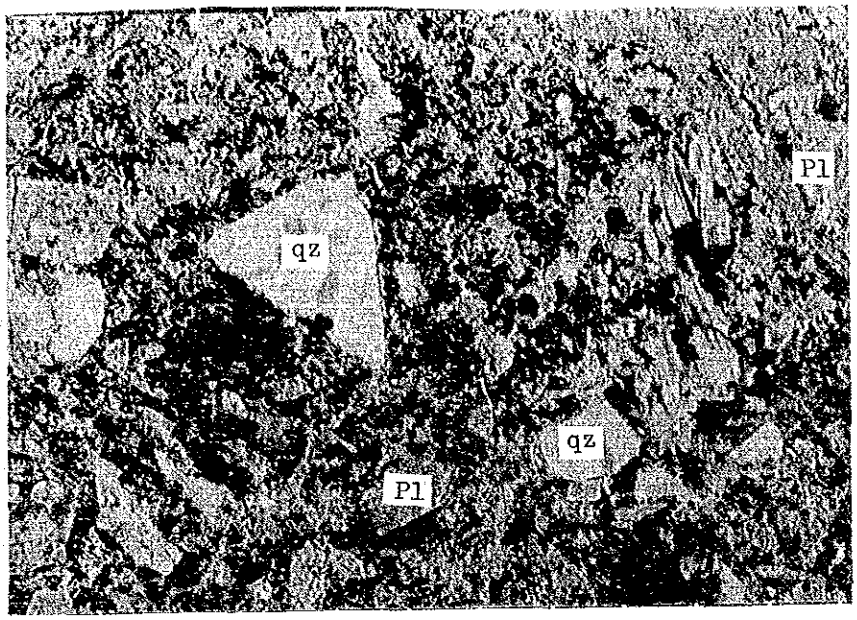
Rock name: andesite (autbrecciated)

Texture: porphyritic, hyalopilitic

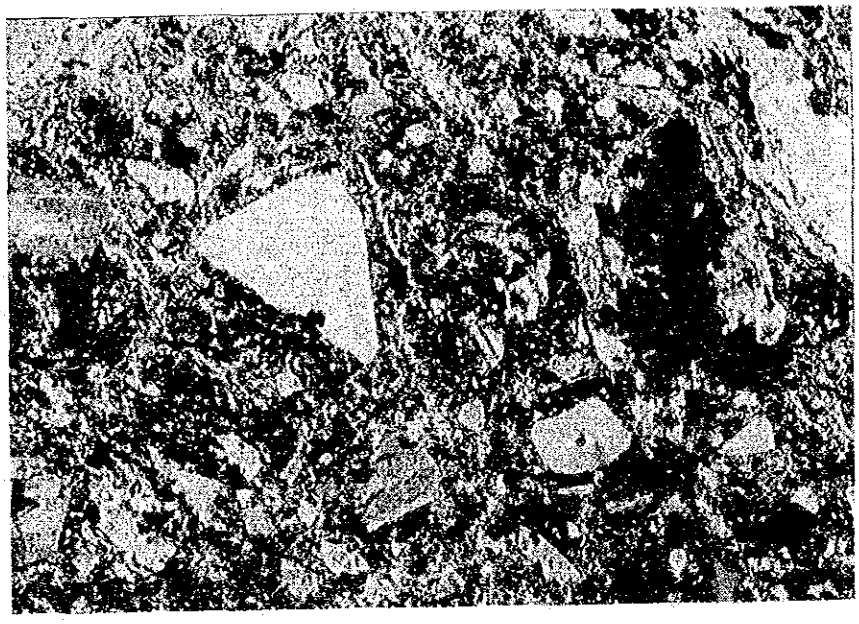
Remarks: rock fragment…porphyritic andesite

matrix…porphyritic andesite, intersertal texture

sericitization



open nicol



crossed nicols

0 1mm

(8) Sample №. : MJP－11－2T

Location : E＝680.315 N＝8331.305

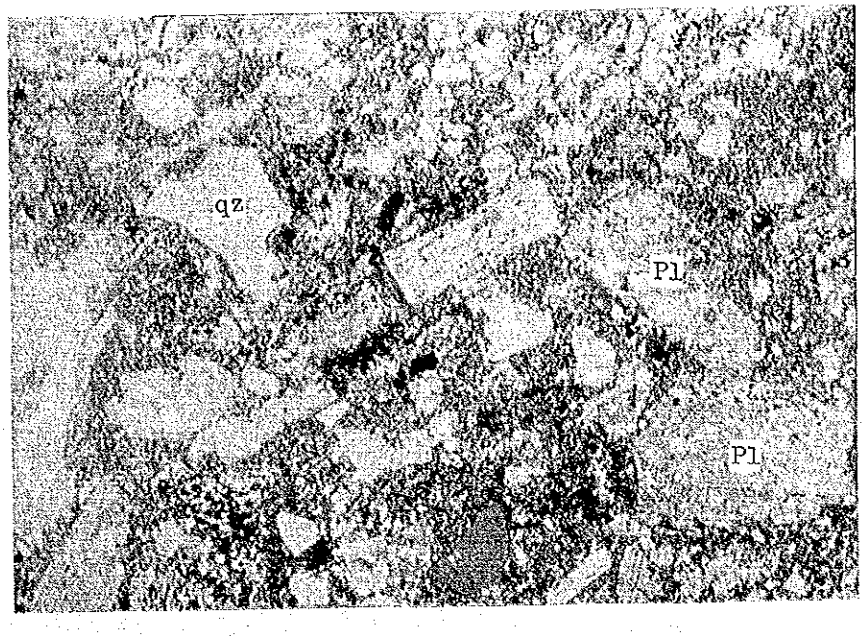
Rock name : dacitic tuff～lapilli tuff

Texture : matrix…felsitic

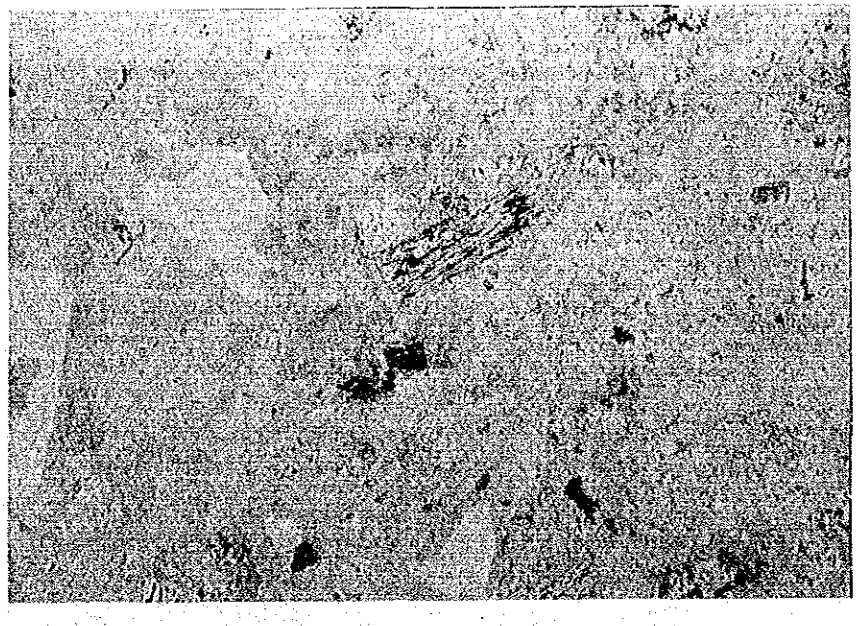
Remarks : crystal fragments…pl＞qz

rock fragment…dc

matrix…fine pl＋qz (recrystalline of glass)



open nicol



crossed nicols

0 1mm

(9) Sample №. : MJP－12－2T

Location : E＝680.023 N＝8331.110

Rock name : dacific tuff～lapilli tuff

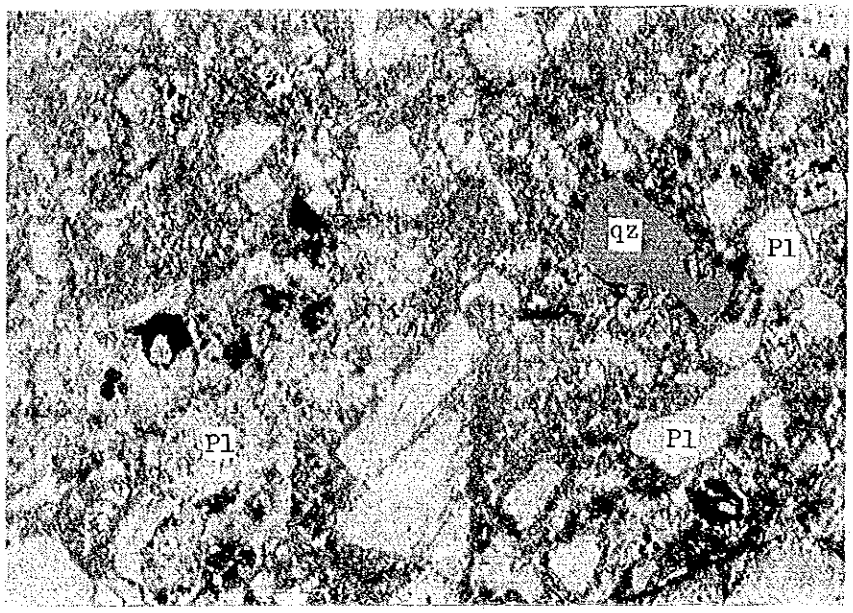
Texture : matrix…hyalopilitic～felsitic

Remarks : *crystal fragments…pl＞qz＞mafic mineral, oq*

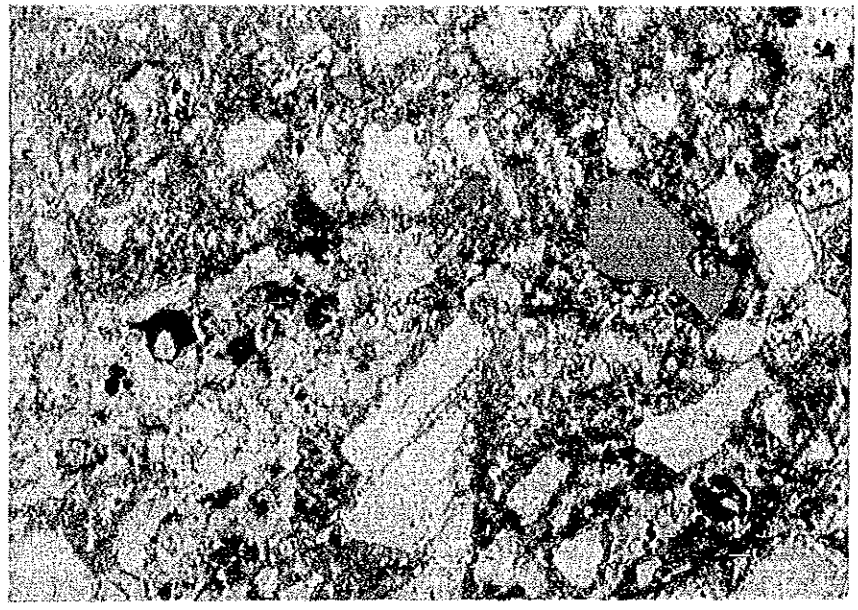
rock fragment…au, dc

matrix…gl≫pl, qz

ca＋se＋ze＋ch



open nicol



crossed nicols

0 1mm

(10) Sample No. : MJP－12－3T

Location : E＝680.023 N＝8331.110

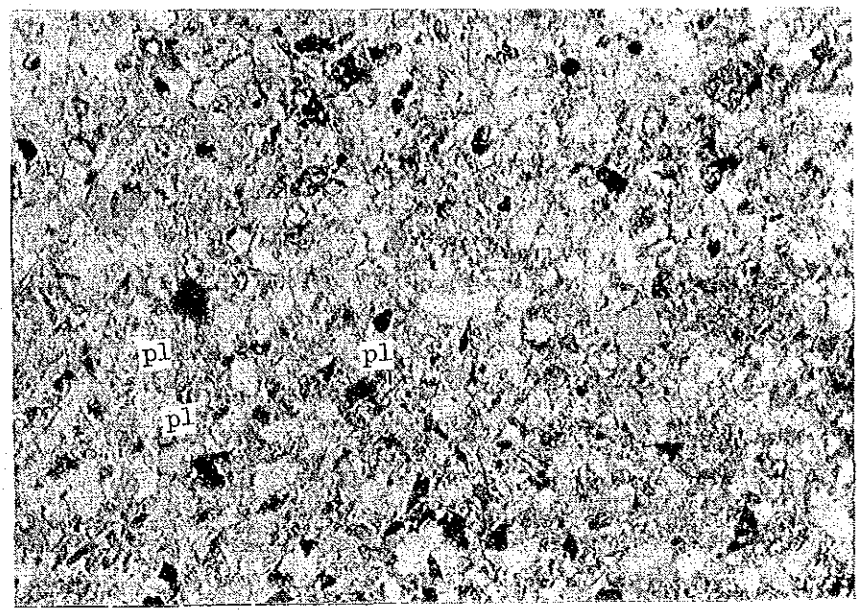
Rock name : andesitic tuff with green pumice

Texture : matrix…hyalopilitic～felsitic

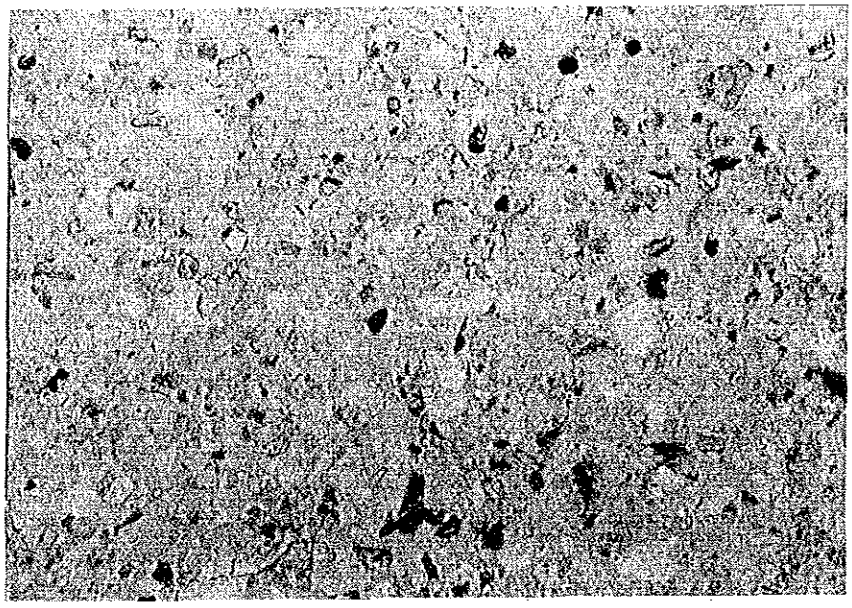
Remarks : crystal fragments : pl＞qz＞mafic mineral, oq

rock fragments : dc

matrix…gl→pl＋qz (devitrification)



open nicol



crossed nicols

0 1mm

(11) Sample No. : MJP－13－2T

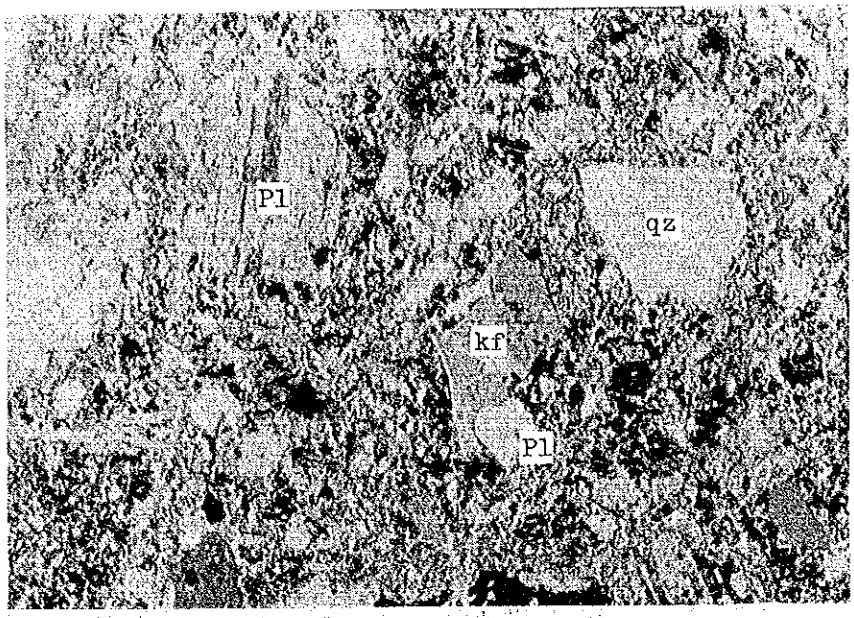
Location : E＝680.455 N＝8330.305

Rock name : calcareous fine sandstone

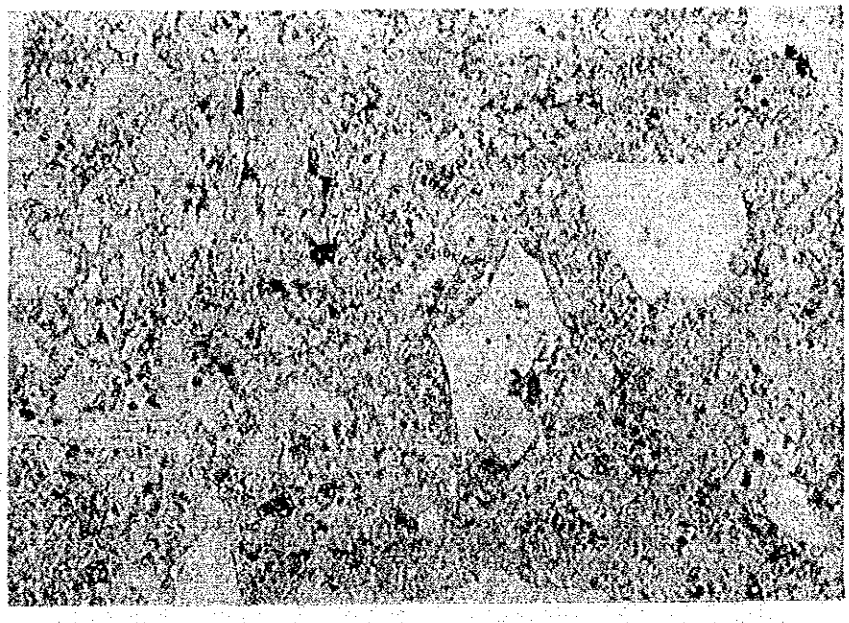
Remarks : crystal fragments…qz, ca, pl, se, oq

rock fragment…dc

matrix…se＋ch＋ (ca)



open nicol



crossed nicols

0 1mm

(12) Sample No. : MJP－13－3T

Location : E＝680.455 N＝8330.305

Rock name : dacitic tuff～lapilli tuff

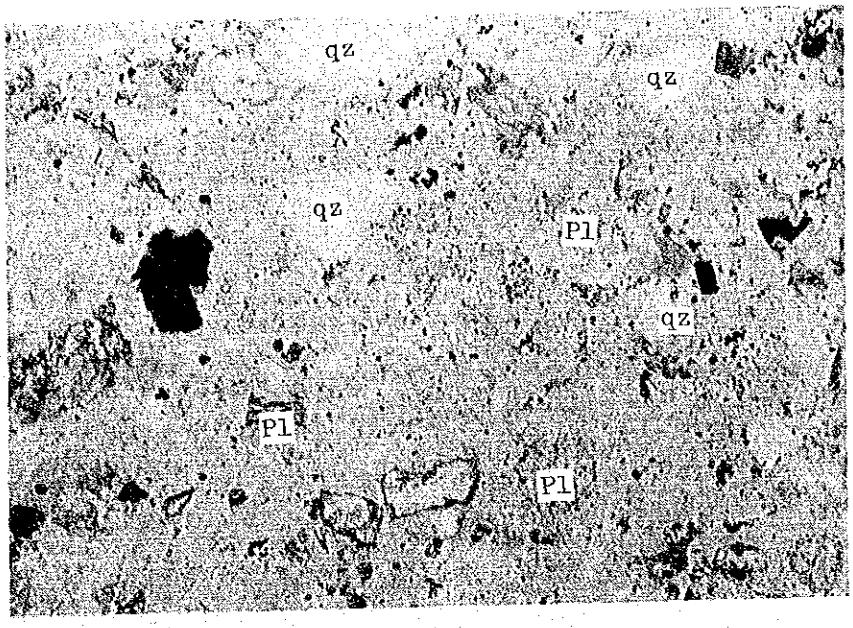
Texture : matrix…felsitic

Remarks : crystal fragment…qz＞pl＞kf, mafic mineral

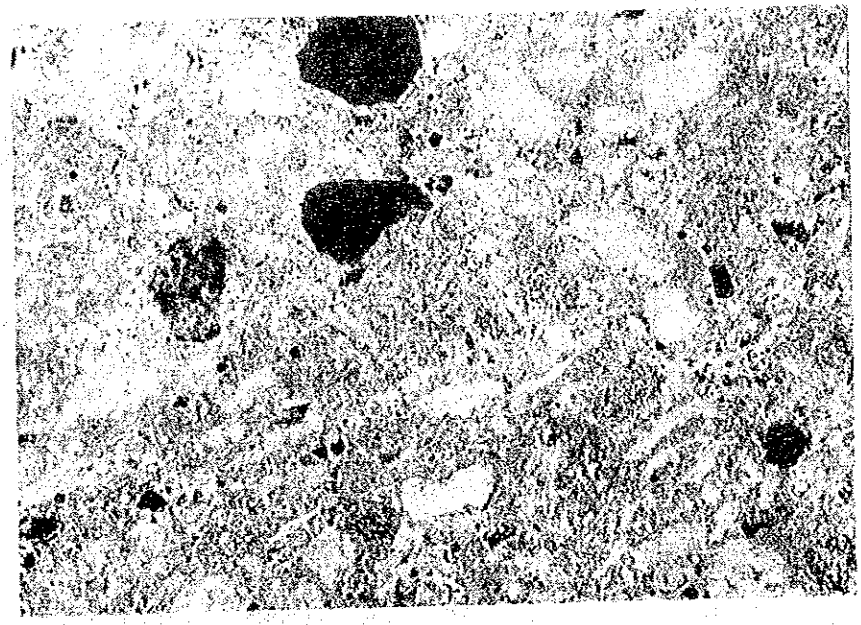
mafic mineral→se, ch

rock fragment…an→ca＋se＋ch

matrix…qz, pl, gl



open nicol



crossed nicols

0 1mm

(13) Sample No. : MJP－13－4T

Location : E＝680.455 N＝8330.305

Rock name : dacitic lapilli tuff～tuff breccia

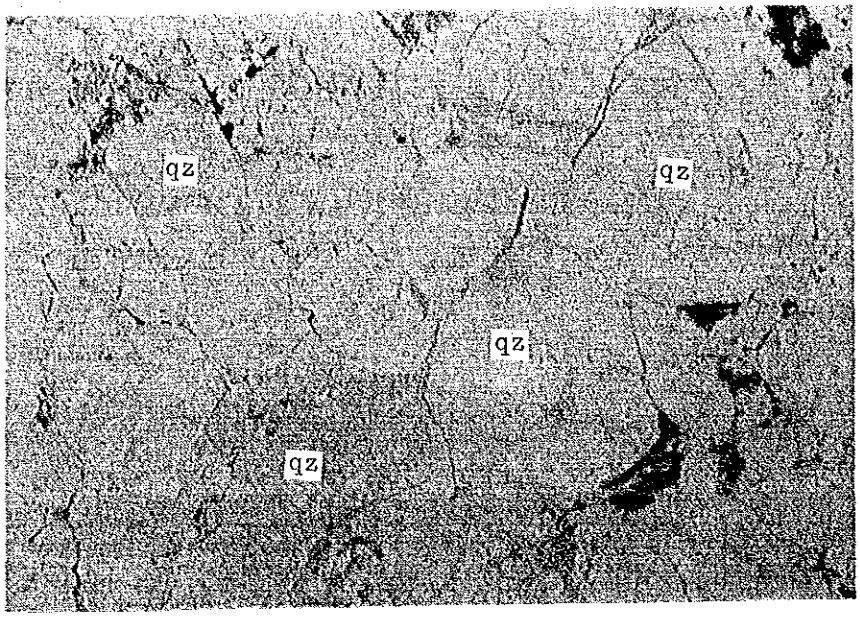
Texture : matrix…cryptocrystalline

Remarks : crystal fragment…qz＞pl＞mafic mineral

rock fragment…an, dc

mafic…very fine→se

※chloritization, sericitization



open nicol

crossed nicols

0 1mm

(14) Sample №. : MJP－14－1T

Location : E＝683.210 N＝8321.835

Rock name : quartz arenite

Texture : mosaic

Remarks : qz (subround grains)

Apx. 3 Microscopic Observations of Polished Sections

Abbreviations

Mineral

El : electrum
Ar : argentite
Po : polybasite
Pc : pearceite
Cp : chalcopyrite
Ga : galena
Sp : sphalerite
Py : pyrite
Cv : covellite
Mn : Mn－Fe mineral
Th : tetrahedrite
Tn : tennantite
Hm : hematite
Lm : limonite
Fe : Fe mineral (oxide or hydrocxide)
Fe (Mn) : Fe－Mn mineral (oxide ?)
KFe : K－Fe－S mineral
Zr : Zircon
Ti : Ti mineral
Ru : rutile

◎ : abundant
○ : common
• : minor

Apx. 3 Microscopic Observations of Polished Sections

No.	Sample No.	Co ordinates		Type of Ore	Ore mineral																			Remarks	Location
		E (km)	N (km)		El	Ar	Po	Pc	Cp	Ga	Sp	Py	Cv	Mn	Th	Tn	Hm	Lm	Fe	Fe (Mn)	KFe	Zr	Ti	Ru		
1	N3−2P	680.260	8330.865	silicified rock with dissemination of Sp		•	•		•	○	◎	○							○							Northern part of Colpar (Tunnel)
2	S5−5P	680.580	8330.285	altered rock with blackish brown clay								•		○					◎	○					Adularia	
3	S6−1P	680.585	8330.250	altered rock with brown and black clay								•		◎					◎	○						Southern part of Colpar (Tunnel)
4	SN9−1P	680.615	8330.210	Sp−Ga−quartz vein	•	•		○	•	○	◎	◎	•			•	•									
5	MT3−3P	683.330	8321.715	quartz vein net−work					○	•	•	○														Marcamalata (Trench)

No.	Sample No.	Depth (m)	Type of Ore	Ore mineral																			Location
				El	Ar	Po	Pc	Cp	Ga	Sp	Py	Cv	Mn	Th	Tn	Hm	Lm	Fe	Fe (Mn)	KFe	Zr	Ti	Ru	
6	MJP−11−1P	119.35	grey quartz vein and altered rock with Cp and Ga					○	◎	•	○						•	•				•	•	Northern part of Colpar (Drilling)
7	MJP−12−1P	75.47	grey quartz vein with Sp, Ga and Cp	•	•	•		○	◎	◎	○													
8	MJP−12−2P	113.62	dark grey quartz vein with black mineral and Py							•	◎										•		• (?)	
9	MJP−12−3P	213.70	grey quartz vein with Py					○	•	•	◎								○	•				
10	MJP−13−1P	203.65	altered rock with Sp, Cp, Ga and Py					•	•	◎	○													Southern part of Colpar (Drilling)
11	MJP−14−1P	166.50	white and dark grey quartz vein with Py								◎			• (?)										Marcamalata (Drilling)
12	MJP−14−2P	167.70	silicified sandstone with iron oxides														◎	•		•				
13	MJP−15−1P	93.60	yellowish brown iron oxides veinlet in arkose sandstone							•	•													

Apx. 4 Quantitative Analyses of Ore Mineral by Electron Probe Microanalyzer

	Element	Mineralized Zone of Northern Part					Mineralized Zone of Southern Part		
		MJP−12−1P				N3−2P	SN−9−1P		
		El (1)	El (2)	Ar (1)	Ar (2)	Ar	Pc (1)	Pc (2)	Pc (3)
Weight %	Au	51.54	51.54	−	−	−	−	−	−
	Ag	48.35	46.74	87.50	83.79	85.52	74.02	71.12	73.36
	Cu	−	−	1.47	2.23	0.29	7.19	7.38	6.64
	Zn	−	−	0.20	0.19	0.20	0.17	0.19	0.49
	As	−	−	0.68	0.17	0.36	6.21	6.74	6.77
	Sb	−	−	0.05	0.01	0.02	0.06	0.20	0.88
	S	−	−	12.99	13.81	13.15	13.07	14.08	14.10
	Total	99.89	98.29	102.89	100.21	99.55	100.73	99.70	102.24
Atomic %	Au	36.86	37.65	−	−	−	−	−	−
	Ag	63.14	62.35	64.79	62.24	65.22	53.06	50.37	51.16
	Cu	−	−	1.85	2.81	0.38	8.75	8.87	7.86
	Zn	−	−	0.25	0.24	0.26	0.21	0.22	0.56
	As	−	−	0.72	0.18	0.40	6.41	6.87	6.79
	Sb	−	−	0.03	0.01	0.01	0.04	0.13	0.54
	S	−	−	32.36	34.51	33.73	31.53	33.54	33.08
	Total	100	100	100	99.99	100	100	100	99.99

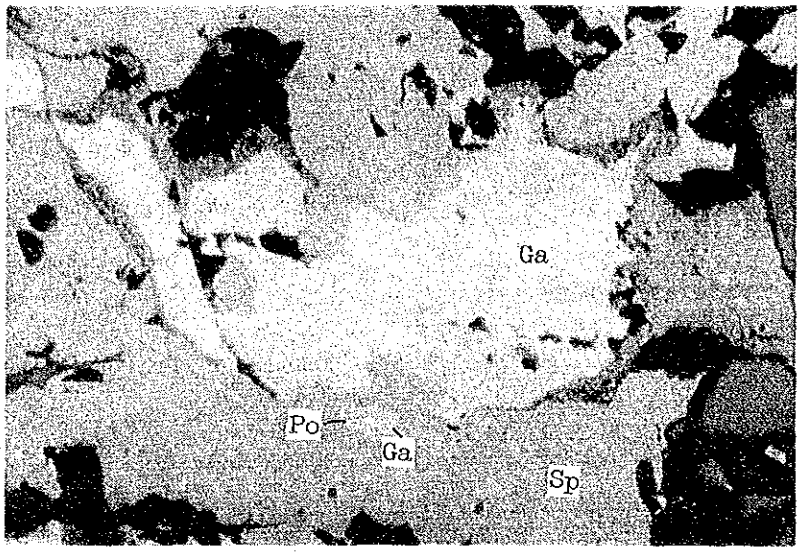
El : electrum, Ar : argentite, Pc : pearceite

Apx. 5 Photomicrographs of Polished Sections

Abbreviations

Mineral

El : electrum
Ar : argentite
Po : polybasite
Pc : pearceite
Cp : chalcopyrite
Ga : galena
Sp : sphalerite
Py : pyrite
Cv : covellite
Mn : Mn－Fe mineral
Th : tetrahedrite
Tn : tennantite
Hm : hematite ,
Lm : limonite
Fe : Fe mineral (oxide or hydrocxide)
Fe (Mn) : Fe－Mn mineral (oxide ?)
KFe : K－Fe－S mineral
Zr : Zircon
Ru : rutile



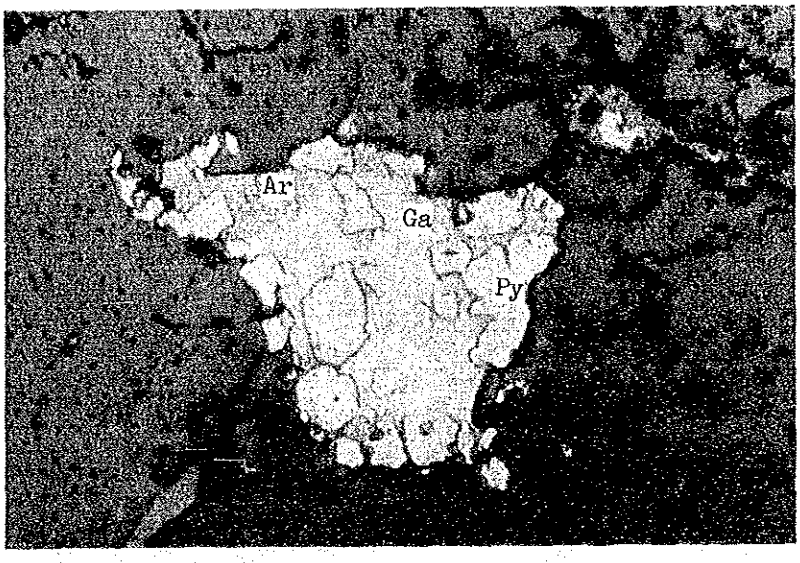
crossed nicols

(1) Sample No. : N3-2P@

Location : E=680.260
N=8330.865

Type of Ore : Silicified rock with dissemination of Sp>Py>Ga≫Cp

Remarks : Po ; Ag- (Cu) - (Zn) -Sb -S



crossed nicols

0 0.01mm

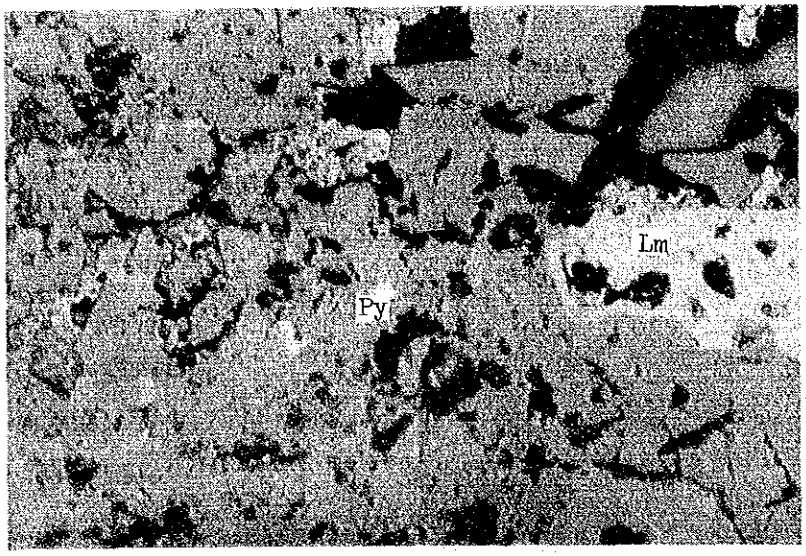
(2) Sample No. : N3-2P⑥

Location : E=680.260
N=8330.865

Type of Ore : Silicified rock with dissemination of Sp>Py>Ga≫Cp

Remarks :

Ar ; Ag 85.52, Cu 0.29, Zn 0.20, As 0.36, Sb 0.02, S 13.15,
Total 99.55wt%
Ag 65.22, Cu 0.38, Zn 0.26, As 0.40, Sb 0.01, S 33.73at%



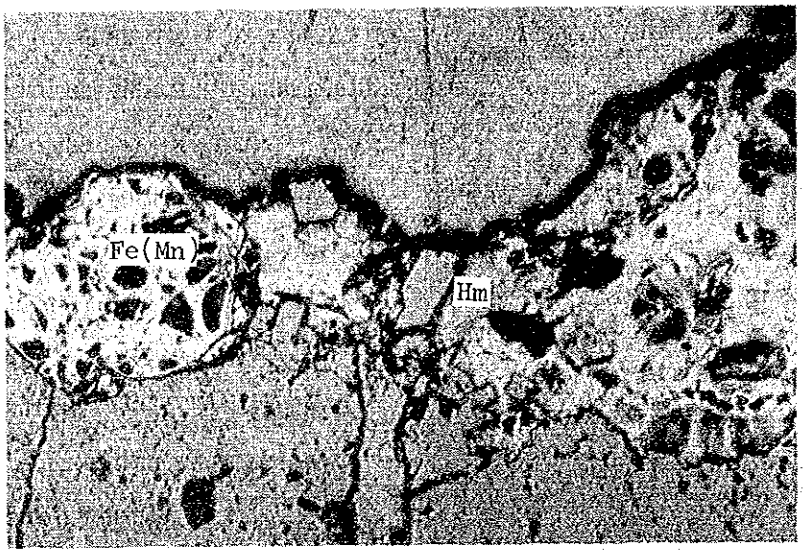
(3) Sample No. : S5-5P@

Location : E=680.580
N=8330.285

Type of Ore : altered rock with blackish brown clay

Remarks : Py, Lm

open nicol



(4) Sample No. : S5-5P⑥

Location : E=680.580
N=8330.285

Type of Ore : altered rock with blackish brown clay

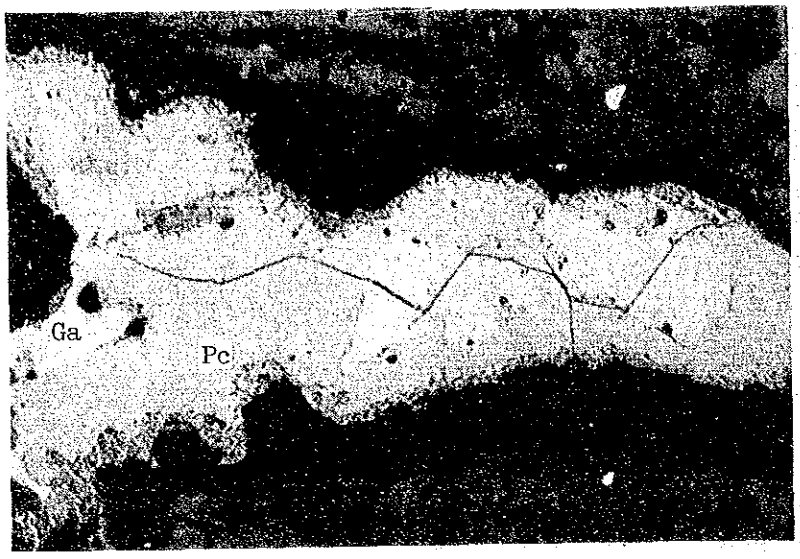
Remarks :

Fe (Mn) ; Fe- ((Si)) - ((Mn)) -S

Mn ; Mn-Fe- ((Ti)) - ((Ca ?)) - ((Zn)) - ((S)) - (K)

0 0.01mm

open nicol



open nicol

(5) Sample No. : SN9-1P@

Location : E=680,615
N=8330,210

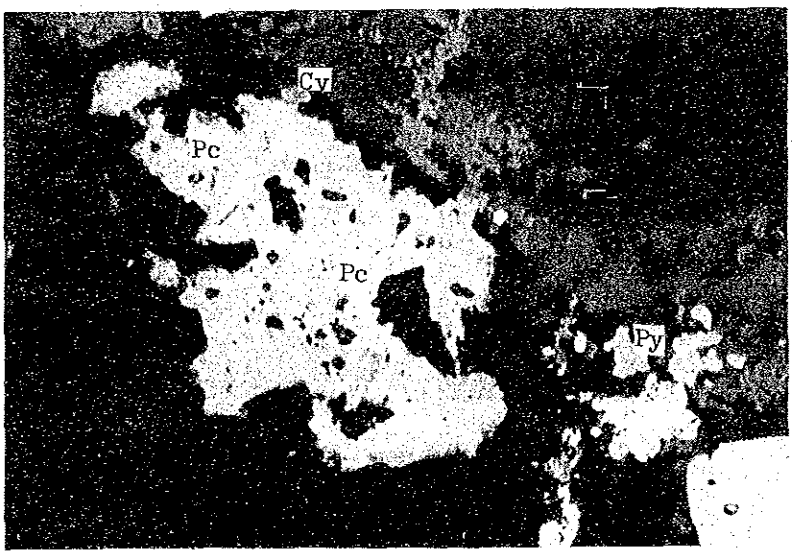
Type of Ore :Sp-Ga-quartz vein

Remarks : Ga, Pc

Pc : fine vein let (1mm×0.3mm)

Pc : Ag 73.36, Cu 6.64, Zn 0.49, As 6.77, Sb 0.88, S 14.10 Total 102.24wt%

Ag 51.16, Cu 7.86, Zn 0.56, As 6.79, Sb 0.54, S 33.08.at%



open nicol

(6) Sample No. : SN9-1P⑥

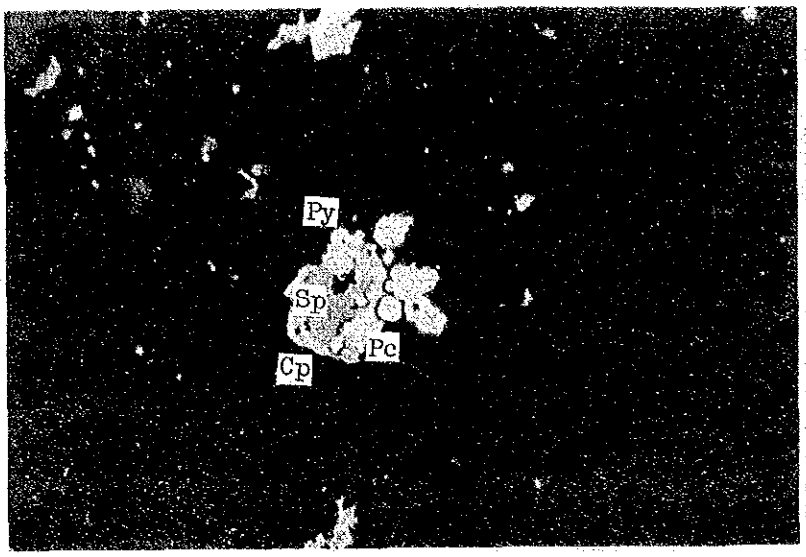
Location : E=680.615
N=8330.210

Type of ore :Sp-Ga-quartz vein

Remarks : Pc>Py, Cv

Pc : Ag 74.02, Cu 7.19, Zn 0.17, As 6.21, Sb 0.06, S 13.07, Total 100.73wt%

Ag 53.06, Cu 8.75, Zn 0.21, As 6.41, Sb 0.04, S 31.53at%



(7) Sample №: SN9-1P©

Location: E=680.615

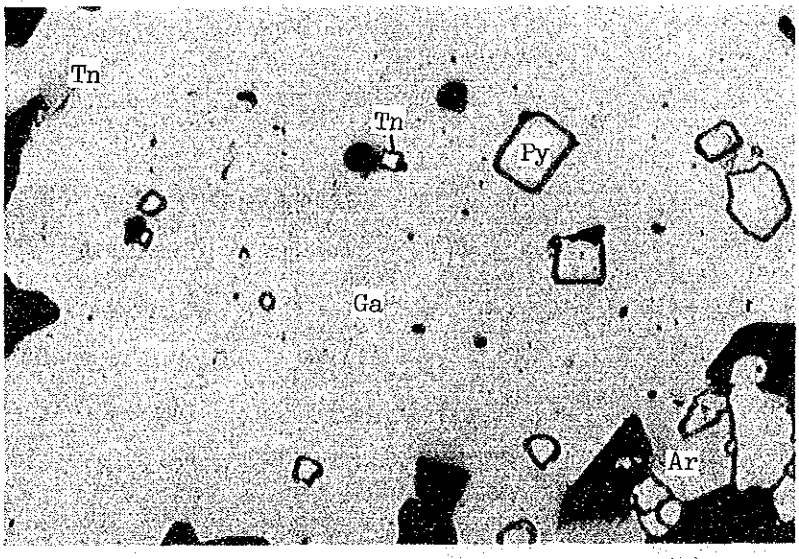
N=8330.210

Type of Ore: Sp-Ga-quartz vein

Remarks: Sp, Py, Pc, Cp

Pc ; Ag-Cu-((Fe))-Sb-As-S

open nicol



0 0.01mm

(8) Sample №: SN9-1P@

Location: E=680.615

N=8330.210

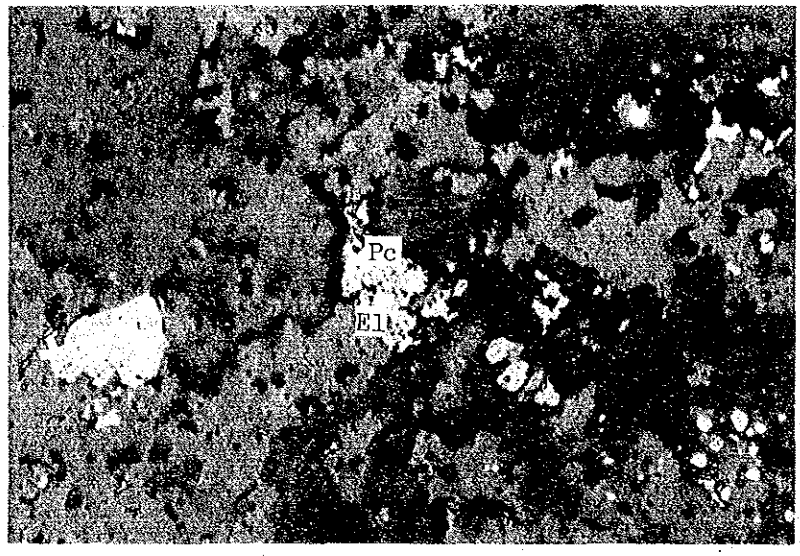
Type of Ore: Sp-Ga-quartz vein

Remarks: Ga, Py, Tn, Ar

Ar ; Ag-(Cu)-((As))-S

Tn ; Ag-Cu-As-((Sb))-S

open nicol



open nicol

(9) Sample No. : SN9-1P@

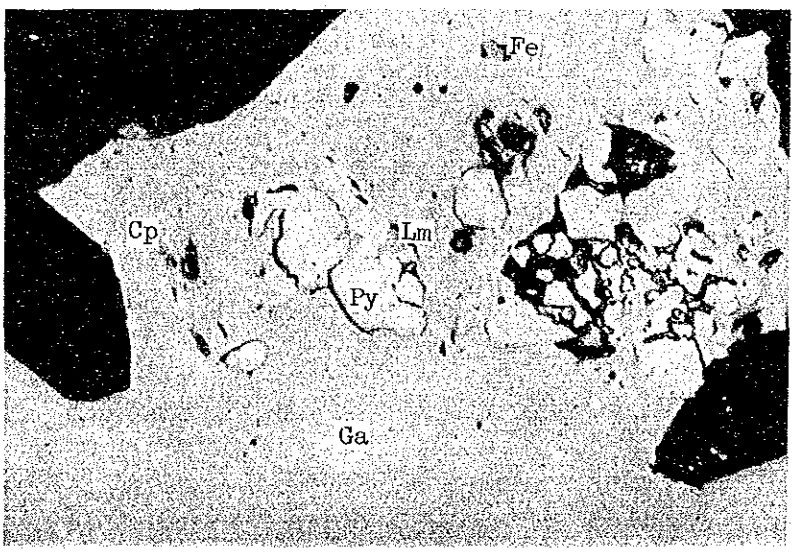
Location : E=680.615
N=8330.210

Type of Ore : Sp-Ga-quartz vein

Remarks : Pc, El

El : Au-Ag

Pc : Ag-Cu-As- (Sb) -S



0 0.01mm

open nicol

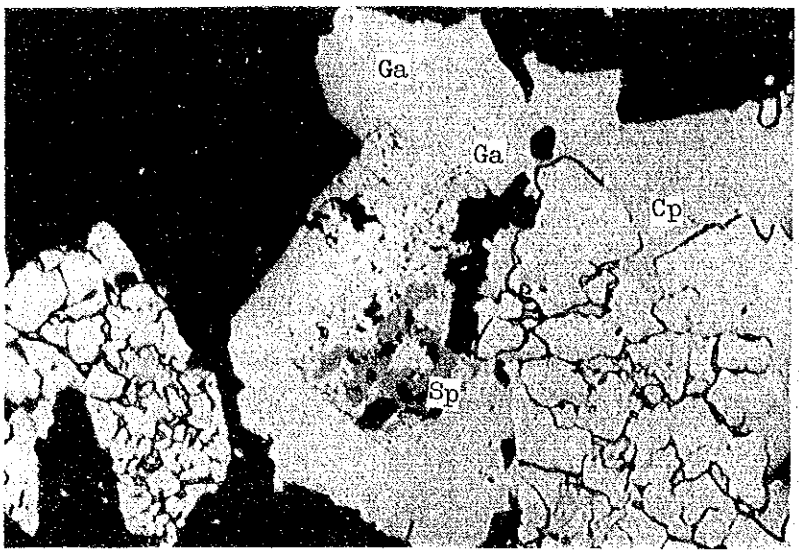
(10) Sample No. : MJP-11-1P@

Location : E=680.315
N=8331.305

Type of ore : grey quartz vein and altered rock with Cp and Ga

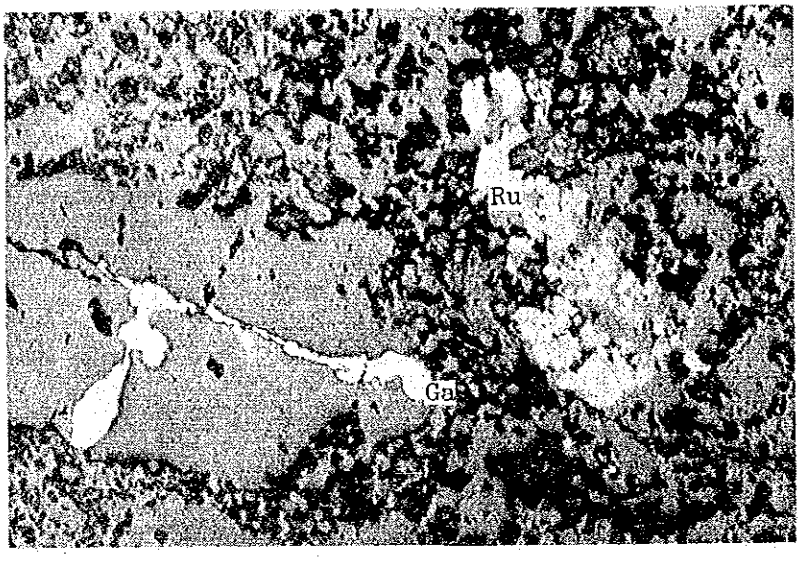
Remarks : Ca, Py, Cp, Fe

Lm : Fe- ((S))
Fe : Fe ((S)) } oxides of Fe



(11) Sample №: MJP-11-1P⑥
Location: E=680.315
N=8331.305
Type of Ore: grey quartz vein and altered rock with Cp and Ga
Remarks: Ga, Sp, Cp
Sp : Zn- (Cd) - ((Fe)) -S
Ga : Pb- ((Fe)) -S

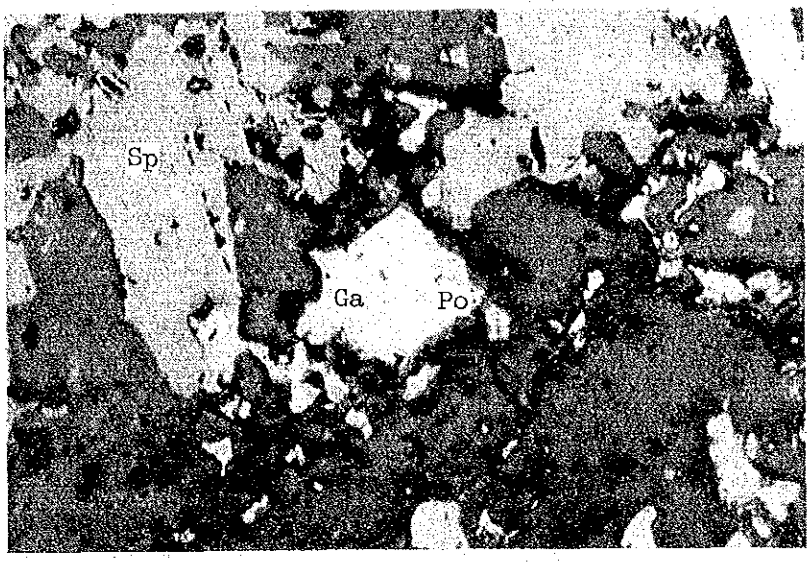
open nicol



(12) Sample №: MJP-11-1P©
Location: E=680.315
N=8331.305
Type of Ore: grey quartz vein and altered rock with Cp and Ga
Remarks: Ga, Ru
Ga : Pb-S
Ru : Ti- ((Si)) - ((K?))

0 0.01mm

Open nicol

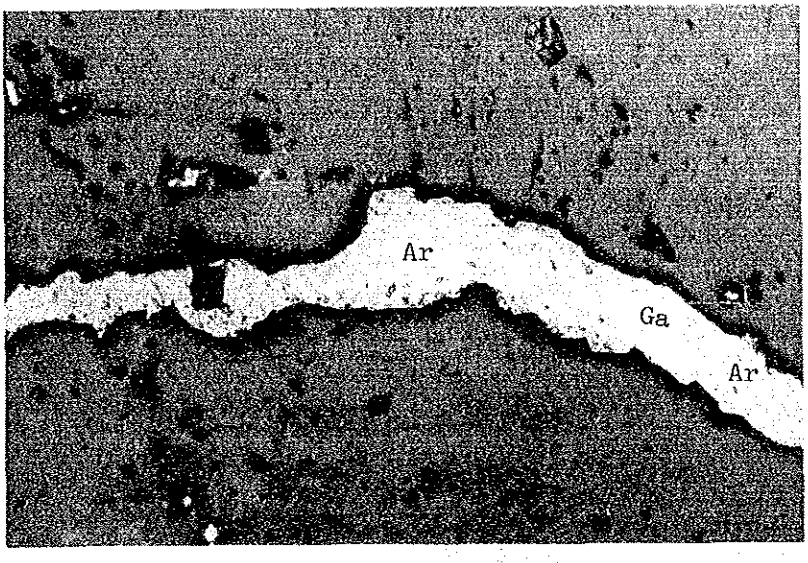


(13) Sample No. : MJP-12-1P@

Location : E=680.023
N=8331.110

Type of Ore : grey quartz vein with Sp, and Ga and Cp

open nicol



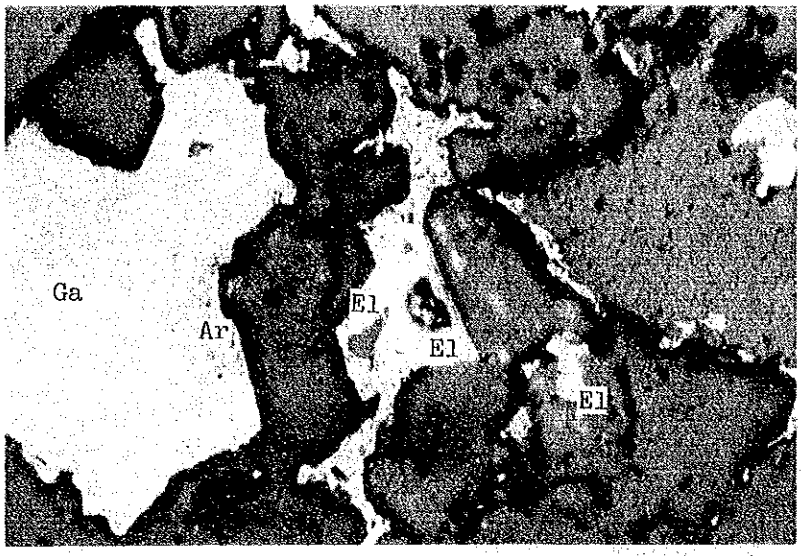
(14) Sample No. : MJP-12-1P⑥

Location : E=680.023
N=8331.110

Type of Ore : grey quartz vein with Sp, Ga and Cp

0 0.01mm

open nicol



open nicol

(15) Sample No. : MJP-12-1P©

Location : E=680.023
N=8331.110

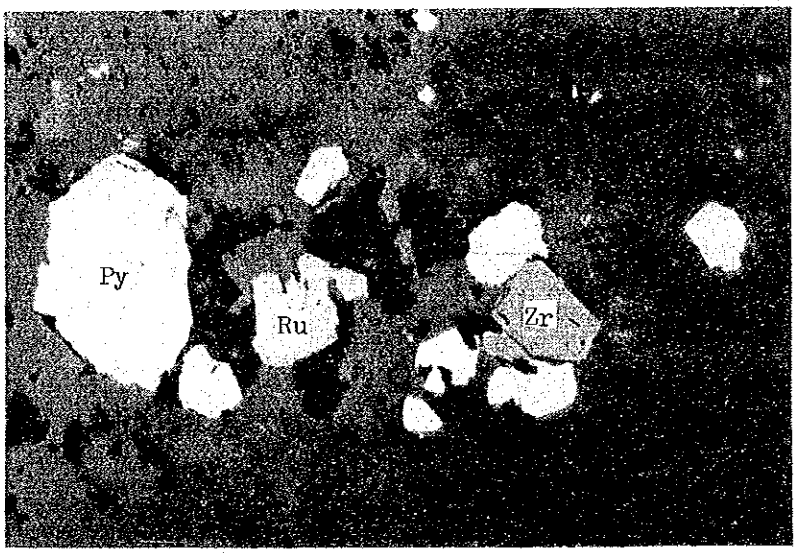
Type of Ore : grey quartz vein with Sp, Ga and Cp

Remarks : Ga, Ar, El

El_1 ; Au 51.54, Ag 48.35
Total 99.89wt%
Au 36.86, Ag 63.14
Total 100at%

El_2 ; Au 51.54, Ag 46.74
Total 98.29%
Au 37.65, Ag 62.35
Total 100at%

Ar ; Ag 87.50, Cu 1.47,
Zn 0.20, As 0.68, Sb 0.05,
S 12.99, Total 102.89wt%
Ag 64.79, Cu 1.85, Zn 0.25,
As 0.68, Sb 0.03, S 32.36,
Total 100at%



0 0.01mm

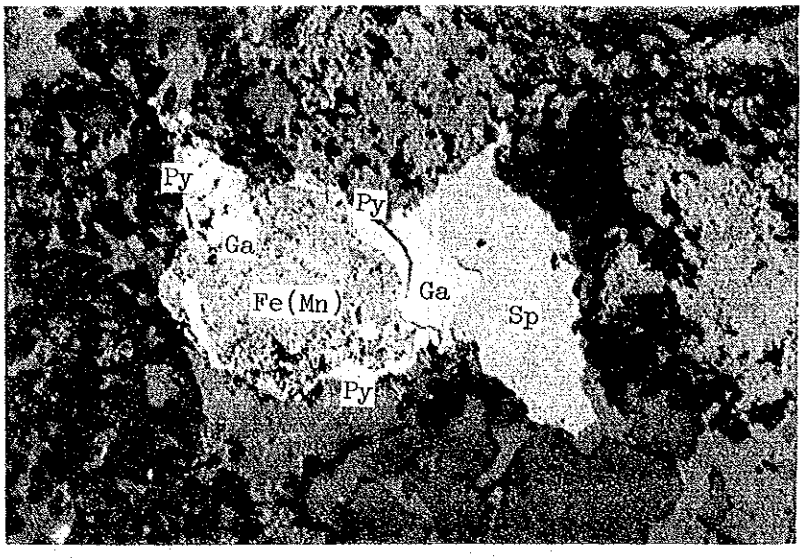
open nicol

(16) Sample No. : MJP-12-2P

Location : E=680.023
N=8331.110

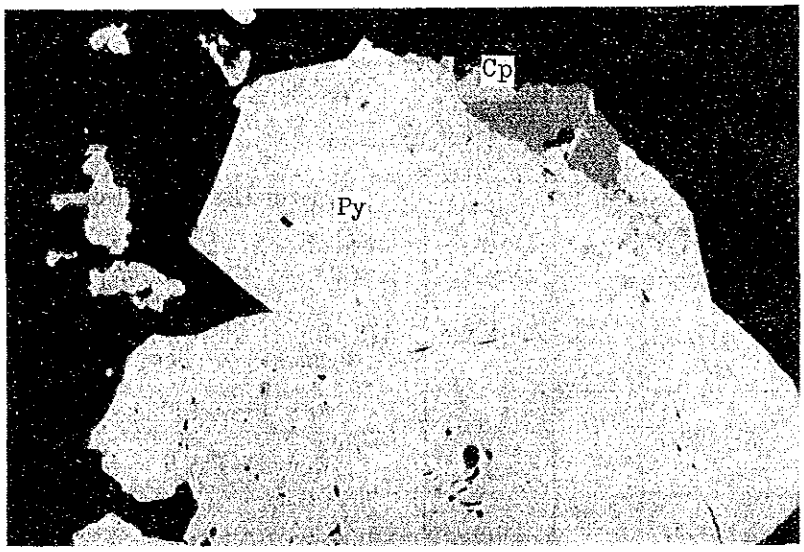
Type of ore : dark grey quartz vein with black mineral and Py

Remarks : Py, Ru, Zr
Ru ; Ti- ((Fe))
Zr ; Zr-Si



(17) Sample No. : MJP-12-3P
Location : E=680,023
N=8331,110
Type of Ore : grey quartz vein with Py
Remarks : Sp, Ga, Py, Fe (Mn)
Fe (Mn) ; Fe- (Mn) - ((Cu)) - (S)

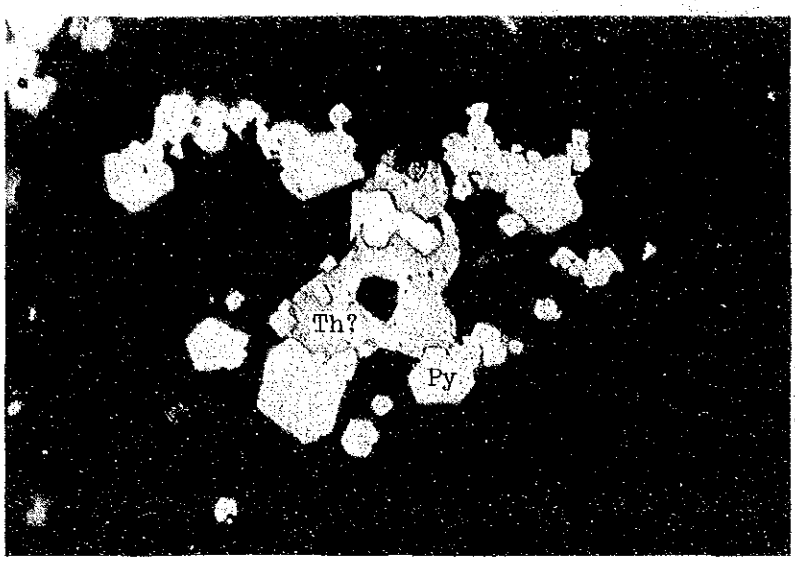
open nicol



(18) Sample No. : MJP-13-1P
Location : E=680.455
N=8330.305
Type of Ore : altered rock with Sp, Cp, Ga and Py
Remarks : Py, Cp

0 0.01mm

open nicol



(19) Sample No : MJP-14-1P

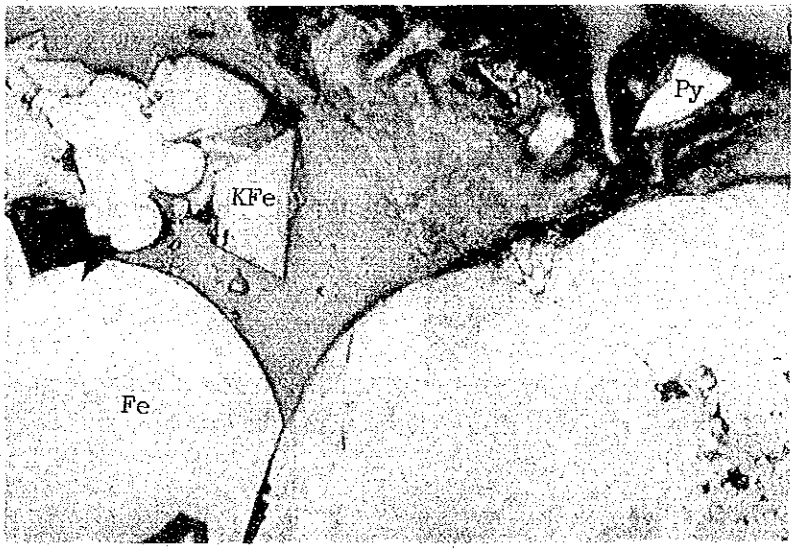
Location : E=683.210
N=8321.835

Type of Ore : white and dark grey quartz vein with Py

Remarks : Py, Th ?

Th (?) : Ag-Cu- (Zn) - (Fe) -Sb-S

open nicol



(20) Sample No : MJP-14-2P

Location : E=683.210
N=8321.835

Type of Ore : silicified sandstone with iron oxides

Remarks : Fe, KFe, Py

Fe : Fe- (S)

KFe : K-Fe-S

0 0.01mm

open nicol

Apx. 6 X-ray Diffractive Analyses of the Survey Area

No.	Sample No.	Co ordinates		Occurrence	Alteration mineral										Metalic mineral					Remarks
		E (km)	N (km)		Qz	Se	Ch	Am	Kf	Ca	Do	An	Gy	Ja	Py	Go	Gal	Sph	Ag	
1	N3-2X	680.260	8330.865	silicified rock and quartz veinlet with Sp. Ga. and black mineral	◎	*			○				△		△		△	◎		
2	Mz-38X	680.070	8330.870	altered rock with iron oxides	◎	*	△		◎				*		*			*		
3	Mz-15X	680.570	8330.318	brown altered rock with iron oxides	◎	△			◎											
4	S5-5X	680.580	8330.285	altered rock with blackish brown clay	◎	*		△	○							*				
5	S6-1X	680.585	8330.250	altered rock with brown and black clay	◎	*			△		?		*			*		?		
6	SN-9-1X	680.615	8330.210	Sp-Ga-quartz veinlet	◎				○				○		△		○	◎	○	
7	MT3-3X	683.330	8321.715	network of quartz vein	◎					*		*			*		*	*		

No.	Dorill Hole No.	Co ordinates		Sample No.	Depth (m)	Alteration mineral										Metalic mineral					Remarks
		E (km)	N (km)			Qz	Se	Ch	Am	Kf	Ca	Do	An	Gy	Ja	Py	Go	Gal	Sph	Ag	
8	MJP-11	680.315	8331.305	MJP-11X	119.35m	◎	△			◎	△					△		○			quartz vein and silicified rock
9	MJP-12	680.023	8331.110	MJP-12X	113.62m	◎	△	*		○						△					dark grey quartz vein
10	MJP-13	680.455	8330.305	MJP-13X	203.70m	◎	△	*		○	?	○				○					strongly altered rock with Sp, Cp, Ga, Py veinlet
11	MJP-14	683.210	8321.835	MJP-14X	167.60m	◎									◎		△				silicified sandstone with iron oxides
12	MJP-15	683.290	8321.845	MJP-15X	93.60m										◎		△				network of brown iron oxides

Abbreviations

Qz : Quartz　Se : Sericite　Ch : Chlorite　Am : Amesite
Kf : Potassiu feldspar　Ca : Calcite　Do : Dolomite　An : Anhydrite
Gy : Gypsum　Ja : Jarosite　Py : Pyrite　Go : Goethite
Gal : Galena　Sph : Sphalerite　Ag : Ag mineral

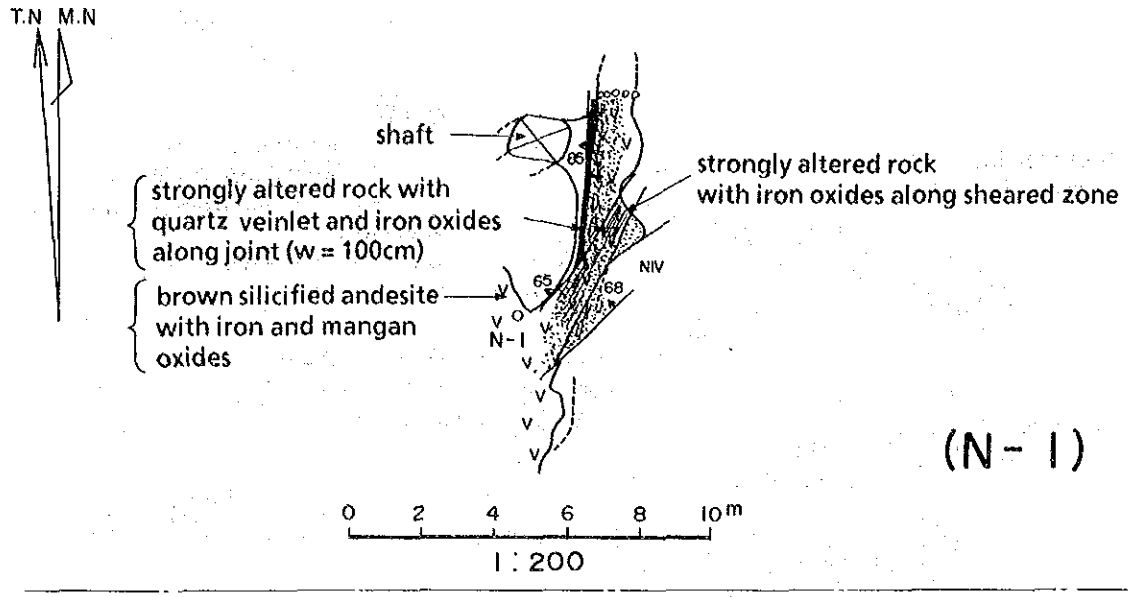
◎ : abundant　○ : common　△ : minor　* : minim　? : uncertainty

Apx. 7 Results of Chemical Analyses of Altered Rock and Ore Samples

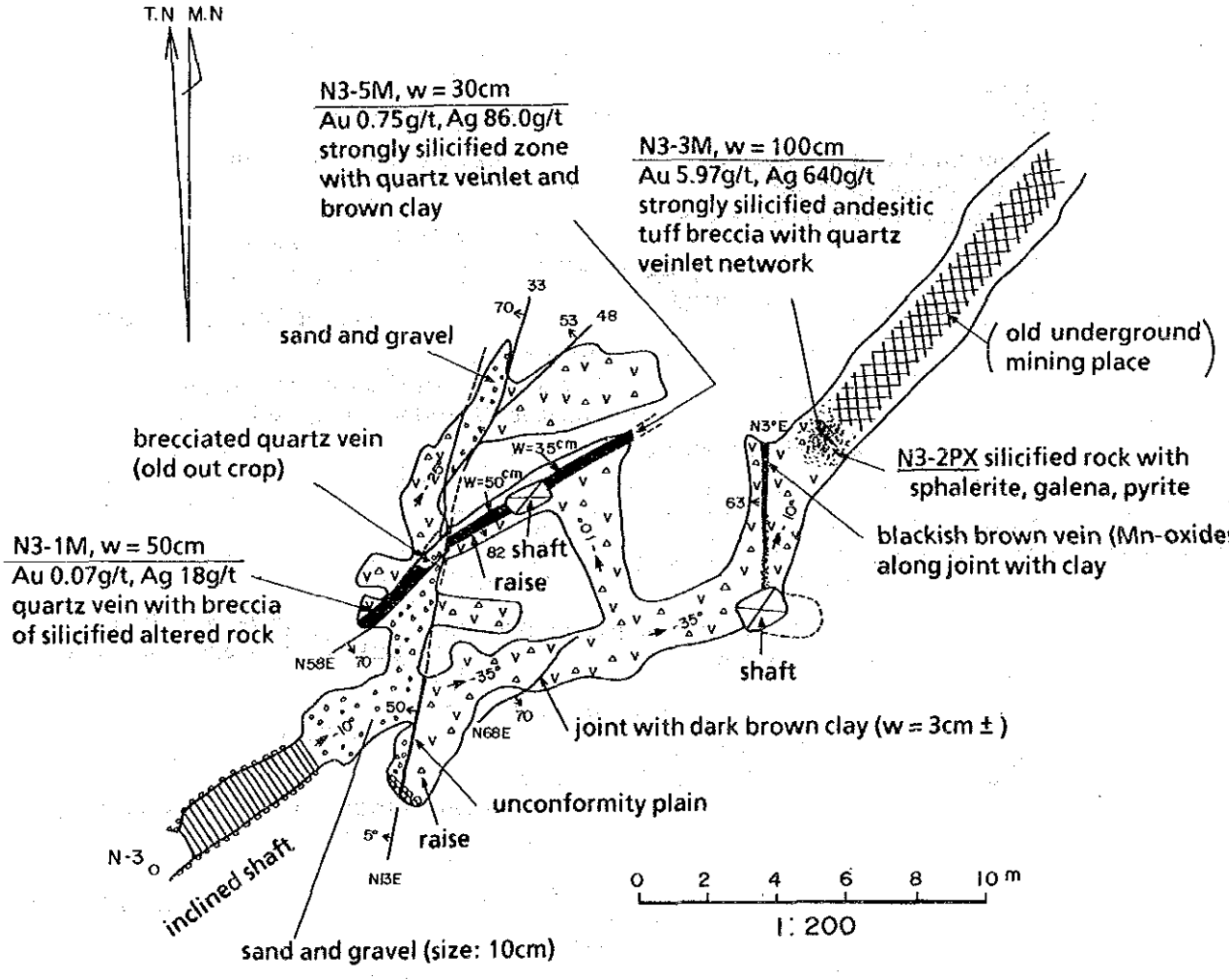
Area	No.	Sample No.	Co-ordinates E (km)	Co-ordinates N (km)	Type of Samples	Width of Sample (m)	Au g/t	Ag g/t
Mineralization Zone of Northern Part	1	N-3-1M	680.260	8330.865	quarty vein with breccia of silicified rock	0.50	0.07	18.0
	2	3M	680.260	8330.865	silicified andesitic tuff breccia with quartz veinlet network	1.00	5.97	640
	3	5M	680.260	8330.865	strongly silicified zone with quartz veinlet and brown clay	0.30	0.75	86.0
	4	N-6-4M	680.060	8330.865	brown to dark brown sheared zone with quartz veinlet	0.50	0.89	390
	5	N-7-MZ-37M	680.070	8330.870	sheared zone with iron and mangan oxides	0.30	0.82	205
	6	N-8-N8-2M	680.080	8330.875	sheared zone with brown to reddish brown iron oxides	0.50	0.89	178
Mineralization Zone of Southern Part	7	SN-1-MZ-17M	680.625	8330.373	strongly altered rock with argillization	0.50	0.41	33.0
	8	SN-3-MZ-24M	680.560	8330.328	sheared zone with quartz veinlet and limonite stain	0.25	1.17	55.0
	9	SN-4-MZ-16M	680.570	8330.318	brown altered rock with iron oxides	0.30	3.36	142
	10	S-5-5M	680.580	8330.285	dark brown to brown clay along sheared zone	0.15	21.50	410
	11	6M	680.580	8330.285	brown clay (w=3cm) and sheared part (w=17cm)	0.20	11.10	890
	12	S-6-1M	680.585	8330.250	brown and black clay along sheared zone	0.10	10.10	540
	13	SN-7-MZ-12M	680.605	8330.225	strongly altered rock with iron oxides	0.45	0.14	10.5
	14	SN-8-MZ-10M	680.615	8330.210	ditto	0.45	0.55	31.5
	15	SN-9-MZ-11M	680.615	8330.210	silicified zone with Sp, Ga, Py and iron oxides	0.30	20.10	1200
	16	S-12-1M	680.660	8330.180	sheared zone with quartz veinlet	0.60	1.85	108
	17	SN-15-MZ-22M	680.645	8330.375	altered andesite with quartz veinlet	1.00	0.14	29.0
	18	S-16-1M	680.560	8330.210	brown clay along joint	0.40	14.50	90.0
	19	2M	680.560	8330.210	sheared zone, argillization and silicification	0.80	0.82	43.0
	20	SN-18-MZ-34M	680.575	8330.240	silicified altered rock with iron oxides	1.20	0.48	22.5
	21	MZ-35M	680.575	8330.240	sheared zone with iron oxides	0.30	1.23	18.5
Trenches	22	TC-1-2M	680.570	8330.270	silicified altered rock with quartz vein network	0.20	0.69	71.0
	23	6M	680.570	8330.270	silicified dacite with mangan oxides and quartz veinlet		0.07	5.0
	24	TC-2-2M	680.580	8330.230	quartz vein with mangan oxides	0.20	0.07	8.0
	25	TC-3-1M	680.540	8330.215	altered andesite with brown iron oxides		<0.07	1.0
	26	TC-5-4M	680.185	8330.913	brown silicified andesite with quartz veinlet	2.00	0.07	43.5
	27	7M	680.185	8330.913	grey to brownish grey quartz vein	0.15	<0.07	2.8
Outcrops of Q.Querumahuaico	28	50-1M	680.040	8329.958	strongly silicified rock with white clay	1.50	0.27	7.0
	29	50-2M	680.040	8329.958	ditto	0.70	0.27	3.9
	30	50-3M	680.040	8329.958	strongly silicified rock	0.40	2.30	2.0
	31	51M	680.040	8329.950	altered zone with quartz veinlet network	spot	0.14	2.3
	32	52M	680.045	8329.940	lenticular quartz vein	0.20	0.07	9.0
	33	53M	680.065	8329.935	lenticular strongly silicified rock	0.50	<0.07	1.9
	34	54M	680.065	8329.925	ditto	spot	0.82	1.3
	35	55M	680.098	8329.920	ditto	1.00	0.07	1.9
	36	56M	680.125	8329.933	silicified zone and white clay zone	1.10	<0.07	1.0
	37	57M	680.160	8329.918	lenticular silicified zone	0.50	0.21	0.3
	38	58M	680.170	8329.915	silicified rock with black band	1.20	0.55	0.5
	39	59M	680.213	8329.900	strongly silicified zone	6.80	3.70	2.0
	40	60M	680.205	8329.900	yellowish brown clay and breccia	0.20	0.34	9.5
	41	61M	680.270	8329.885	argillized zone with lenticular silicified zone	1.60	<0.07	0.3
	42	62M	680.310	8329.905	yellowish green clay with mangane oxides	3.00	<0.27	0.3
	43	63M	680.310	8329.910	strongly silicified zone with quartz crystal in druse	2.20	Tr	1.0
	44	64M	680.315	8329.915	brecciated zone with lenticular silicified rock	2.00	<0.07	0.3
Marcamalate Area	45	SM-2-1M	683.220	8321.775	brown clay along joint	0.05	1.99	440
	46	MZ-30M	683.220	8321.775	sheared zone along joint with brown iron oxides	0.20	0.41	90.0
	47	SM-4-MZ-31M	683.238	8321.763	sheared zone with iron oxides	spot	0.14	47.5
	48	SM-8-MZ-32M	683.318	8321.735	argillized altered rock with dissemination of pyrite	spot	0.69	14.5
	49	SM-9-MZ-33M	683.335	8321.730	argillized altered rock	spot	0.21	54.0

Apx. 8 Results of Chemical Analyses of Altered Drilling Core and Ore Samples

Drilling No.	Sample No.	Depth (m) ~ (m)	Type of Sample	width (m)	Au g/t	Ag g/t	Cu %	Pb %	Zn %
MJP-11	1	119.35 – 119.70	quartz vein	0.35	0.41	104.0	0.34	2.96	0.01
	2	119.70 – 120.10	strongly silicified rock	0.40	0.14	32.3	0.08	0.29	<0.01
	3	120.10 – 120.95	strongly bleached rock	0.85	0.14	28.3	0.03	0.17	0.02
MJP-12	1	65.35 – 65.50	quartz vein	0.15	0.27	14.0	–	–	–
	2	75.40 – 75.60	silicified rock	0.20	3.54	705	–	–	–
	3	84.05 – 84.15	quartz vein	0.10	0.14	13.3	–	–	–
	4	111.92 – 112.52	silicified rock	0.60	0.07	56.5	<0.01	0.01	0.10
	5	112.52 – 112.95	ditto	0.43	0.14	3.6	<0.01	<0.01	<0.01
	6	112.95 – 114.50	quartz vein and silicified rock	1.55	0.21	22.3	<0.01	<0.01	0.06
	7	121.00 – 122.00	silicified rock	1.00	0.27	15.3	–	–	–
	8	186.30 – 186.50	ditto	0.20	0.07	3.0	–	–	–
	9	189.00 – 189.30	black lenticular vein	0.30	13.10	360	–	–	–
	10	193.70 – 193.80	quartz vein	0.10	0.14	3.6	–	–	–
	11	212.30 – 212.55	ditto	0.25	0.27	5.3	–	–	–
	12	212.55 – 212.75	black vein	0.20	0.48	7.3	–	–	–
	13	212.75 – 213.10	grey quartz vein	0.35	0.21	5.8	–	–	–
	14	213.30 – 214.00	ditto	0.70	0.21	6.3	–	–	–
	15	247.70 – 248.40	quartz vein	0.70	<0.07	1.3	–	–	–
MJP-13	1	156.90 – 157.55	quartz vein network	0.65	<0.07	3.6	–	–	–
	2	199.45 – 199.60	silicified rock with Cp, Sp	0.15	2.33	8.0	0.03	0.33	0.48
	3	199.60 – 200.60	silicified rock	1.00	0.27	1.9	<0.01	0.06	0.03
	4	200.60 – 201.14	ditto	0.54	0.48	6.3	0.06	0.14	0.29
	5	201.14 – 201.30	quartz vein network with Cp, Sp, Ga	0.16	5.04	45.0	0.79	1.37	1.30
	6	201.30 – 202.05	silicified rock	0.75	<0.07	2.3	<0.01	0.03	0.07
	7	202.05 – 202.75	ditto	0.70	0.07	4.1	0.03	0.04	0.13
	8	202.75 – 203.50	silicified rock with Cp, Sp	0.75	<0.07	5.0	0.06	0.12	0.14
	9	203.50 – 204.20	quartz vein network with Cp, Sp, Ga	0.70	0.21	18.0	0.18	0.86	1.62
	10	204.20 – 205.05	silicified rock	0.85	<0.07	1.3	<0.01	0.01	0.02
MJP-14	1	8.90 – 10.15	quartz vein network	1.25	<0.07	2.3	–	–	–
	2	10.15 – 11.60	ditto	1.45	<0.07	1.9	–	–	–
	3	11.60 – 12.75	ditto	1.15	<0.07	0.3	–	–	–
	4	14.15 – 14.25	white quartz vein	0.10	<0.07	<0.3	–	–	–
	5	17.40 – 17.50	ditto	0.10	<0.07	0.3	–	–	–
	6	18.40 – 18.47	grey quartz vein	0.07	<0.07	0.3	–	–	–
	7	23.15 – 23.25	ditto	0.10	<0.07	0.5	–	–	–
	8	28.50 – 29.65	reddish brown quartz vein	1.15	<0.07	0.5	–	–	–
	9	29.65 – 30.70	ditto	1.05	<0.07	3.3	–	–	–
	10	115.40 – 115.60	grey shale with pyrite	0.20	<0.07	2.5	–	–	–
	11	165.30 – 165.70	quartz vein	0.40	<0.07	2.3	–	–	–
	12	165.70 – 166.55	quartz vein network	0.85	<0.07	2.5	–	–	–
	13	167.30 – 167.85	ditto	0.55	<0.07	0.5	–	–	–
	14	167.85 – 168.55	ditto	0.70	<0.07	0.5	–	–	–
	15	179.22 – 179.40	white and grey quartz vein	0.18	0.07	2.5	–	–	–
MJP-15	1	32.70 – 33.45	quartz vein network	0.75	<0.07	1.9	–	–	–
	2	33.45 – 34.20	ditto	0.75	<0.07	1.0	–	–	–
	3	35.00 – 36.00	brown iron oxides network	1.00	<0.07	0.3	–	–	–
	4	63.70 – 64.00	iron oxides with pyrite	0.30	0.07	0.3	–	–	–
	5	68.35 – 69.55	disseminated of pyrite	1.20	<0.07	1.3	–	–	–
	6	82.75 – 83.80	quartz vein network	1.05	<0.07	0.5	–	–	–
	7	84.50 – 85.00	quartz vein	0.50	<0.07	0.8	–	–	–
	8	92.20 – 93.10	silicified rock with pyrite	0.90	<0.07	0.3	–	–	–
	9	93.10 – 93.80	veinlet of iron oxides	0.70	<0.07	2.8	–	–	–
	10	197.45 – 197.80	pyrite veinlet network	0.35	<0.07	1.9	–	–	–

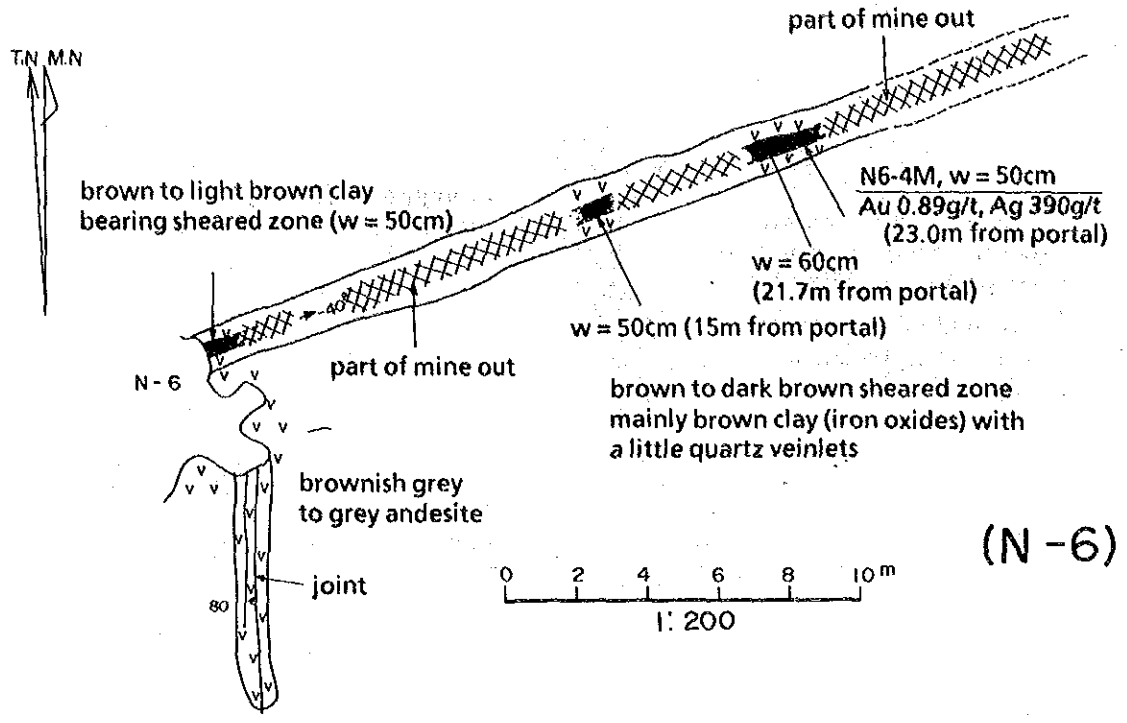


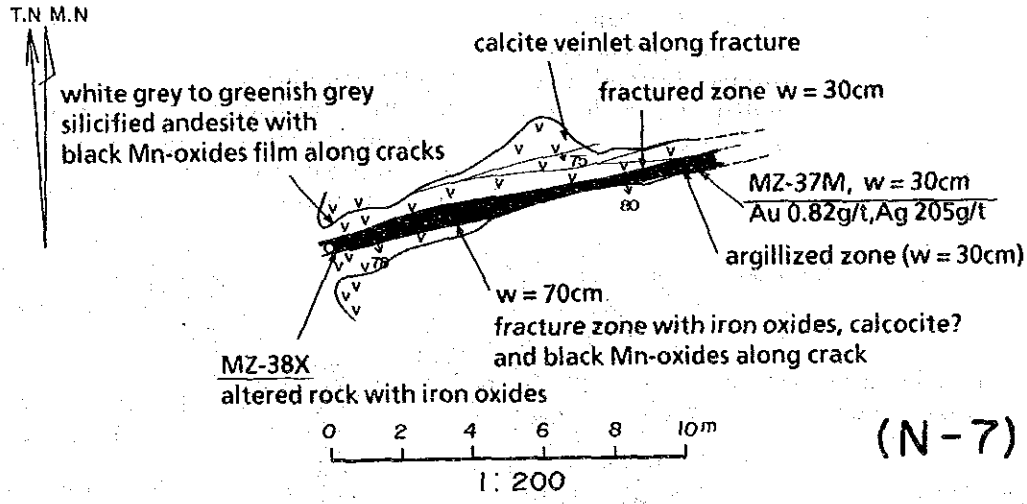
(N - 1)

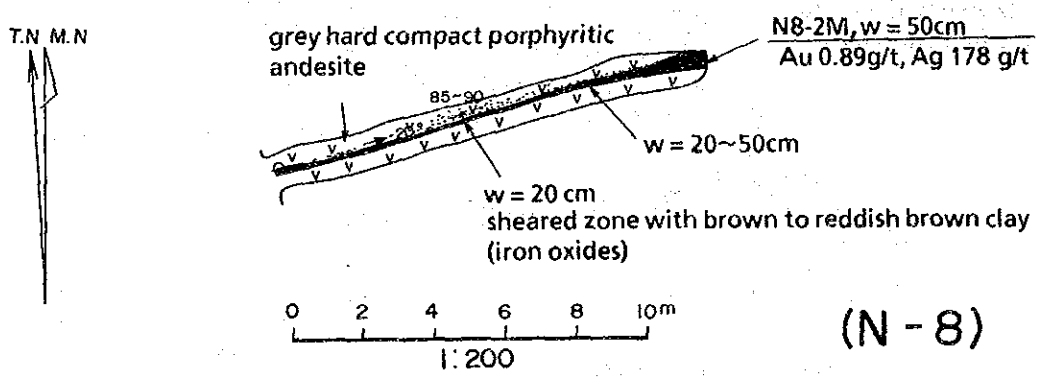


(N - 3)

Apx. 9 Geological Sketch Map of Tunnel N-1, N-3 in North of the Colpar Area







Apx. 10 Geological Sketch Map of Tunnel N-6, N-7, N-8 in North of the Colpar Area