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Petrography and Mineral Chemistry of Selected Samples from the Eskay Creek Gold Prospect, Stewart, B.C.

by

R.L. Barnett
Department of Geology
The University of Western Ontario
London, Ontario, Canada
N6A 5B7

for

J.D. Blackwell
Mineral Exploration Consultants Ltd.

and

Chet Idziszek
Prime Explorations Ltd.
Prime Capital Place
10th Floor - Box 10, 808 West Hastings Street
Vancouver, British Columbia, Canada
V6C 2X6

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INTRODUCTION

This report is an attempt to communicate the results of a detailed petrographic electron microprobe examination of 55 samples selected from diamond drill core from the Eskay Creek gold prospect near Stewart, British Columbia.

All samples were examined in reflected and transmitted light and relevant minerals were analysed with a JEOL JXA-8600 electron microprobe equipped with 4 wavelength spectrometers and an energy dispersive X-ray detector, EDS. The backscattered electron detector BSE was used extensively to investigate the degree of compositional variation in individual sulphide grains and to document the textural relationships of complex intergrowths of various sulphide mineral species. The BSE detection image displays through grey levels in the image, variations in the mean atomic number of various domains, usually mineral grains in the area rastered by the electron beam on the microprobe. It is difficult to portray in the same image different domains of highly contrasting mean atomic number, such as HgS or PbS in a quartz, muscovite and chlorite matrix. The contrast and gain settings which portray relationships between high mean atomic number sulphide species necessarily result in the loss of detail concerning texturally related silicate and carbonate low mean atomic number mineral species which appear black in the BSE photograph. Despite this shortcoming the BSE detection is considered a useful tool and was used extensively in this study. The BSE images which display domains of high Hg and Ag in individual sphalerite and tetrahedrite grains throughout this report are truly spectacular and could not be portrayed in any other way.

An initial report concerning 13 drill core samples from Eskay Creek was provided to J.D. Blackwell dated May 15, 1989. In the writer's view the observations and interpretations in this initial study are largely substantiated by the present work. However, the significance of certain mineralogical associations and textural features such as pseudomorphous replacement relationships in these 13 samples was not fully appreciated and where necessary certain interpretations have been modified in the light of information provided by the much larger and more representative sample suite. It should ever be thus.

In addition textures and assemblages in this larger sample suite hint at a number of processes and fluid compositions not addressed in the first report. These are discussed subsequently. However, in the writer's view this is still only part of the story. The Eskay Creek gold deposit formed in a truly complex set of geological, structural and fluid dominated hydrothermal processes not yet fully appreciated.

SULPHIDE ANALYSES, PROCEDURES AND SPECTRAL OVERLAPS

This section is an attempt to outline the rationale and techniques used in generation of the sulphide analyses in this report. A discussion of the shortcomings of the use of the energy dispersive, EDS X-ray detector to positively identify unknown, high atomic number sulphide minerals is included at the request of J.D. Blackwell.

The basic operating principles of an electron microprobe are quite simple in theory. A beam of electrons drawn off a hot tungsten filament is accelerated in a 20 KV potential difference, in the case of high atomic number sulphide minerals, and focused on a sample with electromagnetic lenses. The electron beam is approximately 2-5 microns in size. Incoming energy of the electron beam energizes the electrons in the various sp and d orbitals shells in all atoms present in the region of impingement of the electron beam. The energized electrons statistically rise and fall between the various orbital shells in the atoms present in the sample and emit X-ray energies that are constrained by the bond strengths of the individual atoms presents and in a sense characterize that atom. For example, iron and nickel have a different mass number and the bond strengths between electron orbitals in each atom are different. Thus the X-ray energies resulting from electron transitions between the different orbital shells have subtely different energies or wavelengths which can be used to characterize the amount of the atom present as a function of the intensity of the emergent so-called characteristic X-ray line. The characteristic X-ray lines emerge as energy spikes above a background or continuum of energy that results from a confused variety of electron sample interactions. It is the ability of the analytical system to statistically detect a characteristic X-ray line or peak above this background that is the limiting factor in determining accuracy and the detection limit in microprobe analyses.

The technique is comparative in that the count rates for the various K, L, M X-ray lines of the atoms of interest obtained from standards placed under the electron beam are stored with related background count rates on either side of the peak, in computer memory. Peak and related background count rates for the same X-ray lines are then obtained from the sample or unknown placed under the electron beam. The compositions of the standards are ideally accurately known values and standard count rates are compared with the peak and background of the unknown mineral and an approximate composition is obtained by direct comparison. Once these values have been obtained for all the atoms present in the unknown, the results are modified to some degree by a correction procedure using a computer program and a composition of the unknown mineral is thus obtained.

The procedure is fraught with potential problems that lead to inaccuracies in the data. Clearly the composition of the standards must accurately be known as results are to a great extent only as good as the standards used. Any significant variations in the analytical system such as vacuum, electronic levels in the counting circuits, or ability of the physical mechanism in the wavelength X-ray spectrometer to move the detection crystal LiF, PET, TAP from the position of one X-ray line to the other results in error. Also the position of the electron beam on the sample is critical as any X-ray energies from adjacent minerals which are included in the "analysis" will clearly lead to erratic and inaccurate results. There is a lower limit to size of a mineral grain which can be analysed largely constrained by the size of the electron beam. Ideally the area or volume of the standard and the sample from which X-ray spectra are compared should be identical.

Sulphide analyses in this report were obtained with wavelength X-ray spectrometers utilizing mineral standards appropriate to the sulphide mineral species analyzed i.e. HgS, ZnS, Sb_2S_3, PbS for cinnabar, sphalerite, stibnite and galena. This procedure minimizes certain inadequacies in the correction programs that particularly involve sulphur. For example, S in the PbS standard may indeed be accurately known, but using the emergent X-ray count of S K in PbS as the reference standard consistently yields inaccurate results for S in the ZnS or HgS standard treated as an unknown.

For any specific mineral such as sphalerite, the procedure used was to calibrate the system for all elements against pure metal, Au, Ag, or compositionally simple sulphide standards FeS, ZnS, PbS, HgS, Sb_2S_3.

The ZnS standard was then analysed against itself to establish a certain level of accuracy for the major elements Zn, S and to establish proper background levels for the "trace" elements on either side of the specific wavelength position established on the major element standards. It is critical in the analysis of trace elements to re-establish the proper background count rates for any significant change in composition as this determines the mean atomic number of the sample which significantly affects the background level and thus count rates. These considerations are very important in the analysis of important elements such as Au in sphalerite in the Eskay Creek samples which in some cases have a zoned or patchy domainal substitution of Hg for Zn.

Variations in Hg at a 2.00 weight percent level significantly effect the level of the continuum or background in the environment of the Au peak position and species values of 0.10 - 0.20 can easily be a consequence of a failure to properly establish or measure backgrounds on this new composition. Conversely, stored backgrounds on Hg rich domains would be too high for more Zn rich domains and effectively mask the presence of 0.10 - 0.20 weight percent Au.

Yet another problem in wavelength dispersive analyses has to do with spectral interferences and the proper X-ray line must be chosen. Two spectral lines may be used to quantify the presence of gold in any mineral M or L . Unfortunately there is a small Zn peak in the continuum near the position of Au L and despite the measurement of proper backgrounds on ZnS near the Au L position, analyses of ZnS for gold using the Au L line generally result in spurious gold concentrations in the range 0.20 - 0.40 weight percent. There is a more significant spectral interference between Pb L and As which leads to significantly erroneously enhanced lead concentrations in arsenic rich minerals. This interference is a problem in the analysis of tetrahedrite and the Pb As Sb Ag S sulphosalt mineral species present in the Eskay Creek samples. The Pb M line was used.

Despite all the potential problems however, with care, relatively accurate analyses of compositionally complex sulphide mineral species can be achieved.

Such is not the case with sulphide analysis using EDS or energy dispersive X-ray detectors and numerous energy overlaps have rendered such systems essentially useless for quantitative analysis of complex high atomic number sulphide species. In fact even use of EDS systems to rapidly assess the presence or absence of certain elements can lead to serious and important mistakes. On all EDS systems there is a serious energy overlap between S, Pb M , Hg M , Au M such that all of these peaks appear at almost the same energy position on an EDS spectrum. In reality if the electron beam is residing on a volume of galena, a single peak at the S, Pb M energy position results and indeed it is not possible to be certain if the material is indeed pure S, pure Pb, PbS, pure Hg, pure HgS, or native Au. The implications of the use of an EDS system on a stand alone basis without the use of wavelength specrometers to examine the complex sulphide assemblages at Eskay Creek are obvious. The high atomic elements Pb, Hg, Au have other lines, L lines at higher energies in the energy dispersion system. However, the count rates for these lines are low and thus the detection limit using these higher energy lines is poor. For example the EDS spectra for sphalerite with 5.00 weight percent Hg generated using the wavelength specrometers has only a barely discernable minute peak at the higher energy Hg L position.

Similar overlap detection limit problems arise using an EDS system to attempt to establish the presence or absence of Au in HgS. An overlap prevents use at the Au M - Hg M position where count rates and thus a reasonable detection limit is high. Count rates are low and constrains an unrealistic detection limit at the higher energy Au L position. Any suggestion that HgS may or may not contain submicroscopic domains of gold on the basis of an EDS spectra is in the writer's view completely ridiculous. An EDS system in the wrong hands is a dangerous thing. However, such systems are quite useful for rapid compositional assessment of unknown mineral species with a wavelength spectrometer system in reserve.

SULPHIDE, GOLD, AMALGAM ANALYSES IN ESKAY CREEK SAMPLES

Throughout the course of this study special attention was given to the nature of the sulphide minerals present in each sample. All samples were examined in reflected light but information provided by this technique was generally inconclusive due to the fact the "opaque" mineral species in the Eskay Creek ore have very similar and ambiguous reflected light optical properties, being various shades of white and grey. The back scattered electron detector was used extensively and the surface of all samples was examined at low magnification, 40-500X, to identify "bright regions" of high atomic number. These regions were then investigated in detail at higher magnification, 1000-3000X, using the EDS system to tentatively identify the minerals of interest. These were then analysed with the wavelength spectrometer analytical system. The writer feels that most volumetrically significant sulphide mineral species in the Eskay Creek ore have been identified, although the minor occurrence of additional minerals is a certain possibility.

All minerals tentatively identified are listed in the individual thin section descriptions. Analyses of amalgam, gold, complex PbSbAs (Hg,Ag,Cu,Zn) sulphosalts species, sphalerite Zn (Hg Fe)S, and tetrahedrite are presented in Tables 1-4, respectively. Samples in which sulphide minerals were analysed are listed below. The number of analyses in these tables is in no way related to the abundance of the sulphide mineral in any samples and in many samples only several minute domains of the mineral were noted. These are represented by a single analysis in the relevant table. These single analyses are considered useful in the documentation of the occurrence and composition of the mineral for metallurgical purposes and to add to the data base allowing assessment of potential spatial mineral compositional zoning in the Eskay Creek deposit.

6-97.5		- sphalerite, tetrahedrite, HgS, PbSbAsS
9-74.9	RLB	- sphalerite, stibnite, HgS, PbSbAsAgS, aktashite
9-74.9	CA-5	- sphalerite, HgS, stibnite
9-75.2		- sphalerite, HgS
9-102.5		- tetrahedrite, AgSbS

11-144.5		- sphalerite, PbS
12-75.6		- NiSbS, ullmannite
12-66.2		- sphalerite, tetrahedrite, PbSbCuS
12-92.3		- sphalerite, tetrahedrite
12-119.7		- tetrahedrite, PbSbAgS
12-121.6		- PbSbAgS
13-66.5		- tetrahedrite, HgS, PbSbAgS
14-55.2	CA-12	- tetrahedrite, PbS
15-73.0		- tetrahedrite
15-75.1		- stibnite, PbS, HgS, amalgam
16-63.5		- sphalerite, PbSbHgAgS
16-65.7		- tetrahedrite, PbSbAsS
16-77.0		- PbSbS
16-106.3		- sphalerite
16-106.6		- sphalerite
16-200.4		- sphalerite, tetrahedrite
21-59.1		- PbSbAgAsS, aktashite, gold
21-65.9		- PbSbAgS
55-96.6		- sphalerite, PbSbCuS

Stibnite, galena and cinnabar were investigated compositionally in most samples where noted and analyzed in detail in certain samples listed above with special attention given to the possible presence of Au and Ag. Care was taken to establish the proper background intensities during these analyses. The pure end member HgS and Sb S standards were analyzed alternately with the individual "unknown" minerals in each sample to eliminate the possibility of improper background intensities that would lead to spurious Au, Ag concentrations.

In the writer's view galena, cinnabar and stibnite are essentially end member PbS, HgS and Sb_2S_3 compositions in the Eskay Creek ore. If present at all in the structure of these minerals, gold and silver necessarily must be present at concentration levels below the detection limit of the electron microprobe, 0.02 weight per cent or 200 ppm. Analyses of these minerals have not been included in this report as to have done so would be an exercise in the ability of the

Table 1. Aktashite, Amalgam and Gold Analyses.

	1 9-74.9	2 9-74.9	3 9-74.9	4 21-59.1	5 21-59.1	6 21-59.1	7 15-75.1	8 15-75.1	9 15-75.1	10 15-75.1	11 15-75.1
Au	0.00	0.00	0.00	0.00	0.00	84.82	0.26	0.26	0.26	0.26	0.72
Ag	0.29	0.54	0.64	0.53	0.46	9.55	63.50	63.89	63.89	64.11	64.35
Hg	30.84	32.10	32.05	31.28	31.09	5.00	35.04	33.90	34.61	34.86	34.96
S	25.40	25.79	25.16	25.94	26.70	-	0.00	0.00	0.00	0.00	0.00
As	14.50	17.12	17.38	11.73	12.06	-	-	-	-	-	-
Cu	24.15	23.81	23.57	25.89	26.11	-	-	-	-	-	-
Zn	0.47	0.47	0.41	0.60	0.65	-	-	-	-	-	-
Fe	0.19	0.13	0.14	0.17	0.18	-	-	-	-	-	-
Sb	1.82	2.76	2.75	4.01	3.85	-	-	-	-	-	-
Pb	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00
Total	97.66	102.72	102.11	100.16	101.10	99.37	98.79	98.08	99.38	99.86	100.06
		Cu Hg Sb S				gold			amalgam		

Table 2. Pb Sb Hg Ag As S Analyses.

	1 9-74.9	2 9-74.9	3 12-88.2	4 12-88.2	5 12-119.7	6 12-119.7	7 12-119.7	8 12-119.7	9 12-119.7	10 12-121.6	11 12-121.6	12 13-88.5	13 13-88.
Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00
Ag	10.12	10.35	0.00	0.00	5.83	11.76	5.91	6.05	10.44	3.50	3.50	10.33	10.23
Hg	3.88	3.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S	24.46	24.96	19.92	19.71	19.14	22.13	18.74	19.65	20.60	19.91	19.52	21.63	21.32
As	6.13	6.45	1.02	1.13	0.29	0.58	0.46	0.49	0.54	1.71	1.66	4.00	3.90
Cu	0.72	0.57	13.35	13.22	0.49	0.10	0.58	0.63	0.30	0.66	0.66	0.76	0.69
Zn	0.68	0.35	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Fe	0.06	0.05	0.04	0.05	0.46	0.65	0.05	0.05	0.00	0.67	0.70	2.02	2.38
Sb	33.18	33.70	23.82	23.72	29.27	40.91	29.79	29.64	39.56	29.28	29.09	38.06	36.84
Pb	20.93	21.39	42.23	40.87	43.81	22.45	44.82	42.19	25.79	42.72	43.43	22.96	24.28
Total	100.09	101.70	100.38	98.70	99.36	98.58	99.85	98.77	97.24	98.45	98.54	100.77	100.64

Table 2 (continued)

	14 16-83.5	15 16-83.5	16 16-85.7	17 16-85.7	18 18-77.07	19 18-77.07	20 21-59.1	21 21-68.9	22 21-68.9	23 21-68.9	24 21-68.9	27 55-98.8	28 55-98.
Au	0.00	0.52	0.00	0.00	0.00	0.05	0.00	0.09	0.02	0.00	0.00	0.00	0.00
Ag	9.74	9.58	10.66	10.55	0.27	0.37	11.08	10.22	10.18	10.32	10.67	0.00	0.00
Hg	3.74	5.07	2.33	2.58	0.00	0.00	0.78	1.93	2.02	0.74	1.57	0.00	0.00
S	22.81	22.61	22.19	22.32	22.82	22.33	23.51	23.04	23.11	23.11	23.07	20.00	20.60
As	4.14	4.42	4.74	3.48	1.79	1.85	6.14	1.67	1.63	1.60	2.08	0.64	0.58
Cu	0.84	0.94	2.07	0.44	0.33	0.23	0.47	1.02	0.90	1.02	0.98	13.45	13.36
Zn	0.00	0.06	0.16	0.01	0.02	0.00	0.03	0.01	0.09	0.03	0.27	0.00	0.00
Fe	0.52	0.59	0.18	0.09	0.02	0.00	0.00	0.55	0.57	0.17	0.38	0.00	0.00
Sb	36.36	35.72	35.20	36.96	44.21	44.15	38.87	40.47	39.68	39.95	40.25	24.20	24.50
Pb	21.08	22.60	23.55	23.46	32.92	31.10	19.75	21.47	19.90	20.60	21.07	43.15	40.81
Total	99.25	102.11	101.07	99.88	102.38	100.07	100.62	100.46	98.10	98.54	100.34	101.43	99.86

Table 3. Sphalerite Analyses.

	1 9-74.9	2 9-74.9	3 9-74.9	4 9-74.9	5 9-74.9	6 9-74.9	7 9-74.9	8 9-74.9	9 9-74.9	10 9-74.9	11 9-74.9	12 9-74.9
Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04	0.00	0.00
Hg	33.40	33.02	10.99	21.43	31.09	28.86	30.10	23.10	18.62	28.03	27.34	14.25
S	25.66	26.66	30.16	28.36	26.53	27.43	29.31	29.90	30.87	28.91	29.45	32.55
Zn	40.16	40.48	56.32	48.81	41.99	43.14	38.78	44.05	47.43	41.27	41.42	52.32
Fe	0.15	0.28	0.09	0.15	0.20	0.18	0.16	0.14	0.12	0.19	0.19	0.17
Mn	0.66	0.66	0.51	0.95	1.18	1.09	-	-	-	-	-	-
Total	102.82	101.00	98.07 core	99.63 int	101.00 margin	100.70	99.37	97.30	97.22	98.90	98.61	97.07

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Table 3 (continued)

	13 9-74.9	14 9-74.9	15 9-74.9	16 9-74.9	17 9-75.2	18 9-75.2	19 9-75.2	20 9-75.2	21 9-75.2	22 9-75.2	23 9-75.2	24 9-75.2
Au	0.00	0.00	-	-	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
Ag	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Hg	24.94	28.38	26.45	28.79	28.81	26.26	26.00	26.89	27.27	27.17	27.02	28.20
S	29.65	28.67	29.37	28.73	28.67	28.51	28.73	28.48	28.67	28.08	28.26	26.64
Zn	43.10	41.10	42.26	40.80	40.69	44.92	44.93	45.85	45.41	43.08	43.97	41.72
Fe	0.18	0.19	0.17	0.16	0.20	0.14	0.08	0.09	0.10	0.08	0.04	0.11
Mn	-	-	-	-	-	1.11	1.16	1.04	0.96	1.01	0.49	0.90
Total	98.16	98.93	98.46	98.73	98.45	101.07	100.85	102.35	102.34	99.44	99.79	97.57

Table 3 (continued)

	25 11-144.5	26 11-144.5	27 11-144.5	28 11-144.5	29 11-144.5	30 11-144.5	31 11-144.5	32 11-144.5	33 12-88.2	34 12-88.2	35 12-88.2	36 12-88.2
Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Ag	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.44	2.02	1.73
S	34.97	34.30	35.28	33.03	33.16	33.06	33.24	33.28	32.92	32.81	31.69	32.37
Zn	60.51	62.10	62.04	62.20	61.49	62.54	60.92	61.27	63.67	64.04	63.03	65.62
Fe	4.15	3.89	4.21	3.65	3.29	2.98	3.94	4.27	0.27	0.45	0.35	0.02
Mn	0.00	0.00	0.00	0.27	0.24	0.18	0.30	0.29	0.11	0.23	0.21	0.07
Total	99.63	100.44	101.55	99.15	98.18	98.76	98.39	99.11	97.03 C	97.98 C	97.30 M	98.85 M

Table 3 (continued)

	37 12-88.2	38 12-88.2	39 12-88.2	40 12-88.2	41 12-88.2	42 12-88.2	43 12-92.3	44 13-88.5	45 13-88.5	46 13-88.5	47 13-88.5	48 13-88.5
Au	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.09	0.00	0.00	0.00
Ag	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hg	2.32	1.74	0.03	1.84	2.01	0.41	1.80	0.57	0.96	0.64	0.73	0.69
S	32.76	33.04	33.40	33.19	32.70	32.96	31.57	32.72	34.34	33.17	34.25	33.62
Zn	64.02	63.55	64.66	63.45	63.55	65.20	63.06	64.77	64.98	64.72	64.08	64.40
Fe	0.35	0.22	0.53	0.21	0.25	0.38	0.34	0.64	0.63	0.67	0.56	0.64
Mn	0.29	0.17	0.22	0.30	0.27	0.21	0.13	0.03	0.05	0.05	0.07	0.05
Total	99.74	98.71	98.85 C	99.09 M	98.78 M	99.20	96.89	98.74	101.06	99.25	99.69	99.41

Table 3 (continued)

	49 13-88.5	50 16-83.5	51 16-83.5	52 16-83.5	53 16-83.5	54 16-83.5	55 16-83.5	56 16-83.5	57 16-95.1	58 16-95.1	59 16-95.1	60 16-95.1
Au	0.00	0.08	0.00	0.00	0.03	0.06	0.15	0.00	0.00	0.00	0.00	0.00
Ag	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.03	0.00	0.00	0.00	0.00
Hg	0.82	8.74	8.63	8.37	8.58	9.57	9.29	8.99	1.22	1.34	4.13	3.38
S	33.10	31.38	31.46	31.83	31.96	32.41	31.77	31.89	32.48	32.53	31.78	31.84
Zn	65.34	59.39	59.75	58.95	59.88	58.11	58.68	57.72	66.72	66.65	62.26	64.86
Fe	0.87	0.19	0.19	0.23	0.17	0.20	0.21	0.18	0.13	0.13	0.14	0.10
Mn	0.06	0.67	0.81	0.70	0.74	0.70	0.86	0.84	0.34	0.44	0.75	0.57
Total	100.18	100.44	100.83	100.07	101.33	101.30	100.90	99.66	100.90	101.10 C	101.00 M	100.75

Table 4. Tetrahedrite Analyses.

	1 9-102.5	2 9-102.5	3 9-102.5	4 9-102.5	5 9-102.5	6 9-102.5	7 9-102.5	8 12-88.2	9 12-88.2	10 12-88.2	11 12-88.2	12 12-88.2
Au	0.00	0.00	0.00	0.00	0.43	0.19	0.00	0.00	0.00	0.17	0.04	0.00
Ag	15.66	15.81	11.67	12.61	35.66	36.53	15.12	10.92	11.15	12.72	11.57	12.47
Hg	3.53	3.76	3.31	3.97	0.08	0.00	2.58	3.10	2.48	7.37	1.46	1.99
S	21.28	21.31	22.42	22.93	20.32	20.88	22.12	24.19	24.62	23.36	23.65	24.05
As	0.82	0.76	4.90	4.69	1.44	1.32	0.64	2.82	2.72	2.20	2.02	1.92
Cu	26.30	26.50	30.38	29.67	0.87	1.28	26.84	30.36	30.76	27.60	29.42	28.99
Zn	5.47	5.57	5.86	5.70	0.06	0.15	5.74	5.30	5.53	3.43	5.96	5.73
Fe	0.09	0.09	0.11	0.10	0.05	0.00	0.07	0.74	0.69	0.90	0.41	0.62
Sb	25.97	26.33	30.63	21.07	40.87	41.84	27.14	24.29	24.87	23.94	25.70	25.24
Pb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	99.13	100.13	99.27	100.75	99.77	102.20	100.26	101.71	102.82	100.71	100.22	101.02

Table 4 (continued)

	13 12-88.2	14 12-88.2	15 12-88.2	16 12-88.2	17 12-88.2	18 12-92.3	19 12-92.3	20 13-88.5	21 14-53.2	22 14-53.2	23 14-53.2	24 14-53.2
Au	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.02
Ag	12.28	11.70	13.13	10.63	12.24	17.81	16.45	15.24	15.03	15.12	11.17	13.97
Hg	6.26	3.79	3.92	3.46	3.69	1.01	1.38	0.00	0.47	0.21	0.19	0.39
S	23.51	23.81	22.95	23.72	23.76	23.32	21.47	23.58	25.52	25.17	25.97	25.48
As	2.79	2.72	1.81	2.83	1.78	0.30	0.35	0.00	6.16	5.78	7.51	5.34
Cu	28.46	29.31	27.87	29.58	28.21	23.23	24.44	27.81	30.73	30.90	32.14	29.66
Zn	3.71	4.99	4.95	4.98	4.98	1.55	1.12	4.00	4.20	4.43	4.26	4.47
Fe	0.89	0.66	0.62	0.87	0.82	3.81	4.47	2.78	2.57	2.50	2.53	2.34
Sb	23.19	24.00	25.44	23.58	25.01	25.11	25.69	27.49	18.85	19.23	16.58	19.96
Pb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	101.23	100.98	100.68	99.65	100.49	96.15	95.37	100.89	103.55	103.36	100.34 C	101.62 M

Table 4 (continued)

	25 14-53.2	26 14-53.2	27 14-53.2	28 14-53.2	29 14-53.2	30 12-119.7	31 12-119.7	32 14-53.2	33 14-53.2	34 14-53.2	35 15-63.1	36 15-73.0
Au	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag	12.08	11.15	11.60	10.17	9.69	17.54	17.13	9.69	12.50	14.53	10.60	10.21
Hg	0.40	0.14	0.00	0.00	0.00	5.69	6.01	0.00	0.00	0.00	0.00	0.00
S	25.48	25.57	25.53	25.40	26.62	21.66	21.37	26.62	25.85	25.07	22.61	23.77
As	5.55	7.49	6.84	7.89	10.57	1.21	1.05	10.57	7.89	4.08	1.00	5.52
Cu	31.29	32.78	32.15	33.40	34.17	23.02	23.63	34.17	30.93	28.73	29.68	31.91
Zn	4.88	4.43	4.48	4.27	4.03	4.16	4.08	4.03	4.00	4.54	4.28	4.17
Fe	2.29	2.56	2.34	2.48	2.94	6.92	0.79	2.94	3.82	2.00	3.85	2.43
Sb	19.48	17.06	17.95	16.15	12.15	24.70	24.50	12.15	15.67	22.15	25.42	20.43
Pb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	101.49	101.18	100.98	99.77	100.16	98.91	98.56	100.18	100.66	101.10	97.44	98.44

Table 4 (continued)

	37 15-73.0	38 15-73.0	39 15-73.0	40 15-73.0	41 16-85.7	42 16-85.7	43 16-85.7	44 16-85.7	45 18-200.4	46 18-200.4
Au	0.00	0.00	0.00	0.00	0.10	0.07	0.13	0.13	0.00	0.00
Ag	10.37	9.91	8.03	8.35	9.05	8.23	8.78	9.82	4.41	4.18
Hg	0.00	0.57	0.24	0.00	13.38	13.34	13.07	12.88	0.00	0.00
S	23.88	24.04	25.74	24.66	23.56	23.01	23.45	23.18	23.30	22.99
As	5.35	6.01	8.93	8.32	10.31	10.74	9.91	10.70	0.72	0.67
Cu	32.06	32.24	35.14	34.13	31.04	31.74	31.60	29.24	35.11	35.57
Zn	4.12	4.54	5.46	5.43	2.36	2.23	2.30	2.05	2.94	2.96
Fe	2.38	2.35	2.61	2.72	0.72	0.53	0.68	1.03	5.06	5.02
Sb	20.04	19.77	16.11	16.66	11.12	10.11	11.17	10.23	28.55	28.46
Pb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	98.20	99.23	102.27	100.28	101.63	100.00	101.09	99.27	100.07	99.85

composition includes the substitution of Fe, Mn, and Hg for Zn. Iron-rich compositions possibly characterize sphalerite in samples of altered rhyolite footwall to the mineralized zone. Sphalerite with galena as veins in altered rhyolite sample 11-144.5 analysis 25-32, Table 3 is essentially unzoned with Fe in the range 2.96-4.27 weight percent and significantly contains no Hg or Mn. Honey coloured sphalerite as isolated grains and in veins with quanrtz in massive chloritite in samples 16-108.3, 16-108.6 is essentially pure ZnS and contains minimal iron in the range 0.26 - 0.87 weight percent Fe and significantly no Mn.

In contrast samples well within the mineralized zone are significantly and spectacularly enriched in Mn and Hg. Sphalerite in massive realgar with breccia fragments of altered chert and a variety of alteration assemblages contain Hg and Mn in the ranges 26.00-26.20 and 0.49-1.11 weight percent respectively, analyses 16-24, Table 3. Sphalerite grains associated with domains of recrystallized quartz and Mg chlorite alteration of quartz and calcite veined chert in sample 9-74.9 have specific domains with truly extraordinary Hg content reaching 33.40 weight percent, analysis 1, Table 3, Plate 9-74.9-11. Certain grains exhibit a spectacular zonation and core to margin increase in Hg and Mn, Plate 9-74.9-12. Central regions of this grain dark in the BSE image contain 0.51 and 10.99 weight percent Mn and Hg while the bright outer margins of the grain contain 31.09 and 1.16 weight percent Hg and Mn, analysis 5, Table 3. Sphalerite in the remaining samples analyzed exhibit less spectacular Hg contents and Fe and Mn concentrations and may represent intermediate stages in the postulated deposit-scale Fe - Hg Mn zonation. Samples 16-63.5 pervasively muscovite altered chloritized rhyolite contains Hg in the range 8.37 - 9.57 weight percent and Fe and Mn in the ranges 0.18-0.23 and 0.67-0.90 weight percent respectively, analyses 50-56, Table 3. Although less spectacular than that of sample 9-74.9 sphalerite in sample 12-88.2 and 16-95.1 exhibits the same general core to rim Fe - Hg Mn zonation.

Compositions within the tetrahedrite $(Cu,Fe,Zn)_{12}Sb_4S_{13}$-tennantite $(Cu,Fe,Zn)_{12}As_4S_{13}$ solid solution series were noted and analysed in numerous samples examined, Table 4. Most analyses are decidedly rich in Sb. The writer analytical system to simply reproduce PbS, HgS, Sb_2S_3 compositional stoichiometry. In addition to the compositionally simple sulphide species FeS_2, HgS, PbS, Sb_2S_3, AsS, the Eskay ore consists of compositionally complex variety of PbSb sulphide minerals, sphalerite and tetrahedrite in which there is a considerable variation in Fe, Cu, Zn, Hg and Ag contents. As listed in Table 1, aktashite, a CuAsHgSbS phase occurs in certain samples. It is of interest that this mineral occurs in the Hemlo ores. Table 2 lists a variety of PbSbAsS sulphide minerals with a significant variation in the major element substitution in Hg, Ag, As, Cu and a minor variation in Fe, Zn. It is beyond the scope of the present study to positively identify and name these minerals as to do so it would be necessary to extract amounts of these phases and use X-ray diffractometric and X-ray power or precession camera techniques to establish the crystal structure of the relevant mineral species. $Pb_6Sb_{14}S_{27}$ is zinkenite. $Cu_6Hg_3As_4S_{12}$ is aktashite. $PbCuSbS_3$ is bournonite. $Pb_5Sb_4S_{11}$ is boulangerite. $Pb(SbAs)_2S_4$ is twinnite. $Pb_{14}(SbAs)_6S_{23}$ is geocronite. $Pb_4FeSb_6S_{14}$ is jamesonite. $PbCuAsS_3$ is seligmannite. Presumably some of the analyses in Table 2 would be positively identified as some of these mineral species.

Detailed crystal structure-compositional assessment would likely demonstrate that the analyses in Table 2 are of a variety of discrete Pb Sb Hg AsS mineral species in which there is a considerable variation in the degree of Hg, Ag, As, Fe, Zs, Cu substitution.

Sphalerite and tetrahedrite analyses in Tables 3 and 4 respectively outline a significant degree in the variation of Hg,Ag,Cu,Fe,Zn contents similar to that of the Pb minerals in Table 2. However, as the identity of the mineral involved is more certain, the compositional variation apparent in sphalerite and tetrahedrite can be considered in terms of elemental substitution within discrete crystal structures. Both sphalerite and tetrahedrite exhibit a compositional variation which clearly defines a core to rim zonation of certain elements on a grain to grain basis and less tangibly potentially defines a spatial compositional variation or mineral zonation on the scale of the Eskay Creek deposit. The significant deviation of sphalerite from the end member ZnS finds this somewhat peculiar considering the arsenic content of the Eskay Creek deposit as manifest by the considerable abundance of realgar AsS. This interesting feature might well be an indication that the tetrahedrite achieved its composition as a function of parameters operative in a fluid system as its composition does not appear to be constrained by overall bulk composition otherwise more arsenic-rich compositions might have been expected.

Indeed, the basic mineral appears to have been a tetrahedrite composition $(Cu,Fe,Zn)_{12}Sb_4S_{13}$ with deviations from this composition involving the complex substitution of Ag and Hg with related substitution of As for Sb Sample 16-200.4 contains essentially end member tetrahedrite with Sb 28.55 weight percent and As 0.70 weight percent with considerable Fe, Zn content and Ag near 4.20 weight percent, analyses 45 and 46, Table 4.

Numerous samples, 9-102.5, 12-66.2, 12-92.3, 13-86.5 contain tetrahedrite in the sense that the mineral has low As in the range 0.30 - 4.90 weight percent, with significant Ag and Hg contents in the ranges 11.67-17.81 and 0.00-6.26 weight percent, respectively, analyses 1-20, Table 4. Indeed analyses 18-20, Table 4, appear to represent tetrahedrite, As 0.00-0.35 with a spectacular Ag content in the range 15.24-17.81 weight percent. Increasing Hg, Ag contents appear to involve a concomitant substitution of As for Sb as in the example of sample 16-85.7, analyses 41-44, Table 4, where elevated Ag and spectacular Hg concentrations in the ranges 8.23-9.82 and 12.86-13.38 weight percent respectively, occur in a mineral with approximately equal Sb and As contents in the order of 10.00 weight percent. As in the case of the compositionally complex Pb minerals, crystal structural information would be required to firmly establish whether or not this mineral in sample 16-85.7 is Ag, Hg rich tetrahedrite-tennantite or some other mineral species. Indeed there is some possibility that the mineral may be friebergite a Ag rich Sb As sulphide and the analyses in Table 4 may represent compositional variations within the tetrahedrite-friebergite series.

In most samples the tetrahedrite grains, at the centre of pyrite spheres or as narrow overgrowths on pyrite were too small to manifest composition zonation.

In sample 12-86.2, however the tetrahedrite overgrowths on sphalerite are clearly zoned, Plate 12-88 2-4. Inner regions of the overgrowth on sphalerite contain 1.46-1.99 weight percent Hg rising to 6.26 weight in narrow outer zones bright in the BSE image. Tetrahedrite in samples 14-53.2 also has outer zones enriched in Ag.

This both sphalerite and tetrahedrite-friebergite minerals at Eskay Creek both exhibit a chemical zonation by chemical substitution of Ag and Hg into their crystal structures in narrow outer growth zones. This phenomenon was observed in a number of samples and in the writer's view is strong evidence for evolution of fluids at the focus of the Eskay Creek hydrothermal system to increasingly Ag and Hg rich compositions. The fact that sphalerite and tetrahedrit-friebergite minerals both manifest outer growth zones enriched in Ag and Hg is evidence that this evolution in fluid compositions took place while these minerals were actively precipitating. It is not clear to the writer whether or not the cinnabar HgS commonly observed along cracks in a variety of sulphide minerals and thus paragenetically late should be considered as the ultimate expression of the evolution of hydrothermal fluids to increasing Hg rich compositions enabling the stability of HgS in the Eskay system or the HgS along cracks is indeed a late phase in the sense that it is replacing or retrogressing sulphide minerals in certain rock volumes and merely an expression of the Hg anomaly in those rock volumes generated by the Eskay Creek hydrothermal system.

The writer well understands that it is fashionable to compare in any way possible a developing gold prospect to the Hemlo gold deposit. However, in the writer's view the similarity of the complex Pb, Zs, Cu, Ag, Hg, As, Sb sulphide mineral inventory of the Eskay Creek deposit with the ores of the Hemlo gold camp is indeed remarkable and the comparison may be made with some integrity. To emphasize this point the list of sulphide minerals positively identified by D.C. Harris of the Geological Survey of Canada and published in GOLD 86 has been reproduced in Figure 1.

A detailed crystal structure study of the sulphide minerals at Eskay Creek

Figure 1: Sulphide Mineral Inventory of the Hemlo Gold Deposit (from D.C. Harris, GOLD 86).

THE MINERALS IN THE MAIN HEMLO GOLD DEPOSIT. THE FORMULA LISTED FOR EACH HEMLO MINERAL IS THE MOST REPRESENTATIVE FOR THAT SPECIES IN THE DEPOSIT.

ORE MINERALS

Common species	Simplified formula	Hemlo
Native Gold	Au	Hg0.0-22.1, Ag0.0-29.1
Pyrite	FeS_2	FeS_2
Molybdenite	MoS_2	MoS_2
Sphalerite	ZnS	Hg0.0-27.5, Fe0.0-1.9
Arsenopyrite	FeAsS	FeAsS
Stibnite	Sb_2S_3	As0.0-4.8
Tetrahedrite	$(Cu,Fe,Zn)_{12}Sb_4S_{13}$	Hg0.0-18.6, Ag0.0-8.9
Tennantite	$(Cu,Fe,Zn)_{12}As_4S_{13}$	Hg0.0-15.2, Ag0.0-8.3
Zinkenite	$Pb_6Sb_{14}S_{27}$	As0.0-11.5
Realgar	AsS	Sb0.0-0.5
Cinnabar	HgS	HgS
Aktashite	$Cu_6Hg_3As_4S_{12}$	$Cu_6Hg_3(As,Sb)_4S_{12}$
Less common species		
Aurostibite	$AuSb_2$	$AuSb_2$
Chalcopyrite	$CuFeS_2$	$CuFeS_2$
Pyrrhotite	$Fe_{1-x}S$	$Fe_{1-x}S$
Galena	PbS	PbS
Native antimony	Sb	As0.0-1.3
Berthierite	$FeSb_2S_4$	Mn0.0-13.4
Bournonite	$PbCuSbS_3$	As0.0-6.0
Boulangerite	$Pb_5Sb_4S_{11}$	As2.4-5.8
Native Arsenic	As	As
Gersdorffite	NiAsS	Fe1.4-14.9
Parapierrotite	$Tl(Sb,As)_5S_8$	$TlSb_5S_8$
Routhierite	$TlHgAsS_3$	$Cu_{1.0}Tl_{1.0}Hg_{2.0}(As_{1.4}Sb_{0.6})S_6$
Altaite	PbTe	PbTe
Twinnite	$Pb(Sb,As)_2S_4$	$Pb(Sb_{1.2}As_{0.8})S_4$
Orpiment	As_2S_3	Sb0.0-5.0
Geocronite	$Pb_{14}(Sb,As)_6S_{23}$	$Pb_{14}(Sb_{3.0}As_{3.0})S_{23}$
Rare species		
Native Silver	Ag	Ag
Hemlo No.1	-	$Tl_{0.2}Ag_{0.4}Au_{0.6}Sb_{2.0}S_{2.0}$
Chalcostibite	$CuSbS_2$	$CuSbS_2$
Jamesonite	$Pb_4FeSb_6S_{14}$	$Pb_4FeSb_6S_{14}$
Gudmundite	FeSbS	FeSbS
Ullmannite	NiSbS	NiSbS
Coloradoite	HgTe	HgTe
Galkhaite	$(Cs,Tl)(Hg,Cu,Zn)_6(As,Sb)_4S_{12}$	-
Melonite	$NiTe_2$	$NiTe_2$
Tvalchrelidzeite	$Hg_{12}(Sb,As)_8S_{15}$	$Hg_{12}(Sb_{4.7}As_{3.3})S_{15}$
Baumhauerite	$Pb_3As_4S_9$	$Pb_3(As_{2.2}Sb_{1.8})S_9$
Cubanite	$CuFe_2S_3$	$CuFe_2S_3$
Seligmannite	$PbCuAsS_3$	$PbCu(As_{.52}Sb_{.48})S_3$
Dufrenoysite	$Pb_2As_2S_5$	$Pb_2(As_{1.1}Sb_{0.9})S_5$
Calaverite	$AuTe_2$	$AuTe_2$
Pararealgar	AsS	not analyzed
Stibarsen	SbAs	SbAs
Breithauptite	NiSb	NiSb
Clausthalite	PbSe	PbSe
Wurtzite	(Zn,Fe)S	Fe4.8Hg6.2

would most certainly demonstrate that many of the minerals listed in Figure 1 are present. This is not to say that Eskay Creek and the Hemlo deposit formed in similar ways but the similarity of the sulphide mineral assemblages almost demands that the hydrothermal regime and certain compositional features of the hydrothermal fluids at Hemlo were also operative in the rock volumes at Eskay Creek.

MUSCOVITE AND Mg CHLORITE ALTERATION

Originally confused with talc due to its fine grained nature and "talcose" aspect in hand specimen, detailed microprobe analyses has demonstrated that the sheet silicate phase present in all altered rock types and alteration is either muscovite or Mg chlorite. The fluid system involved in the mobility and deposition of gold and other metals at Eskay Creek was dominantly potassic and magnesian.

Analyses of muscovite and chlorite in the entire Eskay Creek sample suite are presented in Appendix I. With each analyses are included structural formula parameters calculated on the basis of 22 oxygens and the Fe/Mg and Fe/Fe+Mg ratios.

MUSCOVITE

Two features of the Eskay Creek white micas are noteworthy:

i) White micas in most rocks analysed are essentially end member muscovite with the only deviation from the ideal end member structure in the octahedral site generally a significant substitution of Mg for octahedral Al, with MgO values in the range 1.50-3.00 weight percent characteristic.

These micas may have a low but persistent BaO and FeO content in below 0.35 weight percent while concentrations of Na_2O, TiO_2 and MgO if present at all in the structure are below the detection limit of the electron microprobe, approximately 250 ppm with 0.00 weight percent generally obtained for these elements.

ii) Muscovite involved in the replacement of certain rock volumes the so-called chert exhibit a spectacular barium content reaching 3.00 weight percent BaO in some samples.

Despite the apparent simplicity the white mica structure allows a wide variety of complex elemental substitutions that reflect the combined influence of bulk rock composition and solution chemistry in any hydrothermal regime. The basic crystal structural feature of micas is a composite sheet in which a layer of octahedrally coordinated cations is sandwiched between two identical layers of linked (Si, Al) O_4 tetrahedral. The general formula which defines the chemical composition of micas is $X_2Y_{4-6}Z_8O_{20}(OH,F)_4$. Micas are subdivided into di-octahedral or tri-octahedral classes in which the population of the Y octahedral site is either 4 or 6, respectively. Phlogopite and biotite are tri-octahedral structures and will not be discussed further.

White micas have the di-octahedral structure with the general formula $X_2Y_2Z_8O_{20}(OH,F)_4$. The tetrahedral or Z site contains predominantly Si substituted by Al but may contain minor amounts of Fe^{3+} and Ti. It is the X and Y sites which define significant possible white mica substitutions and upon which white mica nomenclature is based. The principal isomorphous replacements which occur in muscovite are:

i) the X site, K : Na, Ca, Ba, Rb, Ca

ii) the Y site, octahedral Al : Mg, Fe^{2+}, Fe^{3+} Ti, V, Mn, Cr, Li

Paragonite is the end member mica composition in which Na completely substitutes for K. Oellacherite is the end member molecule in which Ba completely substitutes for K. When minor sodium substitutions for K occur the mineral is called paragonitic muscovite. The Ca end member white mica is called margarite. The term phengite is not a strict mineral name as such but is useful to describe a white mica in which the Si:Al ratio is greater than 3:1 and in which change balance allowing for the variation in Si-Al substitution in the tetrahedral site is maintained by substitution for Mg and Fe^{2+} for Al in the Y or octahedral site.

The writer has been involved in the analysis of white micas from numerous prospects and operating gold mines from rocks in a wide variety of geological environments of Archean and younger age. White micas generally associated with most gold environments are typically muscovites which manifest varying degrees of phengitic substitution, octahedral Al for Ti, Fe, Mg, Cr and paragonitic substitution, Na for K in the A site. Contents of Na 2O and TiO_2, MgO, FeO and Cr_2O_3 in the range 0.10-3.00 weight percent are common and typical with some degree of chemical variation generally observed as an expression of the solution chemical and bulk composition constraints and geological process specific to each geological situation.

Muscovite from chlorite bearing lower-middle greenschist facies terrains in Archean and younger age rocks in Appalachia and elsewhere have a typical low to moderate Ti, Mg and Fe content clearly an expression of bulk rock composition in low grade metamorphic conditions. This is not the case at Eskay Creek. The muscovite altered rocks clearly have an appreciable iron content expressed by the minute pyrite spheres with characteristic concentric growth textures. However this iron content is not manifest in muscovite compositions. The muscovite compositions at Eskay Creek are thus not apparently a function of bulk rock composition, a common feature in even the lowest grade greenschist facies terrains. The inference is that the muscovite at Eskay Creek are the result of solution dominated hydrothermal growth with solution chemical parameters constraining the partitioning of all iron in the system to simultaneously precipitated pyrite. The characteristic magnesium content of the muscovite is thus a reflection of a significant magnesium content of ambient hydrothermal solutions.

In the initial report concerning the CA sample suite the strong correlation of barium content of muscovite and gold/silver ooncentrations was tabulated. This relationship is further substantiated by subsequent analyses in the present sample suite. However, information provided in drill hole CA-16 sampled in detail and the few samples from drill holes CA-26 and 55 sampled by J.D. Blackwell, add to the complexity and increasing number of possible scenarios at Eskay Creek.

The fact remains that samples with elevated to spectacular barium contents in constituent micas have a correlative high gold/silver oontent. However, many samples with high metal values contain muscovite with barium near the detection limit of the electron microprobe. These features indicate that the situation at Eskay Creek is clearly more complicated than suggested in the first report.

Drill hole CA-16 traverses a large volume of fine grained multi-granular siliceous rock that is replaced in varying degrees of intensity by muscovite. Many examples of pervasive muscovite alteration in the middle to lower region of this rock volume do not manifest a gold content significantly above background. Indeed drill hole CA-16 appears to traverse a rock volume largely outside of or at the periphery of the Eskay fluid system.

Samples from the rhyolite intervals of drill holes CA-12,13 14-15 have appreciable gold content and associated tetrahedrite and PbSbAgS minerals, yet features in the original rock, such as glass shards and calcite or gypsum crystals since replaced by a variety of alteration minerals quartz, arsenopyrite, Mg chlorite and muscovite.

The rock volume represented by CA-88-7-109.7 may have originally existed with angular glass shards or gypsum crystals in part or largely replaced by calcite. The rock volume was clearly accessible to siliceous solution which variably replaced the calcite and/or gypsum with concomitant precipitation of arsenopyrite. In the early stages arsenopyrite directly replaced calcite. With progressive alteration the product is radial arsenopyrite sprays in a fine grained quartz matrix. Certain patches were replaced directly by prismatic quartz. These apparent fragments were then attenuated and disrupted and replaced by muscovite in a later hydrothermal deformational regime.

Most samples with highest barium muscovite contain textural evidence for a pre-existing mineral present as blades and rosettes with crystal terminations with chert still clearly apparent, samples 9-64.4, 9-75.2. This mineral has since been pseudomorphed by quartz, Mg chlorite and barium rich muscovite. Sample 55-98.8 takes on great significance in this discussion as it provides evidence for the existence of barite blades and chert development by solution access and replacement processes in a crinoidal micritic limestone. The inference is that the precursor mineral in sample 9-64.4 was very likely barite since replaced by hydrothermal mineral species. The barium micas in these samples formed by direct replacement of barite. Otherwise stated the barium anomaly may have existed in these samples as barite prior to the ingress of mica stable potassic hydrothermal fluids. Further sample 55-98.8 also contains sphalerite, stibnite and a Pb Sb As S phase in addition to barite in clear textural equilibrium with patches of hydrothermal chert replacement of limestone.

These relationships are of utmost importance in the genetic considerations of the Eskay Creek gold deposit. What was the geological environment in existence at the time of formation of the rock volume represented by sample 55-98.9. What were the processes operative in the apparent solution access determined replacement of crinoidal limestone by silica to produce domains of hydrothermal "chert" alteration with concomitant development of barite and precipitation of sphalerite and stibnite? These important questions can only be answered by further sampling along the favourable horizon away from the zone of intense alteration at the focus of the Eskay Creek hydrothermal system where overlapping hydrothermal alteration processes have largely obliterated features of the rocks originally present.

Mg CHLORITITE

Throughout the course of this study Mg chlorite with a persistent fluorine content and in certain samples a low iron content remains enigmatic, with the ultimate significance of the large volumes of Mg chloritite rock samples in certain drill holes unclear.

In numerous examples Mg chlorite was clearly stable in the early stages of alteration of the dark hydrocarbon rich siliceous rocks for the sake of brevity in this discussion, loosely termed chert. In many examples Mg chlorite appears to be early and actually preceed muscovite in the paragenesis. In sample 26-63.0 chert includes both unaltered felsite fragments and angular glass shards. The perlitic glass shards are variably to pervasively replaced by Mg chlorite which is in turn cut by narrow veinlets and central zones of muscovite. An interval of Mg chlorite stability and hydrothermal growth prior to ingress of potassic fluids is clearly supported by these textures. Evidence for migration of early stage Mg, Si rich solution is also indicated in sample 55-96.0 where calcite possibly after halite or gypsum is intergrown with regions of fine grained quartz hydrothermal chert and Mg chlorite with pyrite.

The immediately subjacent sample 55-96.0 sphalerite, stibnite, a PbSbAsS mineral and barite are present in texturally equilibrium with interconnecting patchy zones of chert, possible sites of ingress Ba, Zn, Sb rich siliceous solutions. Although this sample does not contain Mg chlorite as does sample 55-96.0, both samples provide firm evidence that Mg chlorite development was not simply some type of background alteration. Least altered regions of chert is samples 9-74.9 and 21-59.1 also support this interpretation. Herein diffuse patches of Mg chlorite development in chert are associated with coarse regions of quartz with stibnite and sphalerite intergrown with coarse sheafs of Mg chlorite. Muscovite not present in these regions of these samples.

These relationships provide compelling evidence for the character of fluids in the early stages of the Eskay Creek fluid system. Mg, Si rich solutions with a significant Ba, Sb, Zn, Pb content as indicated by intimately associated sulphate and sulphide mineral species, were clearly ambient and accessible to rock volumes of "chert" at the andesite rhyolite contact or transition prior to ingress of more potassic solutions and the stability of muscovite.

A number of examples of massive chlorite rock with sphalerite and galena veins variably replaced by muscovite and as relicts with regions of massive gypsum were provided for examination in this study. The spatial and indeed the paragenetic relationships of these samples to the Mg chlorite bearing chert samples in this mineralized zone is not clear to the writer. Samples 11-115.1, 16-106.3, 16-106.6 and 23-86.0 are examples of uniform featureless massive Mg chlorite with evenly dispersed equant pyrite grains indeed chloritite rock volumes with the nature of the precursor lithology totally obliterated by alteration. Sample 16-106.3 contains sporadic grains of honey coloured sphalerite while in 16-106.6 sphalerite and galena are clearly distributed in linear veinlike regions. Significantly muscovite is not present in these samples and a period of Zn, Pb mobility and veining in a dominantly Mg chlorite stable fluid regime is clearly indicated. The nature of precursor or host lithology is unclear but drill logs available indicate that these samples are located well within the rock unit described as rhyolite breccia or near the rhyolite breccia - chert transition.

One possibility that should be considered seriously is that these zones of Mg chlorite with sphalerite and galena represent veins of early stage alteration in the rhyolite breccia mass, temporal with the development of Mg chlorite and sphalerite, stibnite in the overlying chert unit. These zones of chloritite should thus be considered as an integral part of the Eskay Creek hydrothermal system.

Sample 11-144.5 is a veinlike mass of honey coloured sphalerite and pyrite with a central zone of galena developed within a multigranular quartz muscovite rock volume of rhyolite breccia. The sample does not contain chlorite but the sample might well represent an example of sphalerite galena veining in a volume rhyolite not accessible to chlorite stable solutions.

Samples 11-115.1 and 23-86.0 are essentially massive chloritite with occasional branching veinlets of muscovite quartz and calcite which contain both barite and stibnite. These veinlets are considered as a manifestation of an increasing potassium component in the evolving fluid system as are similar chlorite to muscovite paragenesis consistently observed in chert samples.

According to these considerations, relationships in sample 12-66.2 are important. The sample now consists of a wide zone of coarse honey coloured sphalerite in a matrix of confused Mg chlorite muscovite intergrowth developed in a quartz rock volume consisting of several generations of prismatic and coarse grained quartz with some sphalerite and abundant tetrahedrite and stibnite along grain margins. Significantly sphalerite grains in the veinlike sulphide half of the sample are overgrown by tetrahedrite and stibnite and most significantly the individual sphalerite grains are concentrically zoned with broad central zones of uniform iron content near 1.00 weight percent Fe with narrow marginal zones of enhanced Hg reached 1.50 weight percent near the tetrahedrite overgrowths. Sample 12-86.2 likely represents an example where compositionally evolving fluids of the Eskay fluid system were accessible to the same rock volume inducing chlorite to muscovite replacement and inducing a significant Fe -> Hg zonation in sphalerite. The sample may have originally existed as a sphalerite Mg chlorite vein in rhyolite breccia. Evolution of fluids to an increasing potassium component resulted in pervasive replacement of chlorite by muscovite. Significantly the silicate half of the sample consists of coarse prismatic quartz with little muscovite and sulphides developed along quartz grain margins. The implication is that Fe -> Hg zonation and tetrahedrite overgrowths on sphalerite in the original vein developed in response to late stage access of siliceous solutions rich in Sb, Ag, Pb. Micas were apparently not stable in this predominantly siliceous fluid regime.

The strong trend to magnesium enrichment in the sheet silicate minerals in highly altered and mineralized rock volumes at Eskay Creek has been discussed. End member Mg chlorite with e sporadic fluorine content and muscovite with a persistent magnesium and barium substitution are characteristic gangue assemblages in ore grade material. A number of samples of the Eskay suite do contain iron rich or iron bearing chlorite and muscovite and for the most part these iron-bearing compositions occur in "least altered" rock volumes of graphitic argillite or chert with fragments of relatively fresh felsite. Sample 12-75.0 consists of peculiar radial calcite, muscovite quartz blast-like features in a black hydrocarbon-rich matrix of quartz, sphene and Mg-Fe chlorite without fabric. Chlorite throughout the matrix and in a linear band possibly representing bedding in the sample is decidedly iron-rich with FeO in the range 17.00-20.00 weight percent. Occasional patches of pyrite-calcite throughout the matrix of this sample have marginal zones of recrystallized Mg-Fe chlorite and most significantly recrystallized hydrocarbon. Sample 21-54.2 is a breccia consisting of albitic felsite fragments and radiolarian chert fragments in a chert matrix, variably replaced by calcite with a narrow zone of muscovite-chlorite alteration along fragment margins. Chlorite throughout most of the veinlet has a significant iron content reaching 9.61 weight percent FeO. A diffuse central zone of this veinlet has significantly more magnesiom chlorite with FeO content of 4.86 weight percent.

Sample 28-63.0 consists of felsite fragments and glass shards in a chert matrix. Glass shards and various primary cavities in the sample have been replaced and sealed by spectacular radial sheafs of chlorite with a significant iron content in the range 4.34-9.69 weight percent FeO. Portions of the Mg chlorite have in turn been replaced by muscovite.

These samples are unique in the Eskay suite in the elevated iron content of their constituent chlorite. It is not at all surprising that muscovite in these samples is also relatively iron-rich with FeO in the ranges 0.71-1.81 and 0.54-1.36 in samples 12-75.6 and 21-54.2 respectively. Recognizable lithic fragments of albite felsite are present in sample 7-109.7 CA-1, despite pervasive muscovite alteration and deformation. Muscovite involved in the consumption of these lithic fragments has a highly variable iron content with FeO in the range 0.10-1.97 weight percent. These 4 samples were mentioned to emphasize that iron bearing chlorite and muscovite do occur in the rock sequence at Eskay Creek and that the terrain is not simply a zone of all encompassing Mg enrichment. These samples apparently represent relatively unaltered rock volumes of graphitic chloritic argillite and felsite-chert breccia at the periphery of the Eskay Creek fluid system and might well be representative of the original features of large volumes of high altered Mg chlorite-muscovite rocks which now comprise the ore zone.

Sample 21-54.4 might well represent relationships in the earliest stages of the Eskay Creek hydrothermal system where iron rich possibly bulk rock dominated chlorite compositions were generated with a trend to magnesium enrichment indicated by the Mg-Fe chlerite zoning in this sample supported by the large body of Mg chlorite data obtained from many other samples of the

Eskay suite. These samples also demonstrate the spatial selectivity of solution access and alteration at the periphery of the system as highly altered rock volumes apparently exist only metres at depth in the specific drill holes from which these three samples were selected.

One of the as yet enigmatic features of the Eskay Creek deposit is the mechanism and processes involved in the generation of large volumes of essentially Mg chlorite rock. The chlorite grains in each example of chloritite are compositionally homogeneous with little deviation about the compositional mean value of iron for each sample.

The average FeO content of chlorite comprising massive chloritite samples and relict domains are samples 11-115.1, 16-106.3, 16-106.6, 9-102.5, 23-86.0 and 16-99.6 is 1.90, 0.84, 0.71, 0.30, 0.12 and 0.10 weight percent respectively.

The variation in iron content in chlorite comprising these samples of massive chloritite *and* relict chloritite domains in more intensely altered samples could support the interpretation that these rock volumes developed through a progressive iron depletion of a precursor lithology in a manner similar to the generation of zones of pervasive chloritization footwall to certain base metal deposits.

In the writer's view these consistent spatial-compositional variation in mineral compositions are not fortuitous but represent solution chemical parameters and overall degree of water-rock interaction or degree of alteration within the Eskay hydrothermal system. Whether or not this mineral zonation represents a spatial variation within the hydrothermal system or is an indication of a temporal variation in solution chemical parameters at the focus of the system is as yet unclear.

Another feature of the Mg chloritite that remains unclear is the ultimate origin and significance of a persistent and appreciable F content in chlorite throughout the deposit. The fluorine anomaly in Mg chlorite in certain samples was discussed briefly in the initial report by the writer but further data on a much larger sample suite has provided little additional insight on this matter. Chlorite in certain samples contains an appreciable fluorine content that cannot be related firmly to any rock type or stage in the mineral paragenesis. Chlorite in massive chloritite of sample 9-102.5 with 0.30 weight percent FeO contains F in the range 0.20-0.60 weight percent. In the few samples which do contain F Mg chlorite, this mineral is volumetrically insignificant compared to muscovite which is generally without detectable fluorine and appears to predate muscovite in the paragenesis.

These relationships would allow the interpretation that an early stage of F, Mg rich fluids generating F Mg chlorite stability was followed by an evolution of fluids to increasingly potassic compositions without a significant fluorine component. Relationships in sample 21-65.1 however indicate that the situation is not this simple. This sample consists of pervasive muscovite alteration significantly with fabric with domains of colloform pyrite and arsenopyrite that are clearly intergrown with Mg chlorite and muscovite which contain 1.25 and 0.50 weight percent F respectively. These relationships indicate that fluorine-rich fluids were accessible to certain rock volumes late in the history of the Eskay Creek hydrothermal system after an interval of deformation.

RHYOLITE, SILICIFICATION AND METAL TRANSPORT IN SILICA-RICH FLUIDS

Throughout the course of this study recognition of domains of randomly oriented prismatic quartz in certain samples of microbreccia and the existence of a number of samples consisting of essentially of multigranular prismatic quartz of variable grain size provided increasingly compelling evidence that large volumes of rock at Eskay Creek have been affected by fluids of predominantly siliceous character quite distinct from the magnesian and potassic fluids which produced pervasive chloritization and muscovite alteration in certain portions of the mineralized zones. These siliceous fluids induced the growth of quartz of highly variable grain size with a characteristic prismatic aspect and individual quartz grains in these domains of silicification commonly have well developed crystal face terminations and in places a vuggy aspect in zones of apparent open space crystal growth. Significantly quartz grains in these samples are without fabric and this episode or possibly multiple episodes of quartz growth took place within an isotropic stress regime. Even more significantly many of these silicified samples are mineralized and contain abundant sphalerite and tetrahedrite and gold.

Textural relationships in these silicified rock volumes contrast sharply with the pervasively muscovite altered regions of the mineralized zone which have clearly been highly deformed. Relationships in samples from drill hole 85-16 provide some insight into the clearly complex relationship between the fluid regimes of dominantly magnesian, potassic and siliceous character and deformation.

DRILL HOLE CA-88-16

Drill hole CA-88-16 was sampleo in detail by J.D. Blackwell as it was considered one of the best holes which represent the stratigraphy drilled to date at Eskay Creek. The drill hole extends from deep in the footwall, below and through the rock called the Datum Dacite, up through the rhyolite breccia unit, and the "favourable" argillite horizon and into the hanging wall andesite. Hole 16 has few breaks or faults, is characterized by intense muscovite alteration with white gypsum and no massive realgar in the mineralized interval. The volume of rock described as rhyolite breccia is relatively fresh in the lower portion of the drill hole, 120.0 - 200.0 m with minimal sericitic aspect. The rock has increasing fabric and degree of muscovite alteration upwards to the contact with the dark black hydrocarbon rich rock loosely termed tuffaceous argillite. The rock volume traversed in the upper region of DDH-16 in the interval 81.6 - 99.6 m beneath the argillite is highly altered and clearly had a complicated history of hydrothermal alteration.

Sample CA-15; 88-16-99.6 described in the initial report on Eskay Creek is from the volume of highly alterea rock. The sample exists as irregular regions of Mg chlorite pyrite in highly contorted pyritic muscovite schist. It was proposed that the rock volume of sample 16-99.6 was originally massive Mg chloritite largely replaced by muscovite with simultaneous development of circular pyrite and tetrahedrite. Further samples from this region of DDH 16 specifically 83.5m, 85.7m, 89.1m, 95.7m and 98.7m support this original interpretation. Sample 16-85.7 is indeed massive Mg chloritite with occasional grains of tetrahedrite in specific muscovite patches and cinnabar developed in late calcite veinlets. Samples 16-89.1, 95.7 and 98.7 consist predominantly of or contain relict regions of pyritic muscovite schist. The contorted distribution of pyrite in these regions is exactly that apparent in sample CA-15 16-99.6 and it is the writer's view that the entire interval from 81.6 - 100.0 m beneath the argillite contact in drill hole 88.16 was originally pyritic massive Mg chlorite that has since been pervasively replaced by muscovite in a dominantly potassic fluid regime. Alteration in these samples has completely obscured the nature of the protolith to this original pervasive chlorite alteration but relict regions of multigranular quartz and Mg chlorite in pervasive muscovite replacement in sample 16-83.5 support the interpretation that this entire rock volume was originally rhyolitic material replaced first by Mg chlorite and then almost pervasively by muscovite. Muscovite schist is replaced in patches by calcite with tetrahedrite in 16-89.1, and calcite barite in sample 16-96.7 indicating an evolution of hydrothermal fluids to increasingly calcic and CO_2, SO_4 rich compositions.

Pyritic muscovite schist is replaced in veinlets and pervasively by calcite, barite, celestite and gypsum in sample 16-95.7 indicating a further evolution of fluids to calcic, CO_2 and SO_4 rich compositions. Samples 16-95.7 and 9-102.5 are the only two samples of the present suite which provide examples of the white crystalline gypsum mentioned frequently in drill logs. Sample 9-102.5 now consists of angular masses of Mg chloritite with evenly dispersed equent pyrite as irregular relict patches within white crystalline gypsum. The Mg chlorite relict domains have occasional narrow veinlike regions of muscovite with calcite, dolomite and tetrahedrite. These veinlets of earlier stage alteration are clearly terminated by the replacement masses of white randomly oriented crystalline gypsum.

Paragenetic relationships in the sample would suggest the rock volume was originally a Mg chlorite veined and then replaced pervasively by gypsum. The paragenetic relationships in both of these samples is essentially the same, Mg chlorite is veined by muscovite in 9-102.5 then replaced by white crystalline gypsum with calcite, Mg chlorite is replaced pervasively by muscovite in 16-95.7 then veined and replaced by gypsum, calcite and other sulphate species barite and celestite.

Relationships in both samples indicate an as yet enigmatic variant in Eskay Creek hydrothermal system, late stage CO_2, SO_4 Ca-rich solution. The gypsum clearly transects the deformation fabric in muscovite schist in 16-95.7 indicating that these late solutions wera ambient late in the complex hydrothermal-deformational history of the Eskay Creek gold deposit. The gypsum is clearly cut by tetrahedrite calcite veins in sample 9-102.5 and the gypsum rich phase of alteration appears to have been a compositional variation of and an integral part of the Eskay Creek fluid system.

All samples below 100m in drill hole 16 from 102.6m down to the so-called graphitic mudstone at 207.65m are variable pyritic, muscovitic multigranular quartz rich rocks, altered rhyolite. This rock volume has clearly had a complicated alteration - deformation history based on fabric and crosscutting relationship in thin sections but interpretation of the significance of this relationship is not entirely obvious due to the simple quartz pyrite muscovite mineralogy. This rock volume contain at least several generations of muscovite and quartz and a spotty distribution of K-feldspar the results of multiple episode of potassic alteration and silicification that possibly developed prior to, during and after a period of deformation. These complexities are well illustrated in sample 16-102.6. Large portions of the sample have a strong fabric defined by alternating bands of quartz of variable grain size and variable abundance of muscovite and pyrite in certain bands (Plate 16-102.6-1, 2). This fabric is obliterated in ill defined patches of multigranular quartz recrystallization (Plate 16-102.6-3) and branching veinlets of coarse grained quartz which have clearly not been deformed (Plate 16-102.6-4). Significantly zones rich in fluid inclusion are common in the quartz grains in these regions of post-deformational fluid access and silicification (Plates 16-102.6-5,6). It is of utmost significance that aggregations of stibnite occur sporadically in the coarse quartz patches. Similar evidence for postdeformational episode of open space almost vuggy quartz growth is present in sample 16-105.6m as well where a relatively coarse variably muscovite altered multigranular quartz rock with fabric is clearly terminated by a coarse grained quartz domain (Plates 16-105.6-1,2).

These domains of high strain in the rhyolite volume apparently alternate with zones significantly without fabric. It is not entirely obvious whether these are volumes of rock unaffected by strain which is confined to planar zones in the rhyolite or these indeed represent zones of pervasive fluid access and complete recrystallization in certain rock volumes after deformation.

Samples 16-111.7 is a good example of this texture in which an even grained multigranular quartz rock is largely replaced by muscovite that is without a fabric (Plate 16-111.7-1). Significantly the section includes angular patches of fine grained multigranular quartz in specific domains that are without muscovite (Plate 16-111.7-2). Outside these zones of pervasive fluid access and recrystallization the rhyolite exists as blocky domains of fine grained multigranular quartz penetrated by zones of muscovite with evenly dispersed minute pyrite (Plate 16-114.3-1) and in places the development of muscovite is almost pervasive. However sporadic patches of coarse quartz with fluid inclusions (Plates 16-130.2-1) would suggest that large portions of this rock volume were pervasively accessible to fluids inducing coarse grained quartz growth.

Domains of high strain apparently exist to the base of the rhyolite interval as a banded ribbon-like alternation of muscovite and multigranular quartz that importantly contain extremely fine grained K-feldspar (Plates 16-175.6-1,2,3; 16-185.8-1,2). These high strain zones apparently alternate with apparently less deformed rock volumes with a decided fragmental aspect, with angular blocks in a multigrained quartz matrix. However the blocks have a certain fabric terminated against the matrix and the brecciation appears to be a postdeformational phenomenon with fragments of deformed rhyolite now sealed by multigranular quartz.

Relationships in drill hole 88-16 clearly indicate that the so-called rhyolite mass has been pervasively affected by siliceous fluids inducing a period of open space vuggy quartz growth in rock volumes which significantly have not been deformed. Drill hole 88-16 apparently transects the so-called rhyolite volume peripheral to a zone of more focused pervasive silicification penetrated by drill holes 88-12 and 88-13 in drill section 0+60S, samples 12-90.5, 12-92.3, 19-119.7, 12-121-6, 13-86.5 CA10 and drill holes 88-14 and 88-15 in drill section 0+94S, samples 14-50.3 CA11, 14-53.2 CA12, 15-63.1, 15-73.0, 15-75.1 CA13 and 15-82.4 CA14. All of these samples appear to represent a multigranular quartz-muscovite altered siliceous rock, rhyolite breccia, silicified by several generations of prismatic quartz of variable grain size.

These samples contain little muscovite and sulphide phases are clearly distributed in a network along quartz grain margins (Plates 15-63.1-2 and 3. These rocks contain occasional regions of relatively coarse grained almost vuggy quartz with inwardly projecting well terminated quartz grains which significantly contains certain growth zones with abundant fluid inclusions (Plate 15-63.3-4).

Numerous examples in the above-mentioned samples provide compelling evidence for transport and fixation of metals in volumes of silicified rhyolite in a dominantly siliceous fluid regime. Indeed the mineralized zone at Eskay Creek apparently consists of two primary rock types that were accessible to and mineralized by fluids of highly variable character. Volumes of graphitic argillite and spatially related chert with a variable content of felsite fragments were replaced by Mg chlorite and muscovite by Mg, K and Ba rich fluids while volumes of rhyolite were silicified and mineralized by fluids of highly siliceous character. If the samples of the Eskay suite are at all representative, the siliceous fluids were only rarely accessible to the volumes of chert and graphitic argillite. Sample 55-94.2 likely contains domains of multigranular prismatic quartz and likely represents a rare example where a volume of hydrocarbon rich chert or graphitic argillite was accessible to the dominantly siliceous fluid regime.

THE "DATUM DACITE", TRACHYTE OR K-FELDSPAR ALTERATION

In the writer's view sample 13-203.3 from an intersection of the so-called "Datum Dacite" is possibly the most important sample of the entire Eskay Creek sample suite. The mineralogy and textures of this sample may be the key to understanding the origin of the siliceous fluids increasingly important in the genesis of the Eskay Creek deposit and possibly the origin of the fluorine anomaly manifest in Mg chlorite in certain samples. Sample 13-203.3 consists of a variety of ovoid to oircular cavities filled with coarse prismatic quartz of variable grain size significantly with zones of fluid inclusions in certain quartz grains within a fine grained matrix of K-feldspar, albite and quartz. The K-feldspar in this matrix has a certain fabric created by a general alignment of grains that does not appear to be the result of penetrative deformation (Plate 13-203.3-2). This K-feldspar has a domainal variation in barium content reaching 3.73 weight percent BaO in certain grains (Plate 13-203.3-3). If this sample were of igneous derivation the texture illustrated in Plate 13-203.2-2 could easily be termed trachytic. In the writer's view this is indeed the case and sample 13-203.3 provides strong evidence that the so-called "Datum Dacite" is in reality an extrusive volcanic rock of true igneous derivation. The circular quartz-filled cavities in this sample are regarded as primary vesicles now sealed by prismatic quartz of highly variable grain size (Plates 13-203.3-6, 7 and 8). Quartz in certain infilled vesicles have a regular distribution of zones of fluid inclusions near the margin of certain grains (Plates 13-203.3-9,10). The overall texture is certainly not one of siliceous replacement but rather the quartz developed in primary microlitic cavities within a trachytic highly potassic volcanic rock. The similarity of textures of quartz in the cavities in sample 13-203.3 with the varieties of prismatic quartz developed in large volumes of the overlying multiply silicified rhyolite higher in the section at Eskay Creek is indeed remarkable.

These features are considered to be very important in the understanding of the continuum process involved in the generation of the Eskay Creek deposit. An interval of growth of coarse grained terminated quartz took place in certain regions of the Eskay Creek hydrothermal system. The origin and character of this fluid is as yet uncertain but features in sample 13-203.3 support the interpretation that these fluids were derived in part from volcanic gas emanations from extrusive trachytic flows lower in the geologic section.

Grains of coarse crystalline quartz with fluid inclusions are still recognizable in samples 15-63.1 and 73.0, although the original grains have also been replaced by muscovite and finer grained quartz. These features are important in the understanding and interpretation of the origin and original character of the rock volume now loosely termed rhyolite at Eskay Creek.

In the writer's view it is of utmost significance that the wide textural variety of quartz grains observed in cavities in sample 13-203.3 are exactly those that comprise the rock within certain large domains of this so-called rhyolite. For example, sample 15-75.1 CA 13 contains blocky domains of randomly oriented prismatic often terminated quartz with significant variation of grain size in adjacent blocks (Plate 16-75.1-1). Quartz with this randomly oriented prismatic aspect occurs in certain cavities in sample 13-203.3 (Plate 13-203.3-7). The implications are obvious. The rock volume of sample 15-75.1 was replaced by prismatic quartz in a hydrothermal regime, possibly cotemporal with and from the same fluids which precipitated quartz in these cavities in sample 13-203.3, a fresh unaltered trachyte or extrusive potassic volcanic rock.

Indeed the entire drill section 0 + 94S cut by drill holes DDH CA 14 and 15 takes on great significance if the rocks are regarded as having been the result of multiple episodes of silicification of a precursor lithology by volcanic gases streaming from the underlying trachytic volcanic flows represented by sample 13-203.3. These rocks have not been deformed and the constituent sulphide mineral assemblages and overall metal inventory, Sb, Pb, Au, As, Au, Ag cannot be attributed to potassic fluids within or accessible to a deformation zone. It is interesting that the rock volume 13-197.5 - 213.8, was described as a breccia pipe with clasts up to 8.0 cm in diameter with up to 25% pyrite associated with vein fillings.

In an alternate view sample 13-203.3 could be regarded as a manifestation of some type of pervasive K-feldspar stable potassic alteration. The sample do indeed contain pyrite throughout the matrix, in the quartz filled cavities and in a network of branching quartz muscovite veinlets (Plate 13-203.3-5). In this regard the importance of K-feldspar at various points in the rhyolite section cannot be overemphasized.

In the volume represented by sample 16-175.6, the K-feldspar appears to be restricted to planar zones which appear to dismember a rock consisting predominantly multigranular quartz with abundant muscovite and pyrite in interstices. The implication is that the K-feldspar developed in this rock volume in subparallel zones of deformation induced or enabled fluid access. Otherwise stated, K-feldspar is clearly an integral part of the hydrothermal alteration assemblage in multiply, silicified, deformed, and muscovite altered rhyolite.

GENETIC CONSIDERATIONS

The previous sections of this report were an attempt to outline some of the processes apparently involved in the generation of the texturally, paragenetically and compositionally complex rocks which collectively comprise the Eskay Creek gold prospect. This section is an attempt to rationalize these observations and tentative conclusions within some overall framework with considerations of genesis of the deposit.

Paragenetic and textural relationships would suggest that Mg, K, Ba and siliceous hydrothermal fluids of possibly evolving chemical composition were variably accessible, both spatially and temporally into a zone of hydrothermal alteration. Initially the rock sequence at Eskay Creek appears to be rather uncomplicated consisting of a hanging wall unit of pillowed andesite and flow breccia horizons with possible chill margin contact relationship against a complicated interval of graphitic mudstone or argillite and chert with abundant blocks and masses of rhyolite, felsite and mudstone or chert within a black carbonaceous matrix. This unit is underlain by a thick sequence of breccia and lapilli breccia and rhyolite loosely termed rhyolite breccia that is in turn underlain by a sequence of mudstone and dacite units.

Rocks in the upper regions of the so-called rhyolite breccia and overlying mudstone and chert have a strong fabric and have apparently been deformed. Fluids of the Eskay hydrothermal system were apparently focused on rocks in the upper regions of the so-called rhyolite unit and the overlying graphitic argillite and chert breccia units beneath the contact with the overlying andesite. Fluids of evolving chemical composition were apparently accessible to this hydrothermal zone. Paragenetic relationships indicate that early fluids were decidedly magnesian and siliceous as large volumes of the argillite-chert and underlying rhyolite were apparently replaced by Mg chlorite producing large volumes of massive Mg chloritite. The precise nature of this protolith has been obliterated by alteration, but large volumes of argillite-chert and rhyolite were likely consumed by this chloritic alteration.

A certain metal content, Sb, Zn, Pb, of these early Mg, Si fluids is indicated by the common occurrence of stibnite, sphalerite and galena in chlorite bearing assemblages apparently developed at this stage of the system in examples of both altered argillite-chert and pervasively chloritized subjacent rhyolite. A sporadic but significant fluorine content of Mg chlorite in altered argillite-chert and massively chloritized rhyolite indicates that these early stage fluids had an appreciable fluorine content in addition to magnesium and silica.

An evolution of fluids to increasingly potassic and barium rich composition is indicated by the consistent chlorite -> muscovite paragenesis in all rock types. However an overlapping interval of simultaneous Mg chlorite-muscovite stability in this evolving hydrothermal regime is indicated by equilibrium textural relationships between F Mg chlorite and Ba muscovite in certain samples. Arsenopyrite was clearly stable indicating a significant arsenic content in these intermediate stage fluids of transitional chlorite-muscovite stability. In an increasingly potassic fluid regime all rock types altered in various degrees of intensity by chlorite-stable fluids were consumed in a wave of all consuming muscovite stable potassic alteration with the intensity of this alteration largely determined by factors controlling fluid access. Pervasive Mg chlorite was largely replaced by muscovite at this stage. Presumably the all pervasive background alteration of subjacent rhyolite took place simultaneously with more forward access of potassic fluids in the hydrothermal zone apparently centered on the original argillite/chert-rhyolite contact. Fluids were highly focussed on this contact at this stage producing a trend to extreme barium enrichment in micas within certain volumes of highly altered argillite-chert. Arsenopyrite development was largely restricted to volumes of argillite chert alteration as well. The interval of arsenopyrite development in argillite-chert rock volumes apparently predated or was in part synchronous with some period of deformation of undetermined origin as arsenopyrite and earlier stage sphalerite commonly exhibit pressure shadows in schistose muscovitic rocks of highly altered argillite-chert. Masses of stibnite with included masses and rosettes of Ba muscovite significantly without fabric indicate that the Eskay fluid system was still active after this short-lived interval of deformation. The main period of mineralization apparently postdated this interval of deformation as numerous examples of massive stibnite exist significantly without fabric intergrown with Ba-muscovite, tetrahedrite, galena and PbSbCuZnAgHg sulphosalts. An increasing

CO_2 and SO_4 component in this postdeformational fluid regime in altered argillite-chert rock volumes is indicated by the coarse grained intergrowths of calcite, Mn dolomite and barite. An evolution of fluids to increasing Ag, Hg rich compositions is indicated by the Ag, Hg rich marginal zones noted on compositionally zoned sphalerite and tetrahedrite, the presence of aktashite intergrown with calcite, barite and realgar and the common occurrence of cinnabar cracks in massive stibnite. Presumably zones of white crystalline gypsum with barite, celestite and calcite developed in subjacent volumes of muscovite altered chloritite synchronous with the calcite barite dolomite assemblages in volumes of altered argillite chert. Large volumes of subjacent rhyolite were accessible to siliceous fluids after the interval of deformation as evidenced by the abundant domains of coarse, prismatic often terminated quartz throughout the rhyolite. Volumes of rhyolite immediately subjacent to the main mineralized zone have clearly experienced several episodes of growth of coarse prismatic quartz often with zones of fluid inclusions. Sphalerite, stibnite and tetrahedrite are distributed along quartz grain margins in these altered rock volumes. The "Datum Dacite" footwall to the rhyolite breccia is potentially a horizon for highly potassic K-feldspar rich primary volcanic rock trachyte with miarolitic cavities sealed by coarse prismatic quartz with fluid inclusions and overall aspect remarkably similar to the zones of coarse prismatic quartz in the volumes of silicified rhyolite immediately footwall to the main mineralized zone.

Given that these observations and interpretations are at least in part realistic what then is a possible scenario for the genesis of the Eskay Creek gold deposit?

Least altered samples of the argillite-chert horizon would suggest that these rocks existed as radiolarian chert and possibly crinoidal biomicritic limestone prior to intensive alteration by fluids of the Eskay hydrothermal system. These samples provide evidence for the generation of at least one variety of so-called chert through the replacement of crinoidal limestone by silica. These are possibly primary depositional features of the rocks of the graphitic argillite-chert horizon. The recognition of radiolarian fossils in the chert may merely be an indication of the depositional environment of the chert silica precipitated in a marine environment. The probable crinoid fragments in the proposed limestone may once again merely indicate the oepositional environment of these calcareous rocks, as near shore calcareous deposits, the debris of calcite precipitating life forms. These features may merely be an indication of the environment of deposition of these rock volumes. They do not provide evidence that these rocks were in a near shore shallow water environment at the time of generation of the Eskay Creek gold deposit.

The possibility does exist however that this was indeed the case. In the writer's view one of the most critical aspects concerning the genesis of the Eskay Creek deposit is the nature and origin of the overlying andesite rock unit. Was this andesite present in the rock sequence during the complex interval of hydrothermal alteration and deformation that was clearly involved in the genesis of the deposit?

If the andesite was indeed present as an integral part of the rock sequence one might expect that examples of andesite variably altered by assemblages typical of the Eskay Creek alteration system might exist in drill core. Only one example of andesite, sample 12-56.1 was available to the writer for examination and this sample was variably altered by calcite and pyrite. The examples of chert with albitic felsite fragments take on a certain significance in this discussion. Are the felsitic fragments some variety of rapidly quenched border phase of the andesite or some genetically unrelated rock type? These felsite fragments were clearly an integral part of the so-called chert rock volume accessible to fluids of the Eskay system. These questions are pivotal to any discussion of genesis of Eskay Creek deposit and thus extremely important in the development of an exploration program for similar mineralized zones in the region. If examples of hydrothermally altered andesite can be documented, an origin of the deposit through access of fluids along a zone of deformation roughly coincident with the andesite-argillite/chert-rhyolite contact may reasonably be considered as one of several possibilities.

If however the andesite exists with a chilled marginal contact against graphitic argillite/chert and without demonstrable alteration assemblages characteristic of the Eskay system, two possibilities arise. In the first the andesite may indeea have been present but was not accessible to the hydrothermal system for some reason such as spatial selectivity in fluid access constrained by a specific zone of deformation. In the second very important scenario the andesite was indeed not part of the rock sequence at the time of generation of the deposit. In this latter scenario the Eskay deposit could easily be interpreted to be the result of near surface hydrothermal processes, possibly in a subaerial or shallow submarine environment. In this interpretation the underlying trachyte flow and rhyolite breccia could have been an extrusive volcanic situation with a rhyolite dome expanding into a sequence of volcanic breccias and immature near shore facies marine sediments. The hydrocarbon rich so-called chert might then be a manifestation of siliceous emanations in a subaerial or shallow submarine environment that included felsite fragments as primary depositional features.

In a more complicated or equally plausible possibility the overlying andesite was not affected by the Eskay Creek hydrothermal system as the andesite-graphitic argillite/chert contact may have been the plane of an as yet unrecognized major structural break in the rock sequence at Eskay Creek. The unaltered andesite may have been structurally juxtaposed with hydrothermally altered and mineralized rocks. This last scenario is not at all beyond the realm of possibilities when one considers the many aspects of the Eskay sample suite which demand the complicated interplay of hydrothermal alteration and structural elements.

FURTHER WORK

i) The andesite argillite-chert contact should be examined carefully and the andesite scrutinized carefully for any example of alteration that might reasonably be related to fluid access alteration phenomena of the Eskay Creek fluid system. The sample of andesite examined in this study has vesicle infilling and is variably veined by calcite-pyrite. Certainly Mg chlorite-muscovite-stibnite assemblages would be most definitive but even the calcite-pyrite alteration might be spatially related to the subjacent hydrothermal zone.

ii) The nature of the andesite-argillite/chert contact should be examined carefully and the argillite/chert horizon sampled extensively in regions spatially distant from the hydrothermal zone. This information would provide some insight into the true depositional environment of the argillite/chert rocks. Does this horizon contain examples of biomicritic limestone? Is the chert a deep water marine precipitate as the radiolaria in sample 21-54.2 might suggest, a product of pervasive silicification of portions of a zone of high strain or a form of siliceous sinter the result of near surface emanation of siliceous hydrothermal fluids in a subaerial or shallow submarine environment?

iii) The so-called Datum Dacite and Tuff should be sampled and examined carefully. Is this rock volume a vesicular highly potassic extrusive rock, a trachyte as sample 13-203.3 might suggest? Is the prismatic quartz filling the vesicles in this rock a common feature or is this phenomenon restricted to zones in the footwall spatially related to the superjacent hydrothermal zone and thus genetically related to the zones of mineralized prismatic silicification in altered so-called rhyolite. Is this rock some type of poorly understood potassic alteration which may also be genetically related to the Eskay Creek hydrothermal zone?

iv) One of the features least appreciated by the writer is the paragenetic relationship between mineralized rock volumes with Mg chlorite and Ba muscovite apparently the product of alteration by F, Mg, K, Ba rich hydrothermal fluids and mineralized rock volumes characterized by prismatic quartz essentially without chlorite and muscovite and the product of alteration by siliceous hydrothermal fluids. Is there a rock volume at Eskay Creek where the chlorite-muscovite type alteration is consumed by silicification or are silicified rock volumes penetrated and replaced by chlorite and muscovite? In what way are the F, Mg, K, Ba fluids and the Si rich fluids related? Is it possible that these types of alteration represent spatial zonation due to thermal constraints within a single hydrothermal regime with pervasive silicification the manifestation of hydrothermal activity and alteration in the deeper hotter portions of the system with pervasive silicification producing hydrothermal chert or siliceous sinter the manifestation of the same hydrothermal system in the upper lower temperature regions of the same hydrothermal regime near surface?

v) One of the least understood aspects of the study is the role of deformation if any in the genesis of the Eskay deposit. Portions of the deposit have clearly been deformed yet numerous examples of alteration exist without fabric and in certain samples mica-quartz-stibnite veins clearly cut the fabric in muscovite schist. What is the nature of the deformation as hydrothermal activity appears to have affected certain rock volumes prior to, during and subsequent to a deformational episode? Are there zones of high strain in the andesite with the same attitude and fabric as the domains of strain in the mineralized zone and the subjacent rhyolite?

- massive stibnite with realgar, barite, carbonate and Ba muscovite in interstices.

stibnite	- 60%
realgar	- 25%
calcite	- 3%
barite	- 2%
muscovite	- <1%
quartz	- 2%
sphalerite	- <2%
cinnabar	- 1%
tetrahedrite	- <<1%
PbSbAsS mineral	- <<1%

- section of a texturally complex array of angular to radiating stibnite crystals cemented and sealed interstitially by translucent red realgar (Plate 6-97.5-1).

- barite and quartz present as angular aggregates and stubby acicular grains largely restricted to domains in the section of massive stibnite; both have well developed crystal faces against and include stibnite indicating cotemporal development.

- calcite present in interstices in massive stibnite rarely in association with and with crystal faces developed against barite and commonly as monomineralic domains that include both stibnite and more commonly realgar.

- calcite also present along irregular discontinuous veinlets that include rarely stibnite and more commonly translucent red realgar.

- certain domains essentially massive realgar include and exhibit crystal faces against calcite.

- note a certain fabric to sample defined by crude alignment of stibnite crystals and elongate crystals of barite and inclusions of calcite.

- Ba muscovite occurs as minute radial sheafs and masses apparently restricted to domains of massive stibnite implying simultaneous development.

- cinnabar occurs as angular grains and irregular linear zones along grain margins in massive stibnite (Plate 6-97.5-2) as do occasional angular grains of tetrahedrite (Plate 6-97.5-3).

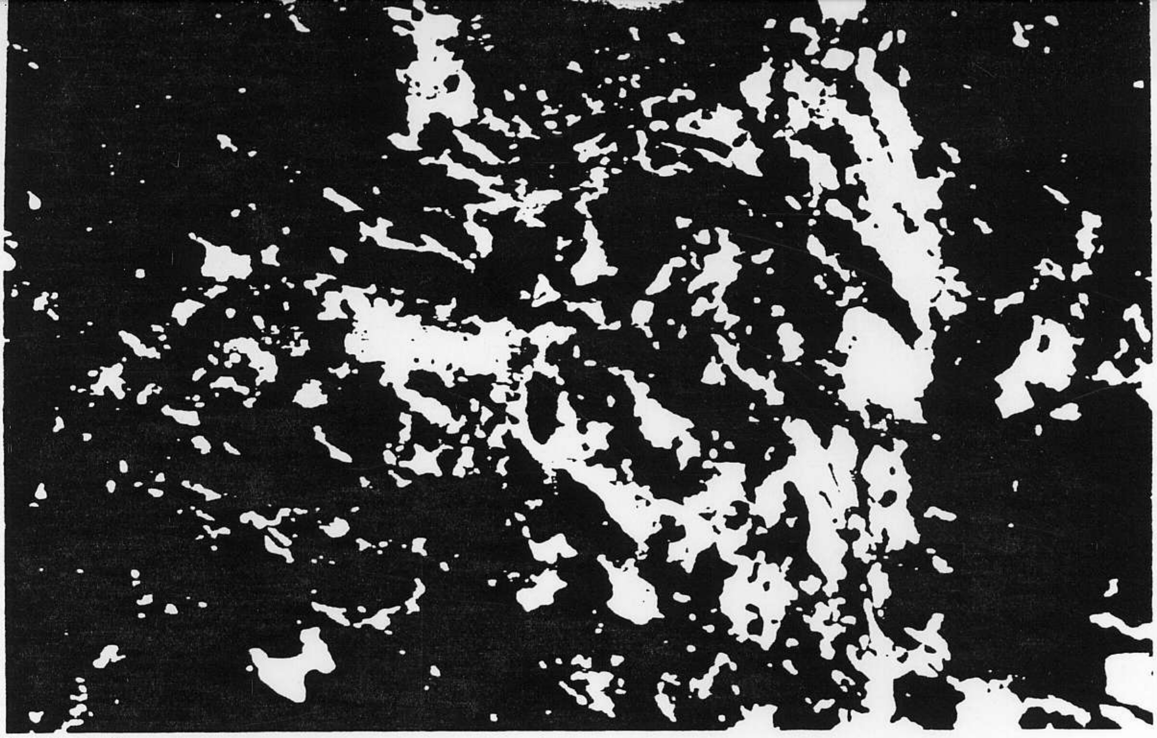


Plate 6-97.5-1. Massive stibnite sealed by translucent red realgar.

Plate 6-97.5-2. Cinnabar along grain boundary of massive stibnite with muscovite.

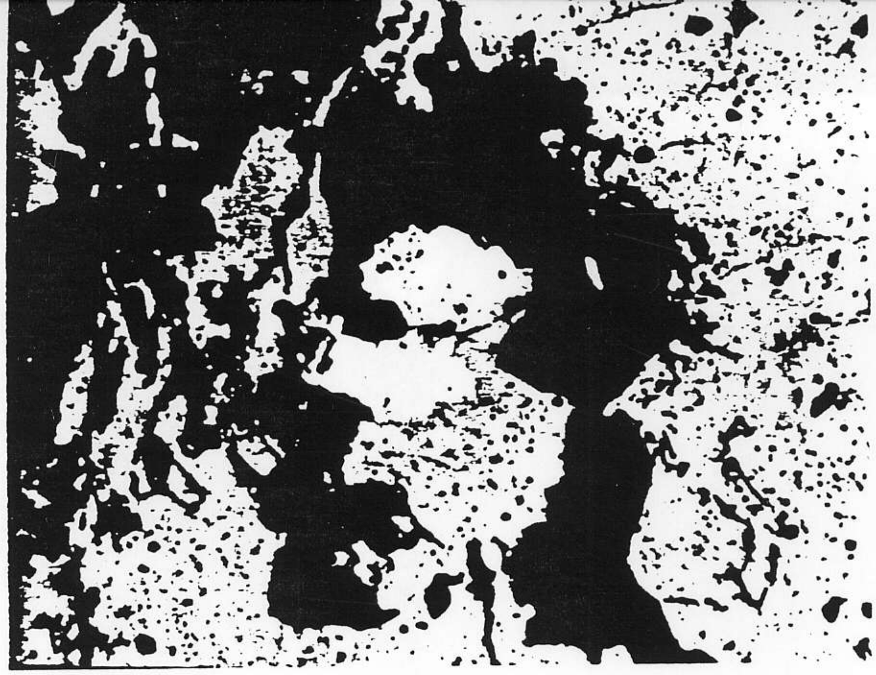


Plate 6-97.5-3. Stubby grains of tetrahedrite, white, included in massive stibnite, grey, black regions are calcite.

DDH CA-88-9-64.4

- fine grained siliceous rock possibly originally barite or gypsum bearing chert that has been highly altered by fluids with development of coarse muscovite, quartz and Mg chlorite in sites of former gypsum; cut by late calcite realgar sphalerite veins

quartz	- 40%
muscovite	- 20%
calcite	- 5%
barite	- 4%
Mg-chlorite	- 15%
dolomite	- 1%
realgar	- 5%
sphalerite	- 5%
cinnabar	- 4%
tetrahedirite	- <1%

- texturally complicated sample best rationalized if rock type essentially like 55-98.8, replaced by quartz, muscovite, Mg chlorite and a variety of sulphide minerals.

- relict domains are clearly ultrafine grained cryptocrystalline quartz (Plate 9-64.4-1); this chert is replaced by Mg-chlorite Ba muscovite and veined by calcite in a variety of spectacular textures.

- peculiar tabular regions now a complex intergrowth of Mg chlorite and Ba muscovite occur in the clearly relict regions of hydrocarbon rich chert (Plates 9-64.4-2,3). The origin of these features is unclear. A previously stable mineral such as gypsum or barite is a distinct possibility. The gypsum masses have been replaced by coarse grained quartz, Mg chlorite and Ba muscovite.

- in certain domains spectacular rosettes of a relatively coarse grained pre-existing mineral appear to have developed directly within the dark hydrocarbon rich chert (Plates 9-64.4-4,5). Significantly the grains in these rosettes are terminated by well developed crystal faces (Plate 9-64.4-6). The mechanism by which these idiomorphic rosettes developed in this rock volume is unclear. These rosettes are clearly replaced by irregular masses of finer grained quartz and radial Ba muscovite sheafs and chlorite (Plate 9-64.4-7).

- coarse crystalline intergrowth of Mn bearing dolomite, barite and realgar with well developed crystal faces occur in central regions of certain rosettes (Plate 9-64.4-8) associated with Ba muscovite sheafs.

- section cut by a branching network of texturally late carbonate-realgar veinlets.

- The overall textural similarity between sample 89-55-98.8 and samples 9-64.4 and 9-65.7 is striking and the samples may have a common origin, hydrocarbon rich chert which originally contained blades and relatively coarse rosettes of gypsum or barite. In the case of sample 89-55-98.8 these barite masses have been partly replaced by calcite. In the case of samples 9-64.4 and 9-65.7 they have been pseudomorphed in a myriad of textures by relatively coarse grained quartz, Ba muscovite and Mg chlorite.

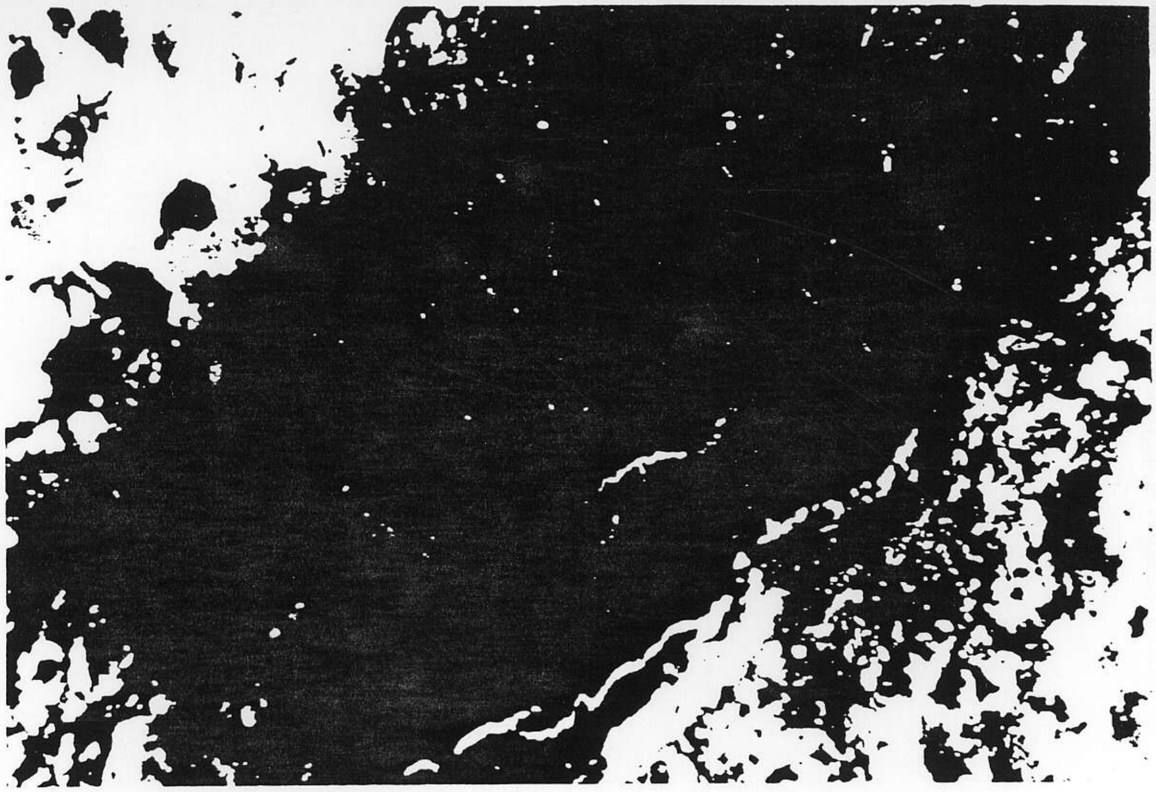


Plate 9-64.4-1. Relict region essentially inclusion free cryptocrystalline quartz.

Plate 9-64.4-2. Quartz eyes and tabular regions, now Ba muscovite and Mg chlorite within regions of chert.

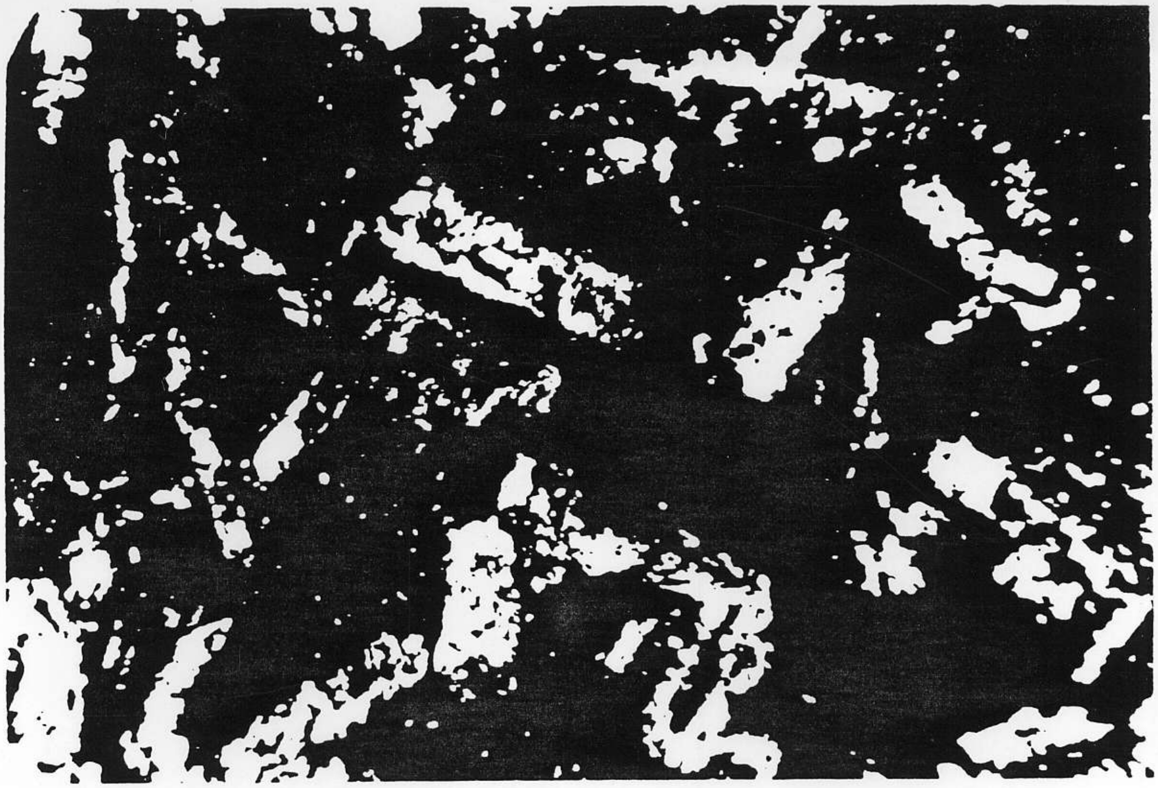


Plate 9-64.4-3. Tabular region of quartz, and muscovite in chert, possible gypsum or barite pseudomorphs.

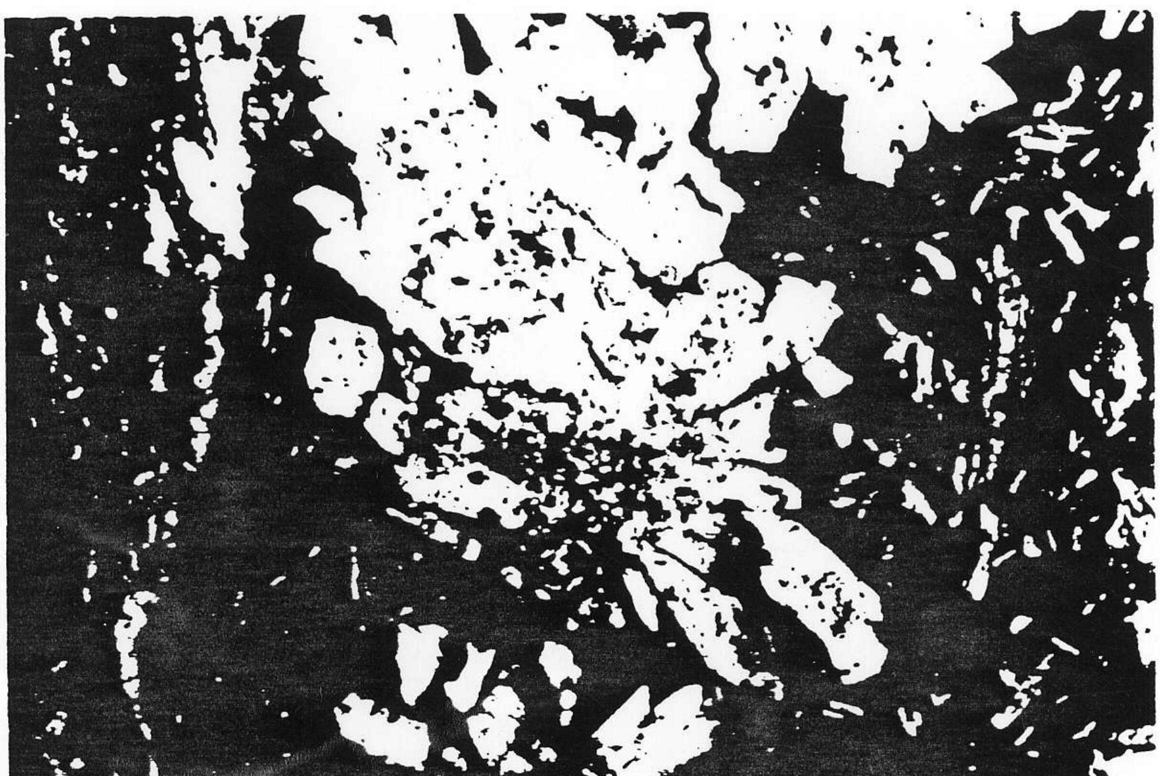


Plate 9-64.4-4. Rosette of relatively coarse grained mineral with well developed crystal faces against chert, plane light.

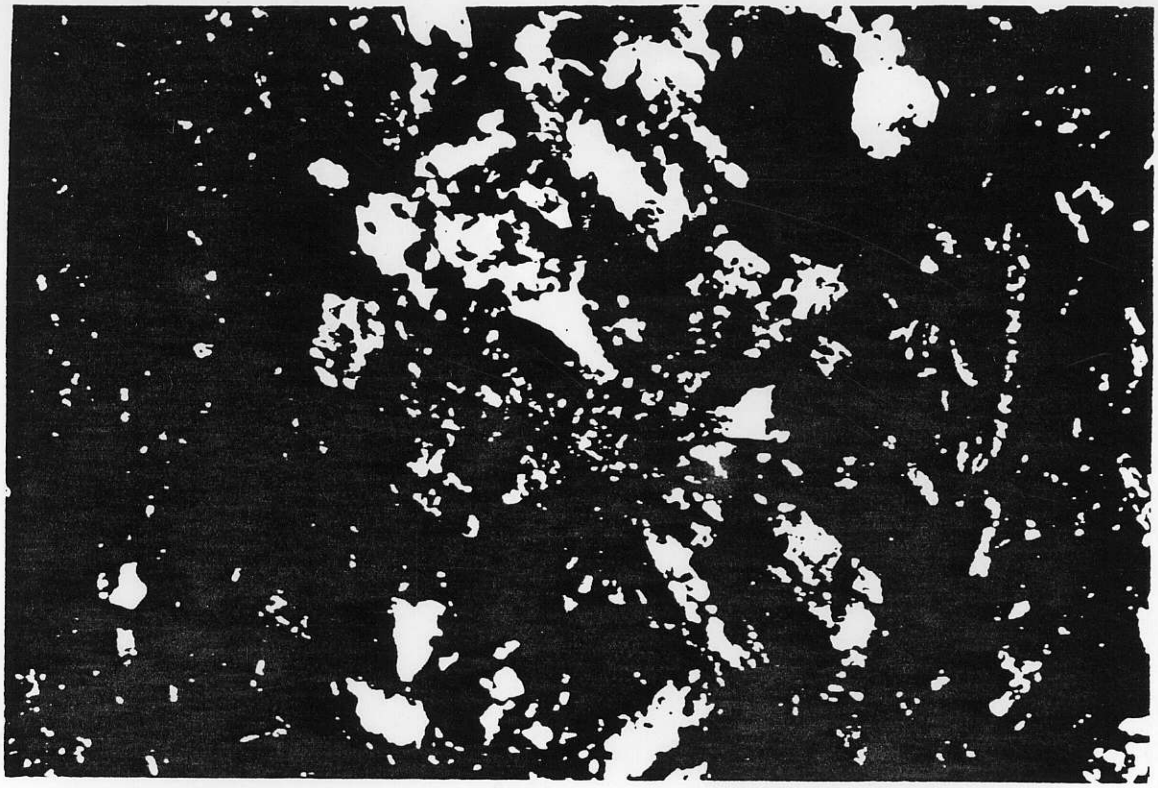


Plate 9-64.4-5. Same field of view as 9-64.4-4 crossed polars, the mineral has clearly been pseudomorphed by quartz and muscovite.

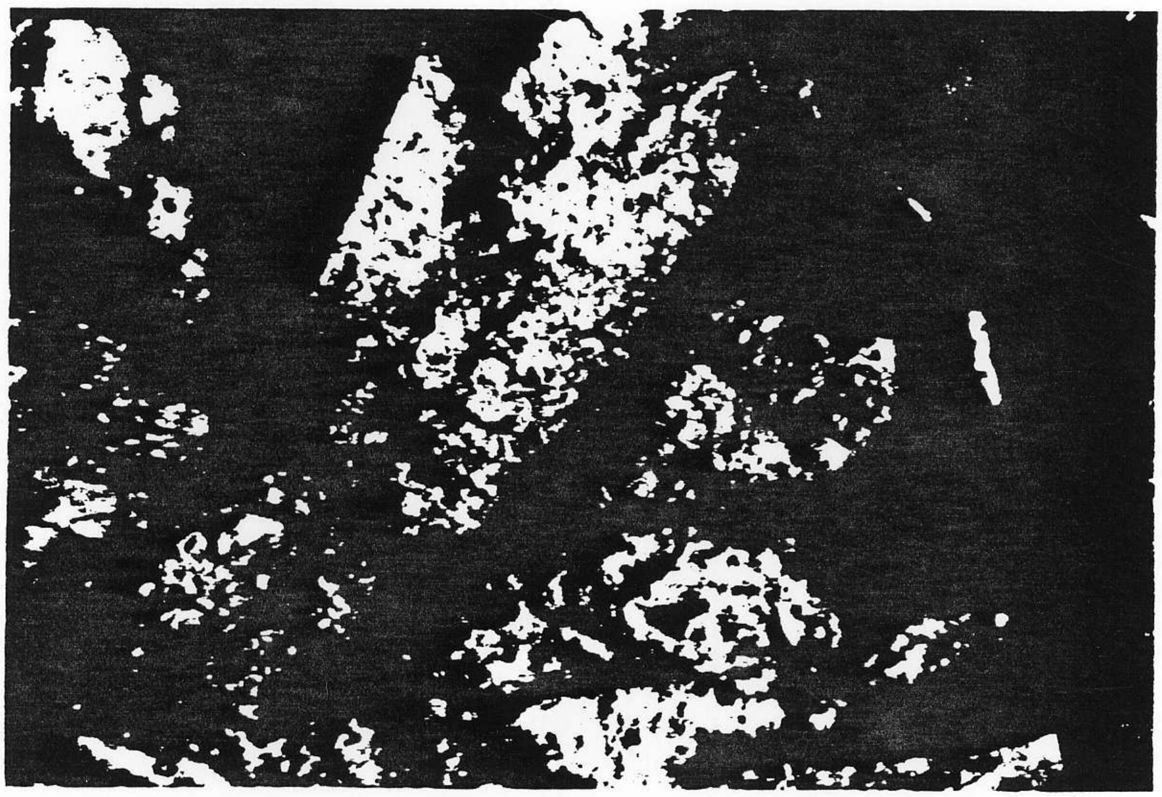


Plate 9-64.4-6. Well developed crystal faces of mineral against chert, note chert along present internately along original grain margins.

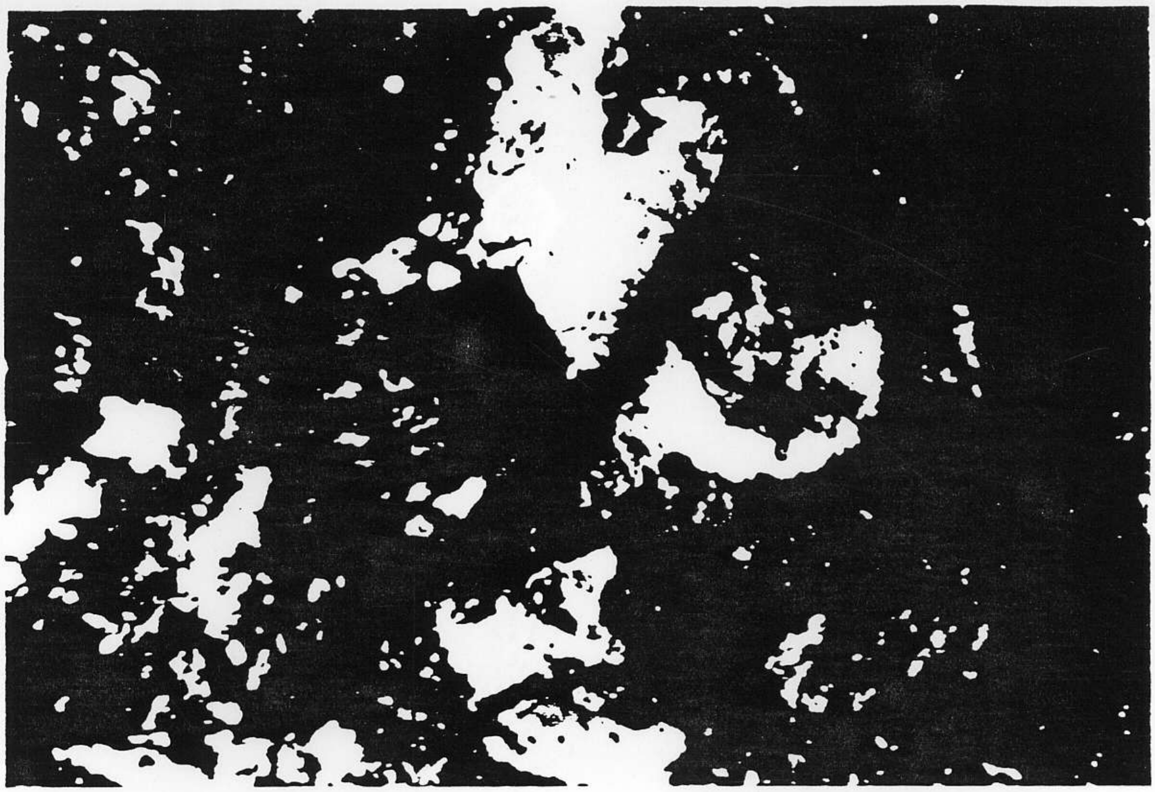


Plate 9-64.4-7. Pre-existing mineral in chert, possibly gypsum or barite pseudomorphed by quartz and muscovite.

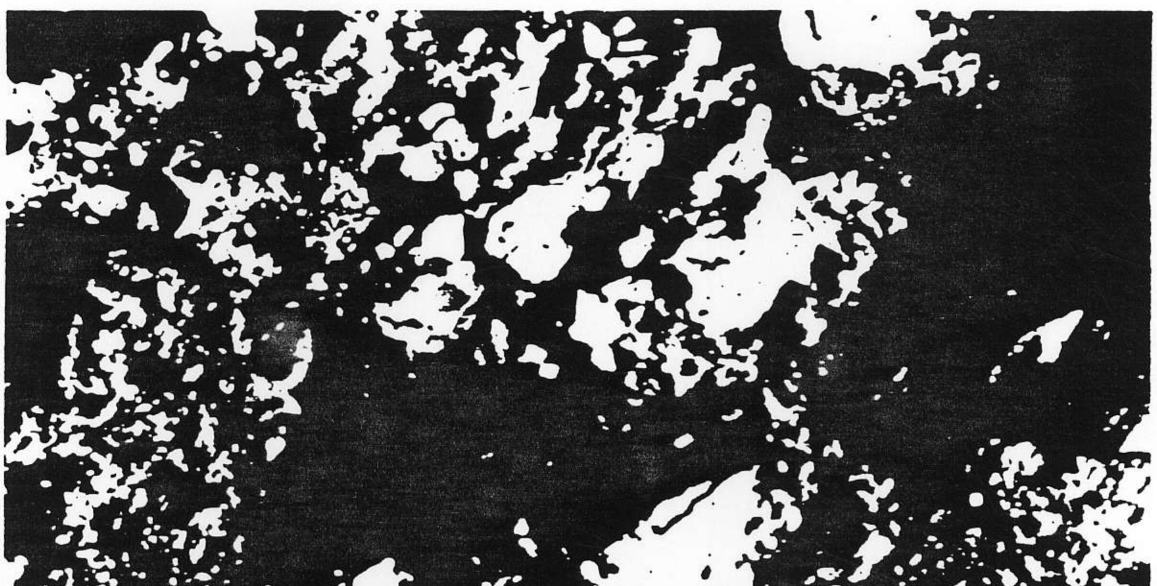


Plate 9-64.4-8. Coarse intergrowth of calcite, barite, quartz and realgar in the central region of certain pre-existing rosette pseudomorph.

DDH CA-88-9-74.9

- fine grained quartz rich rock chert with sulphides developed in a network of subparallel quartz and carbonate veins and tension gashes.

quartz	- 55%
muscovite	- 2%
calcite	- 15%
Mn-dolomite	- 1%
Mg-chlorite	- 8%
stibnite	- 15%
realgar	- 4%
sphalerite	- 2%
cinnabar	- 1%
PbSbAsAgS	- <1%
aktashite,CuHgSbS	- <1%

- chert with a variety of sulphide minerals developed in two intersecting sets of quartz veinlets and a branching network of carbonate rich veins and tension gashes (Plate 9-74.9-1).

- in least altered domains of the chert apparent fragments of quartz are associated with irregular angular patches of extremely fine grained Mg chlorite (Plate 9-74.9-2) that contain trails of minute pyrite spheres with an apparent fabric. These patches are interspersed and penetrated by veinlike regions of relatively coarse grained quartz with coarse Mg chlorite along selvage which significantly contain stibnite intergrown with the coarse quartz (Plate 9-74.9-3).

- these features clearly define the early stages of fluid induced hydrothermal alteration of chert with patches and veinlets of Mg chlorite and at least two stages of quartz microfracture development accompanied by stibnite impregnation.

- the narrow veinlets connect with larger ovoid patches of relatively coarse grained quartz with stibnite, rare sphalerite associated with coarse Mg chlorite sheafs which may represent a vein set in the third dimension or some type of open space filling in the chert (Plate 9-74.9-4).

- a narrow veinlet of relatively coarse grained quartz including stibnite Mn dolomite and coarse sheafs of Mg chlorite and Ba muscovite, cuts a region where chert is replaced by extremely fine grained chlorite (Plates 9-74.9-5,6). It is significant that this is the only mica in the section as for the most part sulphides occur associated with regions of quartz or calcite.

- certain regions are massive stibnite with coarse grained calcite interstices (Plate 9-74.9-7). Cinnabar occurs along grain margins of this stibnite (Plate 9-74.9-8). These coarse sulphide-carbonate regions are connected by the several sets of subparallel branching calcite veinlets which pass through intervening regions essentially chert and appear to have the same orientation and simply overprint at least one set of branching quartz veinlets.

- certain late coarse grained calcite patches contain complex intergrowths of cinnabar and a CuHgSbS mineral atkashite, overgrown by realgar (Plate 9-74.9-9).

- sphalerite occurs as small grains with stibnite in patchy regions of coarse grained quartz associated with coarse Mg chlorite sheafs that appear to predate the several sets of carbonate ladder veinlets.

- certain sphalerite grains are overgrown by PbSbAsAgS which contains oriented linear blebs of cinnabar (Plate 9-74.9-10).

- significantly this ZnS, possibly a wurtzite structure contains up to 30% Hg in patchy and irregular domains (Plate 9-74.9-11) certain grains are spectacularly zoned in Hg (Plate 9-74.9-12).

These patches of Hg sphalerite in chert are associated with fluorine bearing Mg chlorite not micas and may be a hint of the processes involved in certain rock volumes before potassium flooding and concomitant pervasive muscovite develop. This sample may provide evidence for impregnation and stability of sphalerite in fluorine rich solution which stabilized Mg chlorite. The origin of the fluorine anomaly and the origin and role of Mg chlorite rocks at Eskay Creek becomes increasingly important.

Sample quite different from sample CA 5 9-74.9. The present sample likely represents a portion of the rock volume originally present chert whereas CA 5 is clearly a realgar rich veinlike mass in this chert.

Plate 9-74.9-1. Fine grained chert with calcite and realgar in tension gashes.

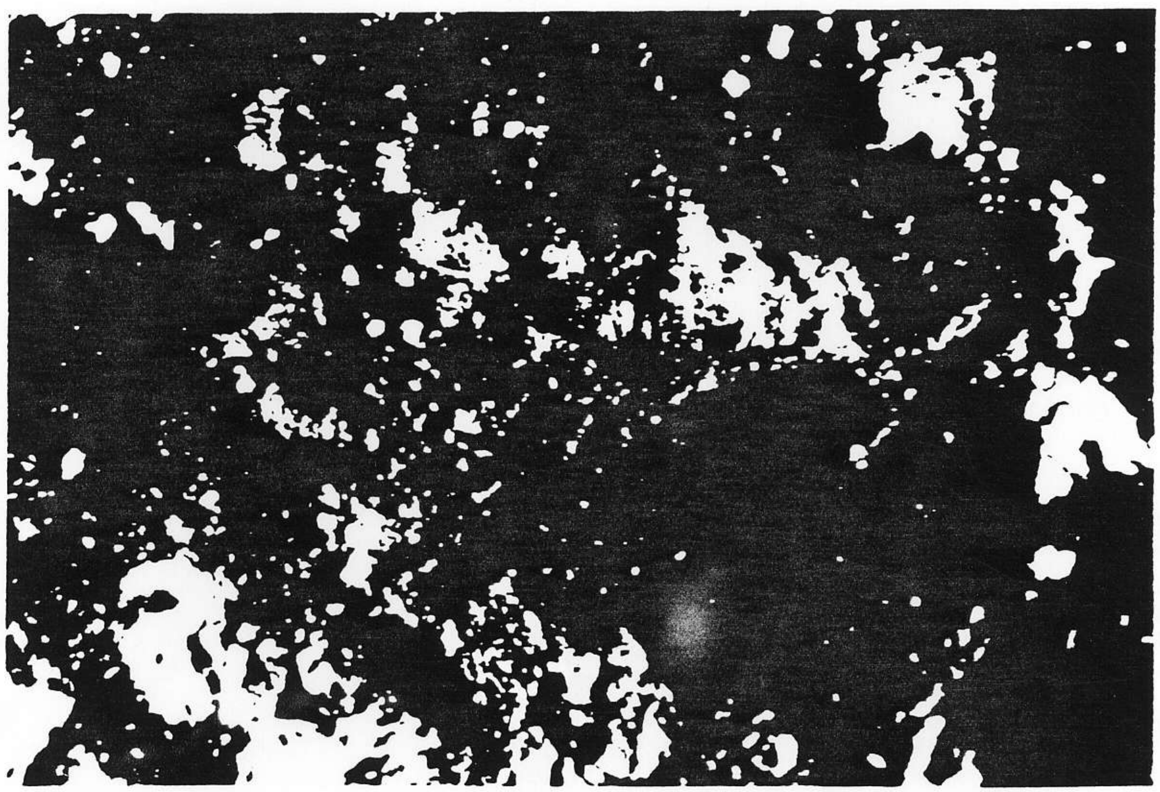


Plate 9-74.9-2. Irregular patches and zones of fine grained Mg chlorite apparently replacing chert.

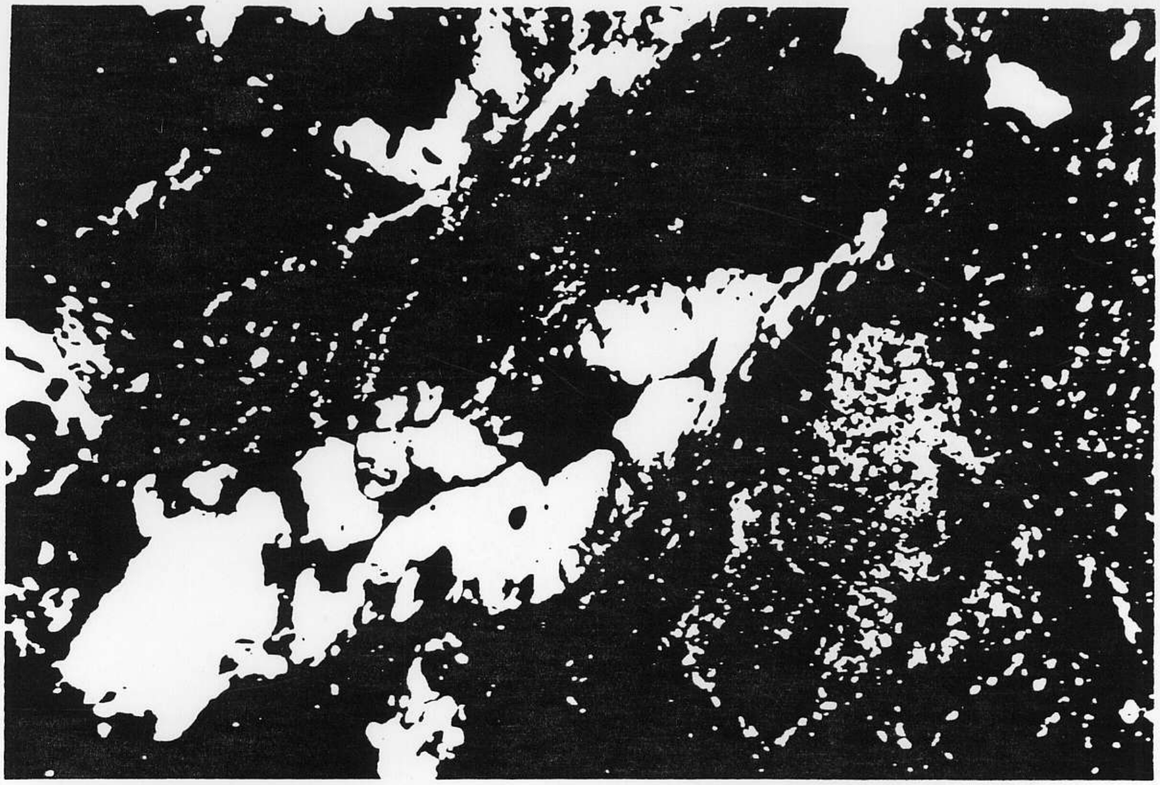


Plate 9-74.9-3. Sheafs of coarse Mg chlorite at margin of zone of coarse grained quartz and stibnite.

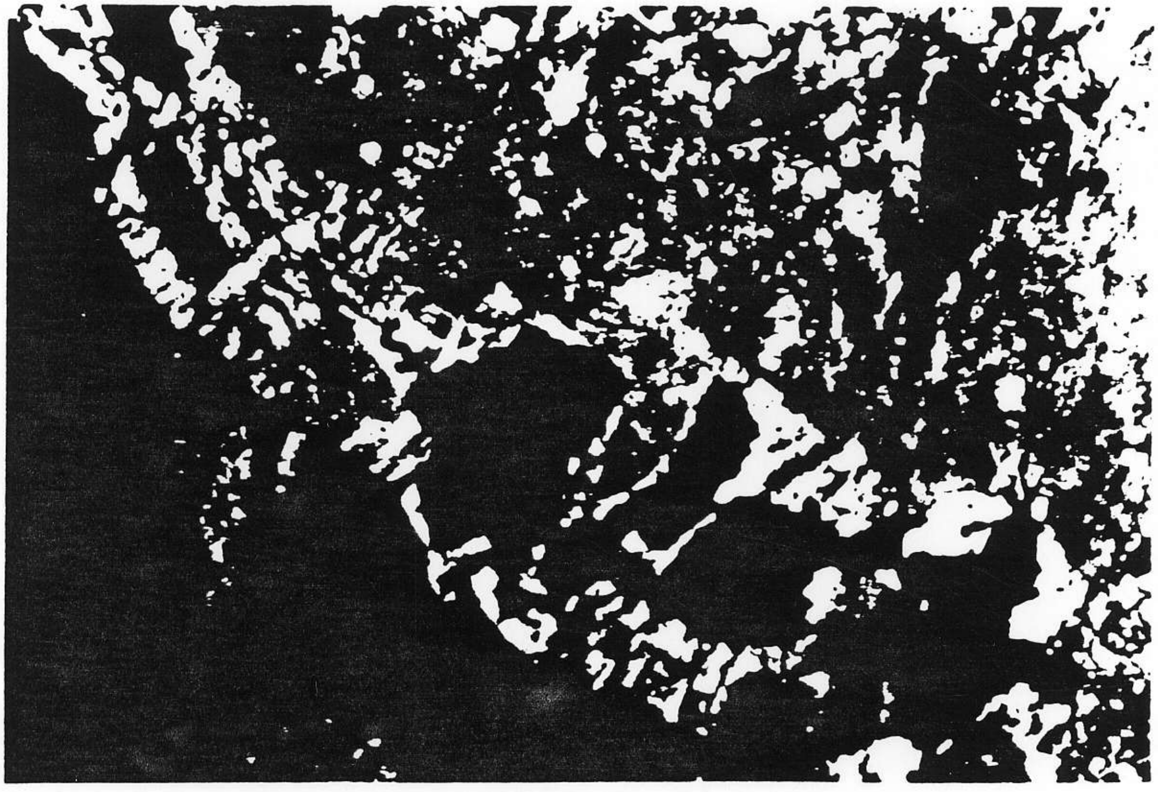


Plate 9-74.9-4. Ovoid region of stibnite and coarse grained quartz at conjunction of narrow quartz veinlet.

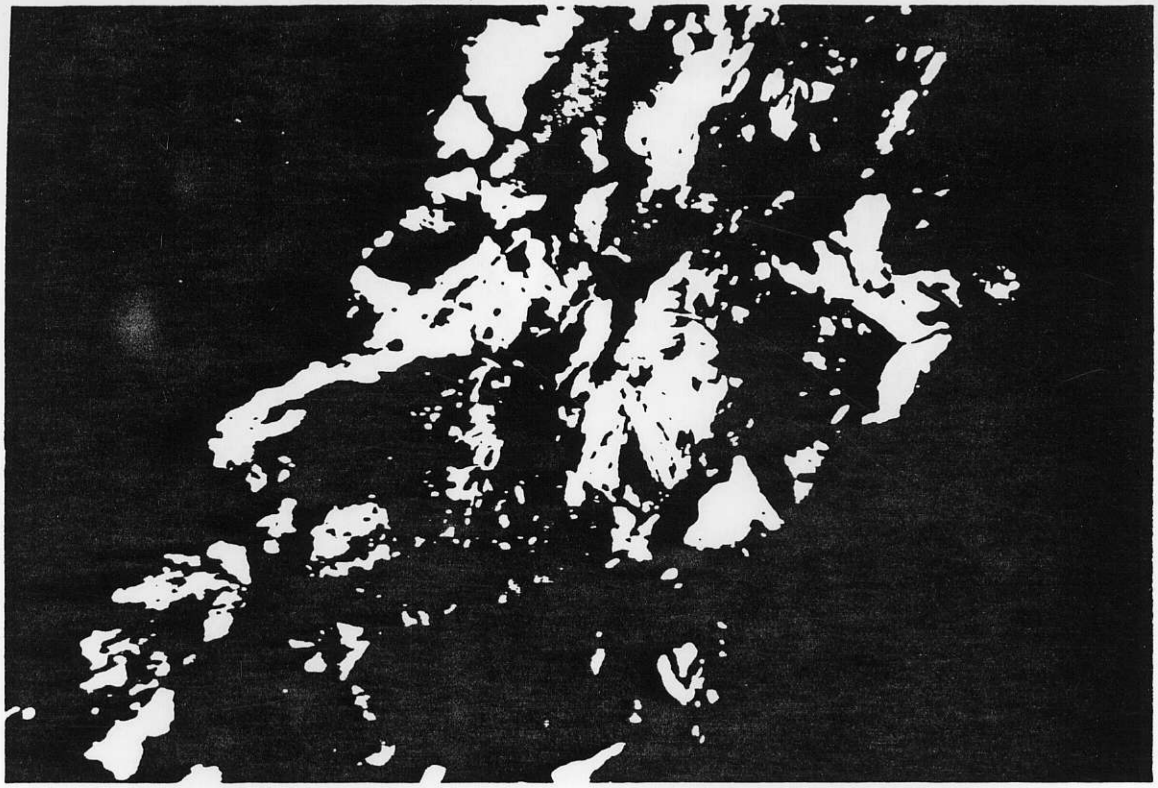


Plate 9-74.9-5. Veinlet of quartz including sheafs of Ba muscovite, Mg chlorite and Mn dolomite.

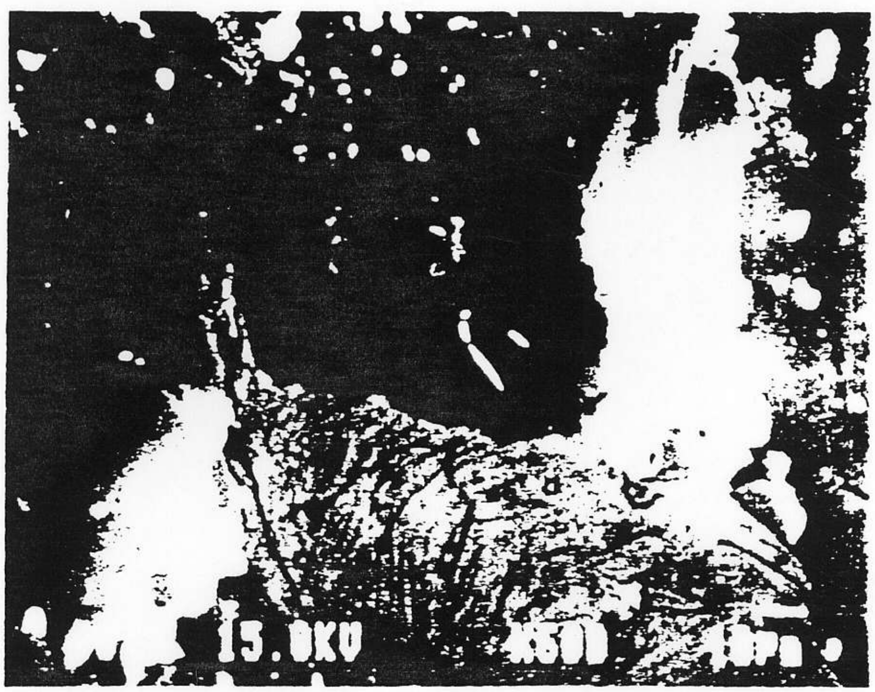


Plate 9-74.9-6. Equilibrium contact relationship between sheafs of Mg chlorite, dark grey, and Ba muscovite, light grey.

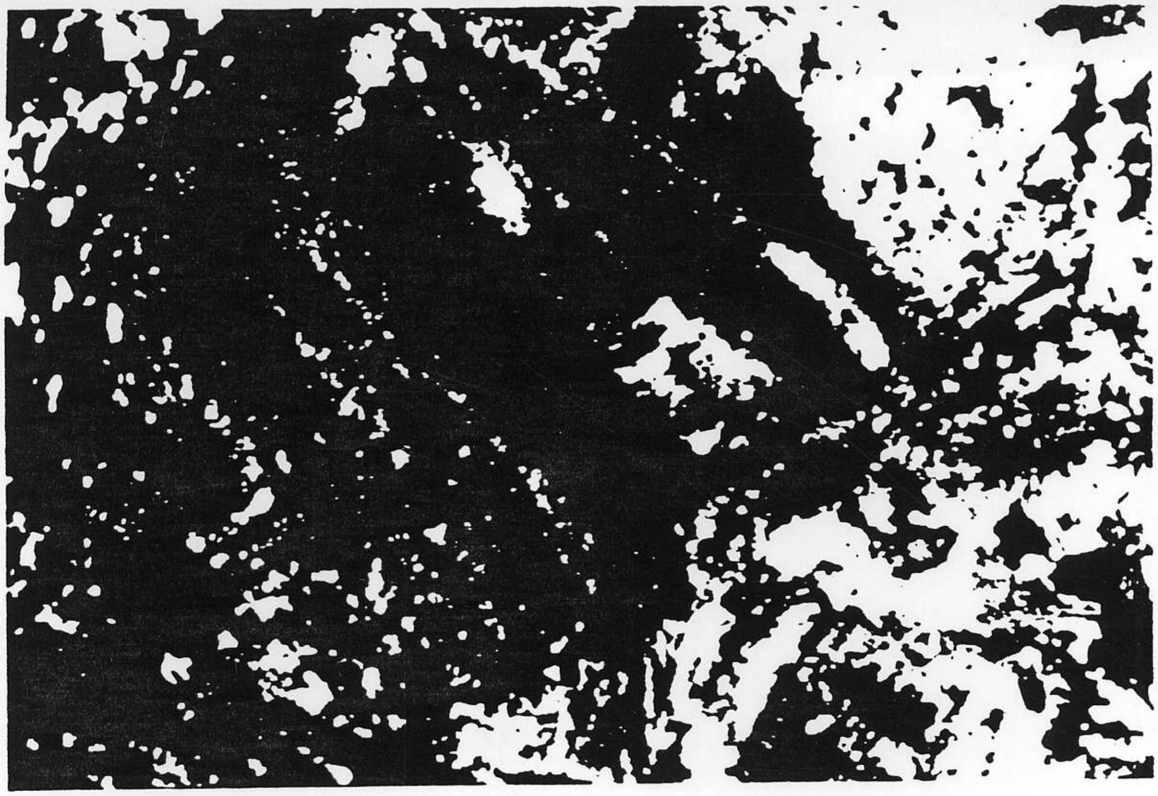


Plate 9-74.9-7. Veinlike region of section consisting of massive stibnite with calcite interstices.

Plate 9-74.9-8. Cinnabar, white, along grain margins of massive stibnite, grey, dark interstices are calcite.

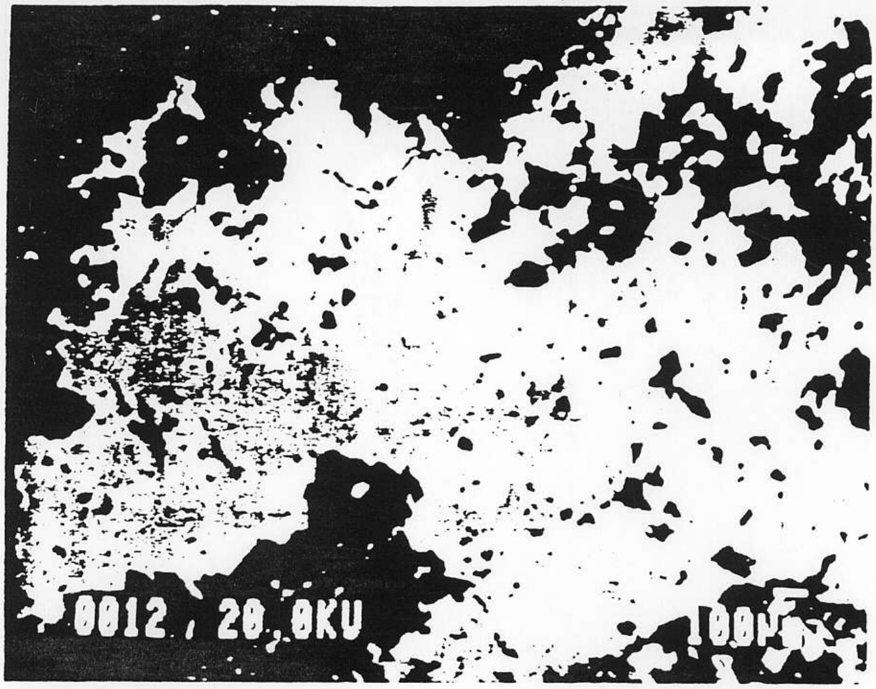


Plate 9-74.9-9. Aktaskite, a AuHgSSb mineral overgrown by realgar including cinnabar, white.

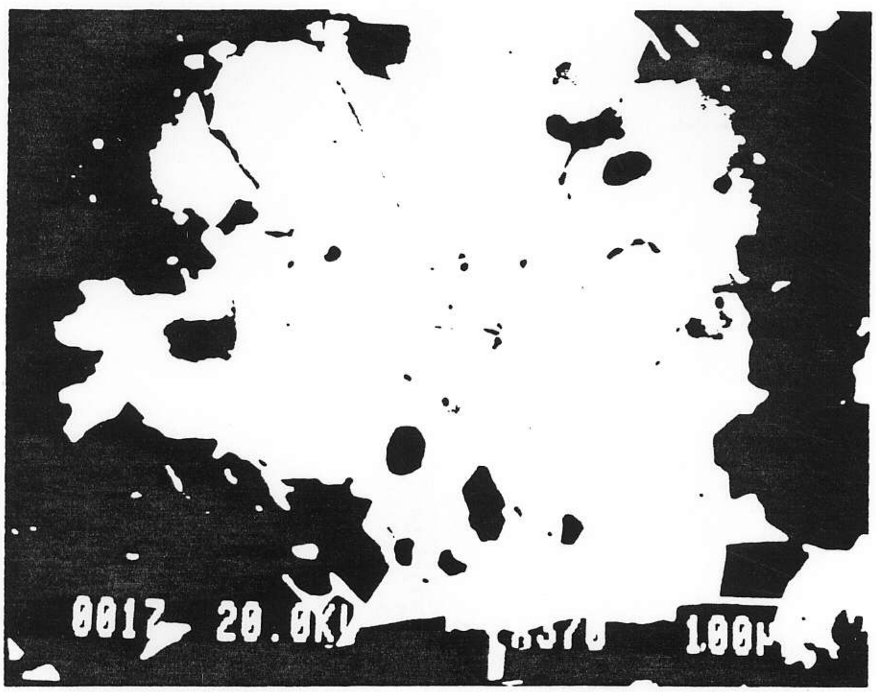


Plate 9-74.9-10. Compositionally zoned sphalerite included in tetrahedrite with linear regions of cinnabar.

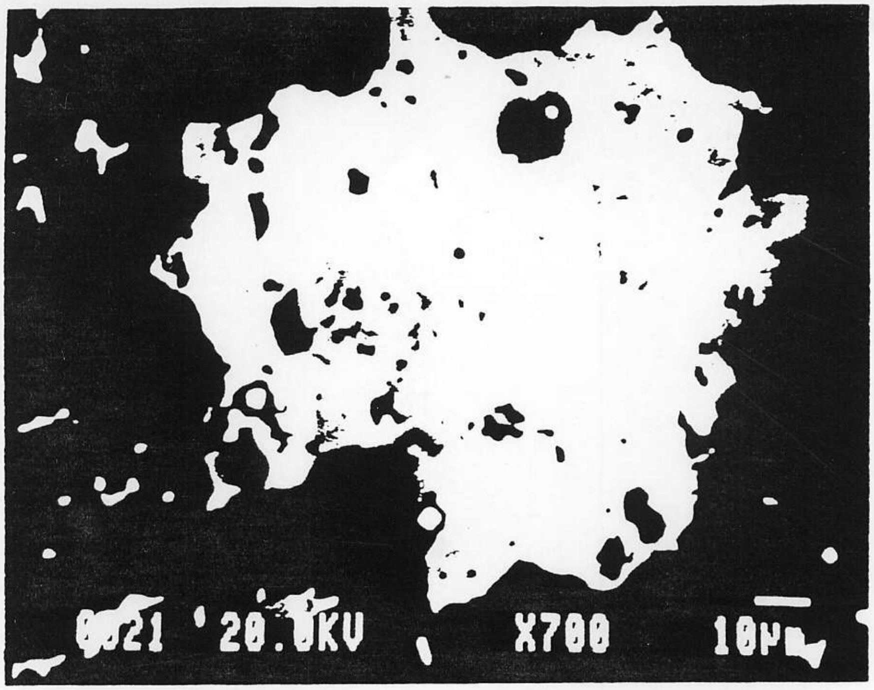


Plate 9-74.9-11. Compositionally zoned sphalerite grain, as light and dark grey regions, with abundant inclusions of cinnabar, white.

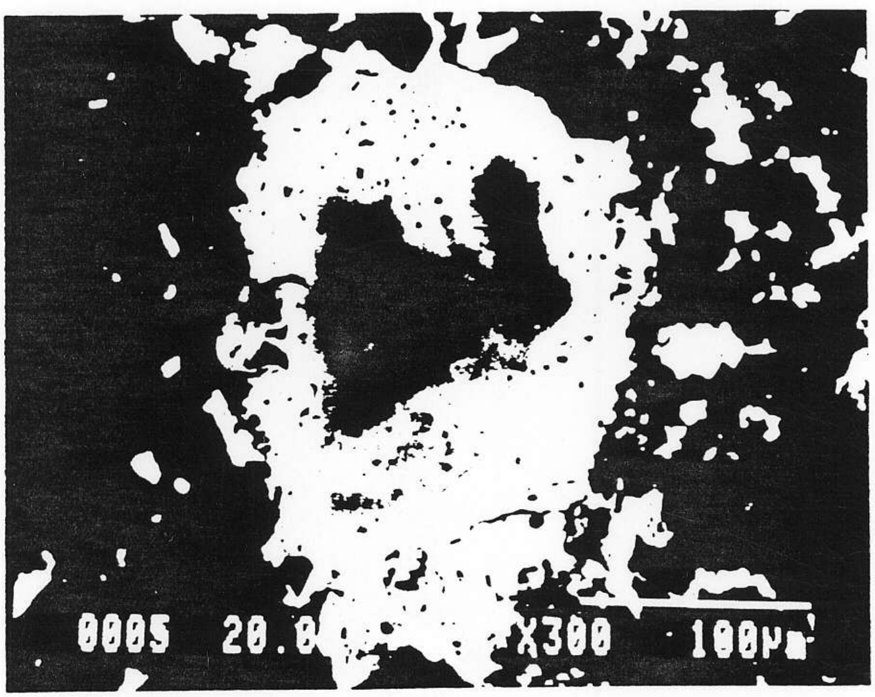


Plate 9-74.9-12. Concentrically zoned sphalerite; dark central regions have 10.00 weight percent Hg while light outer zones up to 34.00 weight percent.

DDH CA-88-9-75.2

- rounded fragments of chert, hydrocarbon rich tuff, Ba muscovite altered chert and textural varieties of alteration, in a matrix of realgar; very similar to 9-74.9

realgar	- 60%
Ba muscovite	- 15%
Mg chlorite	- 5%
quartz	- 5%
calcite	- 5%
stibnite	- 10%
cinnabar	- <1%
sphalerite	- 1%

- this sample is from the same unit as CA-15-9-74.9 discussed in detail in report dated May 15, 1989.

- the sample is a type of microbreccia in which small fragments of and larger chunks of all mineralogical and textural variety of chlorite, muscovite and carbonate altered, chert (Plate 9-75.2-1), are included in a realgar matrix which signficantly has a certain fabric; linear zones of opaque material in the realgar clearly wrap around the fragments (Plate 9-75.2-2) and in rare examples Ba mica rich fragments are highly attenuated to give a definite foliation (Plate 9-75.2-3).

- a myriad of silicate, carbonate and sulphide mineral textures involving stibnite, cinnabar, tetrahedrite etc. are apparent in the various fragments of earlier stage hydrothermal alteration and will not be discussed in detail, as to do so would be a description of the Eskay deposit in one thin section.

- the mechanism by which the ore zone in the volume of this sample was disrupted and fragmented is a matter of some interest as the process clearly took place while the hydrothermal system was still active and in the writer's view the realgar in these rock volume should not simply be considered "late" in the sense that it is the result of supergene or weathering processes. As noted in sample CA-4, Plate 9-65.7-15; Ba muscovite rosettes were clearly in textural equilibrium with native arsenic at the margin of the realgar vein.

- the realgar vein may be "late" texturally in the sense that it cuts a domain of pervasively formed stibnite rich hydrothermally altered rock, but textural evidence for simultaneous mineral stability suggests that realgar developed as veins and masses in cavities while Ba muscovite was also simultaneously precipitating from ambient solutions.

- The process is envisaged as one in which a variety of sulphide, silicate and calcite mineral species developed almost simultaneously as a function of subtle variation in chemical potential of relevant solution complexes by which the elements were transported.

- These variations likely occurred in repsone to subtle variations in temperature as solutions were variably accessible to a certain rock volume.

A the focus of the system where solution flooding took place, highest temperatures would be expected and reactions predominantly solution dominated. At the periphery of the system were access of solutions was largely fracture controlled temperatures were likely lower, vein-type textures were predominant and certain reactions would be more "rock dominated" with rapid changes in chemical potential of species in solution rapidly affected by the rock volumes traversed by one forming solutions.

- one possible mechanism for disruption and recombination of the ore zone at Eskay Creek which should be given serious consideration is some form of autobrecciation process such as rapid boiling of solutions in response to rapid pressure loss etc.

- Note sphalerite occurs in certain rock fragments and possibly as certain light honey yellow regions in massive realgar. If this is indeed the coarse sphalerite was still actively precipitating as the possible autobreccia was recemented by realgar.

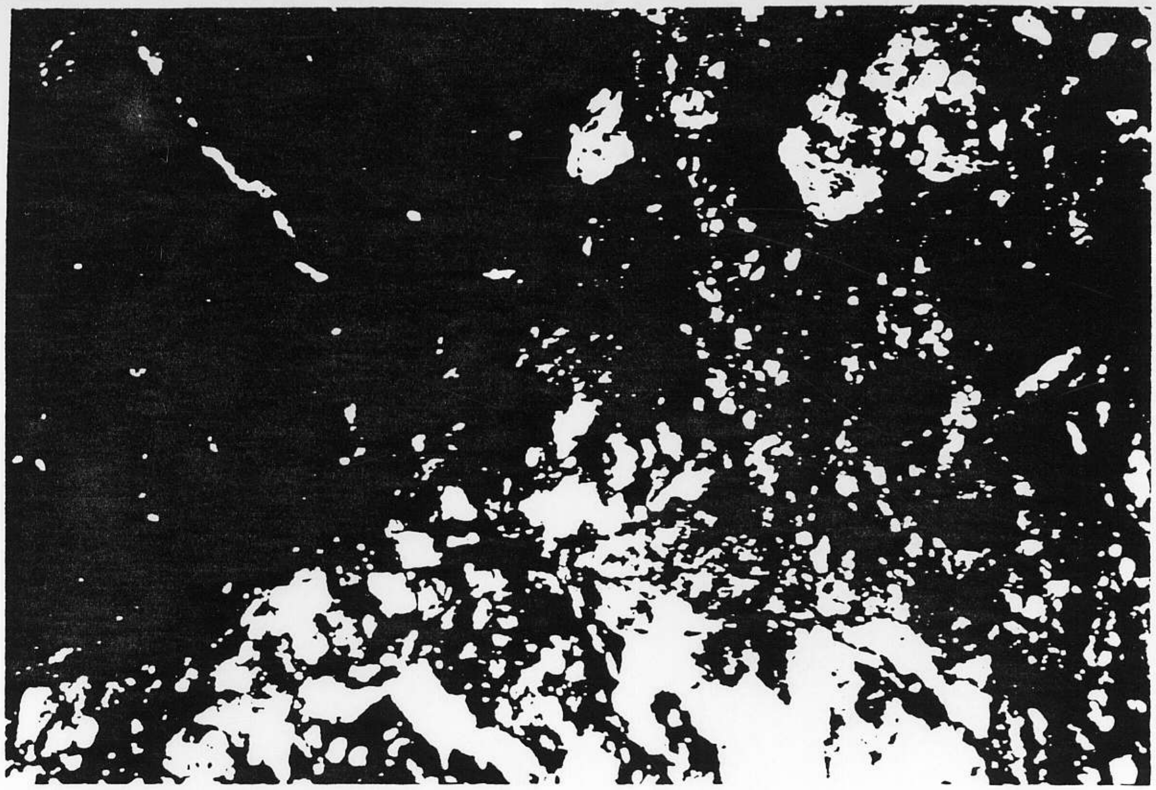


Plate 9-75.2-1. Rounded fragments of chert, carbonate, stibnite alteration assemblages and muscovite rosettes in a realgar matrix.

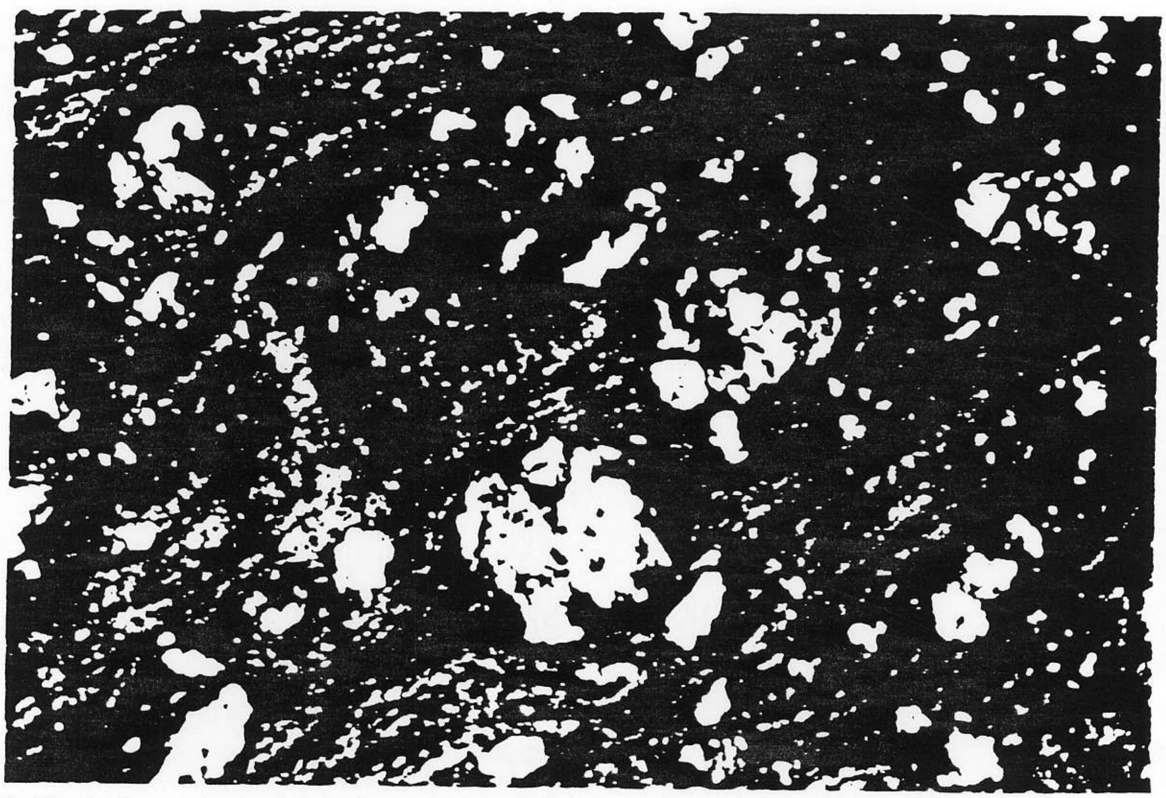


Plate 9-75.2-2. Linear trails of fabric apparent in massive realgar clearly wrap around fragments of multigranular quartz and muscovite, rock volume has been deformed.

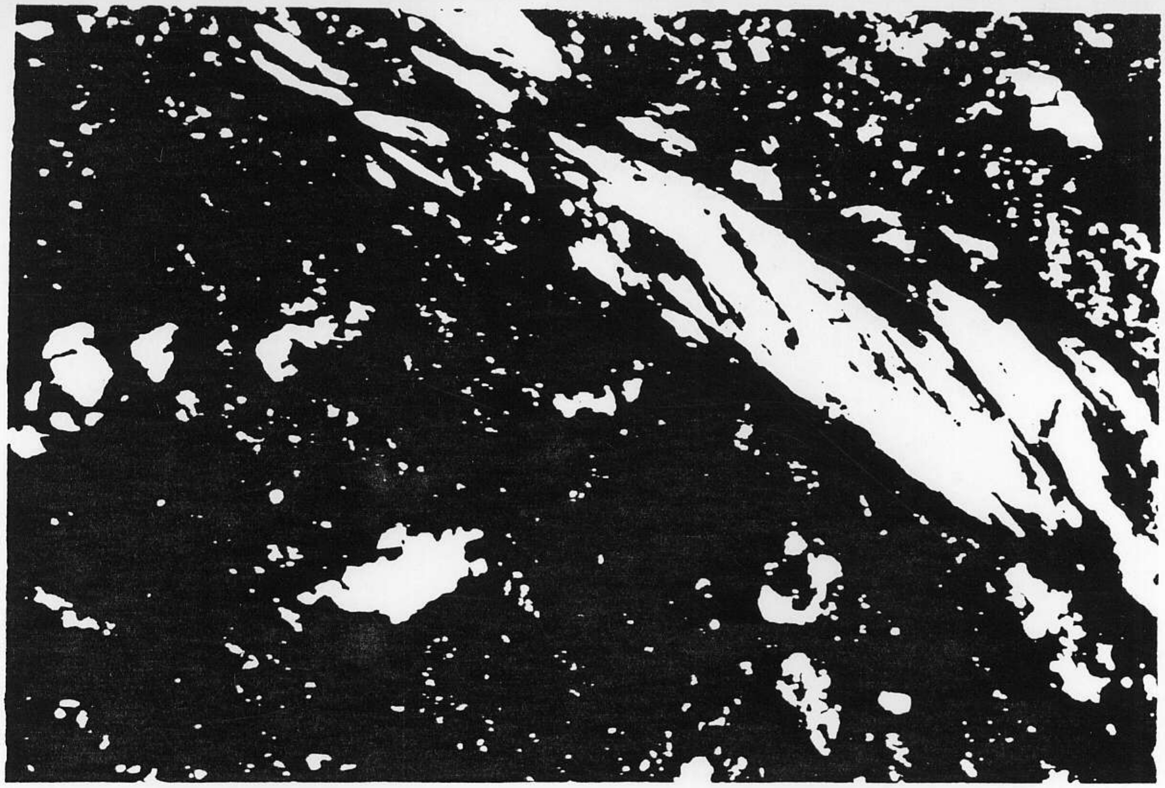


Plate 9-75.2-3. Region of attenuated Ba muscovite in massive realgar, the volume has clearly been deformed.

- discontinuous irregular masses of Mg chlorite and clearly replaced by white crystalline gypsum and late irregular calcite sulphide veinlets

gypsum	- 65%
Mg chlorite	- 15%
dolomite	- <<1%
calcite	- 10%
muscovite	- <1%
quartz	- 1%
tetrahedrite	- 5%
pyrite	- 4%
AgSbS	- <<1%

- rock predominantly a coarse crystalline mass of gypsum grains of variable grain size significantly without a fabric (Plate 9-102.5-1).

- irregular discontinuous masses of fine grained essentially pure Mg chlorite occur throughout the gypsum, which are in places penetrated by a network of crystalline gypsum veinlets (Plate 9-102.5-2) and replaced by calcite.

- significantly the chloritite region contain an even distribution of minute equant pyrite grains and aggregations, while the gypsum regions of the section are without sulphide minerals.

- most significantly the distribution of pyrite defines a weak fabric in the regions of massive chlorite (Plate 9-102.5-3) and the implication is that this rock volume was one essentially massive Mg chlorite which has since been replaced by massive gypsum.

- in certain relict chloritite domains, or earlier stage of alteration can be recognized where a narrow veinlet of muscovite with dolomite and calcite that contains occasional grains of tetrahedrite can be seem to penetrate and replace the chloritite (Plates 9-102.5-5). This vein relationship is clearly terminated by later pervasive gypsum alteration.

- calcite in gypsum is generally concentrated in regions of relict chloritite domains, likely precipitated from ambient solutions as a byproduct of chlorite to gypsum reactions.

- crystalline gypsum regions of the sample cut by late calcite dolomite vein which include large compostionally zoned tetrahedrite grains and a SbAgS phase (Plates 9-102.6-5,6).

This rock volume has clearly had a complicated history as fluids of varying character were accessible to the same rock volume; an original precursor lithology was initially replaced by Mg chlorite and pyrite then veined by potassic solutions as muscovite, quartz, with tetrahedrite then pervasively replaced by gypsum in late sulphate rich solutions. The gypsum is cut by late calcite tetrahedrite veins.

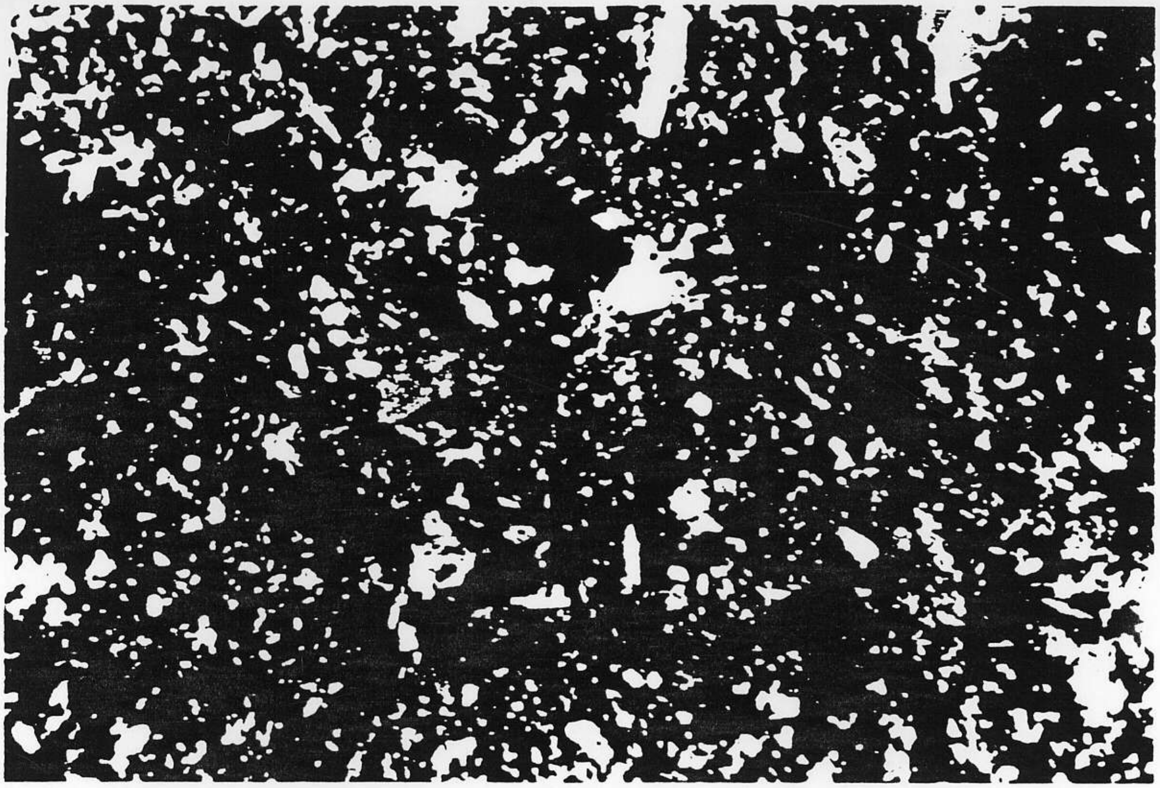


Plate 9-102.5-1. Crystalline mass of gypsum of highly variable grain size without fabric.

Plate 9-102.5-2. Irregular Mg chlorite remnants penetrated by gypsum veinlets and replaced by calcite.

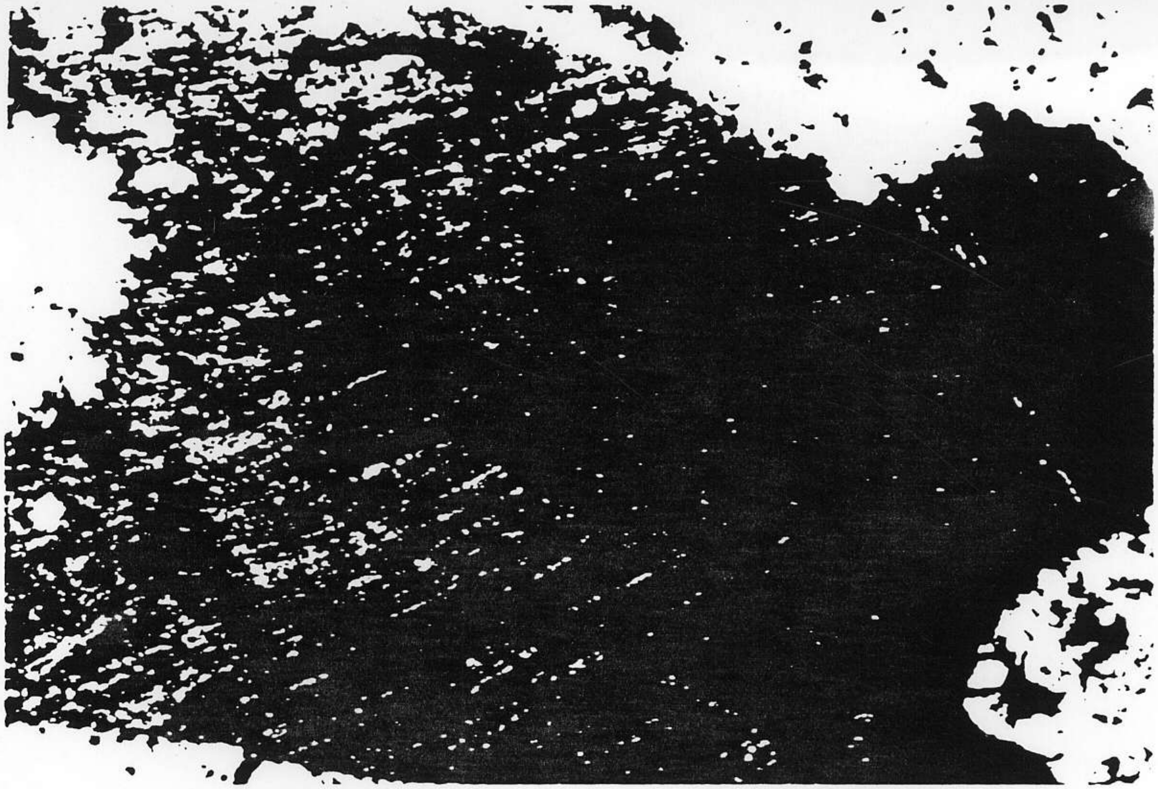


Plate 9-102.5-3. Subtle fabric in relict patches of Mg chlorite pyrite.

Plate 9-102.5-4. Mica veinlet, medium grey, in Mg chloritite, dark grey, with selvage of dolomite, intermediate grey, against mass of gypsum.

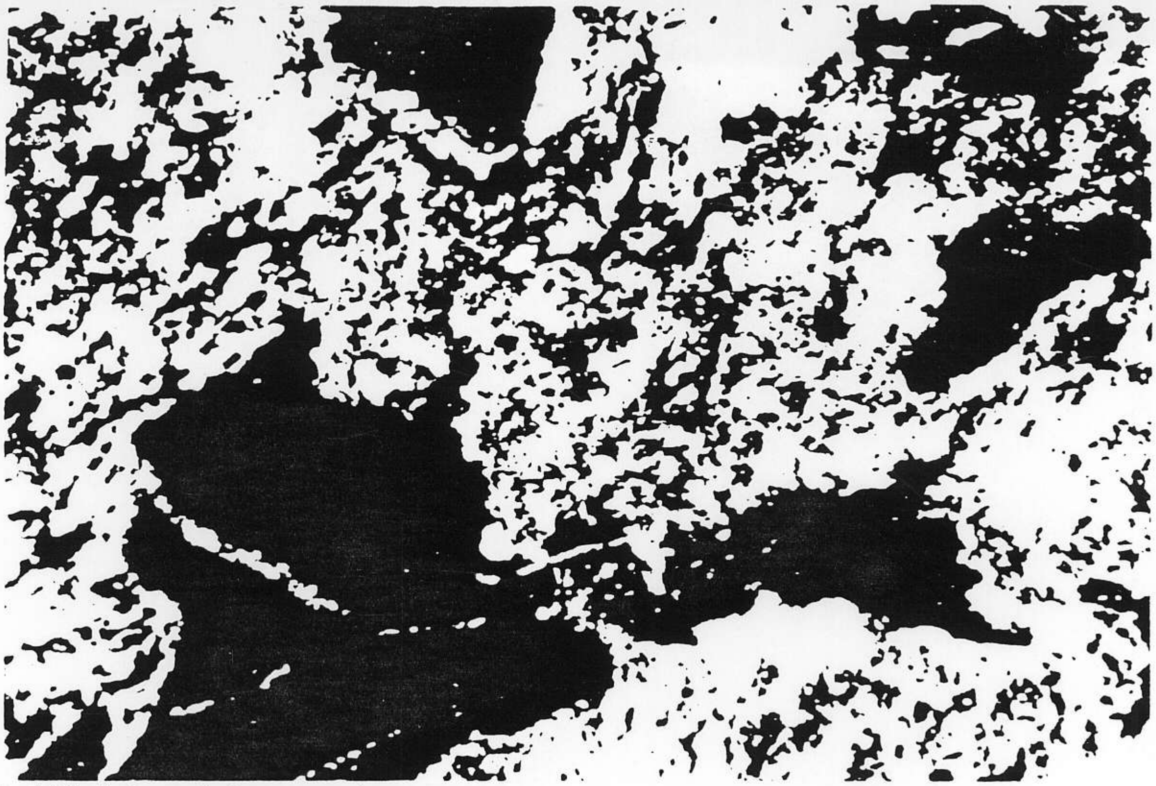


Plate 9-102.5-5. Calcite dolomite vein cutting mass of crystalline gypsum with large grains of pyrite and tetrahedrite.

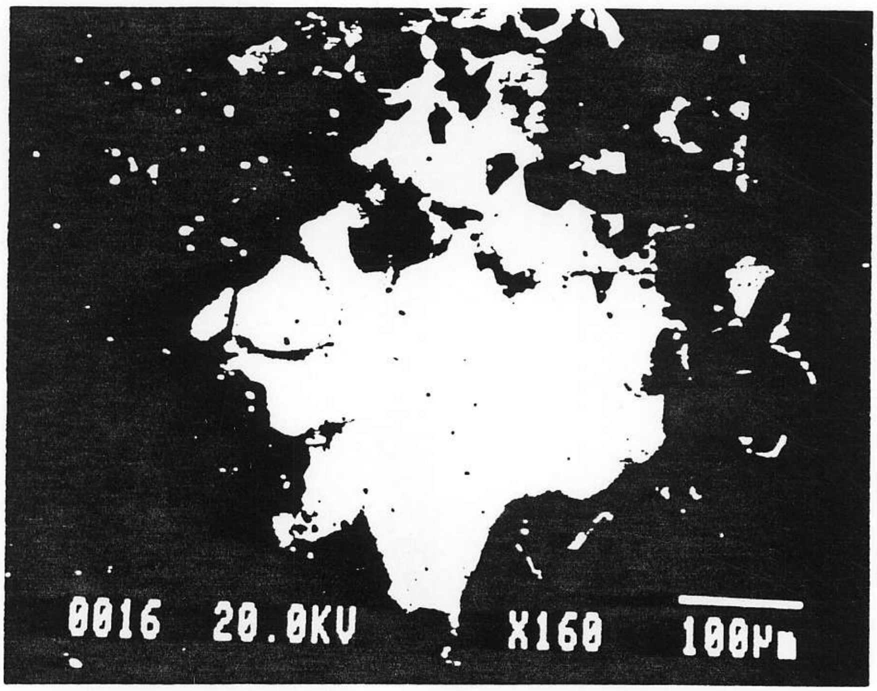


Plate 9-102.5-6. Compositionally zoned tetrahedrite grain light Ag rich central regions.

- massive Mg chloritite with pyrite along irregular linear zones, and diffuse veinlike regions of muscovite development

chlorite	- 90%
muscovite	- 5%
pyrite	- 4%
stibnite	- 1%
galena	- <1%

- rock essentially massive Mg chlorite with scattered angular grains of pyrite and irregular aggregations with galena developed along internal cracks in certain pyrite grains (Plate 11-115.1-1, 2).

- narrow muscovite-stibnite veinlets project into the massive chloritite (Plate 11-115.1-3).

- sample possibly represents an example of Mg chlorite alteration of rhyolite lapilli breccia or deformed rhyolite, the origin of this alteration is unclear.

- significantly the massive chlorite contains approximately 2.00 weight percent FeO and F below the detection limit of the microprobe in contrast to the end member Mg chlorite noted in certain other samples with detectable fluorine.

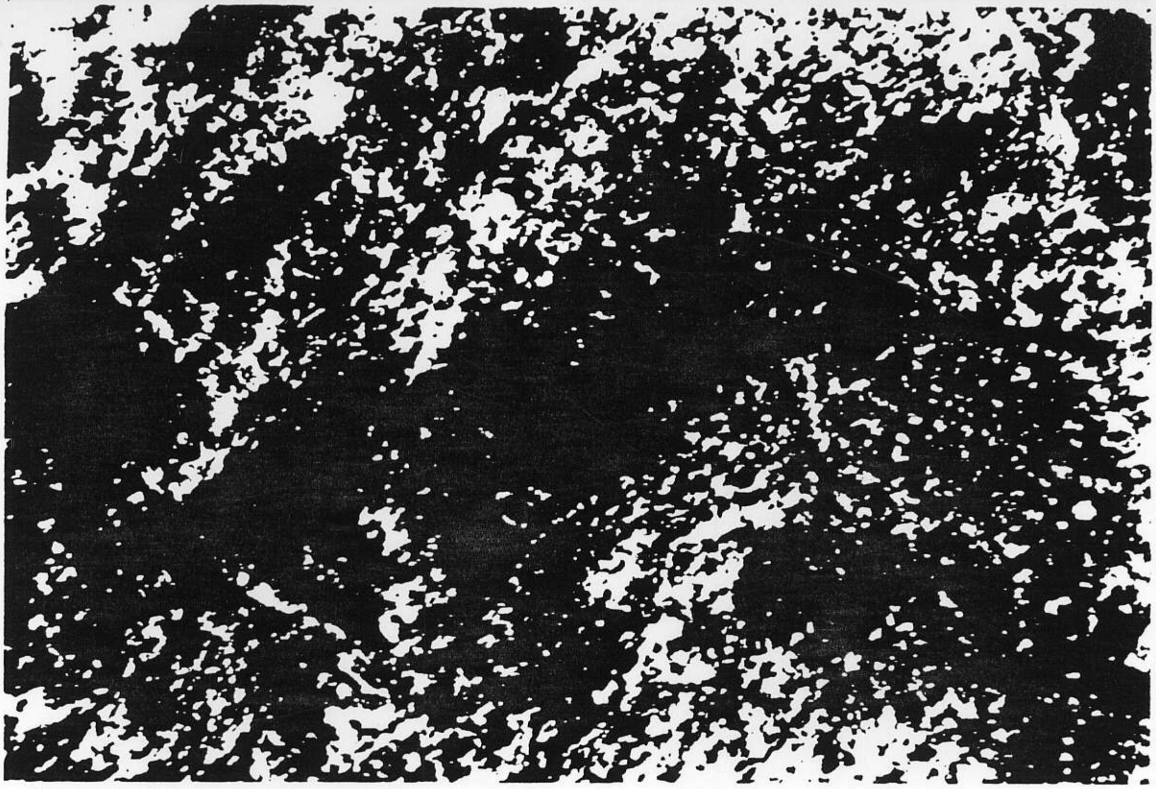


Plate 11-115.1-1. Massive Mg chloritite with linear aggregations of pyrite.

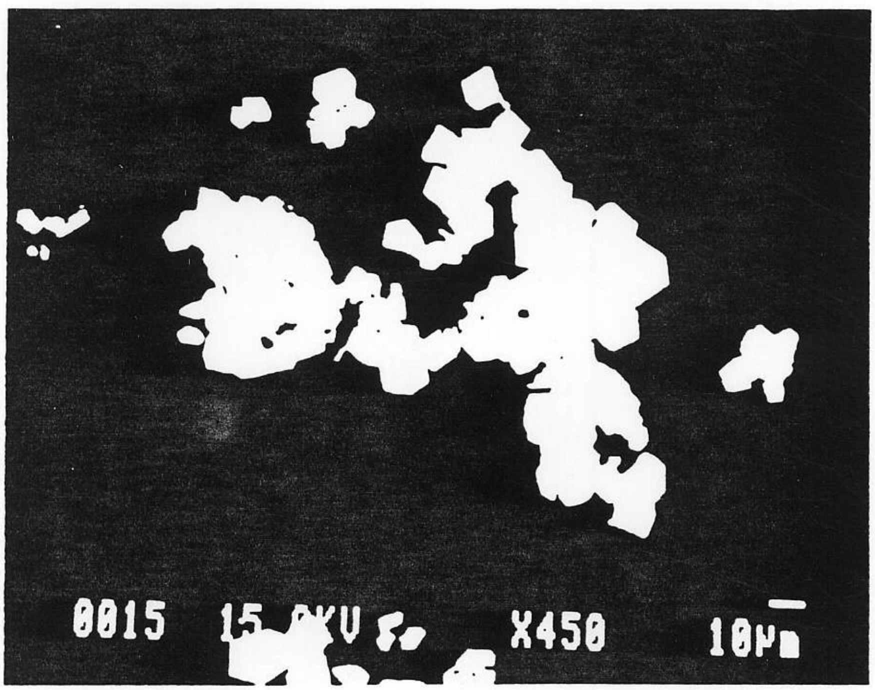


Plate 11-115.1-2. Galena, white, along rocks in pyrite.

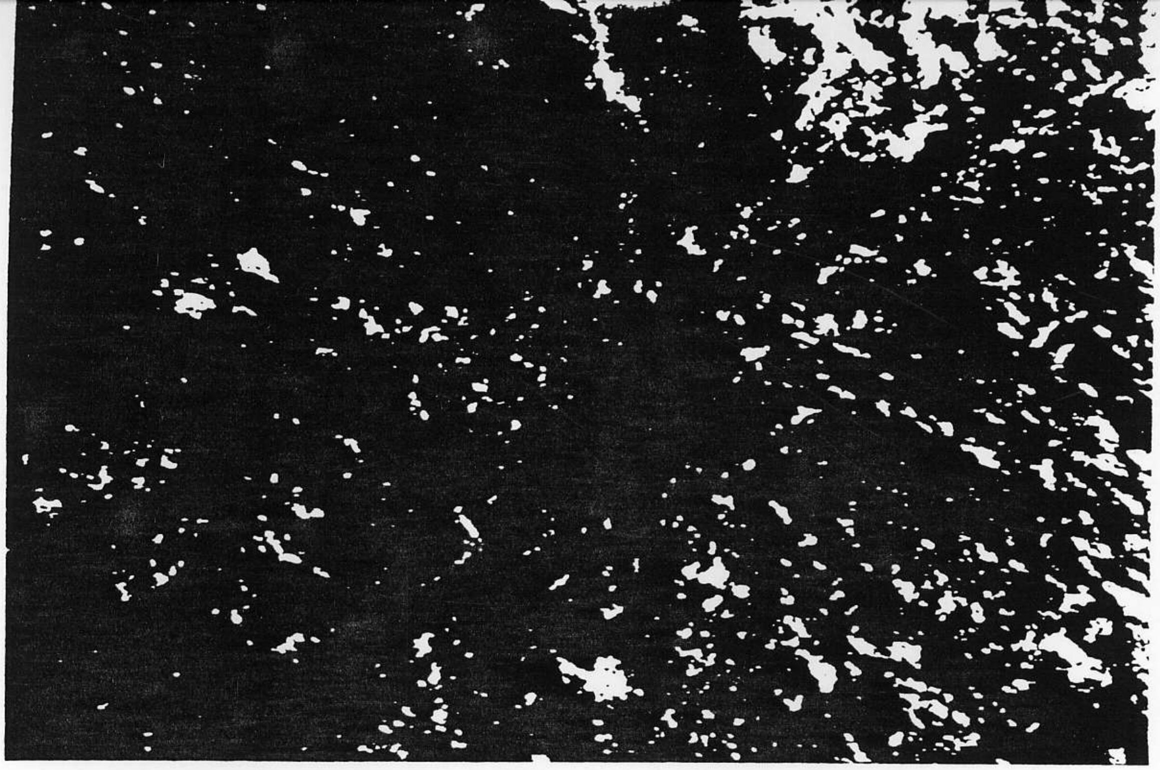


Plate 11-115.1-3. Narrow veinlets of muscovite and stibnite with pyrite in massive chloritite.

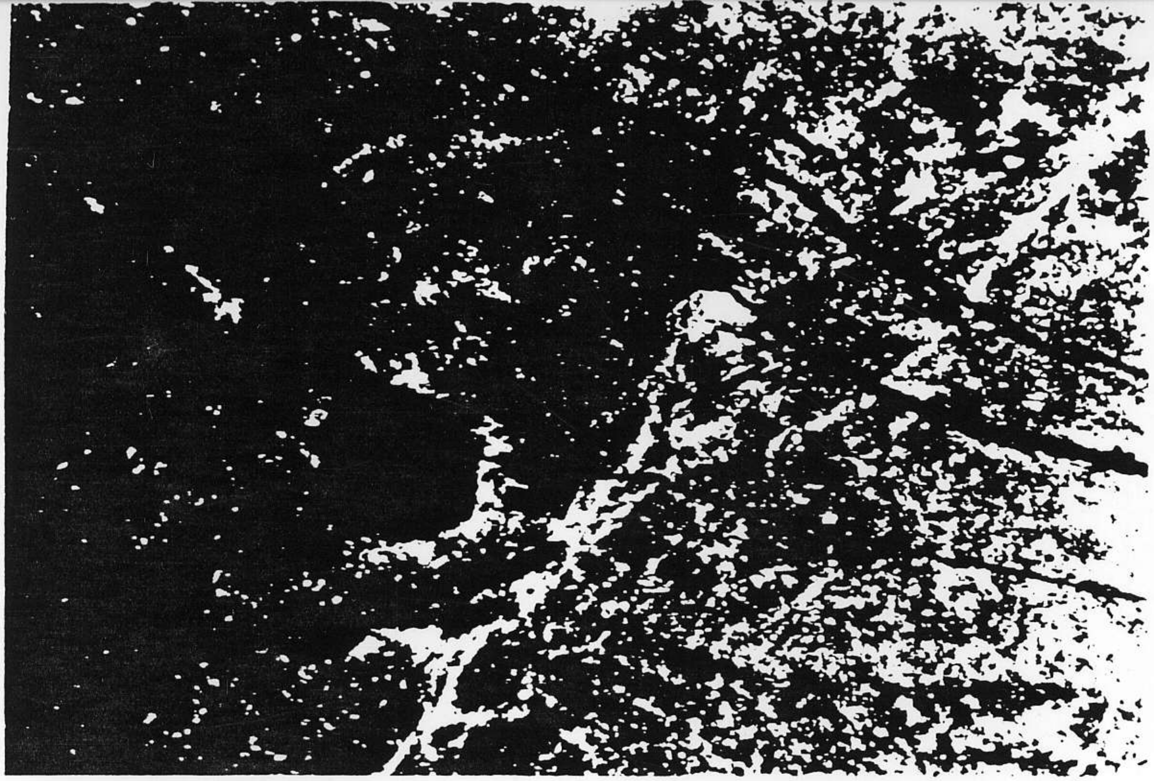


Plate 11-116.3-1. Angular grains of pyrite in extremely fine grained muscovite.

DDH CA-88-11-116.3

- muscovite schist; retrogressive micaceous shear zone in silicied rhyolite

muscovite	- 99%
pyrite	- 1%
barite	- <<1%
rutile	- <<1%

- minute specks of barite and cubic to angular pyrite grains often including rutile in an extremely fine grained muscovite matrix (Plate 11-116.3-1).

DDH CA-88-11-144.5

- coarse veinlike mass of sphalerite, galena and pyrite in muscovite quartz alteration of rhyolite breccia

sphalerite	- 45%
galena	- 20%
muscovite	- 10%
pyrite	- 15%
calcite	- 1%
quartz	- 10%

- coarse vein of honey sphalerite with a central zone predominantly galena, with coarse grained often terminated quartz interstices with massive calcite and masses of fine grained muscovite (Plate 11-144.5-1, 2).

- section possibly includes a portion of the wall rock material, weakly banded fine grained quartz and muscovite with evenly dispersed equant pyrite cubes and grains (Plate 11-144.5-3).

- a muscovite rich block or fragment within the vein has equant pyrite possibly overgrowing sphalerite and at least two generations of pyrite may be present.

- occasional zones of relatively coarse grained muscovite along grain margins of the pyrite in the included block of wall rock with some degree of preferred orientation possibly indicating a degree of pressure shadow recrystallization in an oriented stress regime (Plate 11-144.5-4).

Note: sphalerite is unzoned and contains approximately 4.00 weight percent iron. This composition is typical of sphalerite elsewhere in the footwall to the mineralized zone where iron rich compositions are found. Sphalerite as veins in Mg chlorite in sample 18-108.6 contains 1.00 weight percent FeO. These compositions contrast sharply with the Hg bearing variety of ZnS found in the mineralized zone.

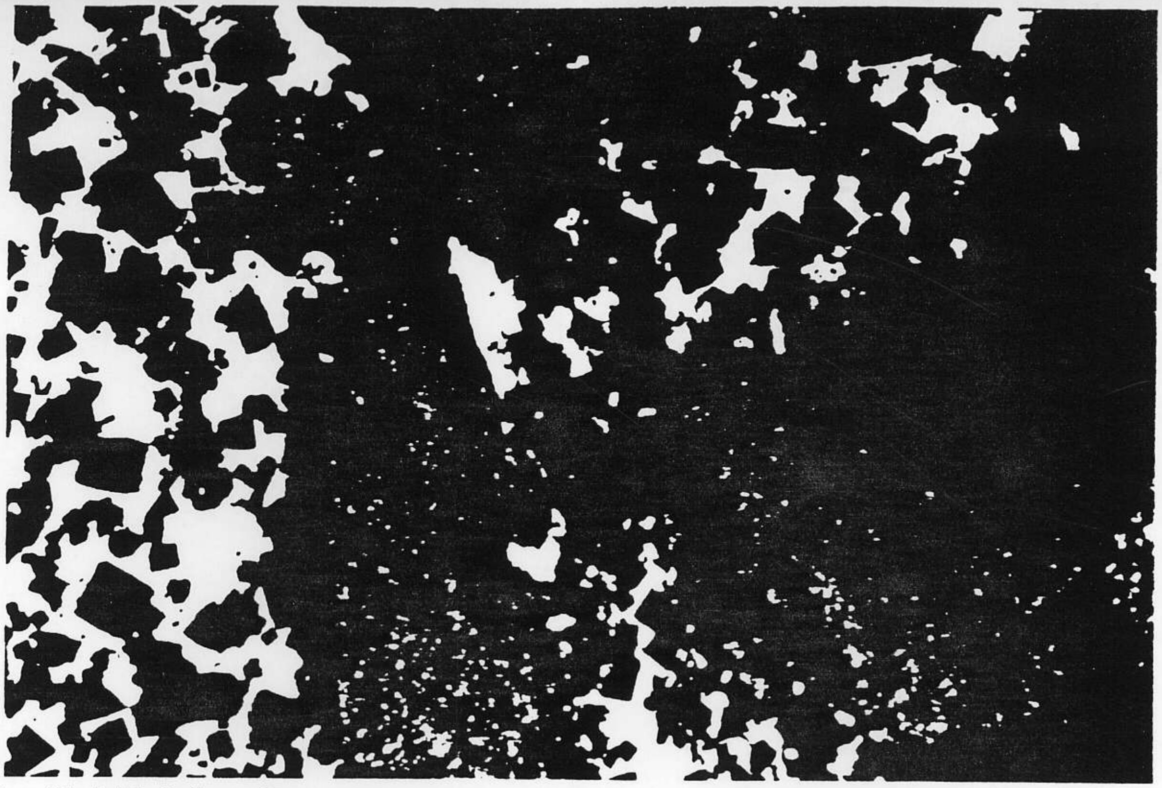


Plate 11-144.5-1. Coarse honey sphalerite overgrown by galena.

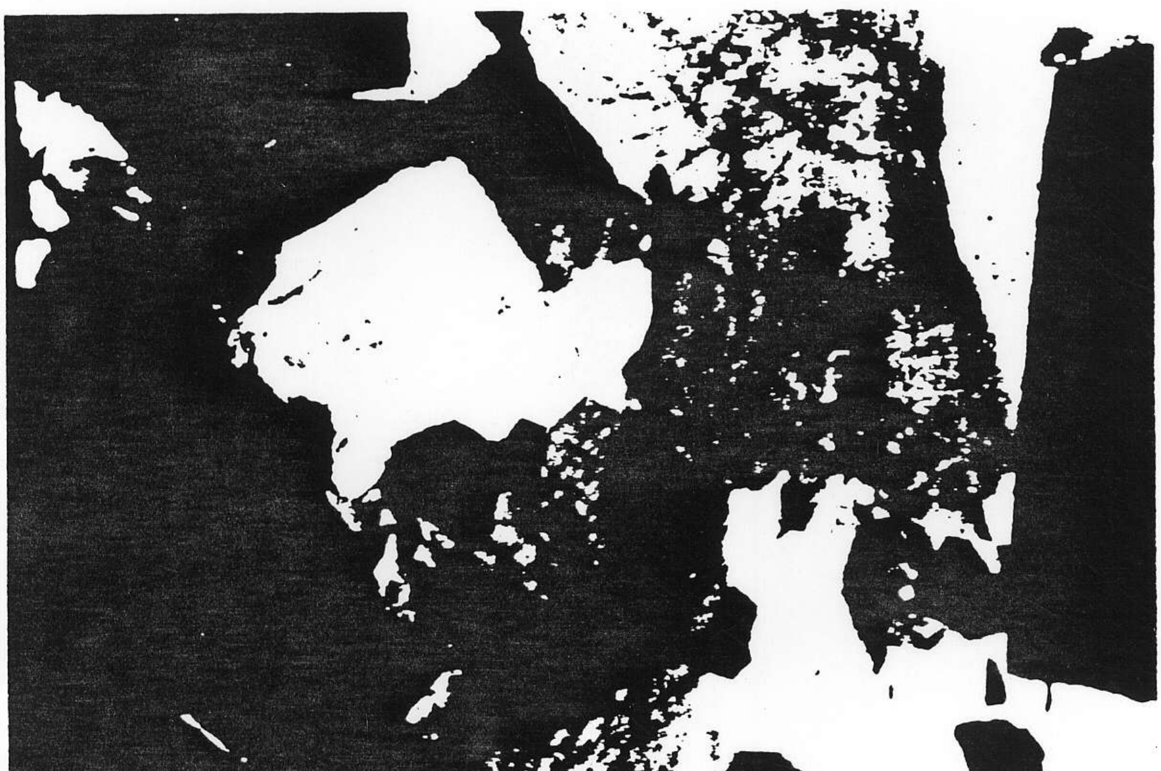


Plate 11-144.5-2. Coarse grained quartz with well developed crystal faces in interstitial region of sphalerite vein.

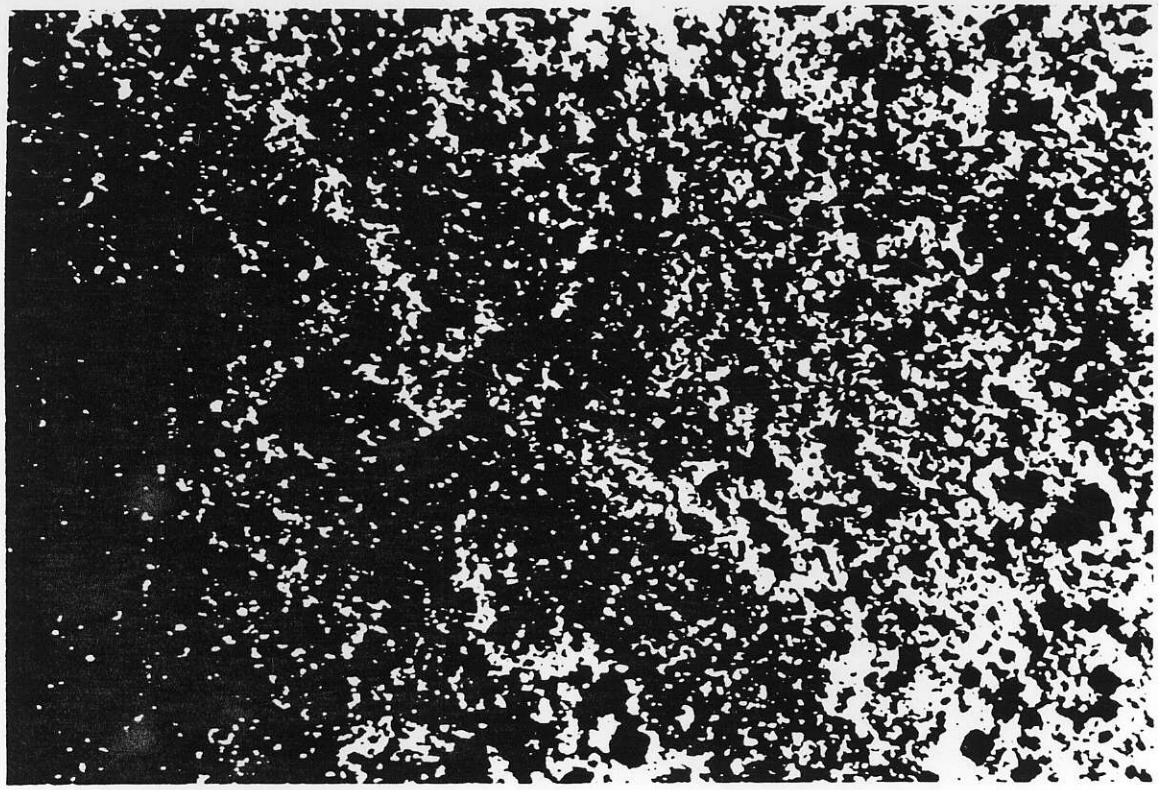


Plate 11-144.5-3. Weakly banded quartz and muscovite with pyrite, possible wall rock to sphalerite galena vein.

Plate 11-144.5-4. Pressure shadow zones of coarse muscovite and oriented quartz on pyrite in included block in sphalerite vein.

DDH CA-88-12-58.0

- calcite altered andesite with quartz calcite pyrobitumen vein

plagioclase	- 30%
clinopyroxene	- 30%
calcite	- 20%
quartz	- 10%
pyrobitumen	- 10%

- relatively coarse grained example of intermediate to mafic volcanic rock, andesite, consisting of unaltered simply twinned plagioclase and interlocking clinopyroxene in subophitic texture (Plate 12-58.0-1).

- circular amygdules and large areas of andesite are filled and replaced by calcite and less abundantly chlorite, calcite developed along array of subparallel fractures (Plate 12-58.0-2).

- vein of coarse grained quartz along one edge with peculiar development of masses of black hydrocarbon rich material at the interface with the andesite intergrown with calcite (Plate 12-58.0-2).

- occasional zones of oriented carbonate and quartz peripheral to patches of pyrobitumen possibly indicating that the rock volume has experienced some moderate degree of deformation.

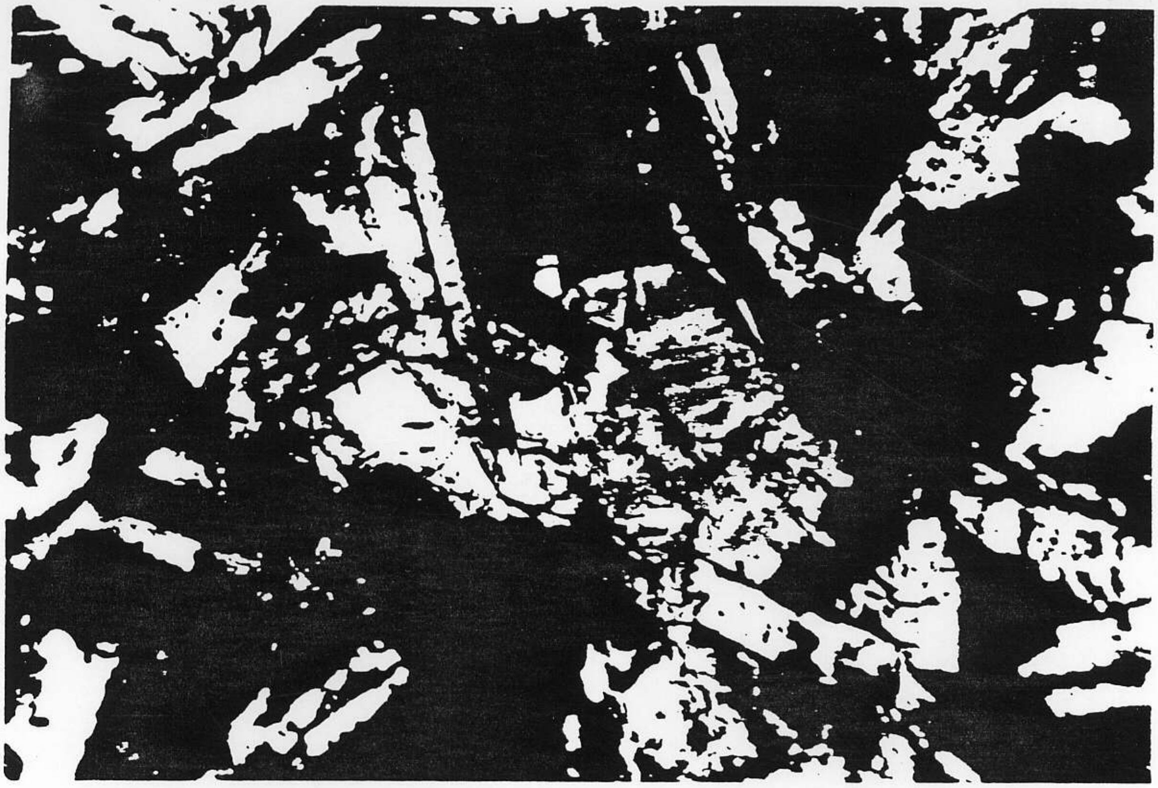


Plate 12-58.0-1. Sub-ophitic texture of clinopyroxene including plagioclase in andesite.

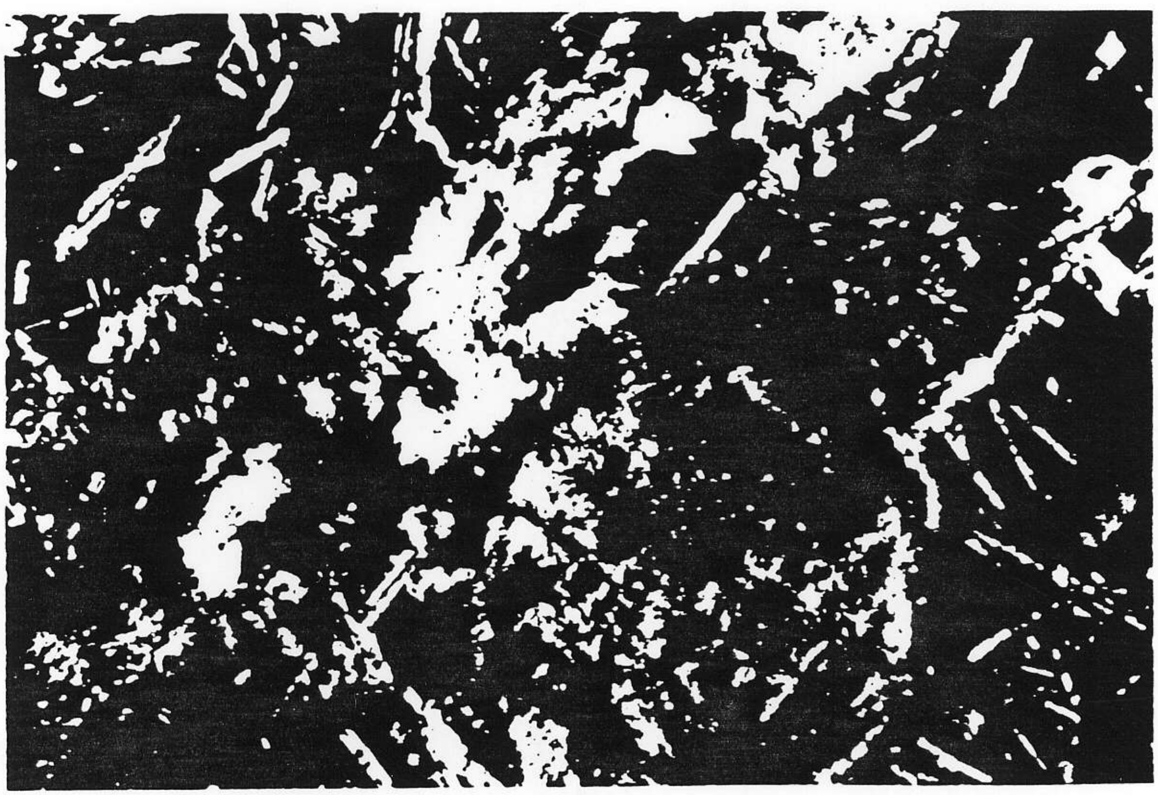


Plate 12-58.0-2. Calcite filled vesicle and late veinlet in andesite.

Plate 12-58.0-3. Margin in quartz vein with calcite and dark hydrocarbon material at vein selvage with andesite, note possible quartz pressure shadow zone.

DDH CA-88-12-75.6

- peculiar white radial patches, 0.25 cm scale of calcite, quartz and muscovite in a black hydrocarbon rich matrix, possible altered fossils and radiolaria

quartz	- 30%
calcite	- 20%
apatite	- 5%
sphene	- 2%
muscovite	- 20%
Mg-Fe chlorite	- 20%
rutile	- <1%
pyrite	- 4%
ullmannite NiSbS	- 1%

- peculiar angular blasto-like features of spectularly radiating mixture of quartz, calcite and muscovite in an extremely fine grained matrix of quartz, Mg-Fe chlorite and dark hydrocarbon material, rendering rock almost opaque (Plate 12-75.6-1).

- the matrix of the section is generally without fabric and is a complex mixture of occasional sphene masses, and apatite patches in a quartz Mg-Fe chlorite groundmass (Plate 12-75.6-2).

- a linear band of Mg-Fe chlorite cuts the section that includes several peculiar patches of complex rutile-sphene coarse Mg-Fe chlorite intergrowth (Plate 12-75.6-3, 4) that are intergrowth with coarse recrystallized hydrocarbon.

- sporadic patches of coarse calcite with pyrite are also associated with marginal zones of relatively coarse recrystallized Mg-Fe chlorite intimately mixed with clearly recrystallized hydrocarbon (Plate 12-75.6-5). These are intrepreted to be specific sites of solution access inducing recrystallization of chlorite and hydrocarbon.

- one band of the section includes a myriad of circular features with some visible structures of possible biogenic origin; possibly origninally radiolaria; these are now up with patchy to circular distribution of quartz and Mg-Fe chlorite (Plate 12-75.6-6).

- the origin of the coarse grained radial quartz, muscovite-calcite features is unclear, these are not associated with any degree of recrystallization of the chlorite-quartz matrix and these do not appear to be related to processes including solution access as was noted above; in short they appear to be part of the rock. They may indeed represent some poorly understood replacement of a fossil of some type.

- a NiSbS mineral occurs likely ullmannite as isolated grains in the chlorite-quartz matrix and as overgrowths on certain pyrite grains (Plate 12-75.6-7).

- The sporadic calcite-pyrite patches and in particular the clear textural evidence for recrystallization of hydrocarbon material at the interface with the adjacent rock are considered quite important. These features indicate that the rock, a hydrocarbon-rich possibly radiolaria bearing siliceous, chloritic sediment was in existence and variably accessible to calcite + pyrite precipitating solutions. The fact that the rock remains relatively unaffected by these solutions which were so dominant in immediately subjacent rock volumes demonstrates that spatial selectively of access of fluids in the Eskay Creek hydrothermal system.

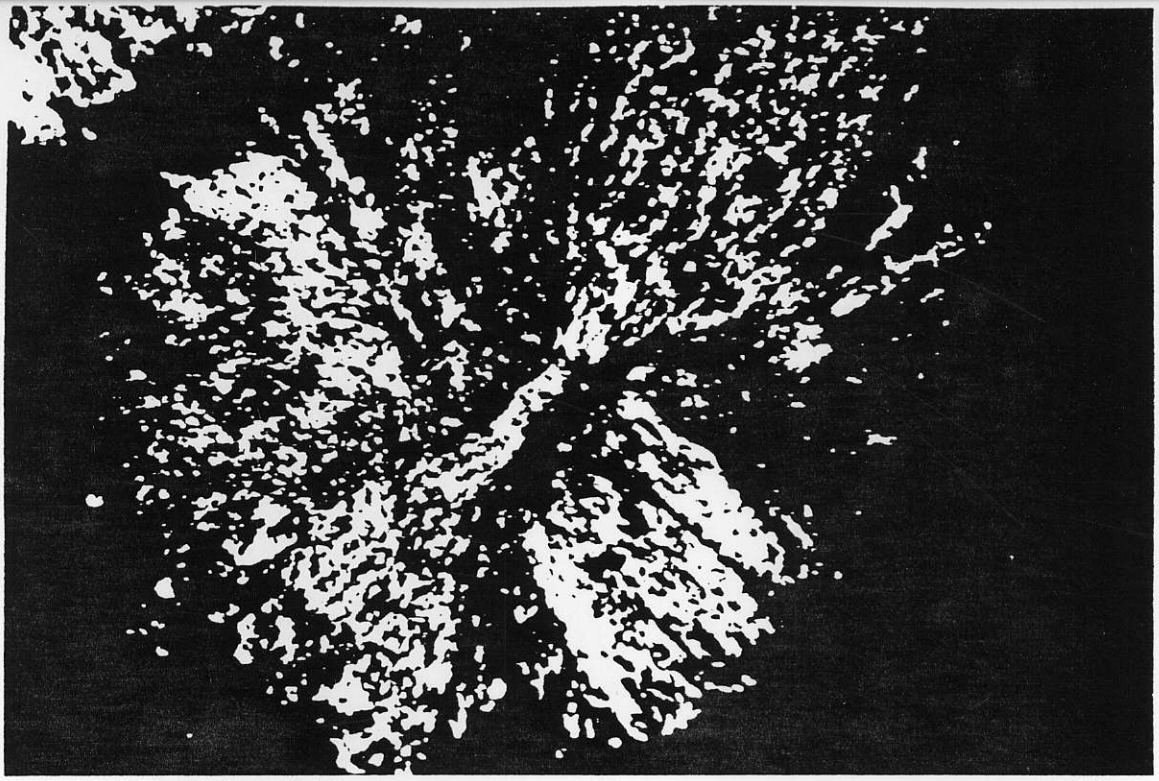


Plate 12-75.6-1. Spectacular radial growth of calcite, quartz and muscovite in dark hydrocarbon with matrix.

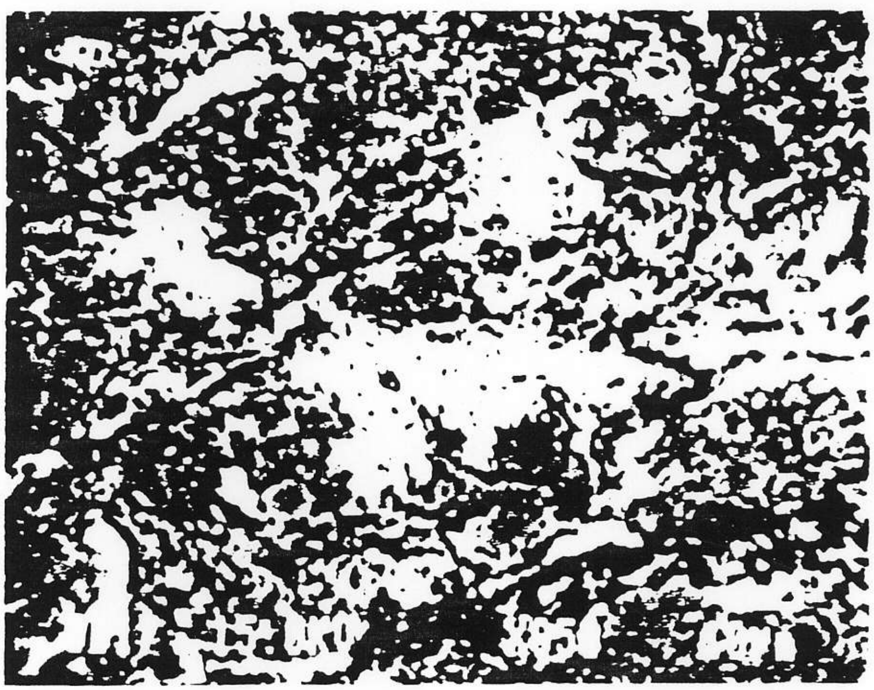


Plate 12-75.6-2. Irregular mass of sphene, white, and Mg-Fe chlorite, light grey, randomly oriented in quartz matrix, hydrocarbon material is black.

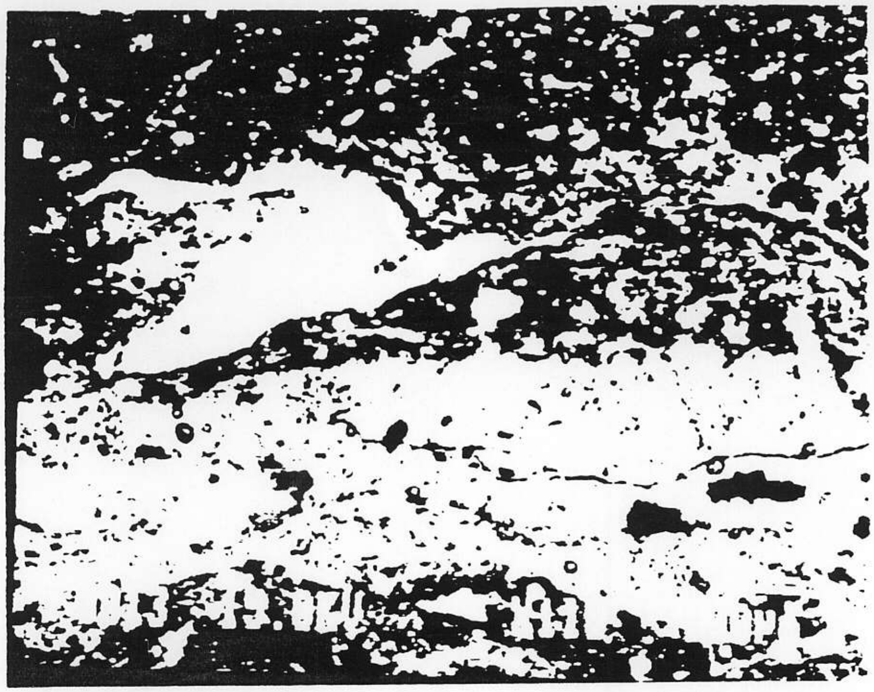


Plate 12-75.6-3. Linear band predominantly chlorite, with peculiar sphene rutile intergrowth, note region of apatite near in the chlorite rich zone.

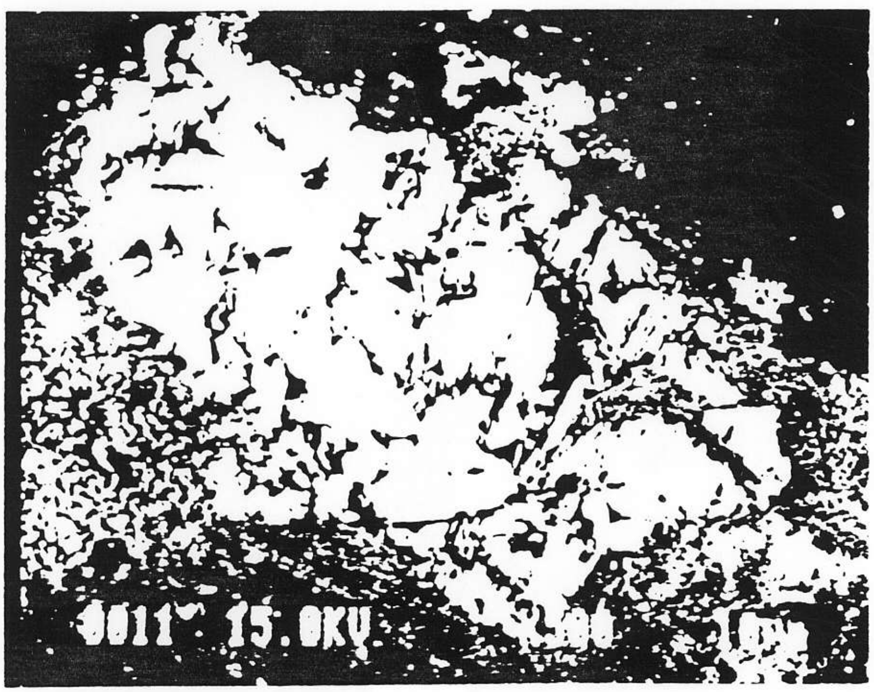


Plate 12-75.6-4. Peculiar region of sphene and rutile intergrowth with recrystallized hydrocarbon along grain margins.

Plate 12-75.6-5. Pyrite central to a region of calcite clearly intergrown with region of coarse recrystallized hydrocarbon, black; a zone of solution access?

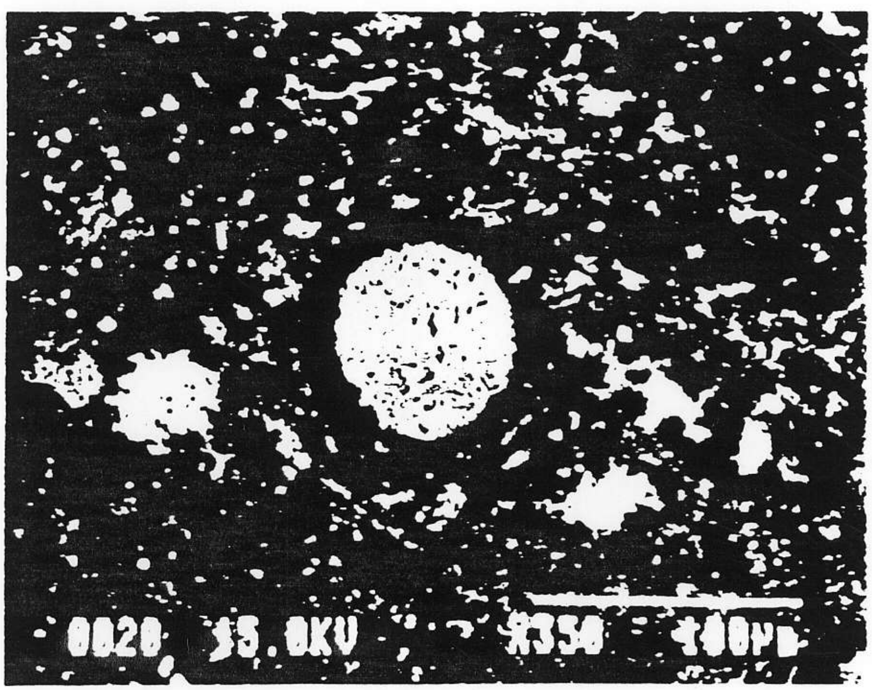


Plate 12-75.6-6. Concentric region of recrystallized quartz with a central zone of Mg-Fe chlorite.

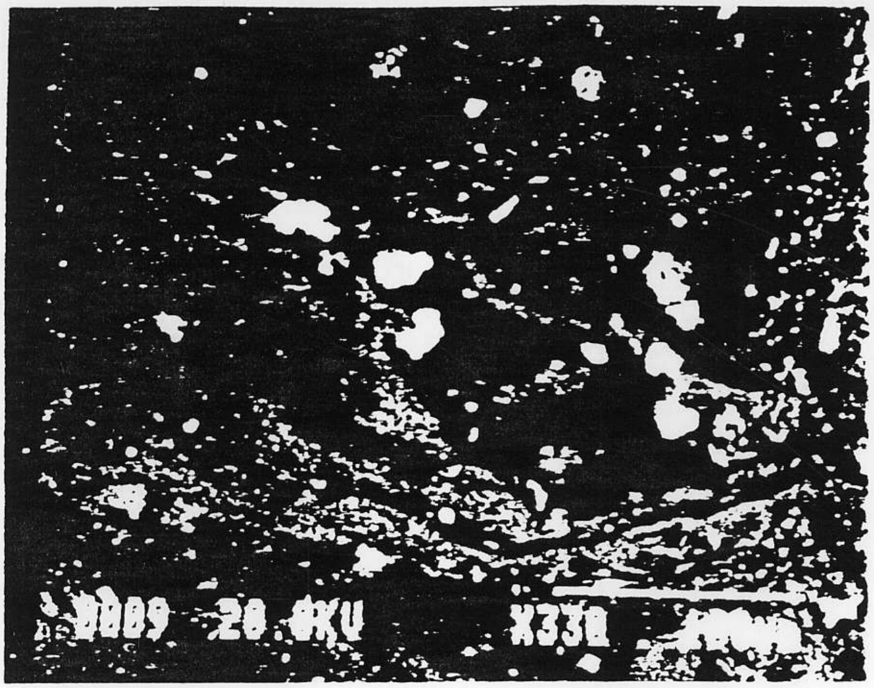


Plate 12-75.6-7. Grains of NiSbS ullmanite in quartz chlorite matrix.

DDH CA-88-12-84.5

- pyritic arsenopyrite muscovite schist; highly altered and deformed pyritic, hydrocarbon rich chert

quartz	- 10%
muscovite	- 65%
pyrite	- 5%
arsenopyrite	- 20%

- linear arsenopyrite rhombohedra as single grains and concentrations in a contorted yet foliated muscovite quartz matrix (Plate 12-84.5-1).

- characteristic pressure shadows of oriented quartz and recrystallized muscovite marginal to most arsenopyrite grains (Plates 12-84.5-2).

- pyrite occurs as isolated grains or as roughly circular masses with concentric growth texture rarely with radial distribution of minute mica grains in central region (Plate 12-84.5-3).

- rarely pyrite with a decided framboidal aspect is present at the centre of a concentric pyrite structure (Plate 12-84.5-4). This plus the feature that certain regions of the section are dark and, cloudy due to variable hydrocarbon content would support the interpretation that this rock volume was originally a hydrocarbon or graphitic mudstone or chert since pervasively replaced by muscovite and arsenopyrite, since deformed.

- In certain relict domains the texture of the original chert is clearly evident and it is significant that these domains are without or contain little arsenopyrite (Plate 12-84.5-5). However arsenopyrite is pervasively developed in a muscovite matrix in other domains which were also likely originally chert. In addition certain domains of the sample are muscovite without arsenopyrite and with significant fabric (Plate 12-84.5-6).

- This rock volume was originally a cherty hydrocarbon rich sediment with framboidal pyrite of likely biogenic origin which has been altered by hydrothermal fluids which induced a period of pervasive arsenopyrite impregnation in selected domain in the chert likely a function of fluid access. This period of arsenopyrite stability was followed by an interval of pervasive mica-stable potassic alteration significantly in which arsenopyrite was not stable.

The interconnecting purely micaceous zones have clearly been deformed and the pressure shadows on arsenopyrite indicate its presence in this rock volume prior to deformation.

The late mica-stable potassic fluids and deformation have obscured the paragenetic relationshiips between arsenopyrite and muscovite in this sample. In sample CA 7-111.7 arsenopyrite can clearly been seen to replace chert in recrystallized quartz patches that are significantly without mica. Yet in other samples coarse quartz and muscovite are associated with arsenopyrite.

The implication is that these minerals developed as a sequence of mineral stabilities and thus assemblages in an evolving hydrothermal system in which there was a continum of compositional and likely thermal parameters that constrained the mineral assemblage. Iron and arsenic were clearly dominant in early siliceous solution that replaced the chert. A brief interval of simultaneous mica, quartz, arsenopyrite in indicated in a fluid regime that clearly evolved to increasingly potassic barium antimony rich compositions.

Plate 12-84.5-1. Arsenopyrite needles in muscovite schist consuming a region of hydrocarbon rich chert.

Plate 12-84.5-2. Pressure shadow zones of oriented quartz on broken arsenopyrite needle.

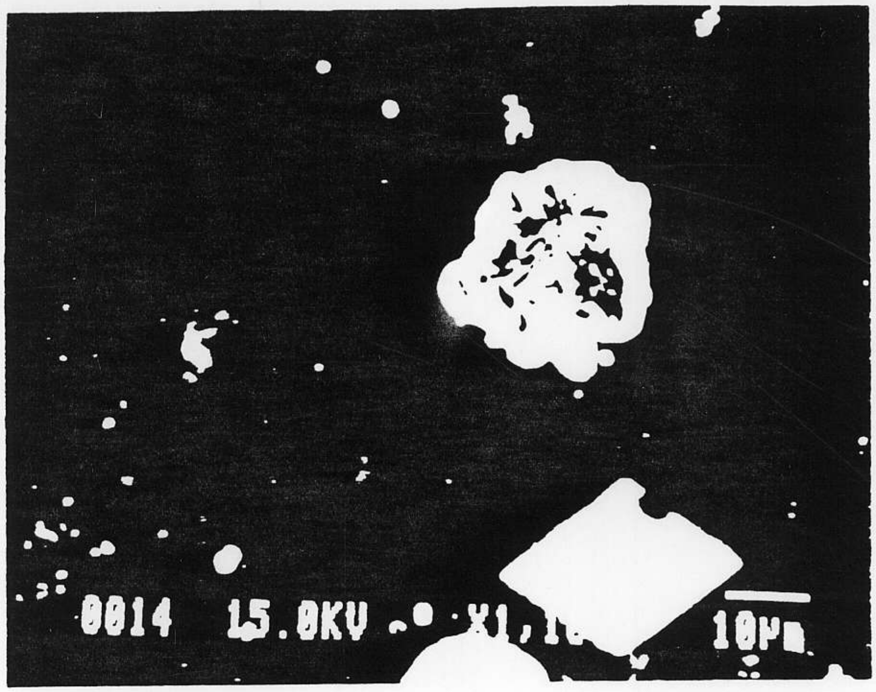


Plate 12-84.5-3. Concentric pyrite structure with spectacular radial distribution of muscovite in central region.

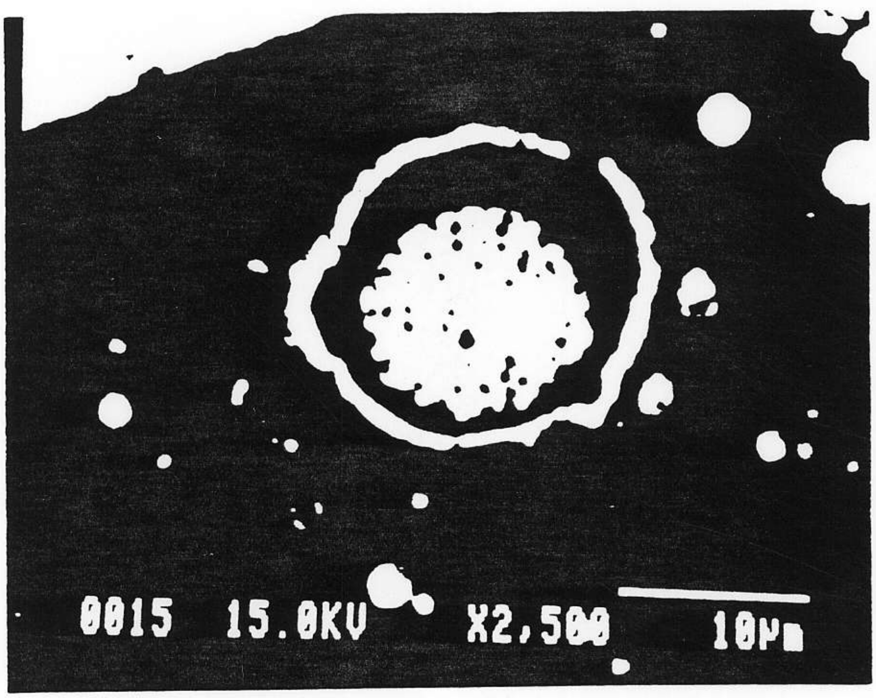


Plate 12-84.5-4. Framboidal pyrite at core of a concentric pyrite growth structure.

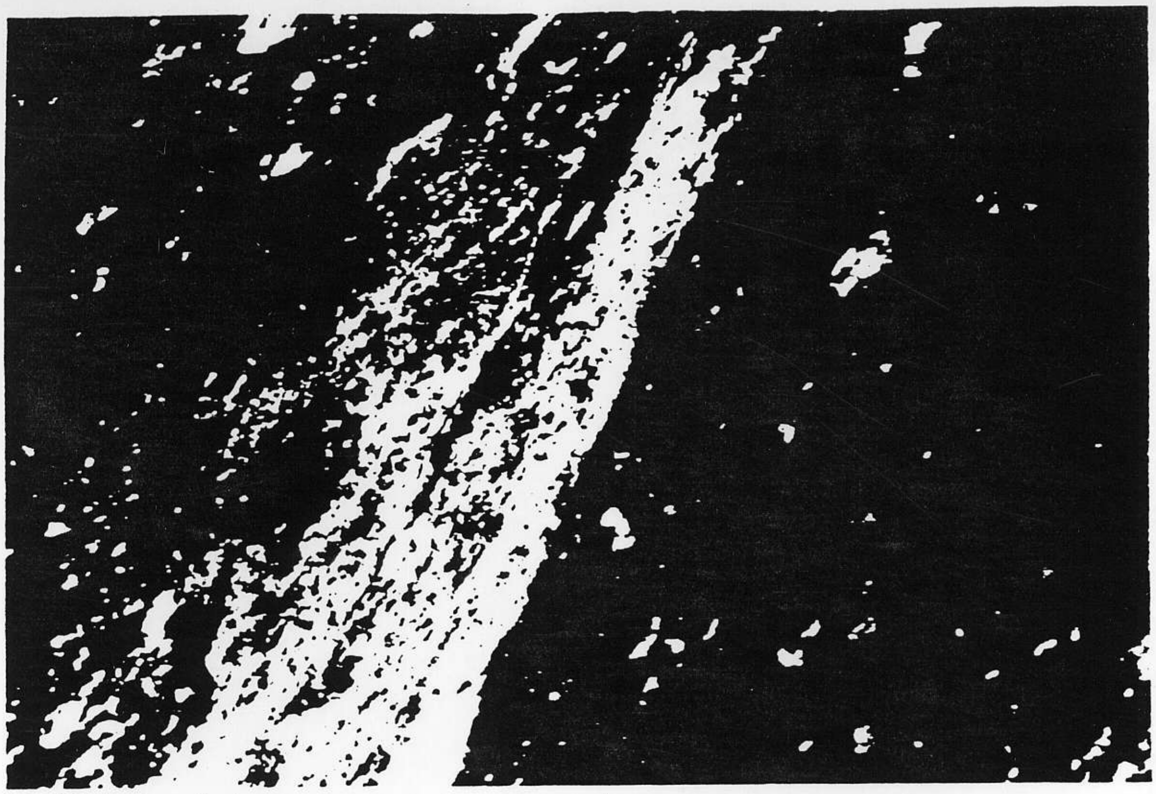


Plate 12-84.5-5. Relict domain of hydrocarbon rich chert cut by a narrow zone of muscovite with strong fabric.

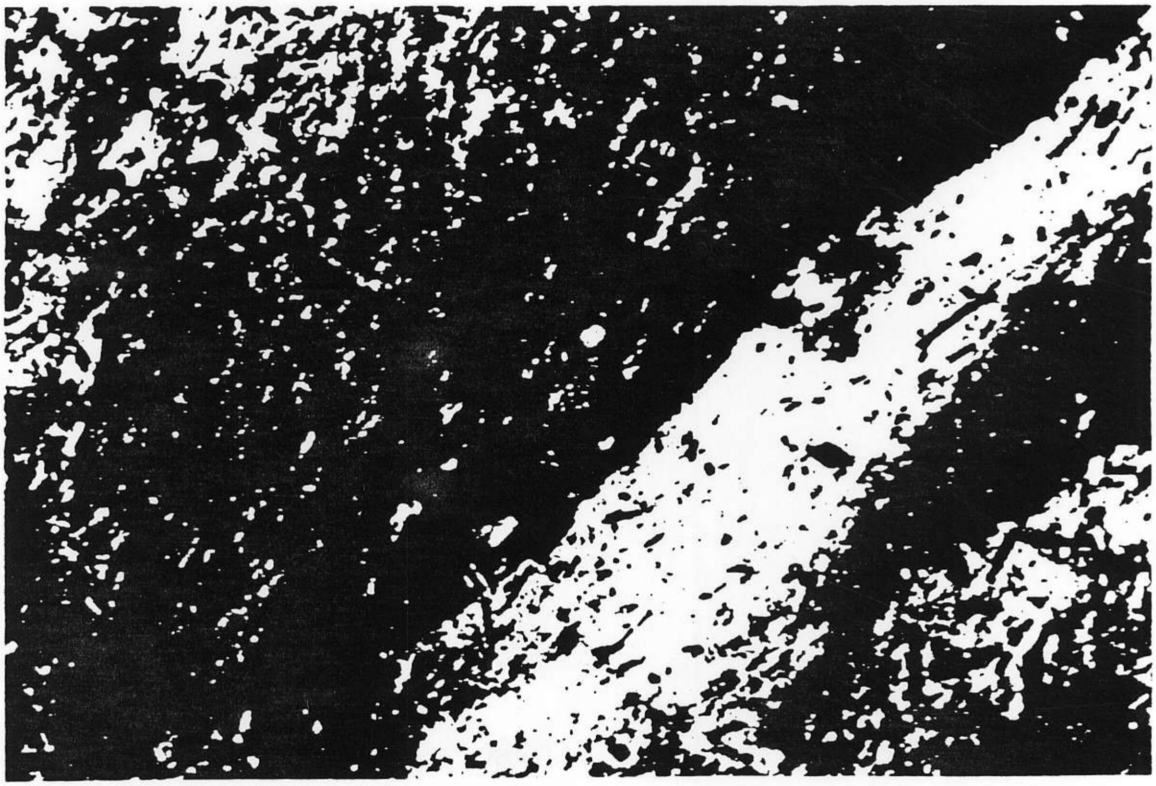


Plate 12-84.5-6. Relict regions of chert cut by arsenopyrite muscovite rich zones.

DDH CA-88-12-88.2

- Mg chlorite with sphalerite masses possibly as veins, in granoblastic multigranular quartz and micas, with pervasive development of stibnite, tetrahedrite or PbSbCuS minerals

quartz	- 40%
Mg chlorite	- 10%
muscovite	- 20%
dolomite	- 5%
sphalerite	- 20%
tetrahedrite	- 5%
PbSbCuS	- 5%
stibnite	- 5%

- texturally complex sample with one half sulphide minerals, sphalerite overgrown by tetrahedrite and stibnite and the other half predominantly quartz and micas with sulphide patches.

- in the half sulphide of the sample the matrix is an intimate contorted mixture of Mg chlorite and muscovite (Plate 12-88.2-1, 2) difficult to resolve analytically with the microprobe; rarely coarse sheafs of F Mg chlorite occur at the sulphide margins.

- the sphalerite consistently overgrown by tetrahedrite or stibnite (Plate 12-88.2-3).

- tetrahedrite exhibits a patchy distribution of Hg rich domains apparent in BSE mode (Plate 12-88.2-4).

- narrow veinlets of dolomite cut both sphalerite and the intimate mixture of muscovite and Mg chlorite interstitial regions to the sphalerite.

- the silicate half of the sample consists of domains of quartz with variable grain size with variable amounts of muscovite and stibnite along grain margins (Plate 12-88.2-5); this half has clearly undergone several generations of quartz recrystallization, the last relatively coarse grained patches contain abundant stibnite and tetrahedrite with interstitial dolomite (Plate 12-88.2-6), stibnite regions are commonly overgrown by a PbSbCuS mineral (Plate 12-88.2-7).

- pyrite grains in this region exhibit a spectacular concentric growth texture with certain rings of this structure, tetrahedrite; tetrahedrite overgrowths on these pyrites are common (Plate 12-88.2-8).

- tetrahedrite, stibnite and the PbSbCuS mineral occur throughout the section, with micas along quartz grain margins in the siliceous half of the sample and as overgrowths or sphalerite is the other. Further Mg chlorite is apparently restricted to the sulphide rich half of the sample.

- These observations would allow the intrepretation that the rock volume was originally a Mg chlorite veined by sphalerite and granoblastic quartz an evolution of hydrothermal fluids to increasing siliceous and potassic compositions resulted in pervasive potassic alteration of the

Mg chlorite and pervasive development of Pb, Sb, Ag, Cu rich sulphide mineral species throughout the rock.

- an equal possibility is that the rock was originally rhyolite replaced by Mg chlorite-sphalerite as veins then pervasively by quartz in Sb, Ag, Pb, rich solutions of probable igneous volcanic derivation.

- the latter interpretation is favoured by the writer.

- the rock volume of sample 12-88.2 has not been deformed and the constituent sulphide minerals and overall metal inventory PbSbCuAgAu was likely produced in the rocks by high temperature siliceous fluids.

In support of these interpretations as the compositional variation in sphalerite. Large grains in the sulphide half are consistently zoned with large central regions with 0.27 - 0.53 weight percent Fe and narrow Hg rich margins near the tetrahedrite overgrowth with up to 2.02 weight percent Hg. Sphalerite in the siliceous half of the sample has a consistent Hg content near 1.75-2.00 weight percent. An evolution of fluids to increasing Hg Ag Sb compositions is clearly indicated.

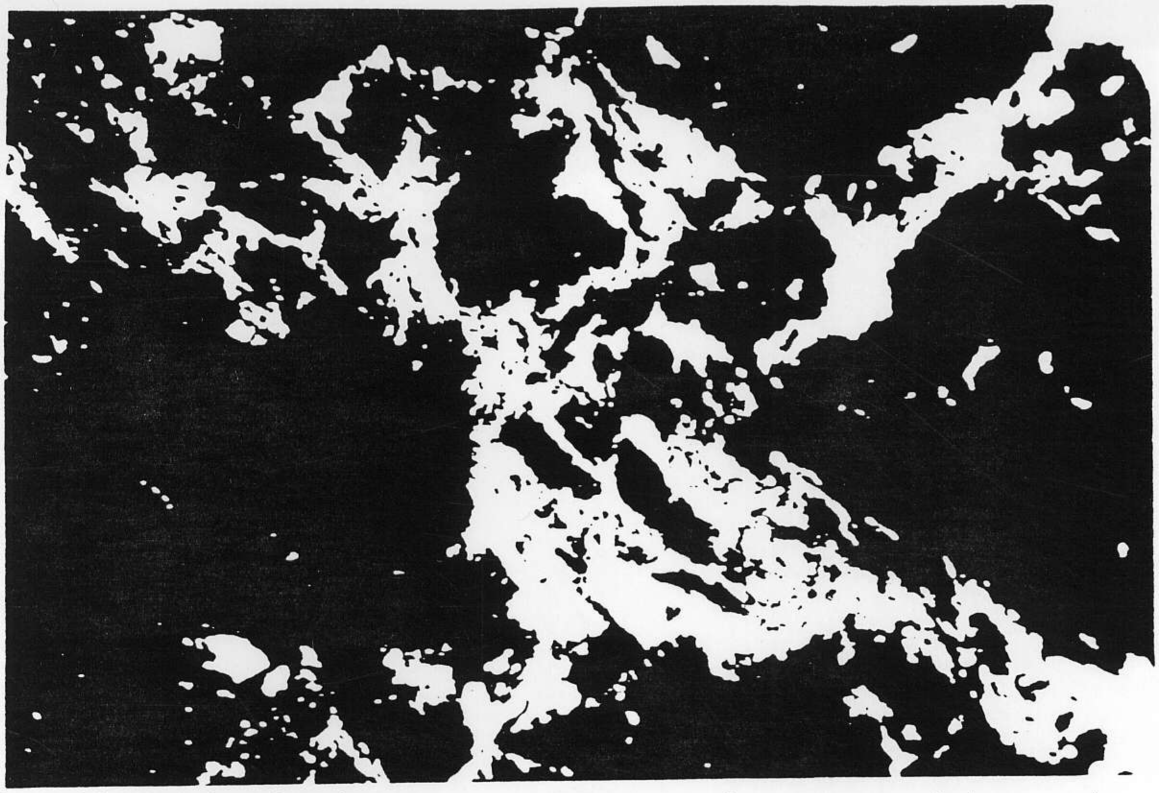


Plate 12-88.2-1. Sphalerite and tetrahedrite in a matrix of fine scale chlorite muscovite intergrowth.

Plate 12-88.2-2. Fine scale mixture of chlorite and muscovite as matrix to sphalerite, a pervasive replacement of chlorite by muscovite.

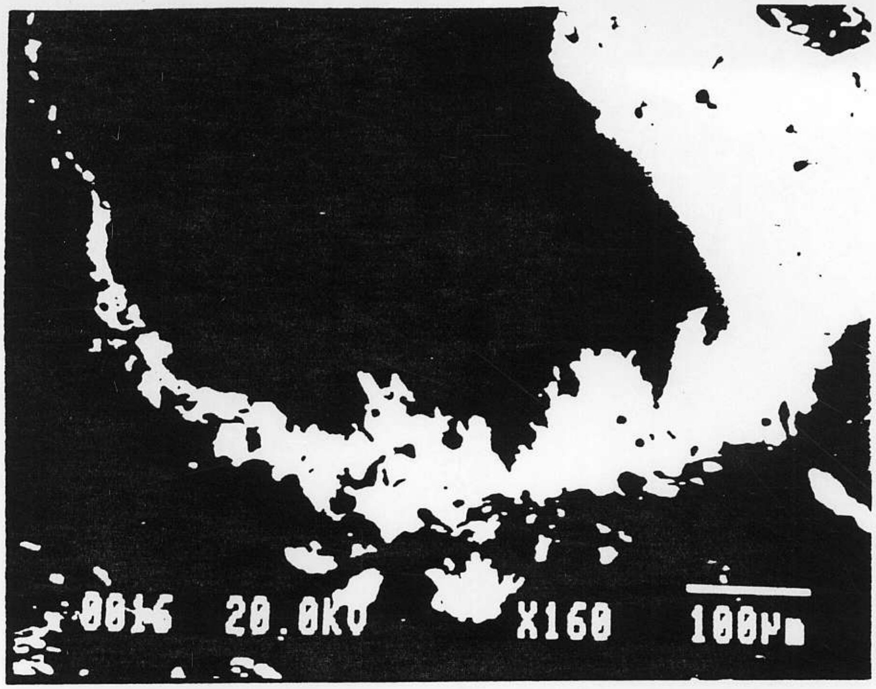


Plate 12-88.2-3. Sphalerite overgrown by stibnite and tetrahedrite.

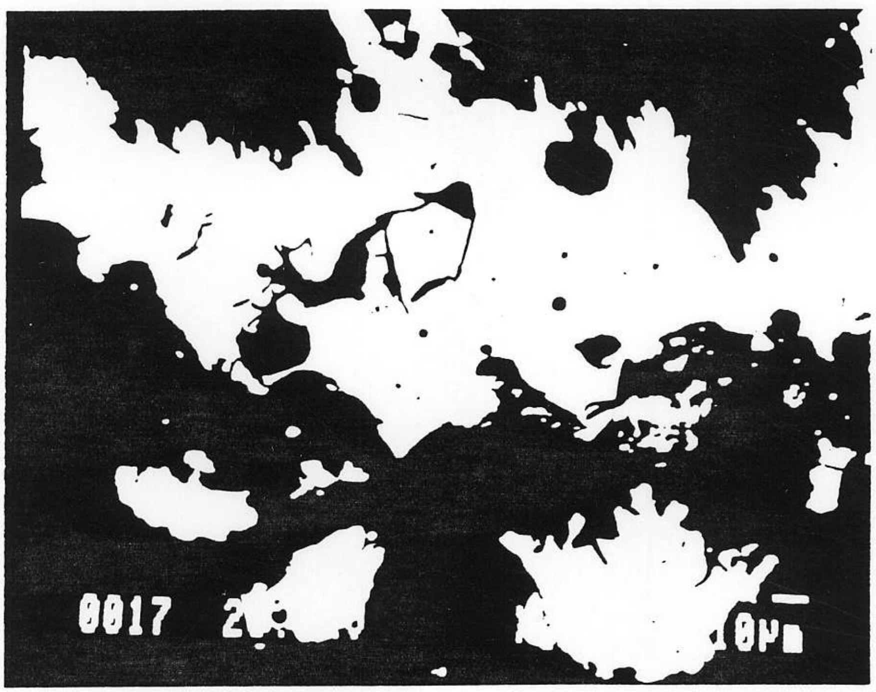


Plate 12-88.2-4. Compositional variation in tetrahedrite vein illustrated in 12-88.2-3. Note the outer Hg rich zones bright in the BSE image.

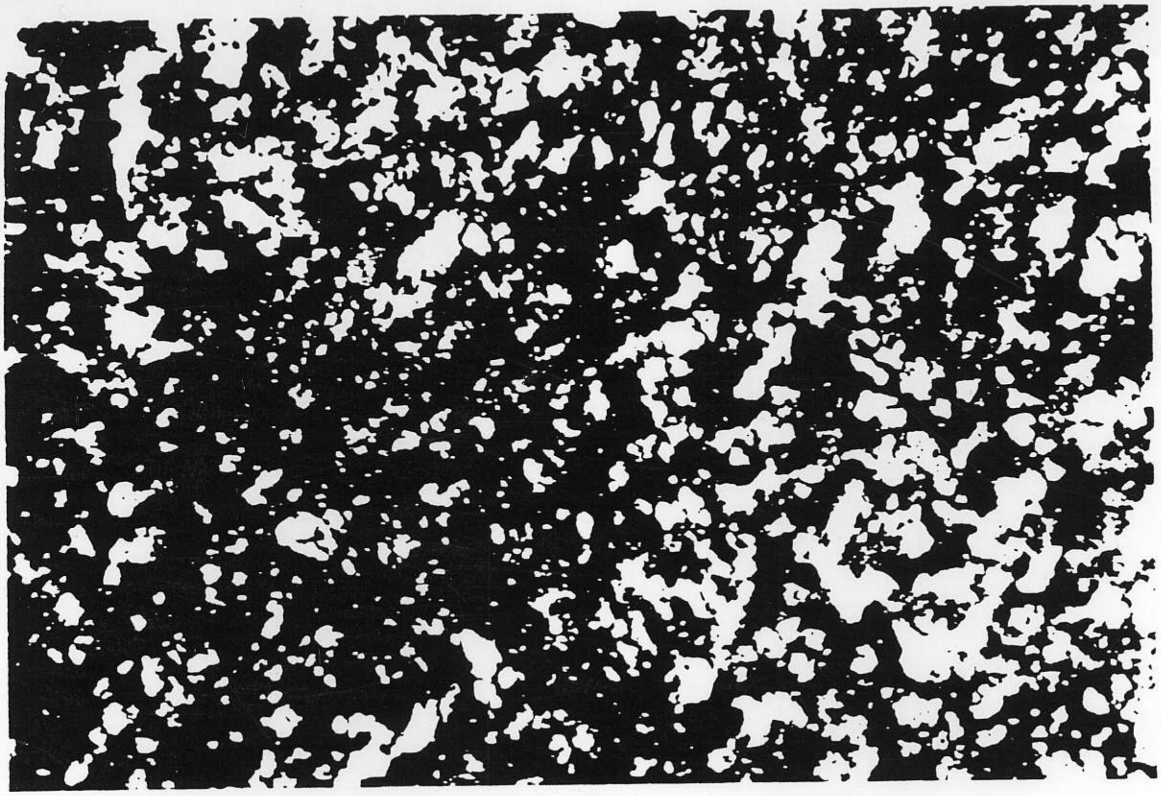


Plate 12-88.2-5. Silicate half of sample, prismatic, quartz with sulphide mineral developed along grain margins.

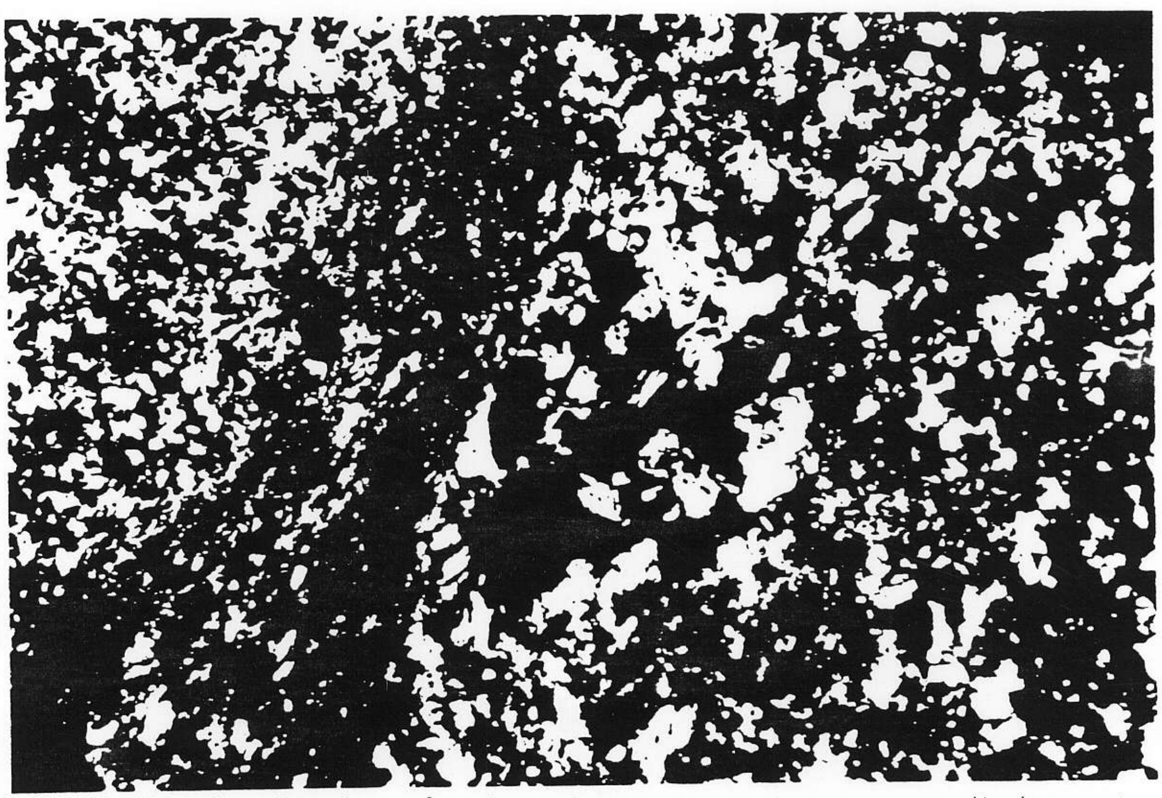


Plate 12-88.2-6. Domains of prismatic quartz, note coarse stibnite and quartz with dolomite.

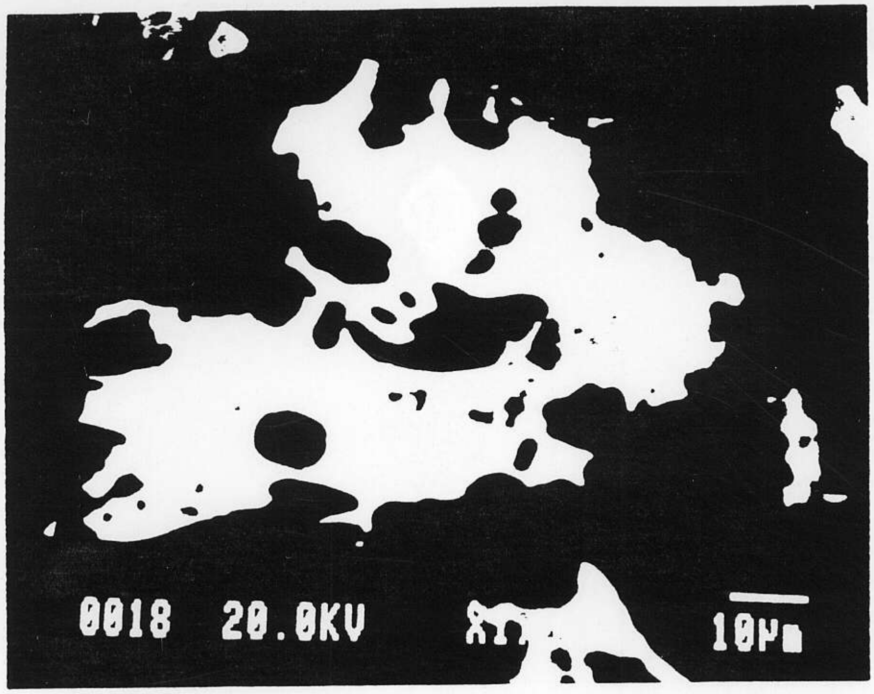


Plate 12-88.2-7. Stibnite in siliceous half of section overgrown with PbSbCuS mineral.

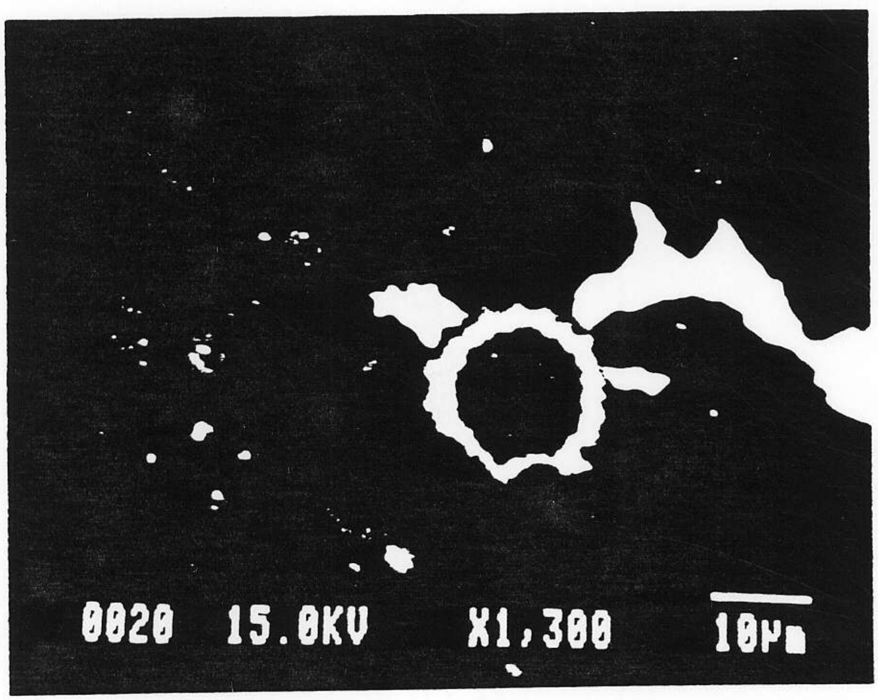


Plate 12-88.2-8. Concentric pyrite with certain rings of structure and overgrowth of tetrahedrite.

DDH CA-88-12-90.8

- fine grained muscovite schist

muscovite	- 99%
pyrite	- 1%

- pervasive muscovite alteration with occasional pyrite grain and diffuse regions rich in hydrocarbon material.

DDH CA-88-12-92.3

- fine grained contorted muscovite altered siliceous rock volume possibly rhyolite

quartz	- 10%
muscovite	- 85%
pyrite	- 4%
arsenopyrite	- <1%
sphalerite	- 1%
tetrahedrite	- <1%

- section an extremely fine grained mixture of multigranular quartz with muscovite along grain margins (Plate 12-92.3-1) that grade into regions of extremely fine grained foliated contorted muscovite with concentrations of minute concentric pyrite (Plates 12-92.3-2,3); occasional rhombs of arsenopyrite.

- the sample has an overall blocky aspect with original aspect unclear to due alteration, possibly a fine grained example of silicified muscovite pyrite altered rhyolite.

- the sample likely represents a rock volume in the so-called rhyolite or siliceous alteration that was accessible to mica stable potassic fluids in the low temperature waning stages of Eskay fluid system. Access of fluids likely determined by specific planar zones of deformation.

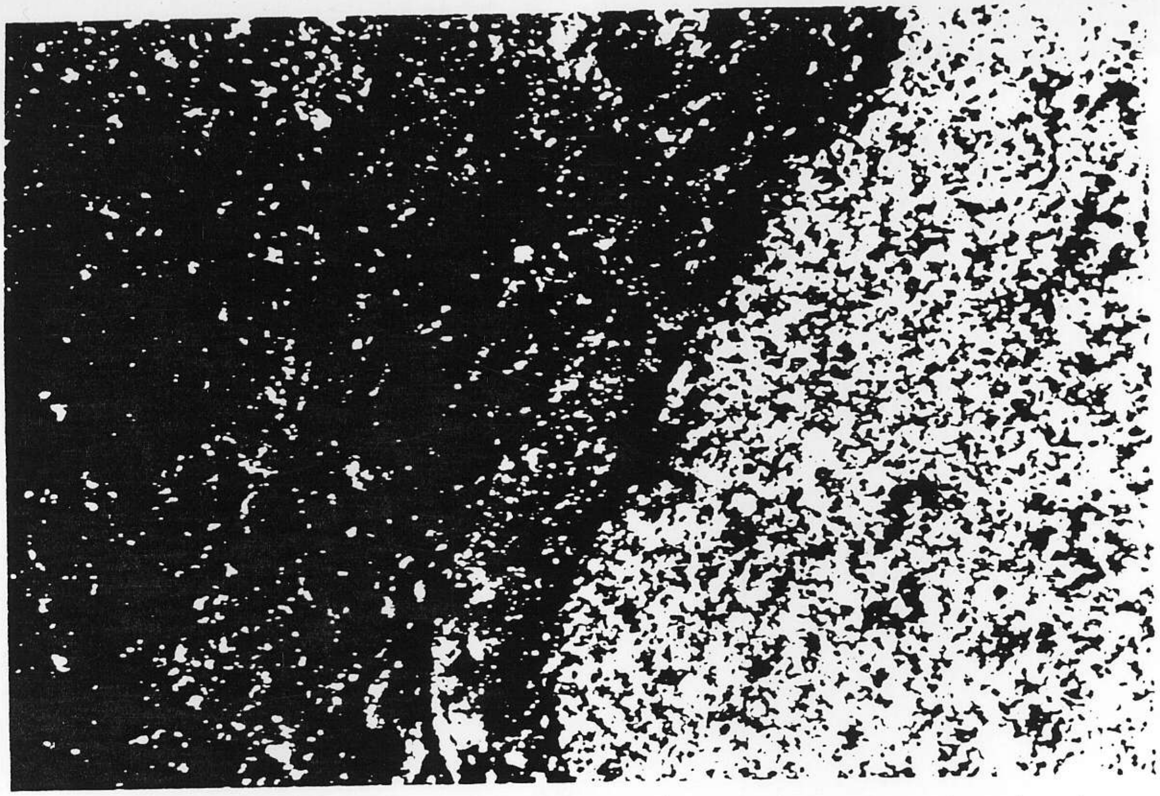


Plate 12-92.3-1. Interface between even grained quartz muscovite domain and region of highly contorted pyrite and muscovite with a strong fabric.

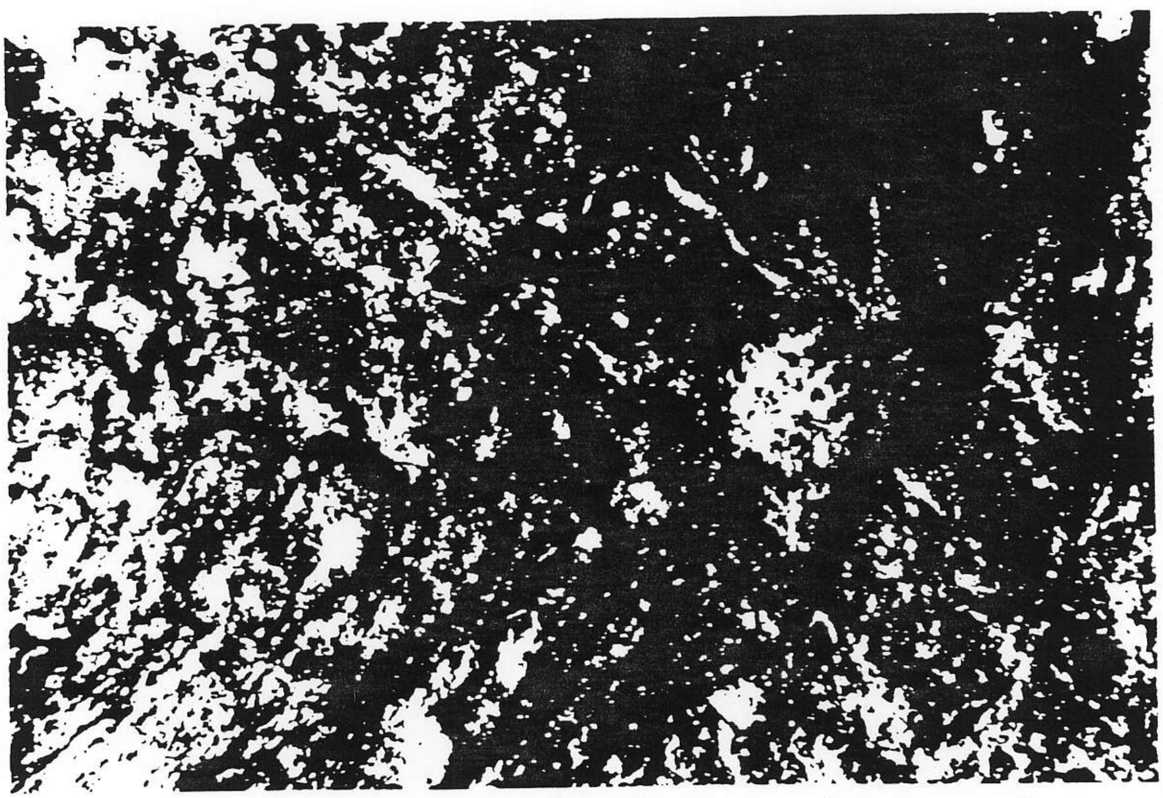


Plate 12-92.3-2. Contorted distribution of minute pyrite spheres in muscovite rich region.

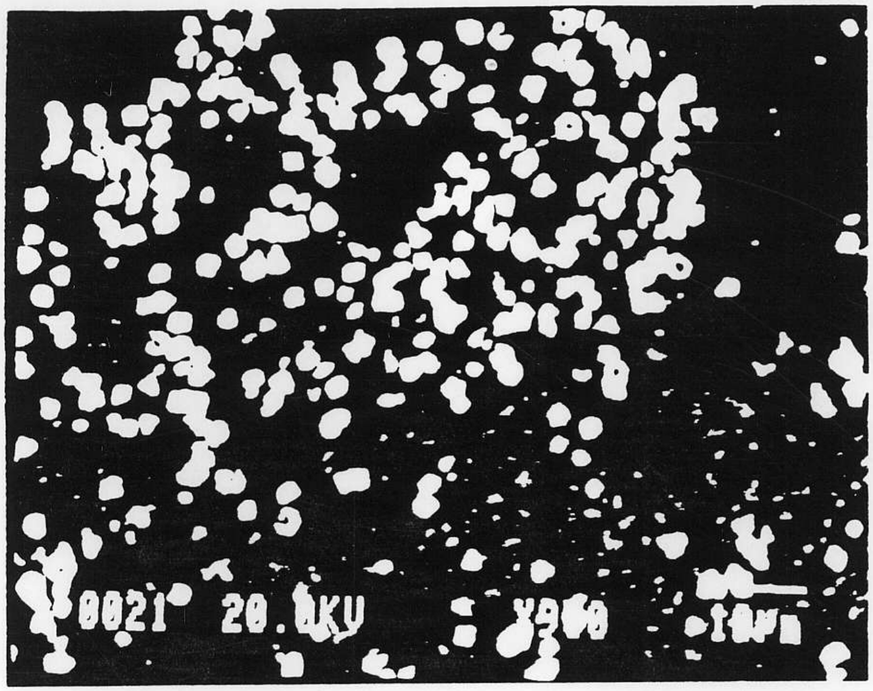


Plate 12-92.3-3. Concentric pyrite in a region of massive muscovite.

DDH CA-88-12-119.7

- coarse grained silicification or silicified rhyolite, replaced by fine grained quartz, brecciated and replaced by late veinlets of granular quartz, and pyrite with micas, galena and tetrahedrite

quartz	- 55%
muscovite	- 15%
pyrite	- 25%
PbSbAgS	- 4%
galena	- 1%
tetrahedrite	- 1%
arsenopyrite	- <<1%

- section predominantly domains of ultrafine grained quartz penetrated by an interconnecting network of pyrite mica veinlets (Plate 12-119.7-1).

- patches of relatively coarse grained quartz occur occasionally within the regions of fine grained quartz; within these coarse quartz patches, optically continuous quartz grains are segmented and replaced by micas along a fabric which clearly continuous into the predominant fine grained quartz regions (Plate 12-119.7-2).

- at least two generations of pyrite, as abundant aggregations of minute grains with concentric growth aspect in the sulphide veinlets and as occasional relatively coarse grains overgrown by and including galena and a PbSbAg sulphosalt (Plate12-119.7-3).

- significantly these coarse sulphides are associated with marginal zones of relatively coarse grained muscovite and quartz in sites of late stage fluid access (Plate 12-119.7-4).

- rarely tetrahedrite - PbSbAgS phases are intergrown where associated with linear veinlike concentrations of concentric pyrite.

- patches of arsenopyrite - PbSbAgS mineral occur clearly intergrown with muscovite strongly indicating transport and deposition of Pb, Sb, Ag, As in potassic hydrothermal fluids accompanying deformation.

- the sample apparently existed originally as relatively coarse multi-grained quartz, a silicified rhyolite, moderately deformed now largely replaced pervasively by ultrafine silica, the fine grained silica has since been brecciated and replaced by mica and later generation of quartz and sulphide minerals.

Plate 12-119.7-1. Network of muscovite and pyrite veinlets in extremely fine grained multigranular quartz, note regions of coarse grained quartz.

Plate 12-119.7-2. Optically continuous quartz grain segmented and replaced by muscovite and ultrafine grained quartz.

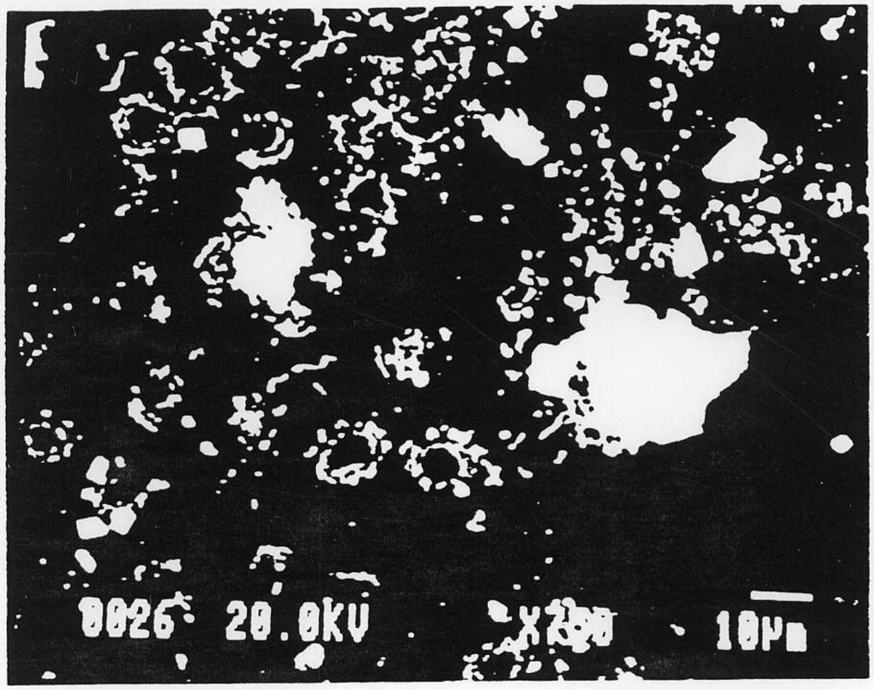


Plate 12-119.7-3. Abundant pyrite with well developed concentric growth texture in sulphide veinlets.

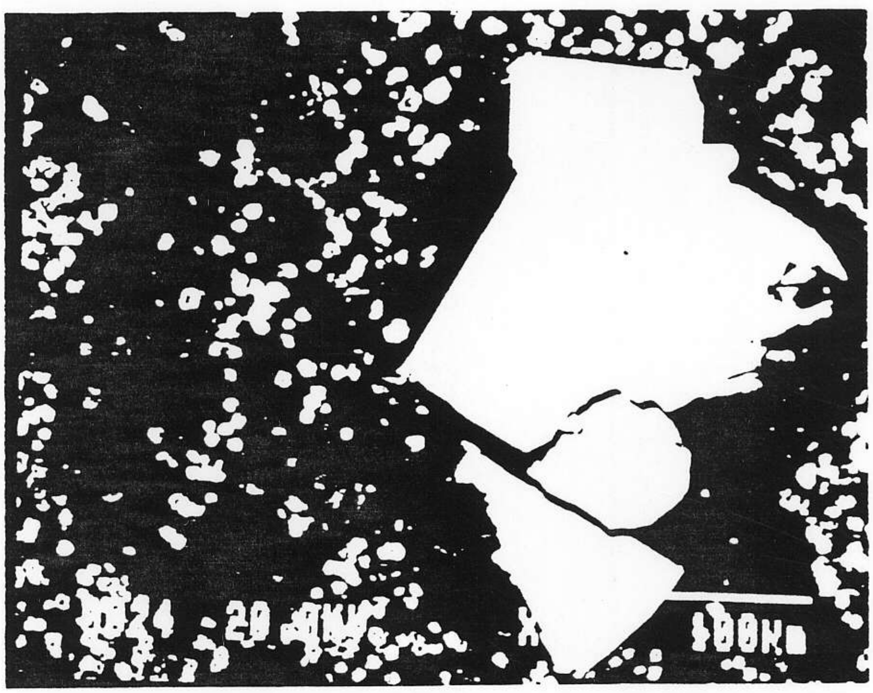


Plate 12-119.7-4. Coarse grained pyrite overgrown by tetrahedrite with marginal zone of coarse muscovite.

DDH CA-88-12-121.6

- granoblastic quartz, silicified rhyolite, replaced by muscovite with pyrite along sinuous fractures

quartz	- 84%
muscovite	- 15%
pyrite	- 1%
PbSbAgS	- <<1%

- even grained multigranular quartz replaced by micas and fabric defined by wispy sinuous trails of mica (Plate 12-121.6-1) and minute pyrite.

- associated with these sinuous mica trails are peculiar patches of quartz which exist as elongate branches or extensions into the muscovite angular quartz matrix, yet the entire quartz grains have the same optical orientation (Plate 12-121.6-2).

- pyrite occurs evenly dispersed as angular minute cubes and rarely in linear trails of cubes aligned with the fabric in muscovite; a PbSbAgS mineral occurs in central regions of occasional larger pyrite grains (Plate 12-121.6-3).

- the peculiar optically continuous quartz regions are possibly sites of quartz recrystallization in a moderate stress regime accompanying ingress of mica-stable potassic fluids.

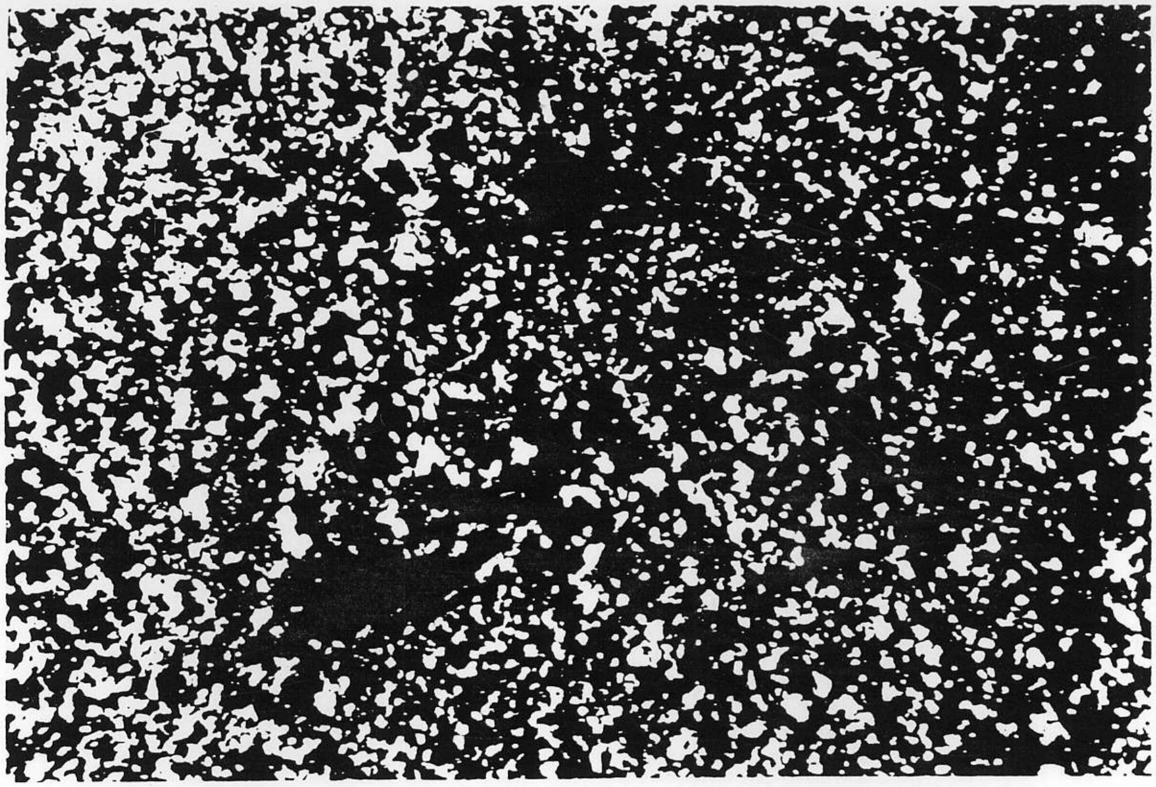


Plate 12-121.6-1. Fine multigranular quartz with weak fabric defined by sinuous muscovite trails.

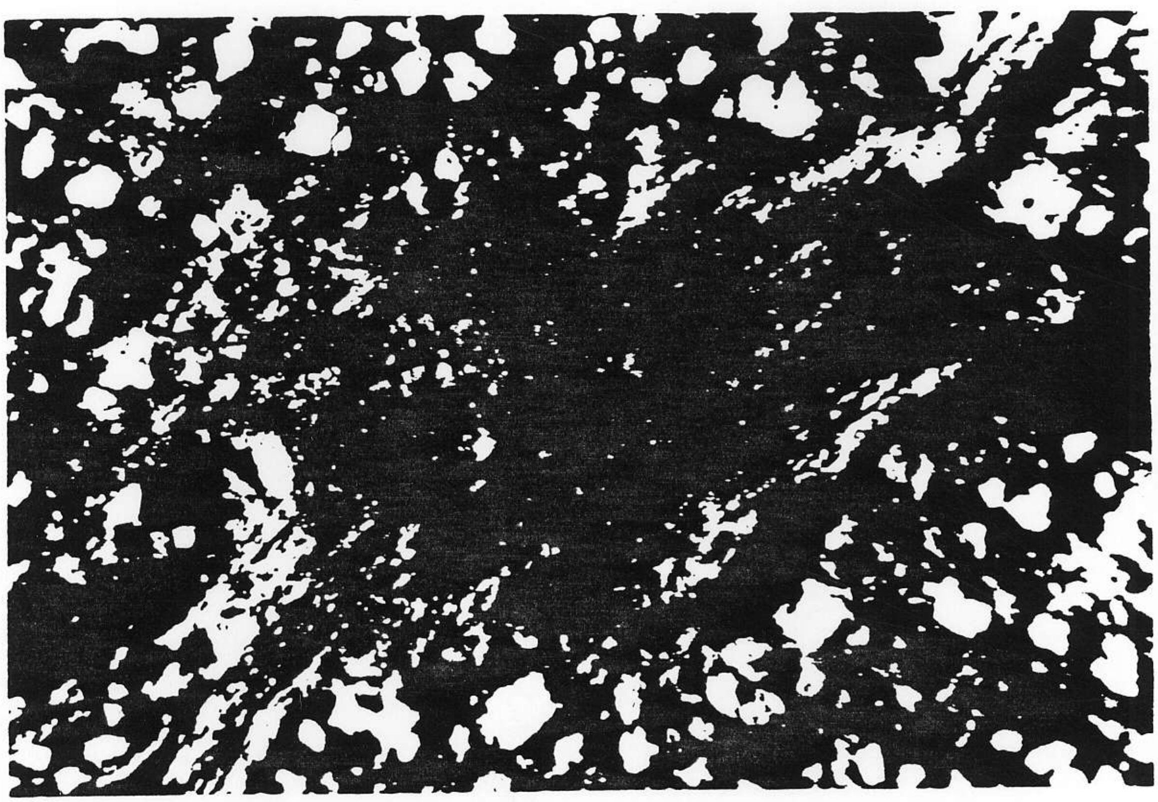


Plate 12-121.6-2. Peculiar region of optically oriented quartz intergrown with muscovite in sinuous zones of fabric.

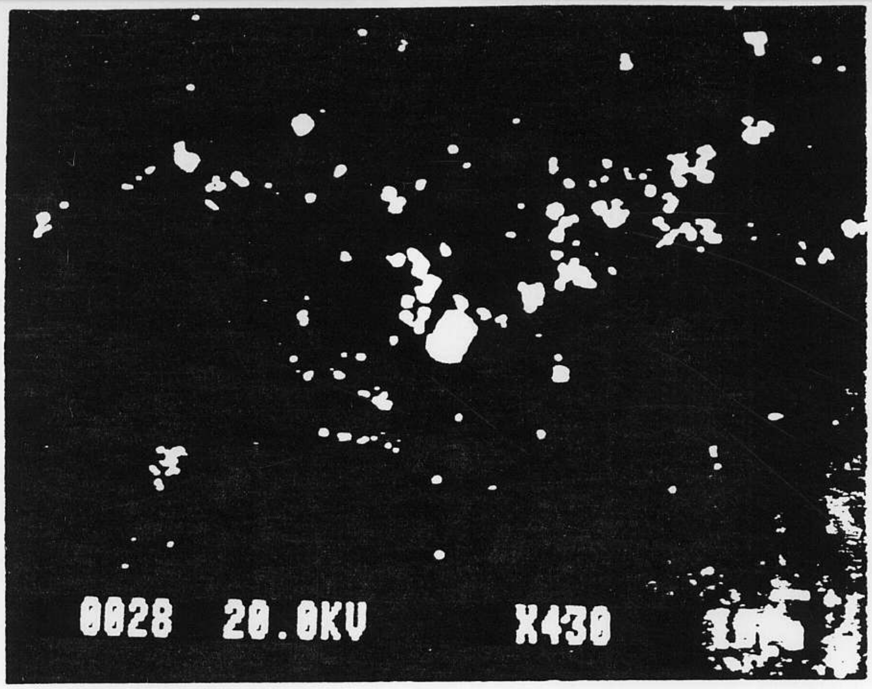


Plate 12-121.6-3. Pyrite sphere with PbSbAgS in central region.

DDH CA-88-13-203.3

- K-feldspar-quartz rock of likely volcanic origin, trachytic texture, wide variety of grain size and textures of quartz in cavities.

quartz	- 35%
K-feldspar	- 60%
calcite	- <1%
rutile	- <1%
pyrite	- 24%
muscovite	- 3%

- sections are extremely fine grained mixture of quartz and K-feldspar with evenly dispersed angular pyrite grains cut and segmented by an intersecting branching network of relatively coarse grained quartz veins with muscovite which connect round to ovoid patches of coarse grained quartz (Plates 13-203.3-1).

- the fine grained quartz K-feldspar matrix has a certain fabric created by a general alignment of K-spar cystals in a texture of it were igneous would be easily termed trachytic (Plate 13-203.3-2). This general alignment of K-feldspar crystals does not appear to be the result of penetrative deformation, that produced the fabric so prevalent in many rocks from Eskay Creek.

- K-feldspar throughout the matrix has a patchy to variable barium content reaching 3.73 weight percent BaO in certain domains (Plate 13-203.3-3).

  Indeed there is a real possiblity that this is indeed an igneous texture. If so sample 13-203.3 takes on a great signficance as it may indeed be a truly igneous rock.

- one domain within the felted matrix consists of K-feldspar with quartz significantly without fabric which includes roughly circular patches of muscovite with pyrite (Plate 13-203.3-4) and grains of tabular quartz.

- the fine grained trachytic textured matrix is cut by a network of narrow pyrite muscovite veinlets (Plate 13-203.3-5) that connect the larger quartz patches.

- these quartz patches exhibit a variety of textures and assemblages:

(i) certain roughly circular patches consist of fine grained tabular quartz with evenly dispersed pyrite; quartz in some of these circular patches is decidedly tabular and projecting centrally from the cavity walls (Plate 13-203.3-6).

(ii) certain ellipsoidal cavities are composed by quartz of a highly variable grain size, with region of randomly oriented tabular garins, included within much coarser grained quartz (Plate 13-203.3-7).

(iii) cavities with inwardly projecting coarse grained quartz with pyrite centrally located (Plate 13-203.3-8).

(iv) quartz in certain patches with a regular distribution of zones of fluid inclusions located near the margins of some grains (Plate 13-203.3-9,10).

This myrid of textures described takes on some degree of rationality of the rock described here is indeed truly igneous and the coarse ovoid quartz featurs are regarded or growth of quartz and pyrite in miarolitic cavities in the ignous rock from late stage igneous or pegmatoid fluids.

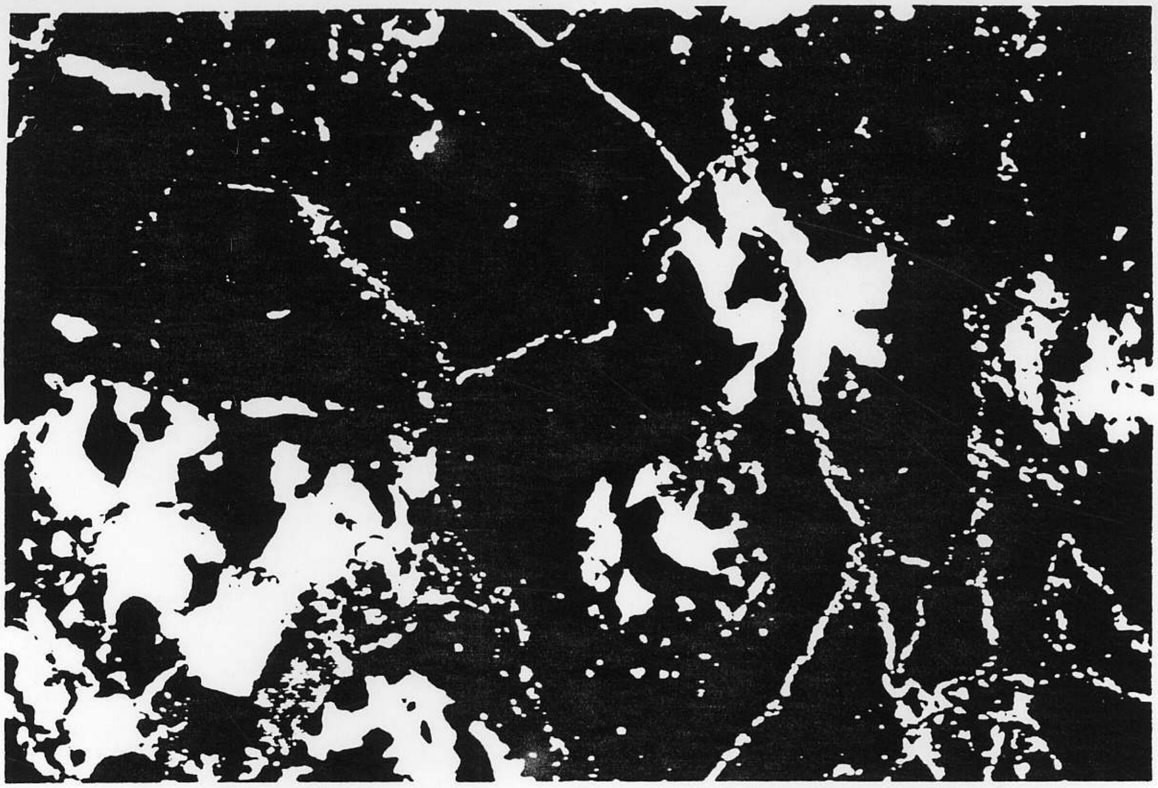


Plate 13-203.3-1. Network of muscovite and quartz venlets connecting to ovoid patches of coarse quartz in a fine grained K-feldspar quartz albite matrix.

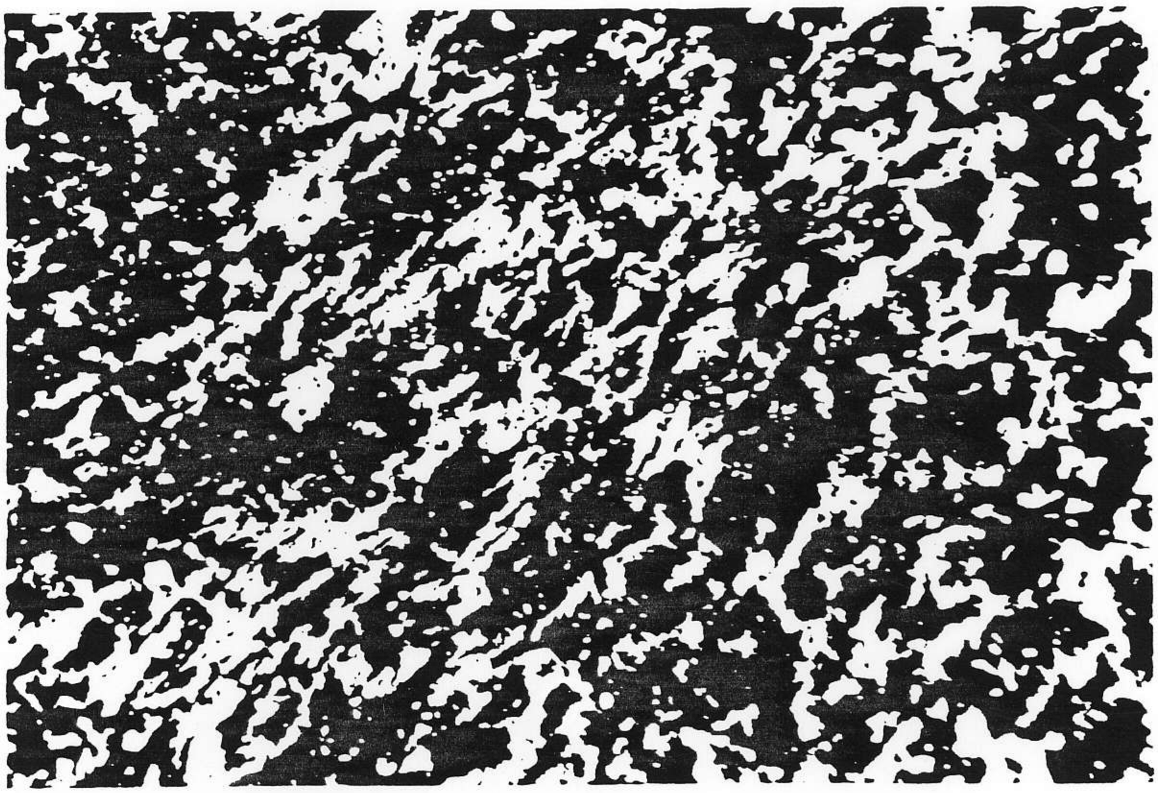


Plate 13-203.3-2. Fabric in fine grained matrix circled by general alignment of K-feldspar crystals, possibly trachytic texture.

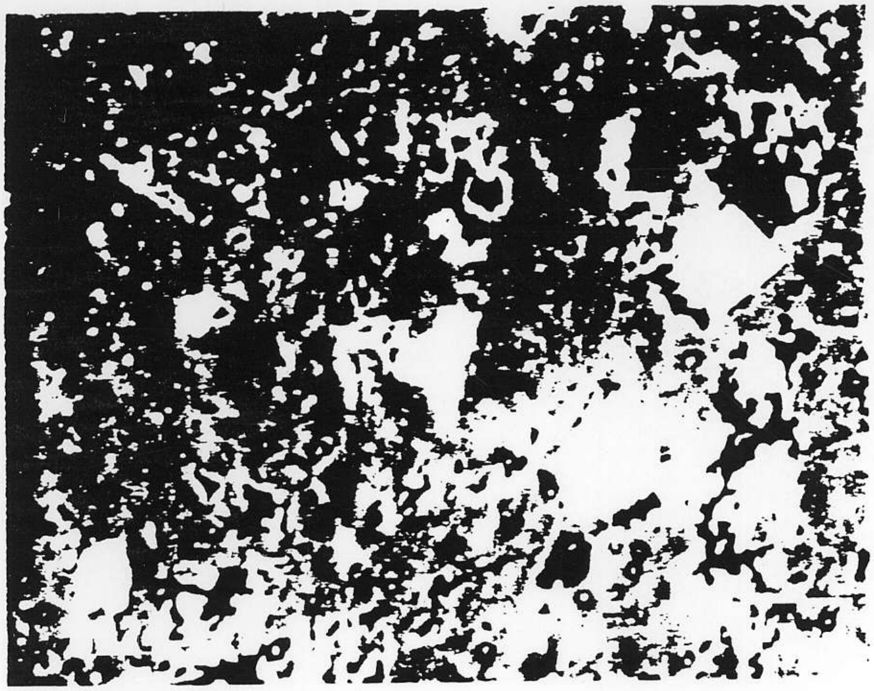


Plate 13-203.3-3. Domain of K-feldspar in matrix with 3.73 weight percent BaO.

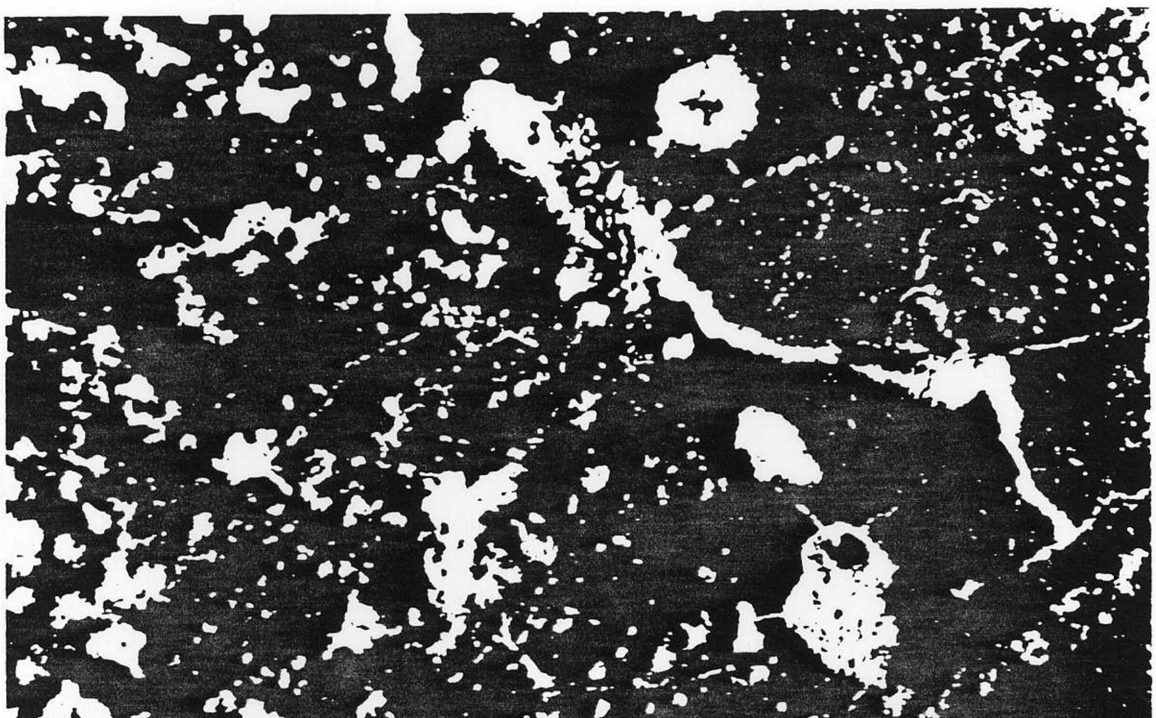


Plate 13-203.3-4. Domain of felted K-feldspar significantly without fabric that includes circular patches of muscovite.

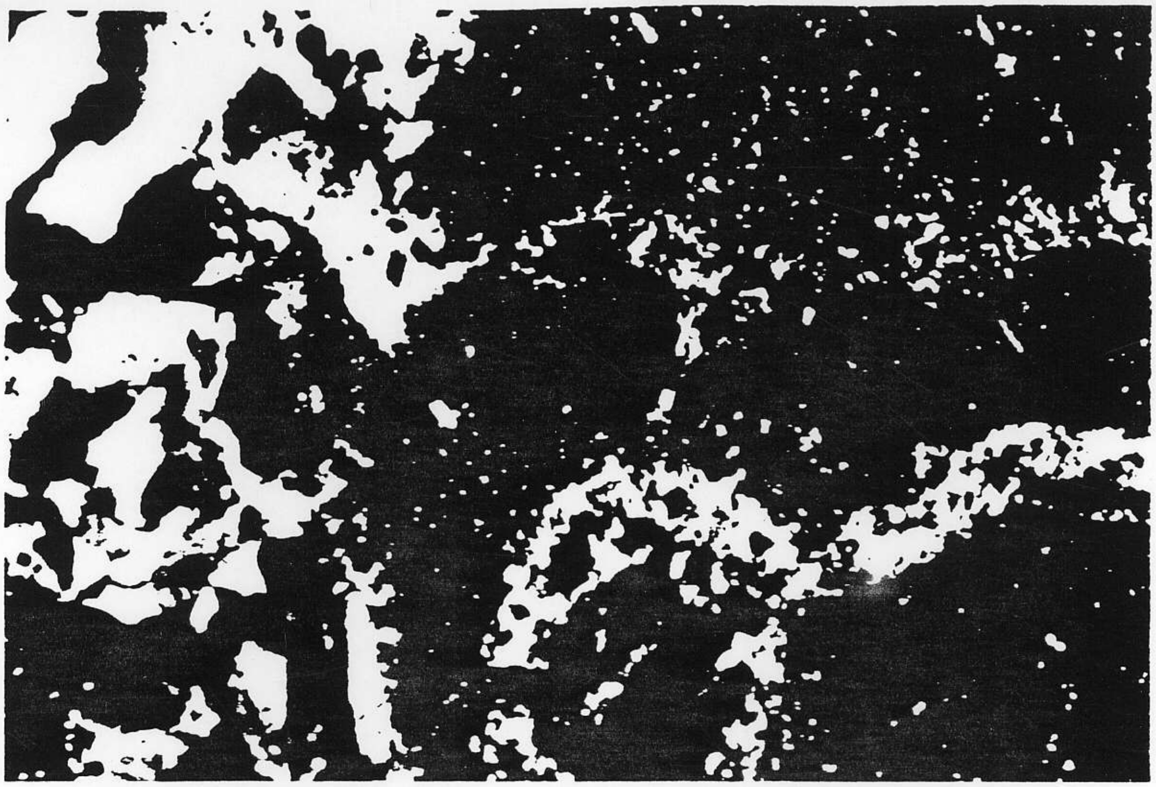


Plate 13-203.3-5. Narrow pyrite muscovite quartz veinlets in the matrix run to and connect the large coarse grained quartz patches.

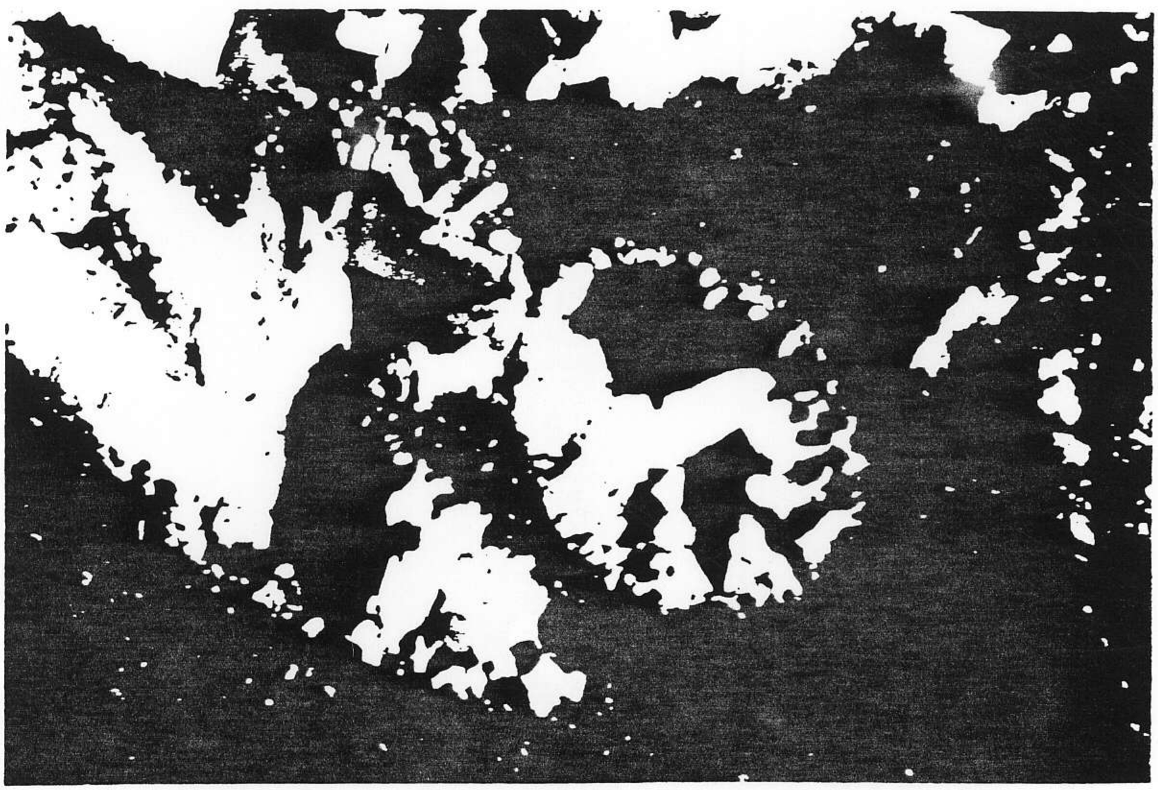


Plate 13-203.3-6. Elongate quartz grains projecting centrally from the walls of the cavity.

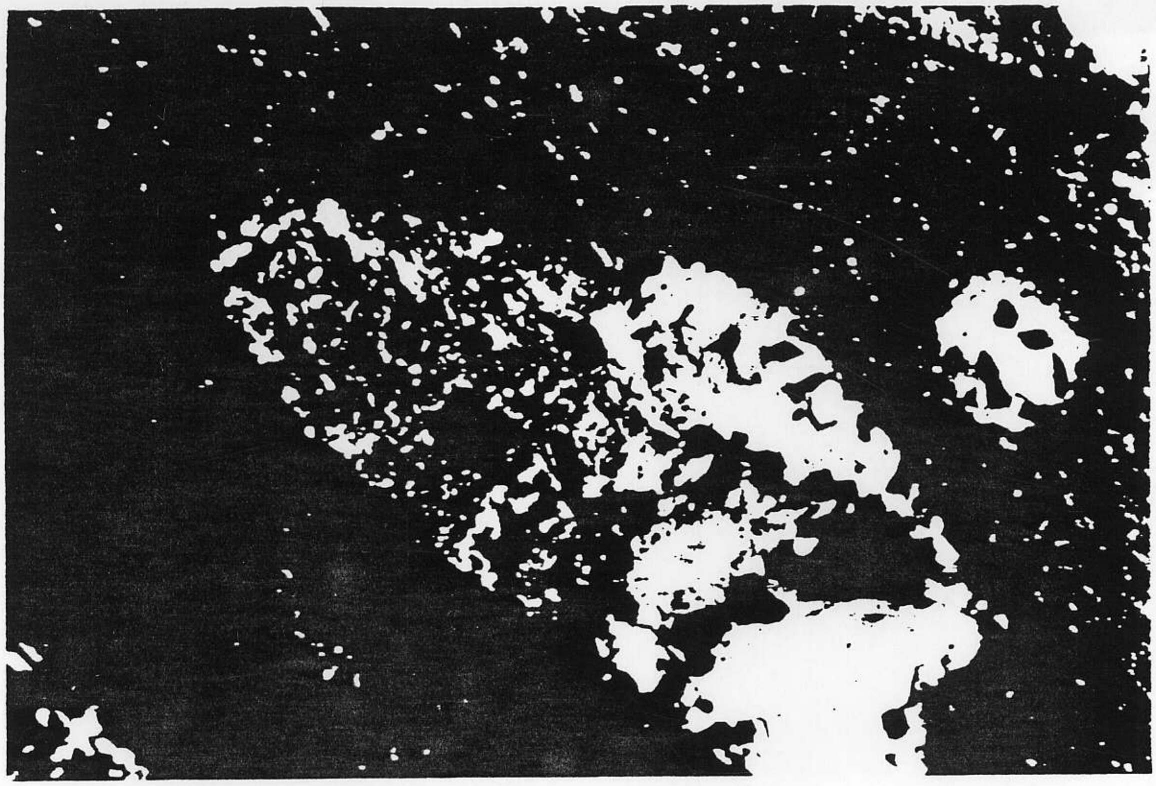


Plate 13-203.3-7. Significant variation in grain size and aspect of quartz in a single cavity.

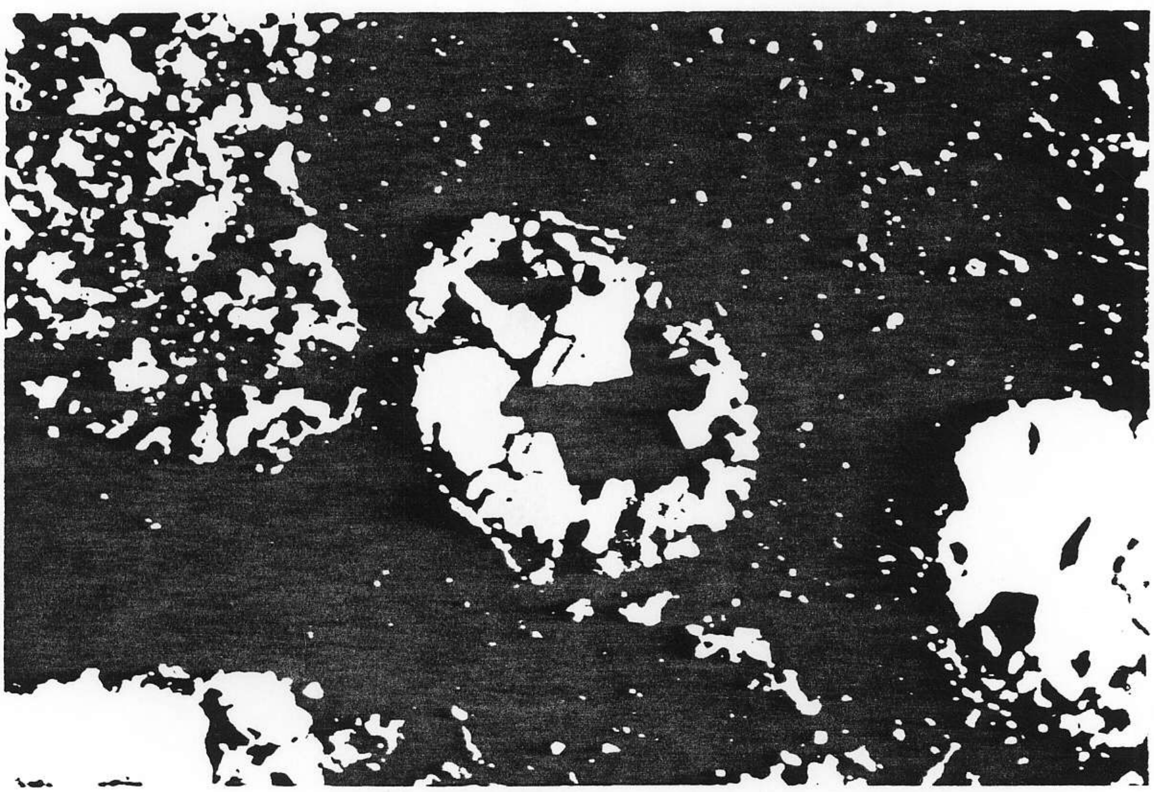


Plate 13-203.3-8. Inward projecting quartz in a cavity with centrally located pyrite.

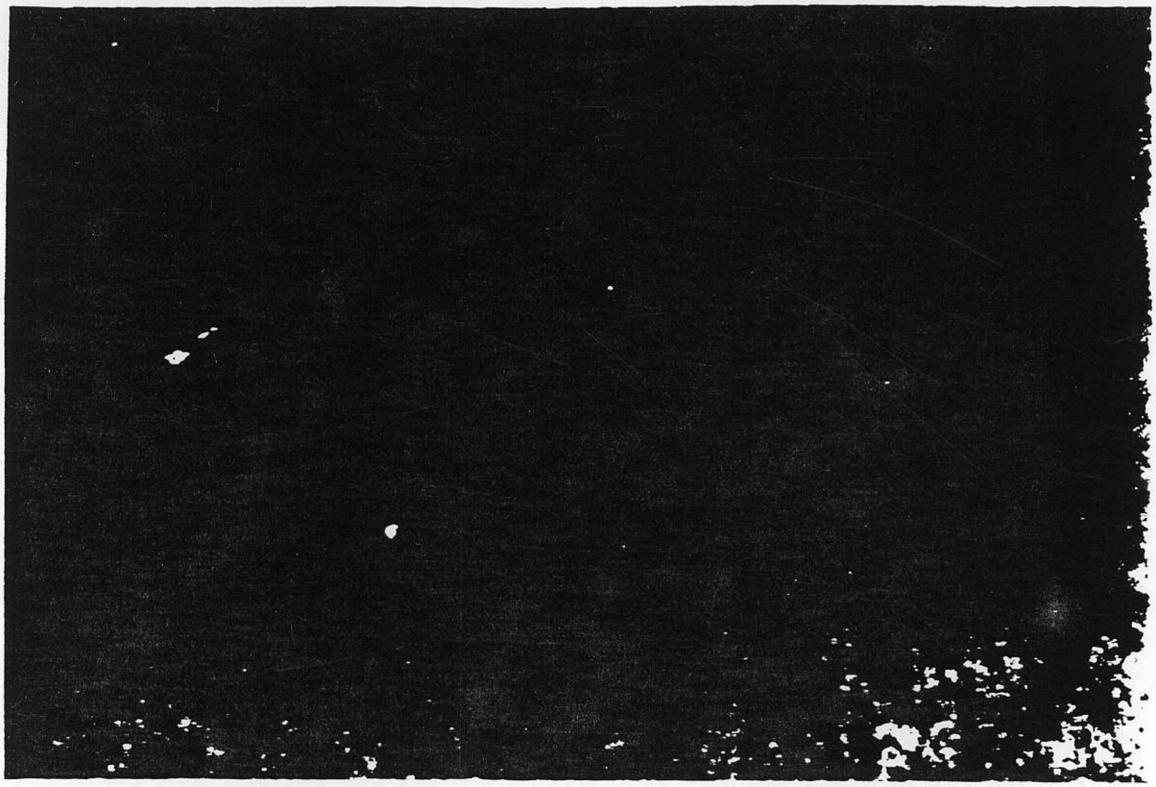


Plate 13-203.3-9. Zones of fluid inclusion regularly ditributed in growth zones in certain quartz grains.

Plate 13-203.3-10. Same field of view as Plate 13-203.3-9; note fluid inclusion on margin of some quartz grains.

DDH CA-88-15-63.1

- a complex array of domains of quartz with variable grain size and sulphides along grain margins, multiply silicified rhyolite, fluid incusions in growth zones in quartz

quartz	- 85%
muscovite	- 10%
dolomite	- 1%
pyrite	- 4%
galena	- 1%
tetrahedrite	- <<1%
sphalerite	- 1%

- section a domained distribution of randomly oriented prismatic quartz of variable grain size; certain patches are essentially fine grained quartz while adjacent domains are relatively coarse grained prismatic quartz with muscovite developed along grain margins (Plate 15-63.1-1).

- sulphide minerals occur in patches forming a network along quartz grain margins (Plates 15-63.1-2,3) not necessarily related to quartz of any particular grain size.

- occasional regions of relatively coarse grained quartz with a vuggy aspect consisting of inwardly projecting well terminated grains significantly with zones of fluid inclusion apparent in certain growth zones (Plate 15-63.3-4).

- pyrite as angular grains with well developed growth zoning features with Pb, As enriched in certain growth rings (Plate 15-63.1-4) and galena and tetrahedrite present along cracks (Plate 15-63.1-5).

- note these sulphide phases occur in purely quartz as well as micaceous regions.

- a narrow dolomite veinlet with galena and tetrahedrite cuts a variety of quartz grain size domains.

- the rock volume has clearly experienced at least several episodes of silicification with related sulphide impregnation totally obliterating the character of the rock originally present, likely rhyolite breccia.

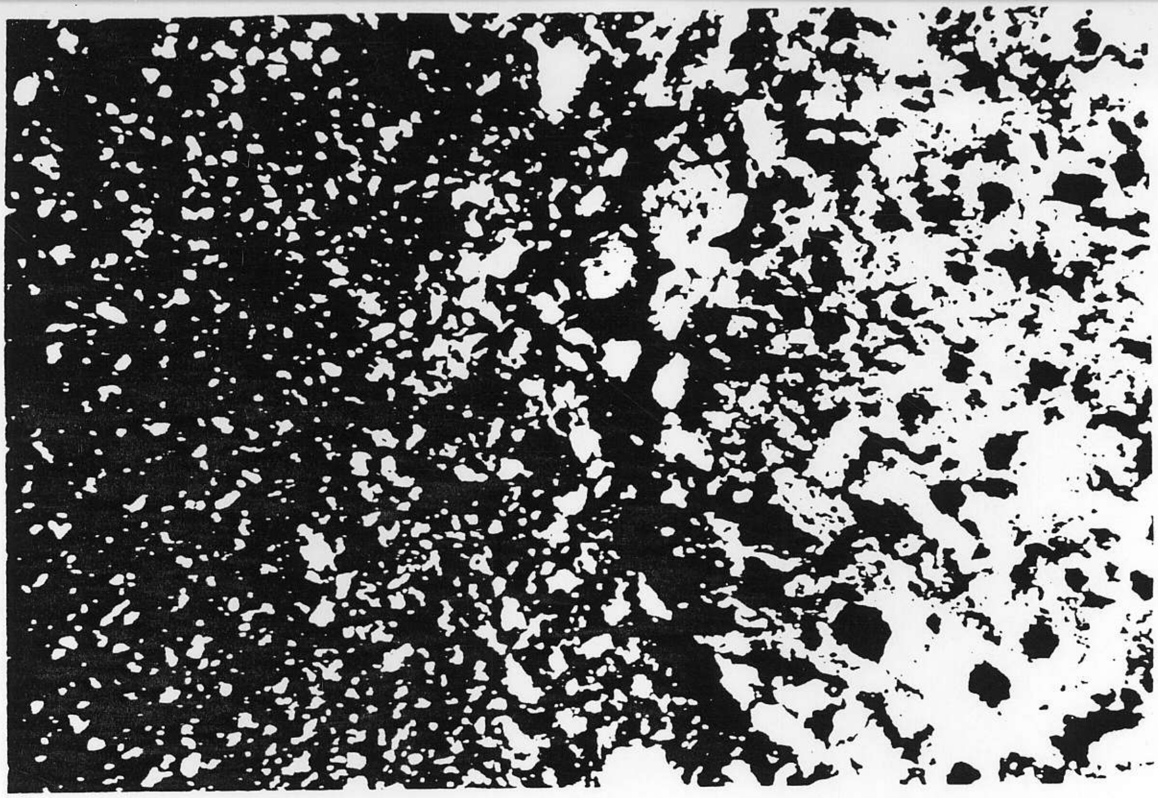


Plate 15-63.1-1. Domains of relatively coarse quartz with muscovite along grain margins against a domain of finer grained prismatic quartz.

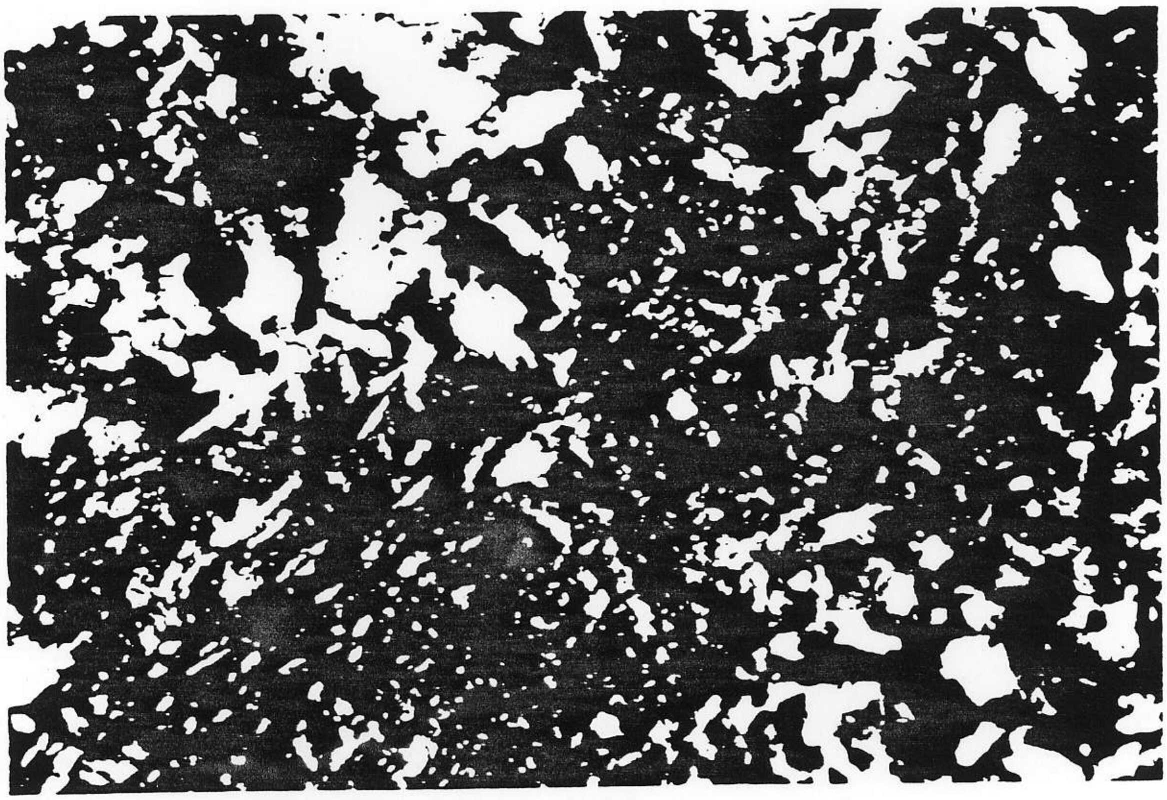


Plate 15-63.1-2. Prismatic quartz of variable grain size with sulphide minerals along quartz grain margin.

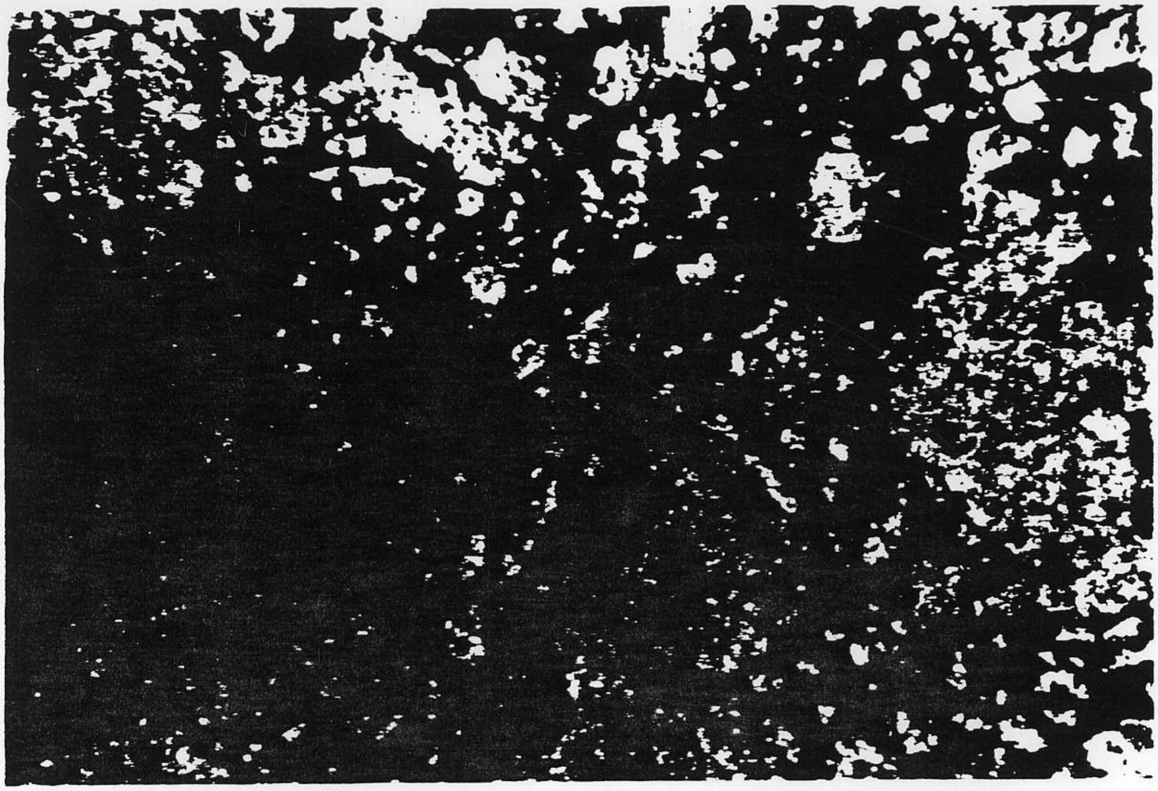


Plate 15-63.1-3. Sulphide minerals clearly developed along quartz grain margins.

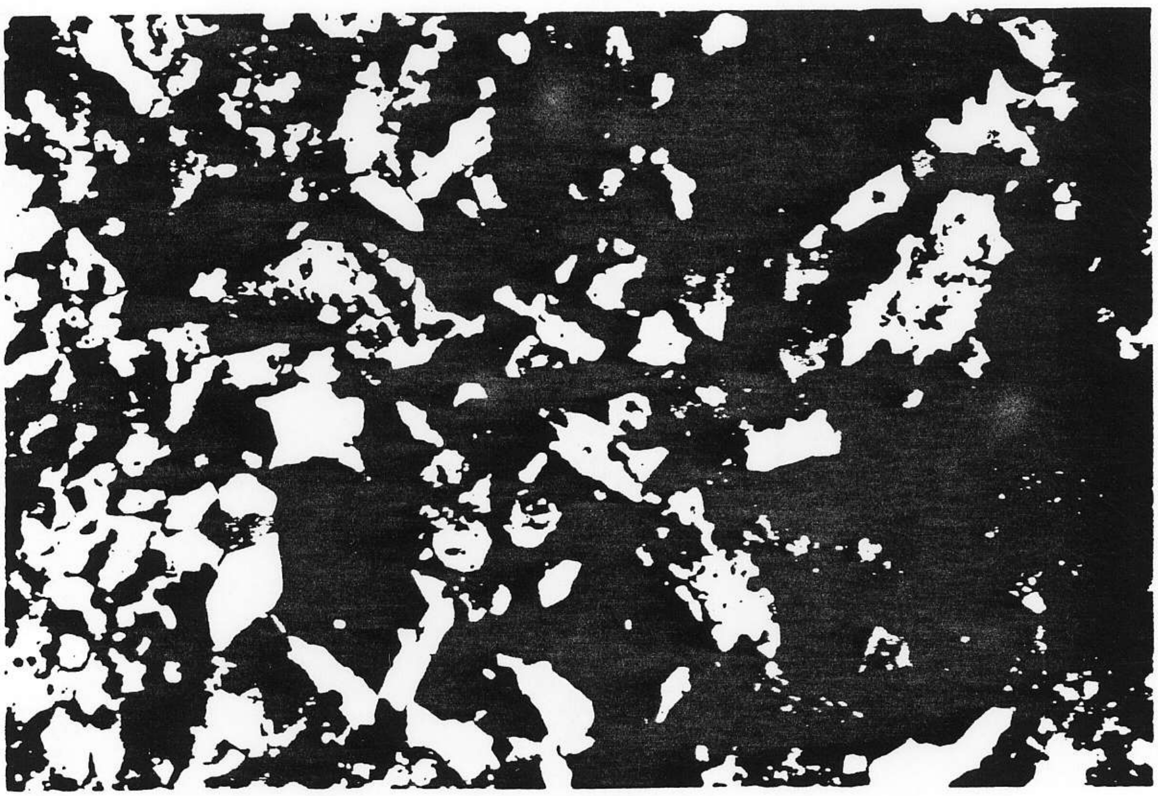


Plate 15-63.1-4. Patches of relatively coarse grained inwardly projecting terminated vuggy quartz.

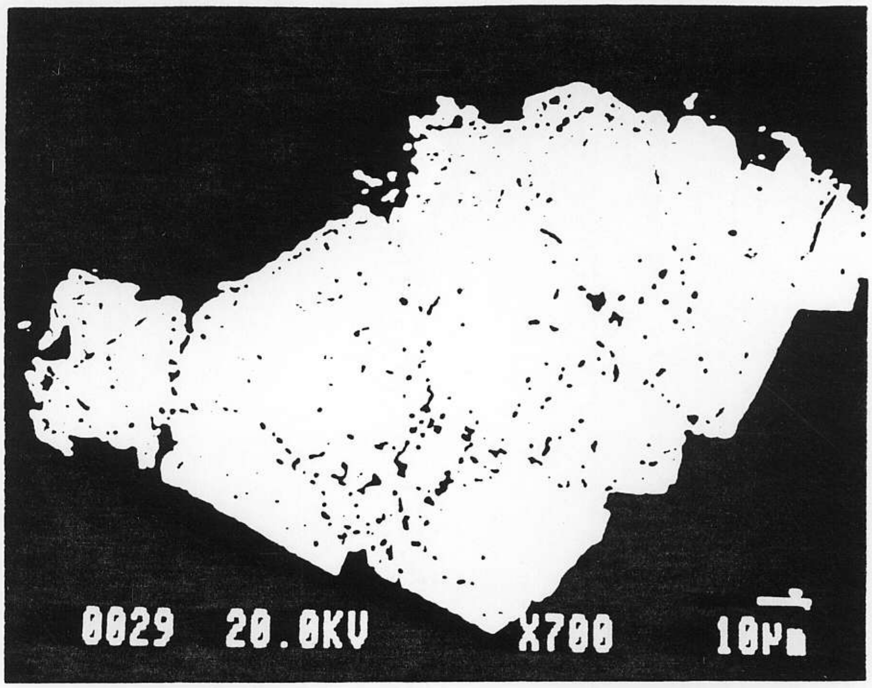


Plate 15-63.1-5. Spectacularly zoned pyrite with certain growth zones enriched in Pb, As.

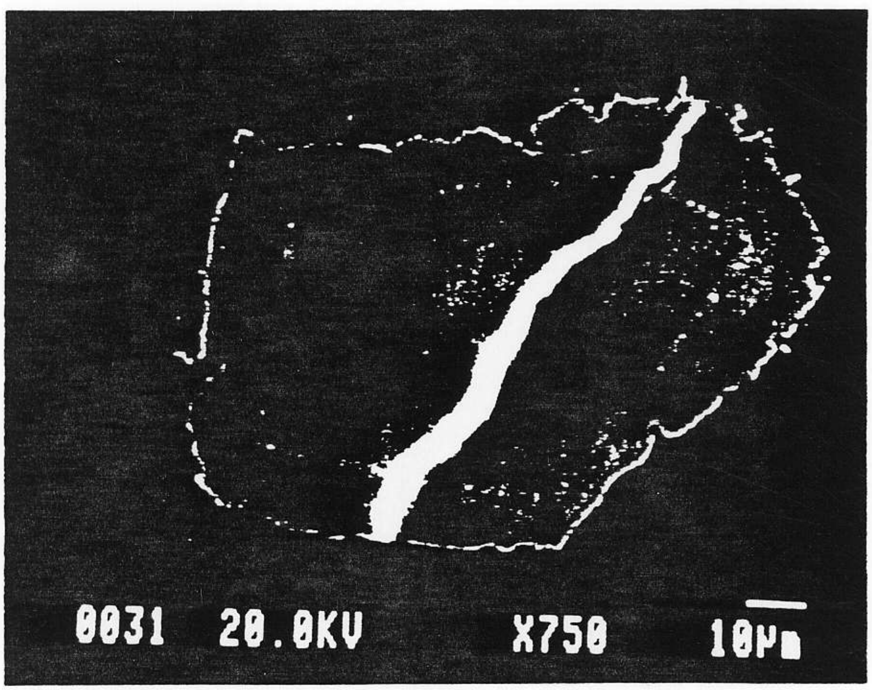


Plate 15-63.1-6. Galena, white, and tetrahedrite, light grey, along a crack in pyrite.

DDH CA-88-15-73.0

- multiphy silicified rock volume, with sulphides along grain margins and in coarse patches; fluid inclusions abundant in growth zones in quartz

quartz	- 80%
muscovite	- 10%
pyrite	- 3%
galena	- 2%
tetrahedrite	- 2%
sphalerite	- <<3%

- texturally complex array of randomly oriented quartz with highly variable grain size with sulphide minerals and micas along grain margins (Plate 15-73.0-1).

- significantly quartz grains in large regions of this section display regular zones rich in fluid inclusion clearly related to the growth zones of each grain (Plates 15-73.0-2,3).

- concentration of coarse sphalerite with overgrowth of tetrahedrite and galena (Plate 15-73.0-3) intergrown in coarse grained quartz domains.

- concentrations of tetrahedrite and sphalerite along grain margins relatively coarse grained quartz in patches.

- similar to 15-63.1 with more significant sulphide content.

- a multiply silicified rock volume with accompanying sulphide development.

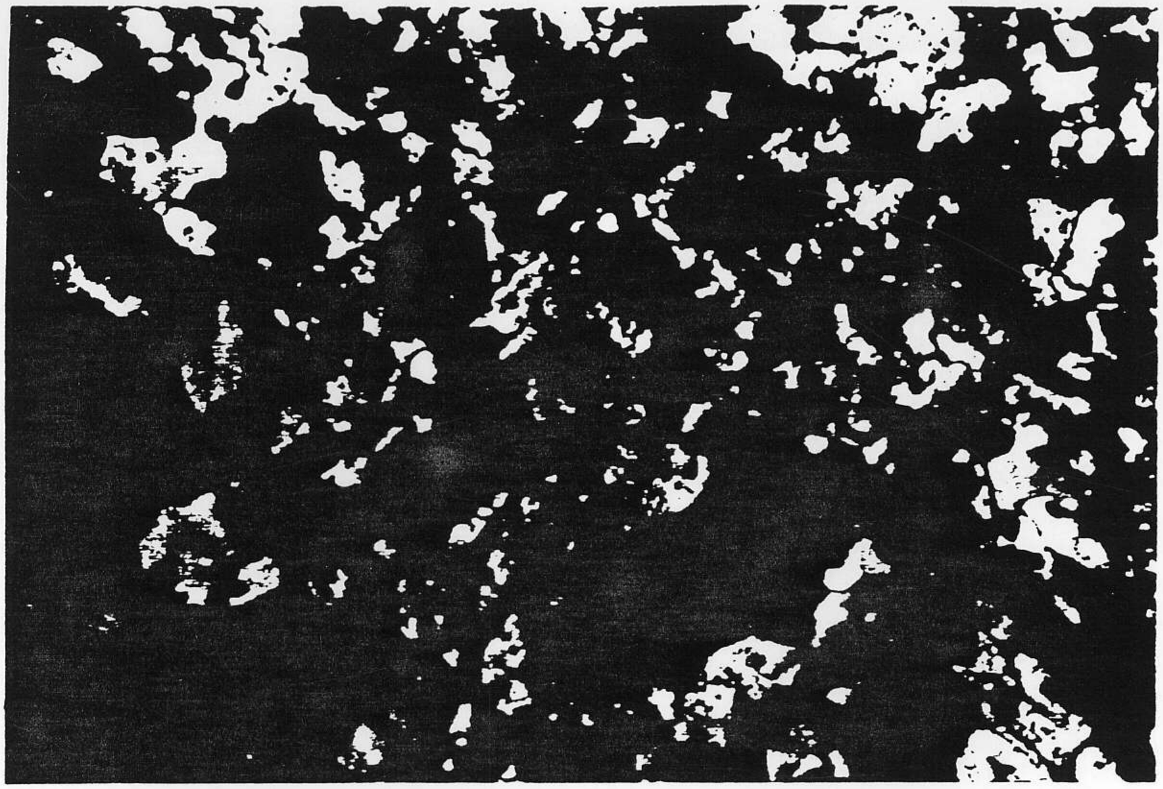


Plate 15-73.0-1. Randomly oriented prismatic quartz with highly variable grain size and sulphide mineral along grain margins.

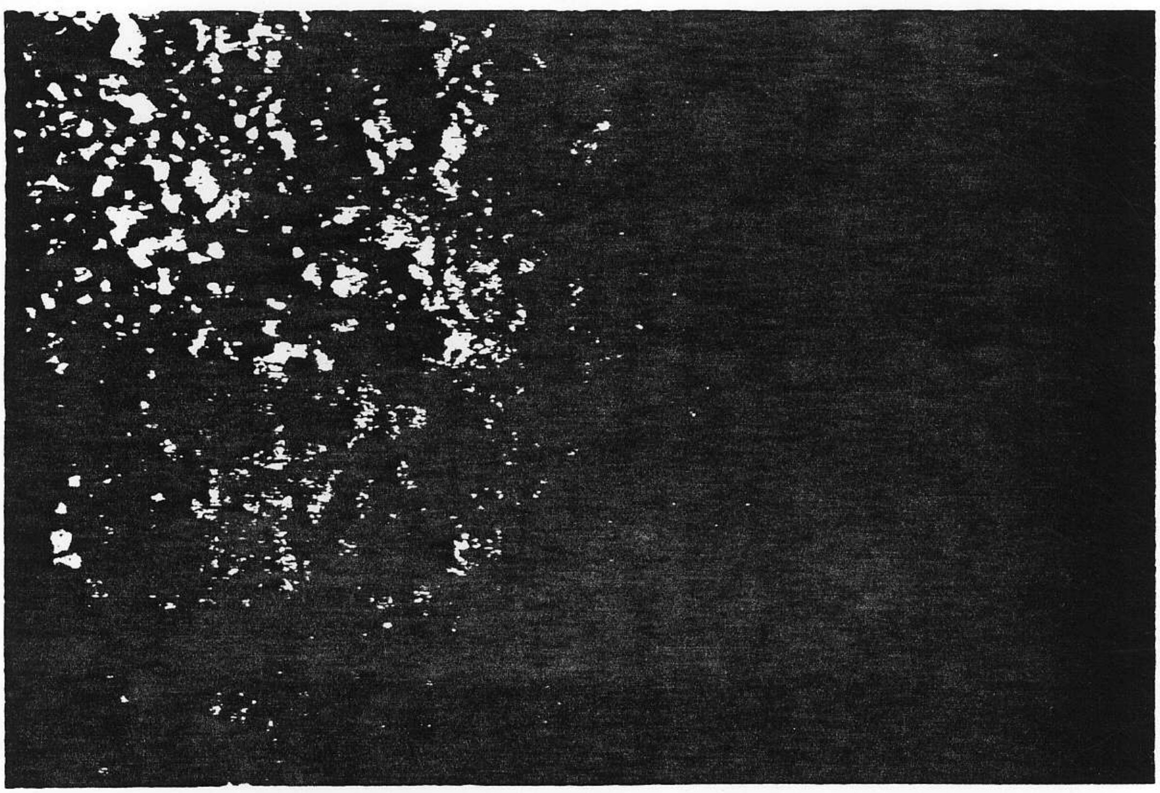


Plate 15-73.0-2. Zones of fluid inclusion in region of coarse grained quartz.

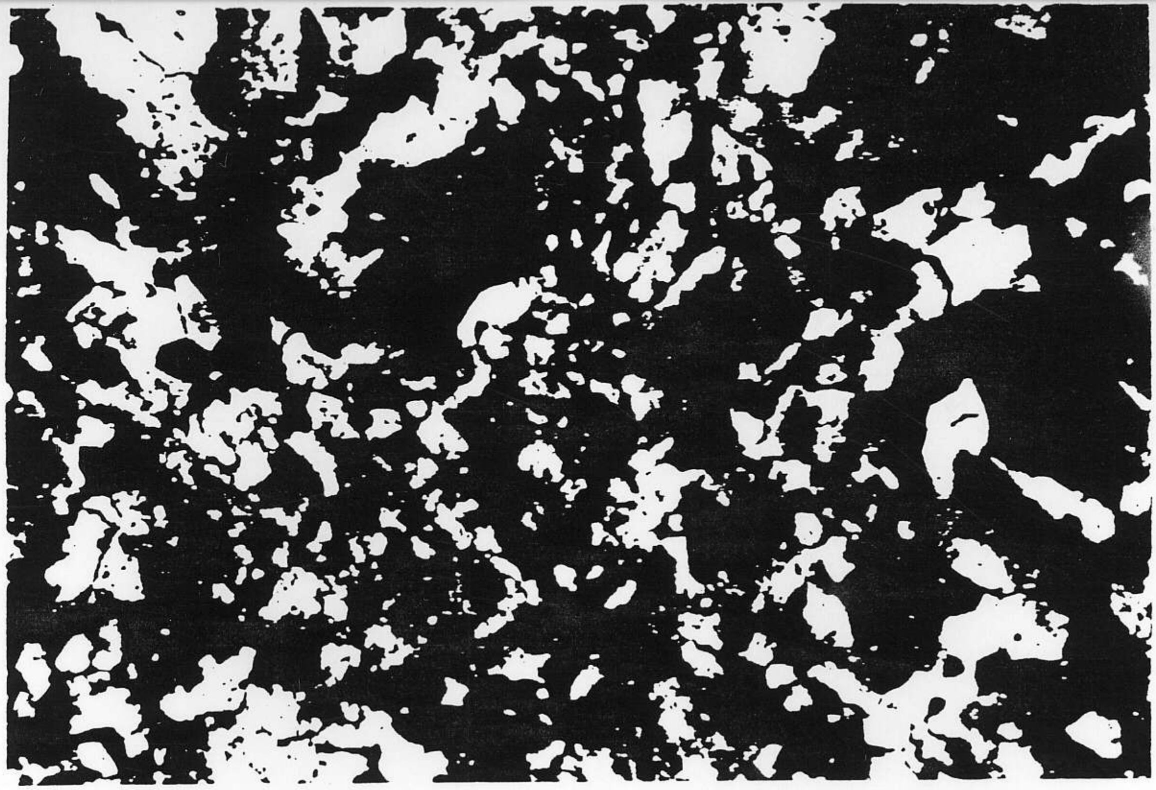


Plate 15-73.0-3. Same field of view as Plat 15-73.0-2, in crossed polars.

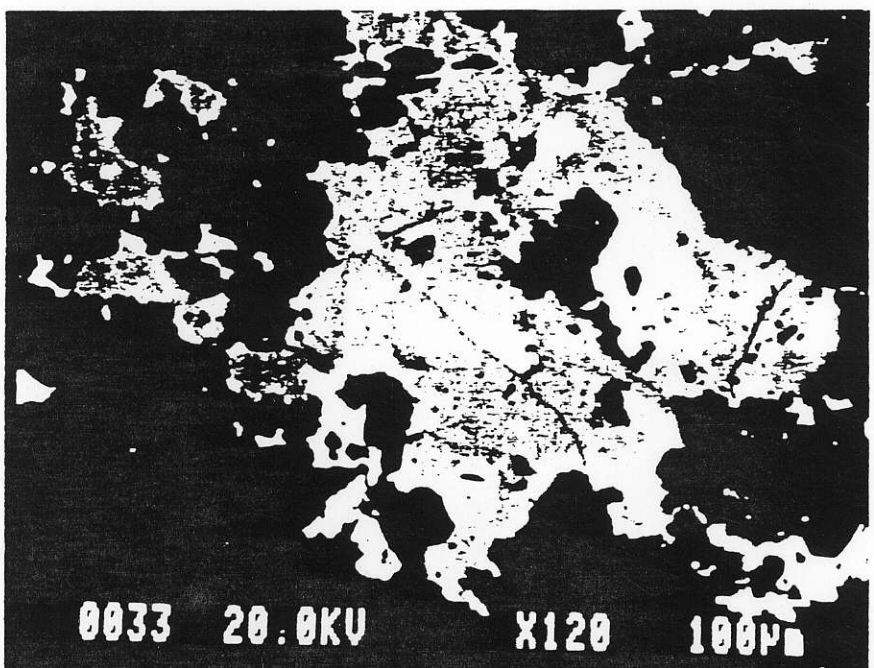


Plate 15-73.0-4. Coarse sphalerite including and overgrown by tetrahedrite and galena.

DDH CA-88-16-83.5

- silicified rhyolite with chlorite veinlets segmented, veined and pervasively replaced by muscovite.

quartz	- 20%
muscovite	- 60%
Mg chlorite	- 10%
pyrite	- 5%
tetrahedrite	- 1%
sphalerite	- 1%
stibnite	- 1%
PbSbAgHgS phase	- 1%

- irregular relict patches of relatively coarse multigranular quartz in fine grained chlorite, segmented, penetrated by zones of muscovite and pervasively replaced by muscovite over large areas (Plate 16-83.5-1).

- large domains of section massive muscovite with evenly dispersed pyrite with diagnostic spherical growth features (Plate 16-83.5-2).

- significantly larger pyrite masses with clear radial growth habit are intimately mixed with tetrahedrite (Plate 16-83.5-3).

- sphalerite and stibnite occurs in certain ill-defined patches in a relict chlorite quartz regions as isolated minute grains and aggregates often intergrown with pyrite (Plate 16-83.5-4).

- pressure shadows of coarse muscovite on certain sphalerite and tetrahedrite masses throughout the schistose muscovite matrix (Plate 16-83.5-5).

- domain of fine grained Mg chlorite at one end of the section which includes a patch of coarse Mg chlorite sheafs ringed by stibnite (Plate 16-83.5-6). Chloritite domain is penetrated by linear zones of and replaced pervasively in marginal zones by muscovite.

The original nature of the rock has been largely obscured by pervasive muscovite alteration and related deformation. However features of the less altered relict patches would suggest that the rock may have been a multigranular quartz rock, rhyolite with irregular Mg chlorite veinlets prior to pervasive muscovite development.

It is significant that the sphalerite and tetrahedrite are largely restricted to the relict siliceous region likely altered rhyolite, and it is likely that the rock volume had a certain metal anaomly prior to retrogressive muscovite alteration.

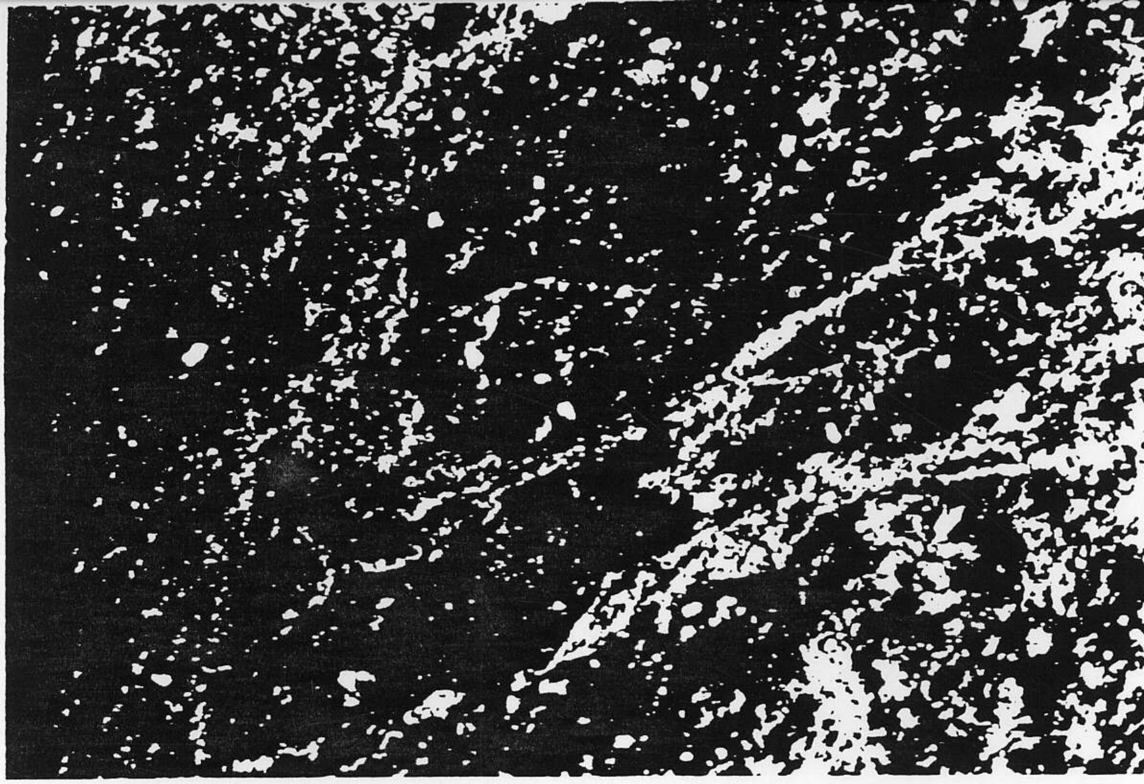


Plate 16-83.5-1. Relict domain of coarse multigranular quartz segmented by veinlets and replaced pervasively by muscovite.

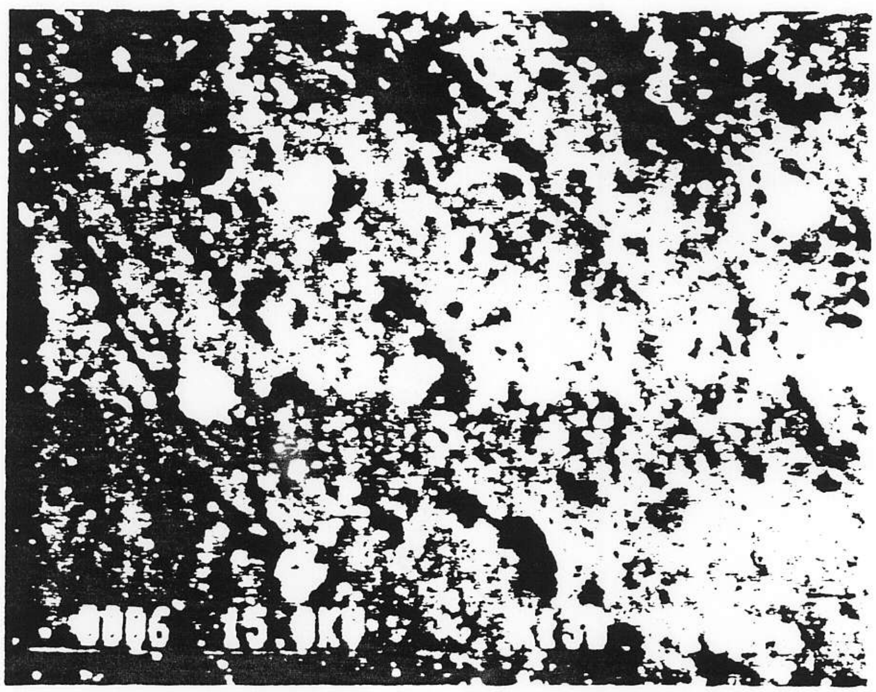


Plate 16-83.5-2. Pyrite with concentric growth textures evenly dispersed in regions of massive muscovite.

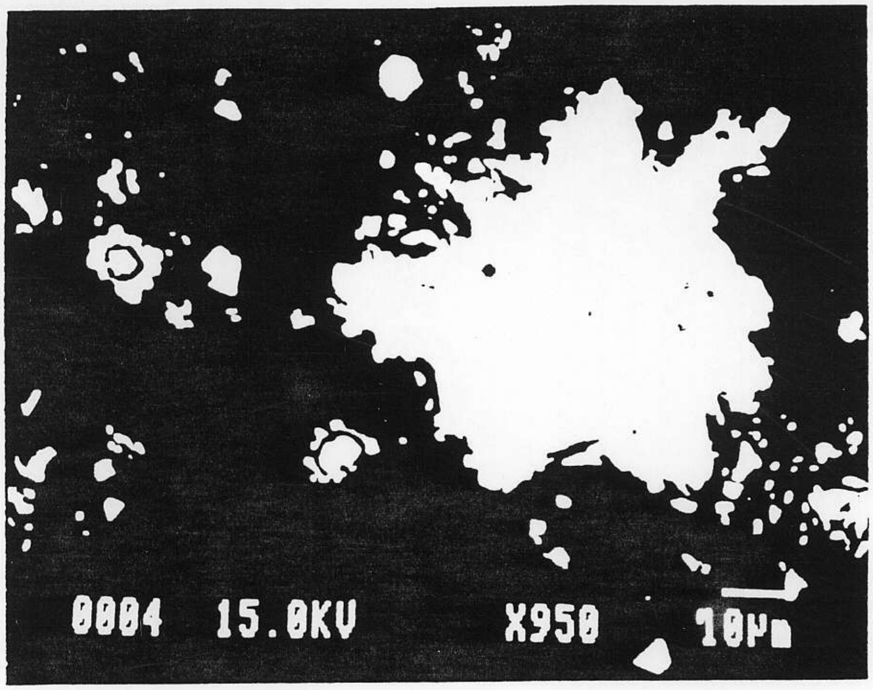


Plate 16-83.5-3. Larger pyrite with radial aspect including and overgrown by tetrahedrite.

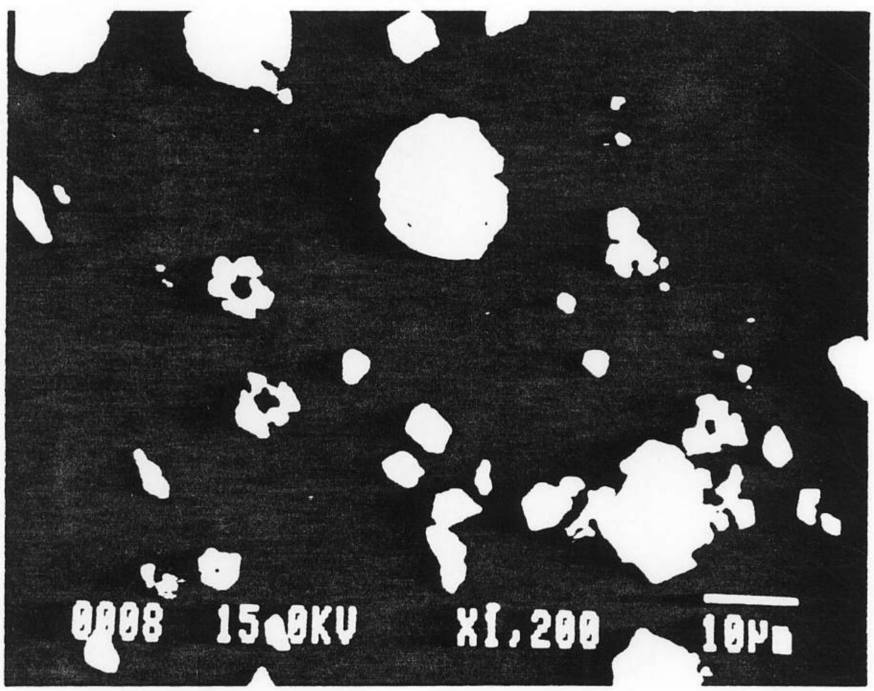


Plate 16-83.5-4. Circular sphalerite grain, light grey; and pyrite, dark grey; intergrown with stibnite, white.

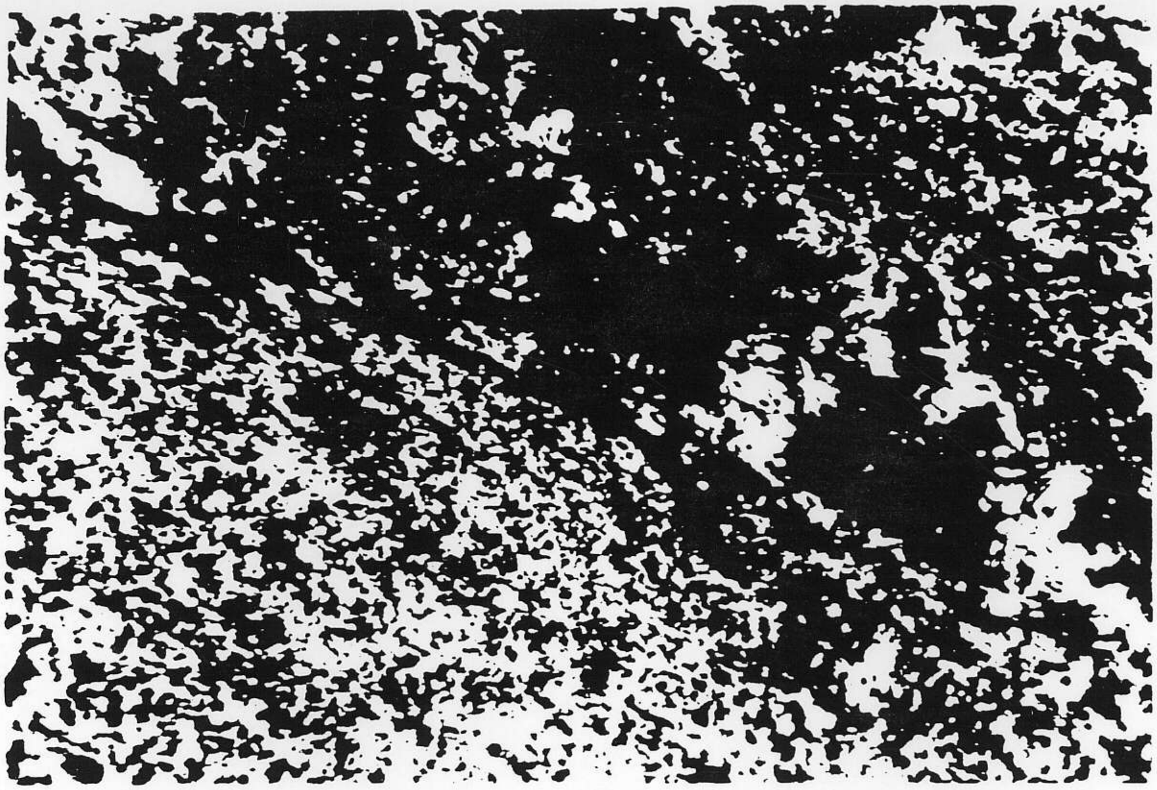


Plate 16-83.5-5. Coarse sheafs of muscovite possible zones of pressure shadow growth on tetrahedrite stibnite masses.

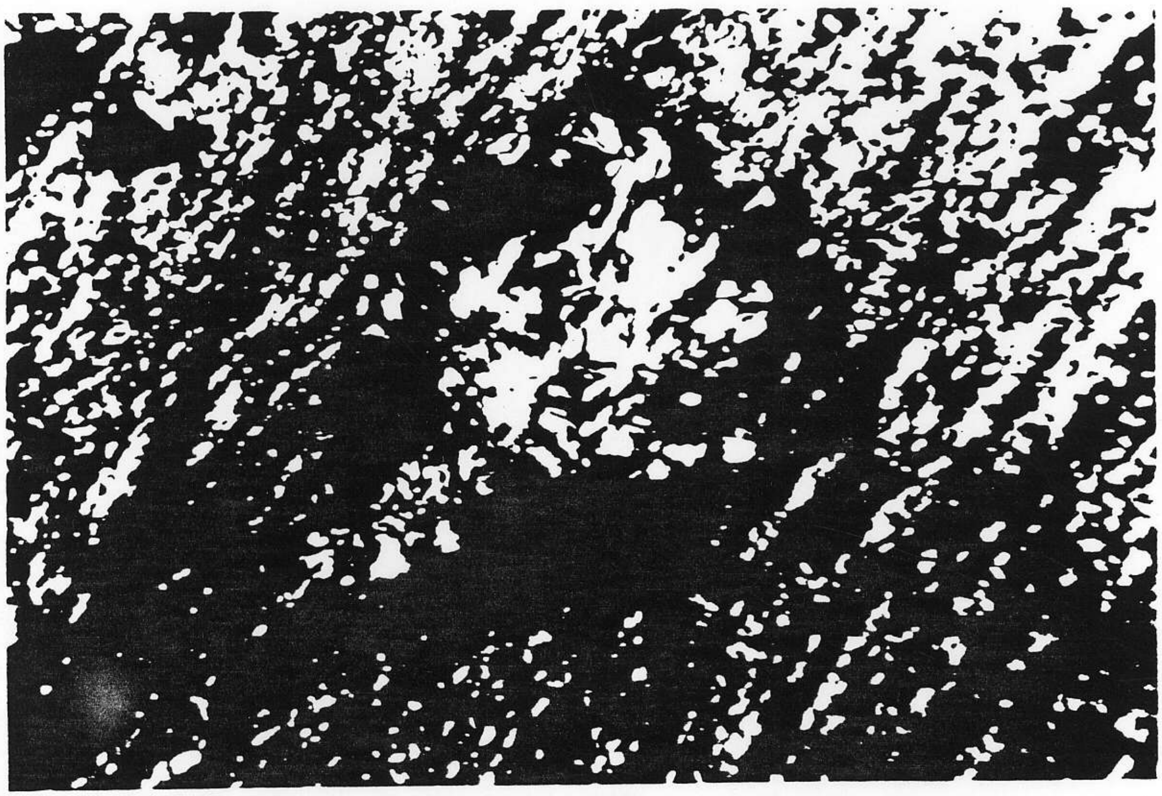


Plate 16-83.5-6. Patch of coarse Mg chlorite ringed by stibnite in a relict domain of pervasive Mg chloritite at one end of section.

DDH CA-88-16-85.7

- Mg chloritite penetrated by late calcite veinlets with cinnabar, occasional patches of muscovite

quartz	-	5%
muscovite	-	5%
Mg chlorite	-	85%
calcite	-	1%
pyrite	-	5%
tetrahedrite	-	1%
cinnabar	-	<1%
PbSbHgAgS phase	-	1%

- rock essentially a massvie Mg chloritite with sulphides evenly dispersed not necessarily spatially related to irregular masses of muscovite (Plate 16-85.7-1).

- in certain regions diffuse grains of muscovite are present in the Mg chloritite possibly representing the earliest stages of access of potassic fluids.

- cinnabar as occasional grains within late calcite present along cracks in massive Mg chlorite (Plate 16-85.7-2).

- pyrite as evenly dispersed equant grains throughout the Mg chlorite matrix occasionally overgrown by both tetrahedrite with appreciable copper and an PbSbHgAg sulphide (Plate 16-85.7-3).

The single tetrahedrite overgrowth noted in this section quite signficantly is associated spatially with the most crystalline muscovite noted and indeed has very narrow fringe zones of muscovite. Thus introduction of As, Ag, Sb, Cu minerals may be temporally related to ingress of potassic hydrothermal fluids.

It may be very significant that the pyrite in this Mg chloritite rock volume has a definite equant or cubic aspect without the spherical growth textures commonly observed in muscovite rich rocks. There may indeed be at least two generations of pyrie in these rocks, one equant or cubic grains in Mg chloritite and spherical pyrite, clearly the result of solution dominated hydrothermal growth in rock volumes of chlorite affected and replaced by mica stable potassic hydrothermal fluids.

The original rock volume prior to potassic alteration likely existed as an equant pyrite Mg chloritite. The real questions are then what was the originally precursor lithology present prior to pervasive Mg chlorite alteration and what was the origin of the F, Mg solutions?

Plate 16-85.7-1. Massive Mg chlorite with pyrite grains and aggregates in diffuse patches and linear zones.

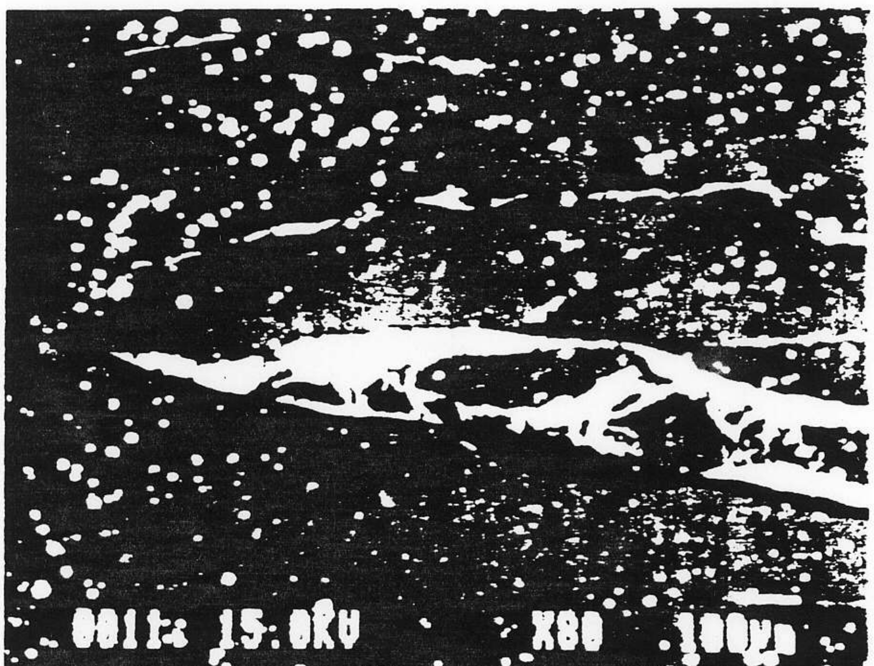


Plate 16-85.7-2. Cinnabar in narrow calcite veinlets along cracks in Mg chloritite.

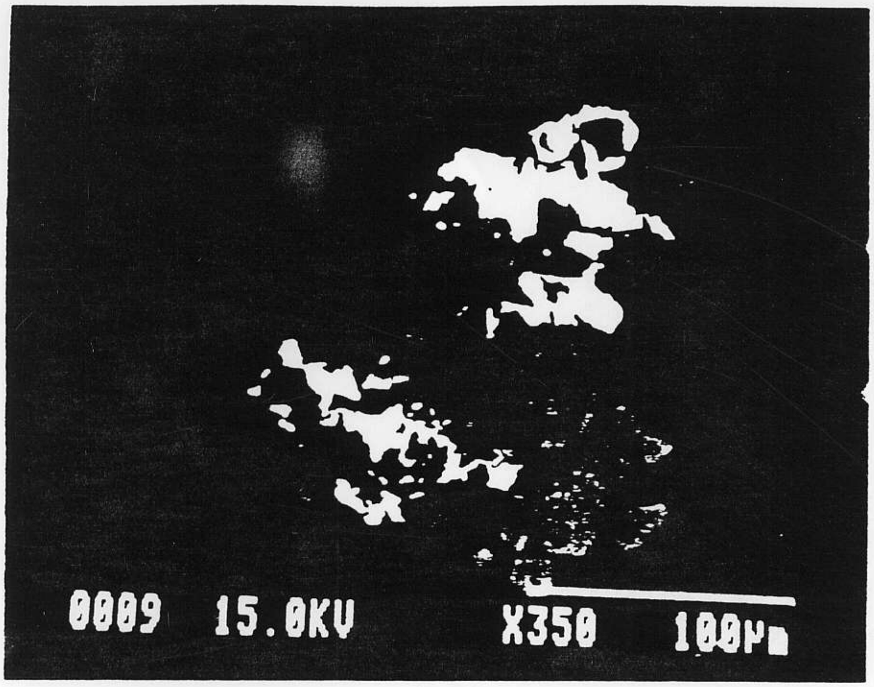


Plate 16-85.7-3. Angular to cubic pyrite grains, dark grey intergrown with tetrahedrite, light grey and PbAsAgS phase, white.

DDH CA-88-16-89.1

- calcite tetrahedrite patches in muscovite schist, likely pervasive potassic alteration of Mg chloritite

muscovite	- 80%
pyrite	- 5%
calcite	- 10%
stibnite	- <1%
aktashite	- <1%
tetrahedrite	- <1%
cinnabar	- <<1%

- irregular patches of coarse calcite within a highly contorted pyrite muscovite matrix (Plate 16-89.1-1).

- significantly minute pyrite spheres occur throughout the muscovite matrix of the sample while tetrahedrite, aktashite and stibnite are restricted to the patches of coarse carbonate (Plate 16-89.1-2).

- irregular ghost like regions with abundant pyrite occur throughout the section clearly penetrated and replaced by muscovite (Plate 16-89.1-3) giving the impression that a pre-existing rock likely pyrite Mg chloritite was pervasively replaced by muscovite as was the case for sample 88-16-85.7.

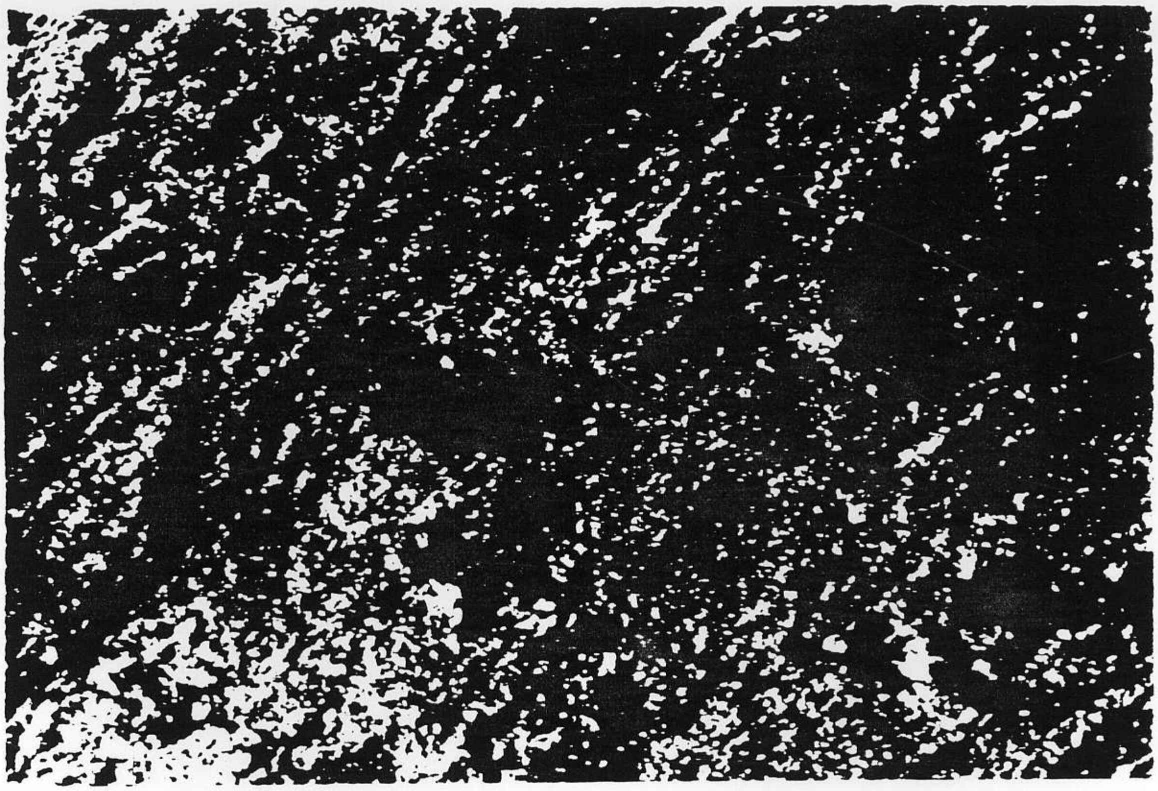


Plate 16-89.1-1. Irregular patches of calcite within a highly contorted pyritic muscovite schistose matrix.

Plate 16-89.1-2. Tetrahedrite and aktashite as coarse grains restricted to calcite patch in muscovite schist, note minute pyrite in muscovite regions.

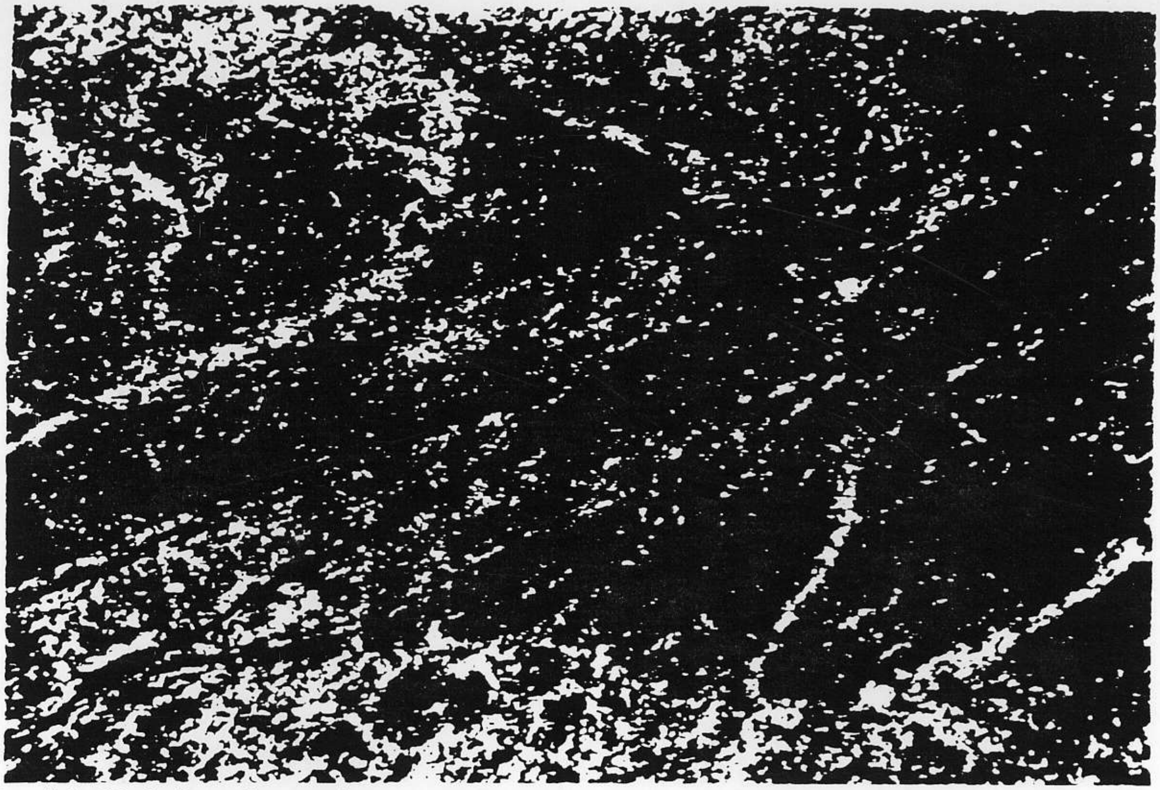


Plate 16-89.1-3. Irregular domains rich in minute pyrite grains segmented by veinlets of and replaced pervasively by muscovite, possibly relict Mg chlorite.

DDH CA-88-16-95.7

- contorted muscovite pyrite alteration replaced in veins and pervasively by gypsum, calcite and minor barite and celestite

quartz	- 5%
muscovite	- 35%
calcite	- 15%
barite	- 3%
celestite	- 2%
pyrite	- 5%
gypsum	- 35%
sphalerite	- 2%

- texturally complicated sample.

- large areas of section are massive muscovite with a contorted irregular distribution of minute spheres of pyrite with concentric growth texture (Plate 16-95.7-1).

- these regions predominantly muscovite are penetrated by a branching network of narrow muscovite veinlets in which original pyrite grains have been removed by solutions processes (Plate 16-95.7-2).

- these muscovite rich relict domains are penetrated by an array of gypsum veinlets wich extend from large patchy regions of pervasive crystalline gypsum alteration (Plate 16-95.7-3).

- the masses of coarse gypsum are intergrown with coarse calcite and less commonly calcite and $SrSO_4$ celestite (Plate 16-95.7-4, 5); calcite commonly occurs at vein margins and as an apparent reaction front between relict domains of muscovite type alteration and later pervasive gypsum.

- significantly the gypsum regions are without pyrite and sulphide phases and some type of sulphide-sulphate reaction clearly took place in regions of gypsum development.

- relatively coarse grains of Hg rich sphalerite occur sporadically in the relict muscovite, that significantly have well developed pressure shadow zones of oriented muscovite recrystallization, sphalerite was present in the rock volume of muscovite prior to or during the episode of deformation that produced the contorted fabric apparent in relict muscovite domains.

The rock volume may have been a Mg chloritite altered rock since pervasively replaced by muscovite and veined and replaced by late Ca, Ba, Sr rich solutions which stabilized sulphate mineral species.

The sample has a textural affinity with the white gypsum rich sample 9-102.5 wherein relict Mg chloritite patches are still preserved.

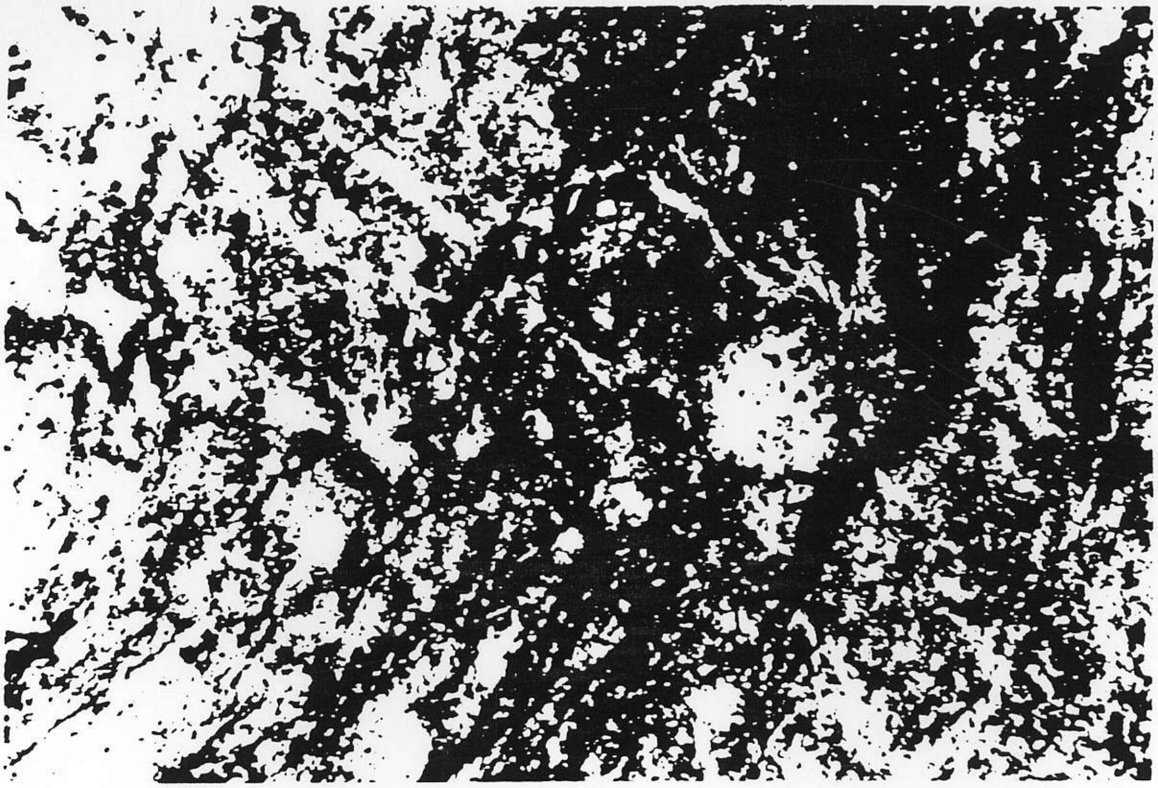


Plate 16-95.7-1. Contorted aggregations of pyrite in pervasive muscovite alteration.

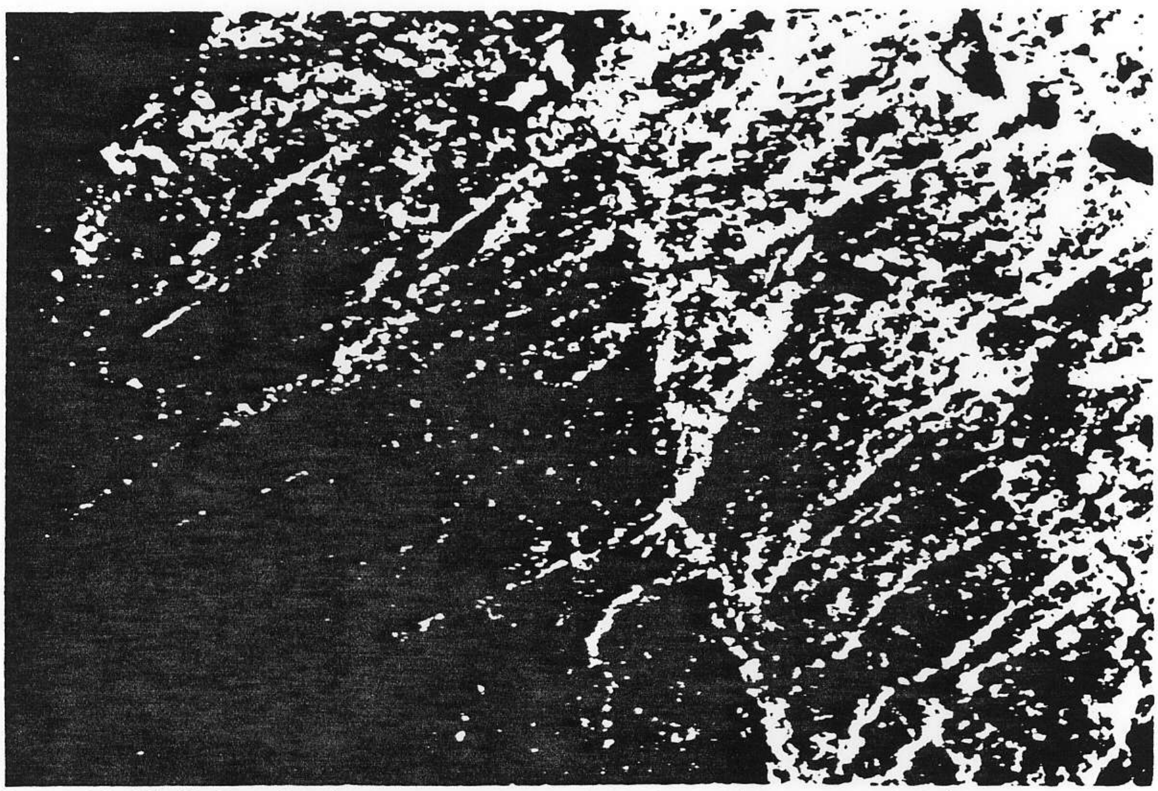


Plate 16-95.7-2. Region pervasive muscovite with network of muscovite veinlets without pyrite.

Plate 16-95.7-3. Array of coarse crystalline gypsum veinlets penetrating a zone of pervasive muscovite alteration.

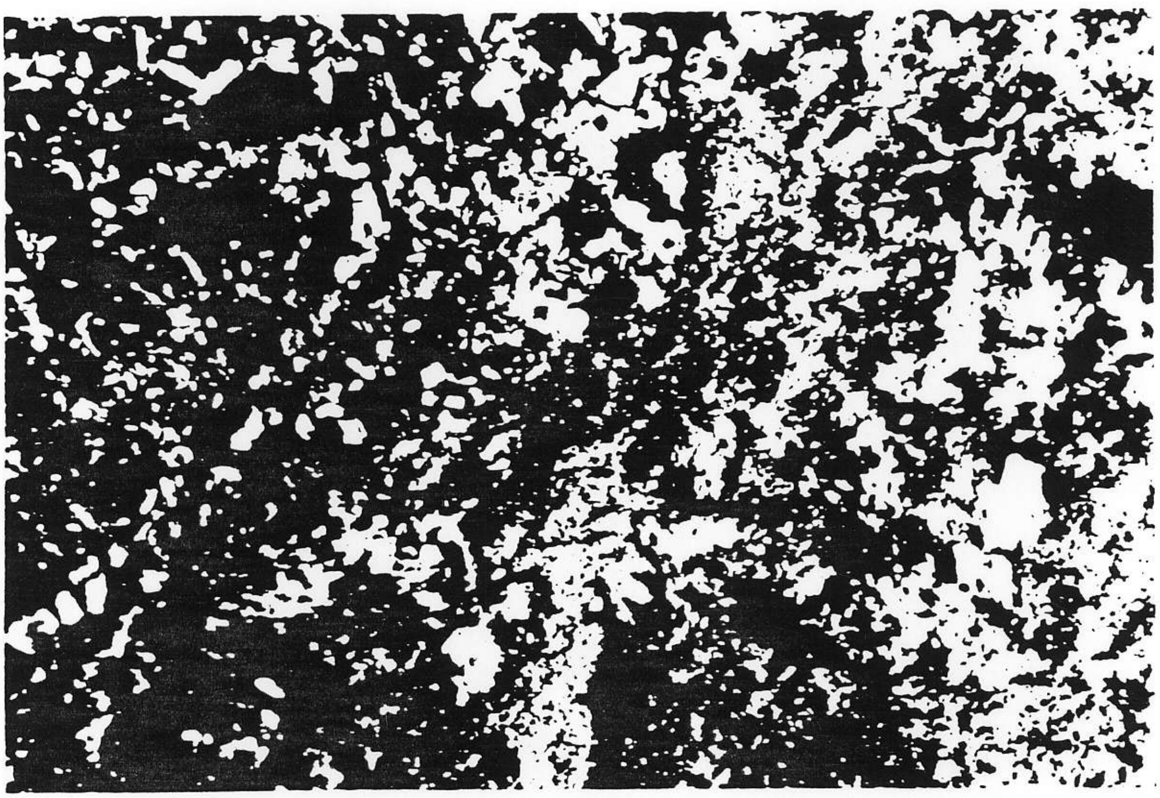


Plate 16-95.7-4. Coarse intergrowth of crystalline gypsum, with calcite at selvage or interface with pyritic muscovite.

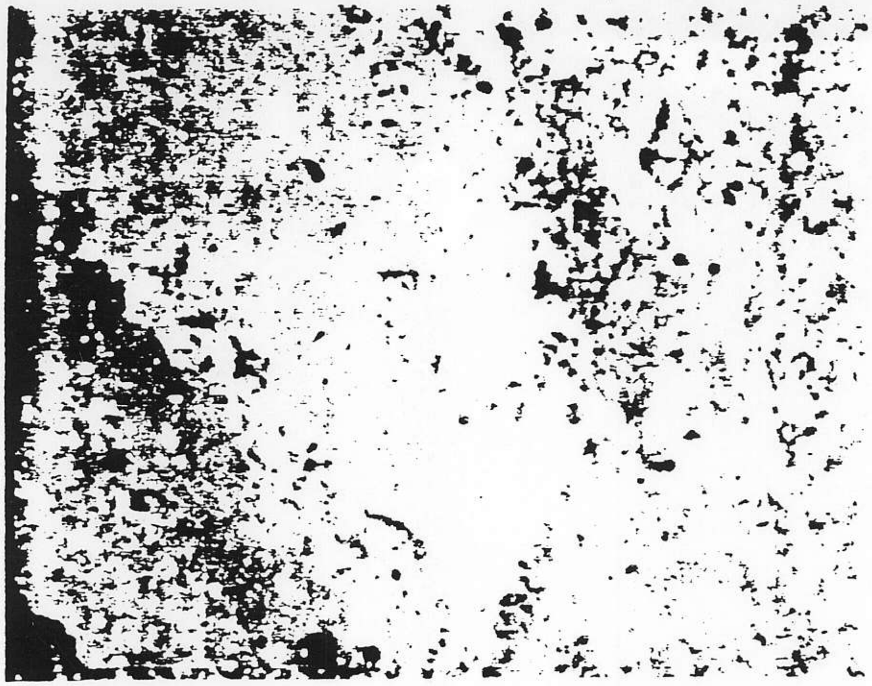


Plate 16-95.7-5. Celestite and barite, white, in gypsum mass, uniform grey, developed in pyritic muscovite alteration.

DDH CA-88-16-98.7

- contorted muscovite pyrite schist with late calcite barite

quartz	- 25%
muscovite	- 50%
calcite	- 15%
barite	- 1%
pyrite	- 4%
rutile	- 1%

- large regions of section highly deformed massive fine grained muscovite with the degree of contorted deformation apparent in the evenly dispersed pyrite grain (Plate 16-98.7-1).

- irregular patches of calcite throughout which include sporadic grains and aggregates of barite; significantly these late alteration patches do not contain pyrite which has apparently been removed by the late calcite sulphate veining. This was also the case in sample 16-95.7.

- note pyrite occurs both as minute equant to angular grains which often display a concentric growth habit (Plate 16-98.7-2) with mica generally present in central regions; often these concentric pyrite features have overgrown rutile grains.

- the sample also includes several ovoid patches of pure massive muscovite without pyrite. The origin of the features are unclear but are likely part of the alteration process.

- comparison with better preserved relict texture in sample 16-99.6, CA-15 would suggest the rock volume of sample 16-98.7 was originally Mg chloritite replaced pervasively by muscovite.

Plate 16-98.7-1. Highly contorted distribution of minute pyrite grains in pervasive muscovite.

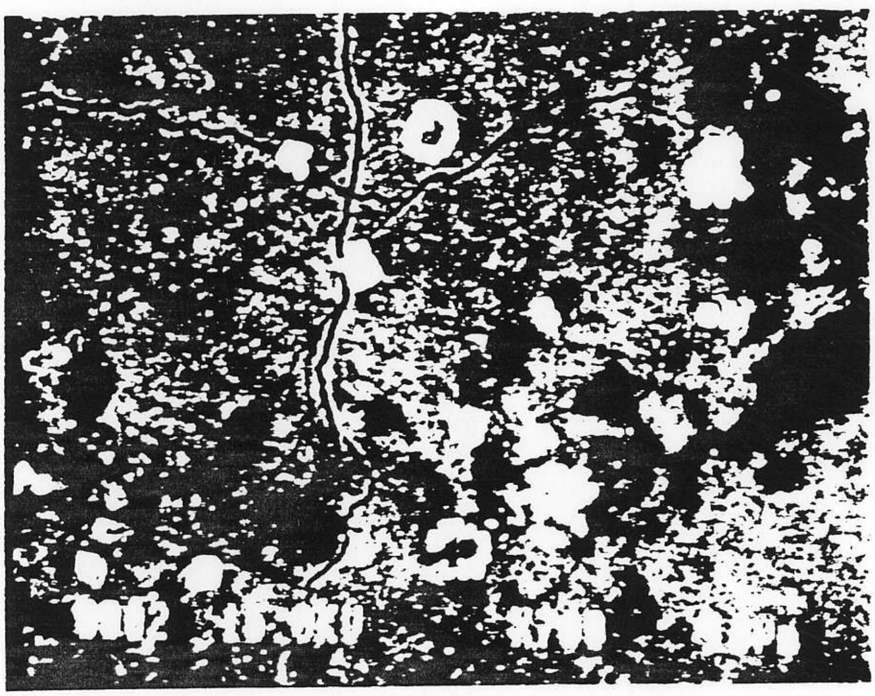


Plate 16-98.7-2. Concentric pyrite regions in massive muscovite with both muscovite and rutile in central regions.

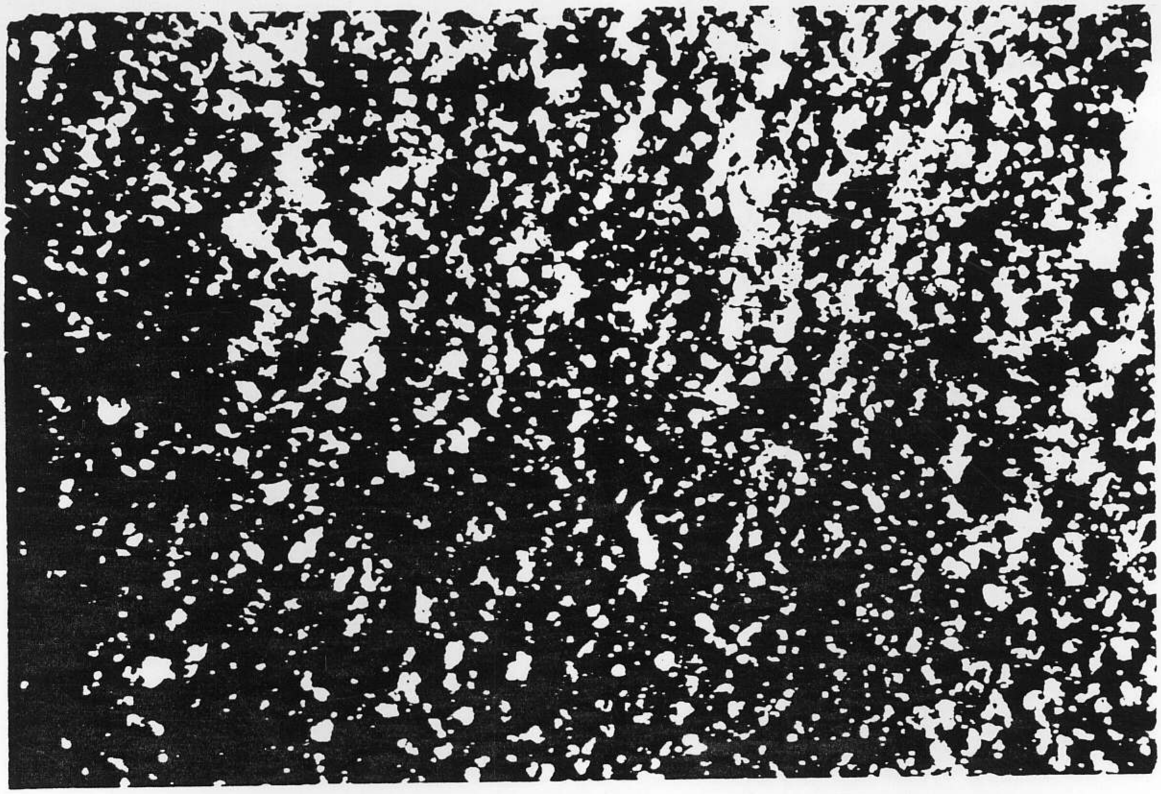


Plate 16-102.6-1. Strong fabric in rhyolite defined by alternating bands of variable quartz muscovite and pyrite abundance.

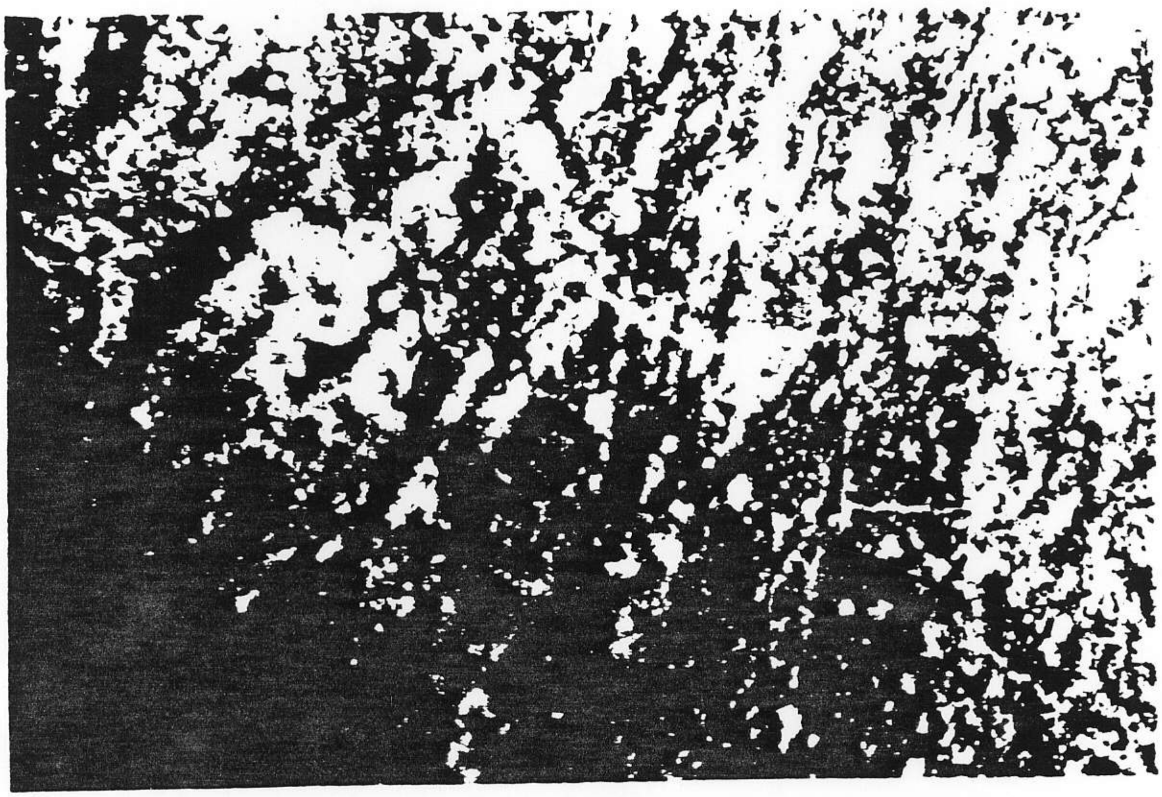


Plate 16-102.6-2. Same field of view as 16-102.6-1 in plane light, note fabric defined by zones of pyrite muscovite.

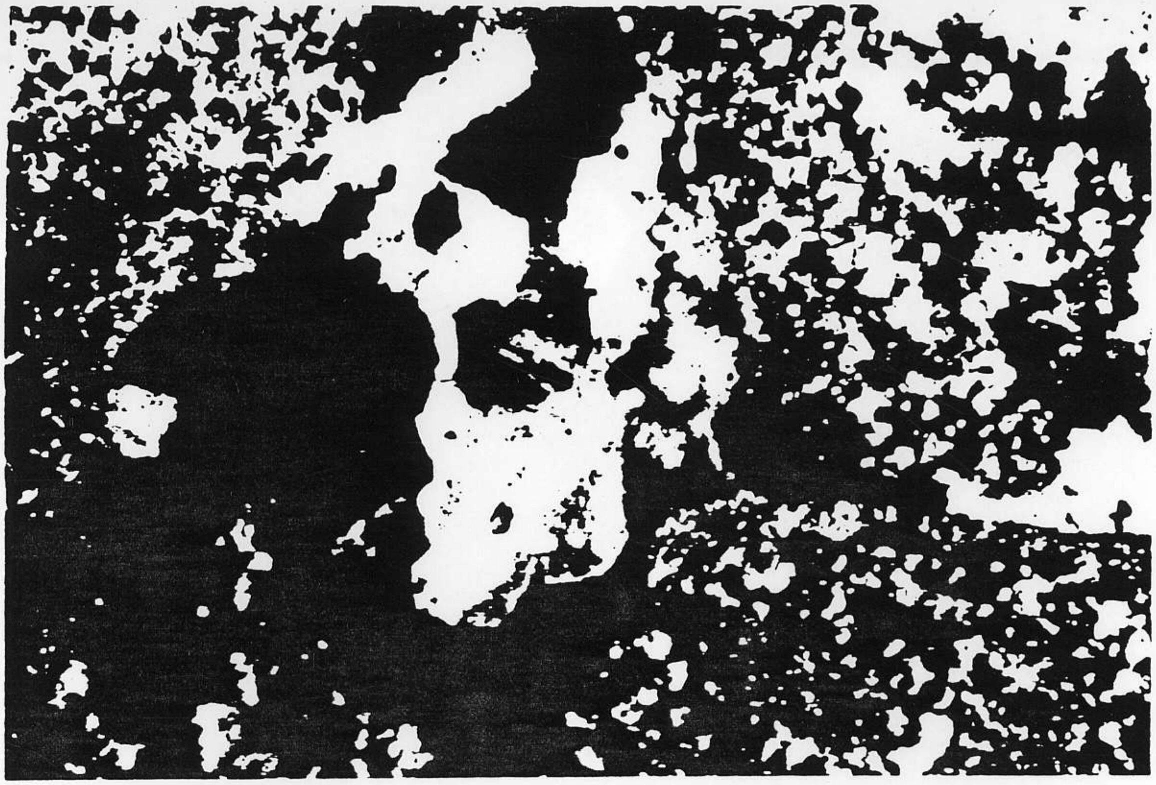


Plate 16-102.6-3. Poorly defined region of multigranular quartz recrystallization with domains of variable grain size, note zone of fluid inclusion in quartz grain in centre of photomicrograph.

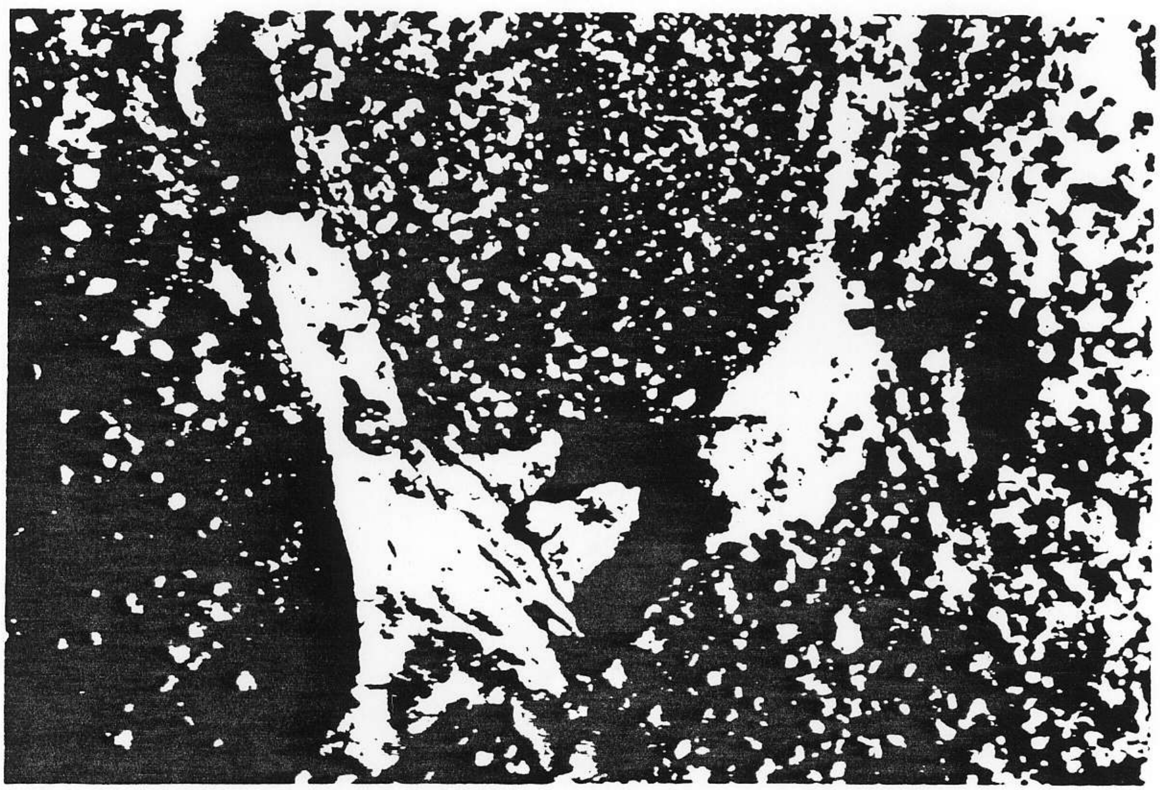


Plate 16-102.6-4. Branching veinlet of coarse grained quartz with fluid inclusions, zones of postdeformational fluid access in deformed rhyolite.

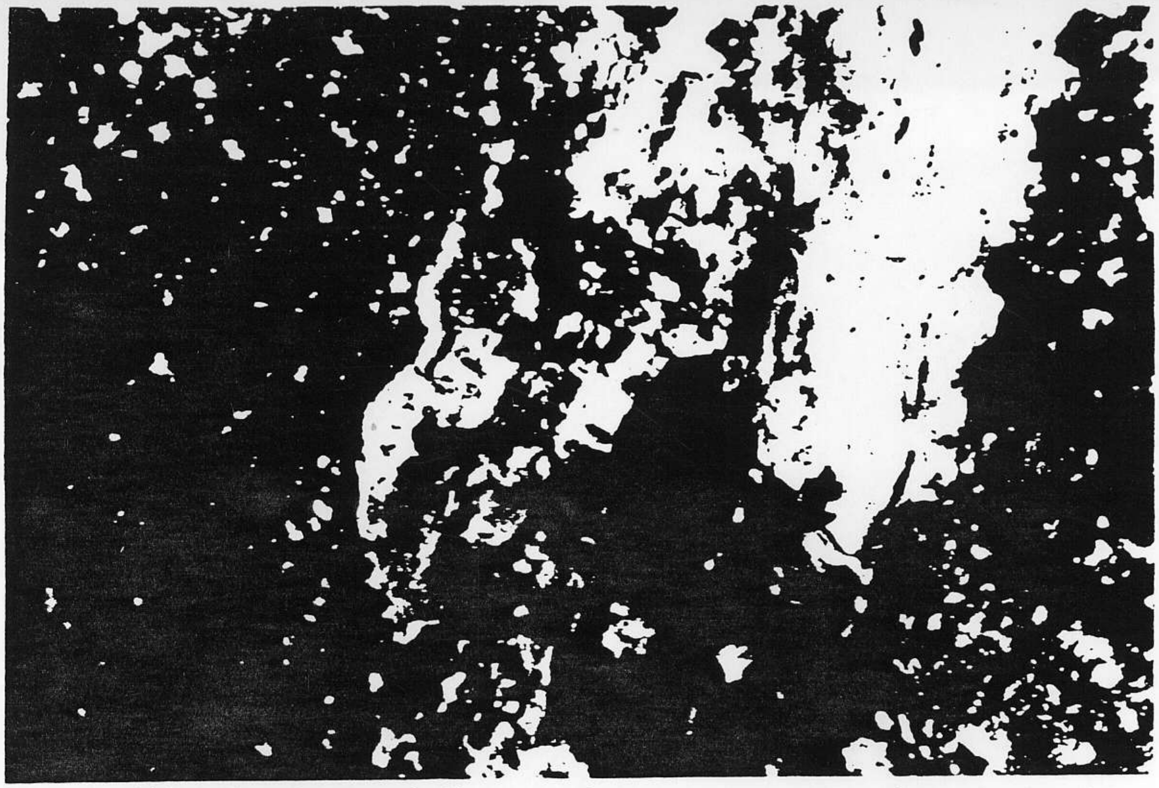


Plate 16-102.6-5. Zones of fluid inclusions in region of coarse grained quartz in a domain of postdeformational fluid access and recrystallization.

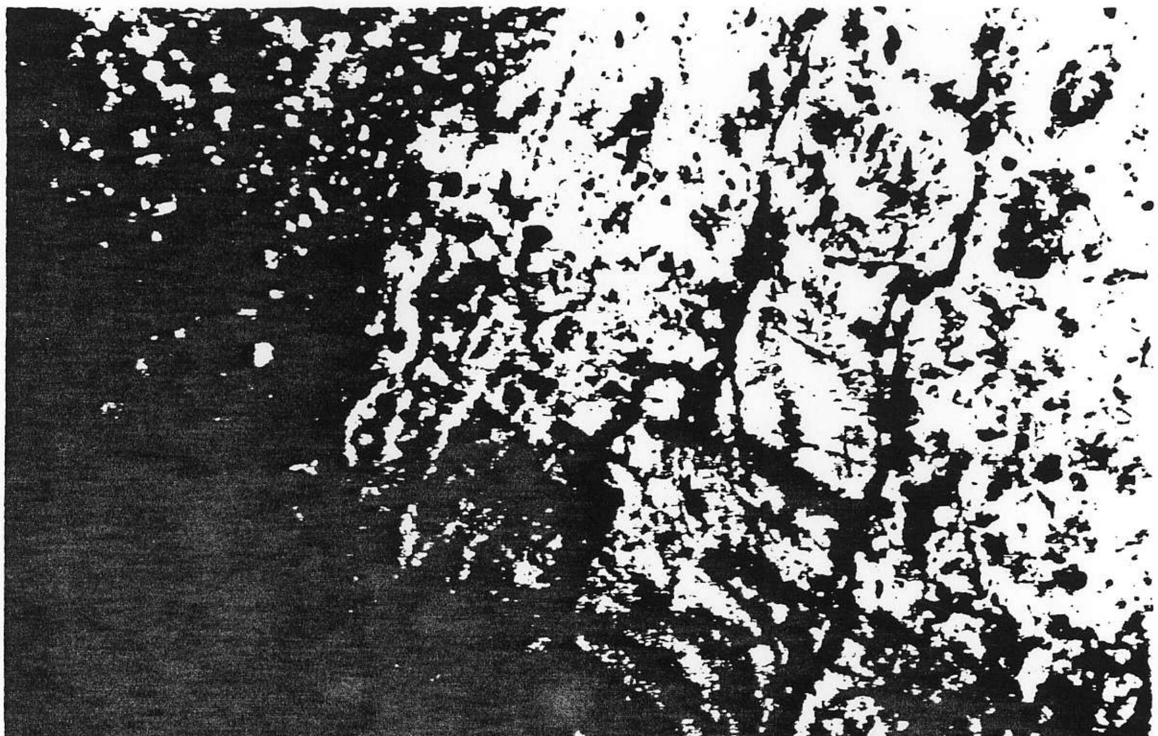


Plate 16-102.6-6. Same field of view as 16-102.6-5, note strong fabric defined by pyrite bands at left of photomicrograph.

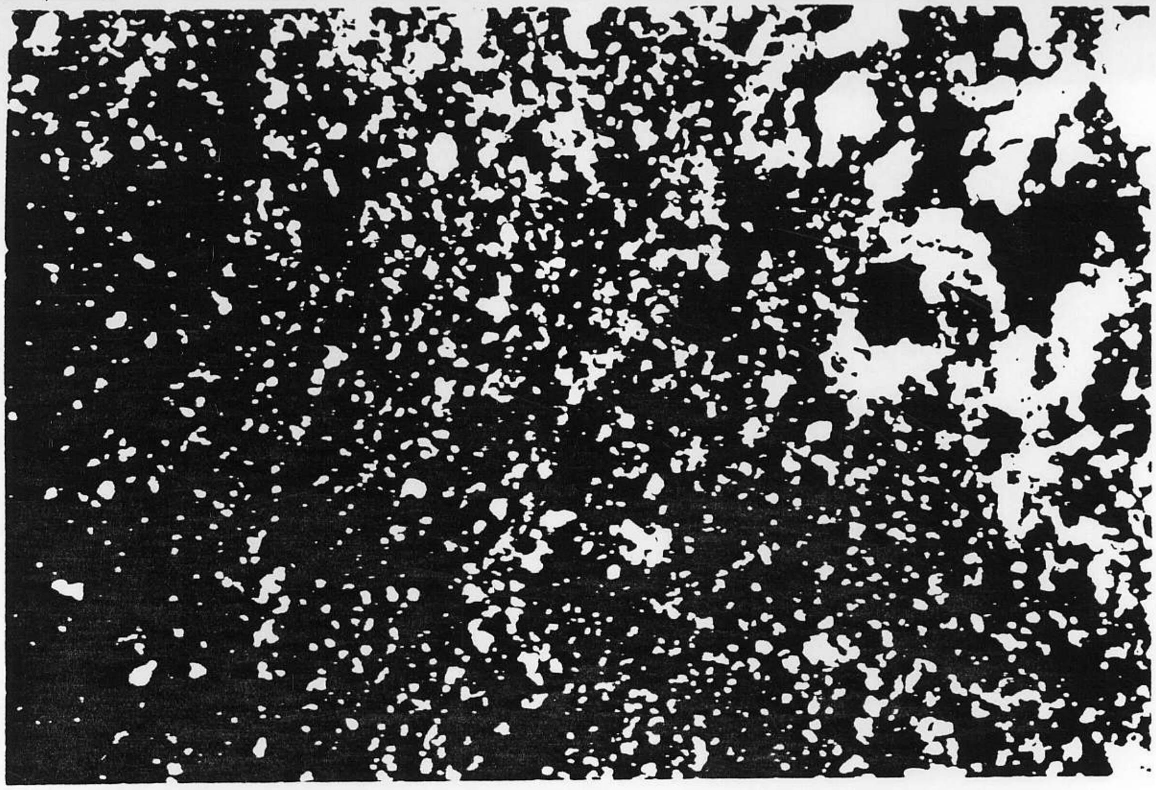


Plate 16-102.6-7. Domain of coarse quartz with stibnite significantly without fabric as specific domain in highly foliated pyritic muscovite siliceous schist.

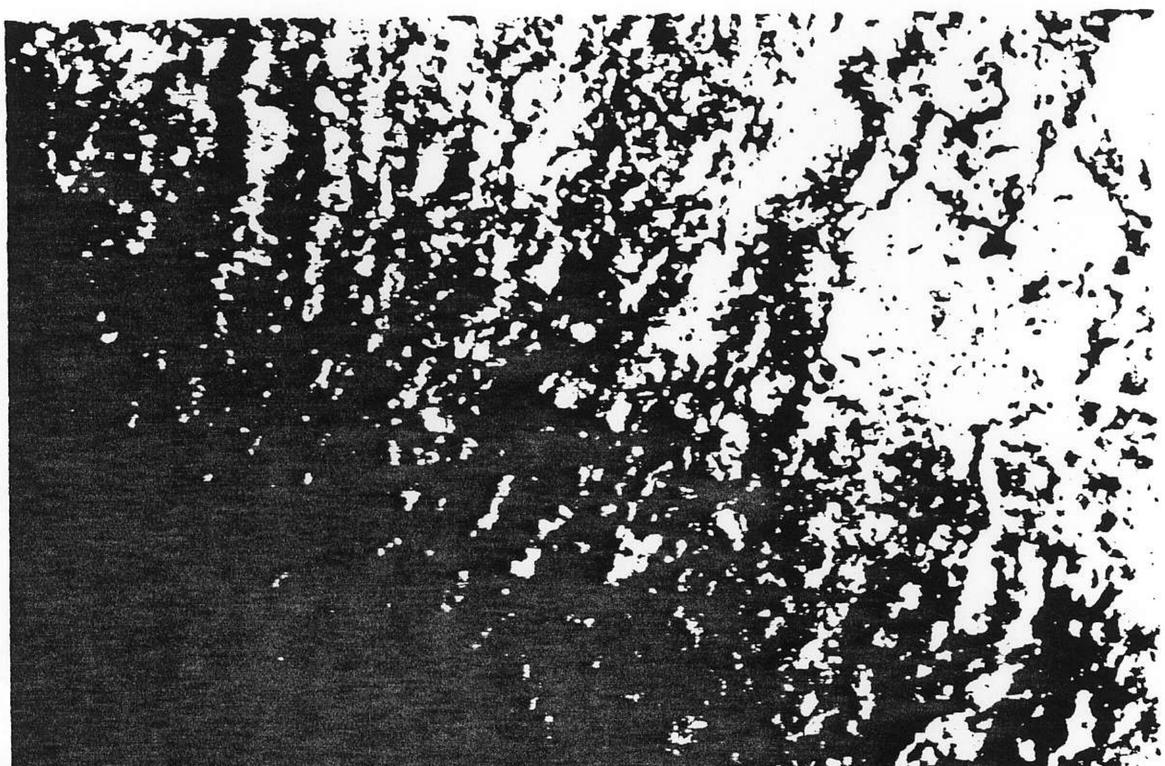


Plate 16-102.6-8. Same field of view as 16-102.6-7, in plane light, note stibnite associated with coarse grained quartz.

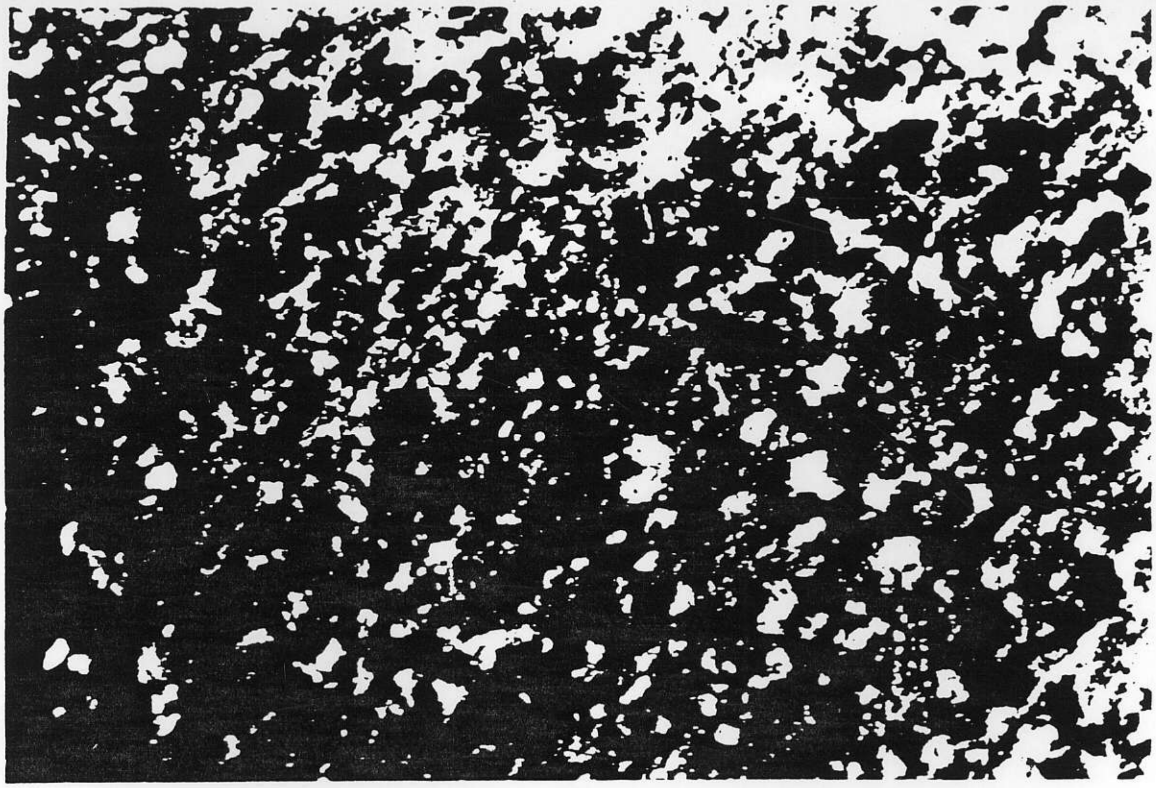


Plate 16-105.8-1. Well developed fabric in muscovitic multigranular quartz, siliceous schist.

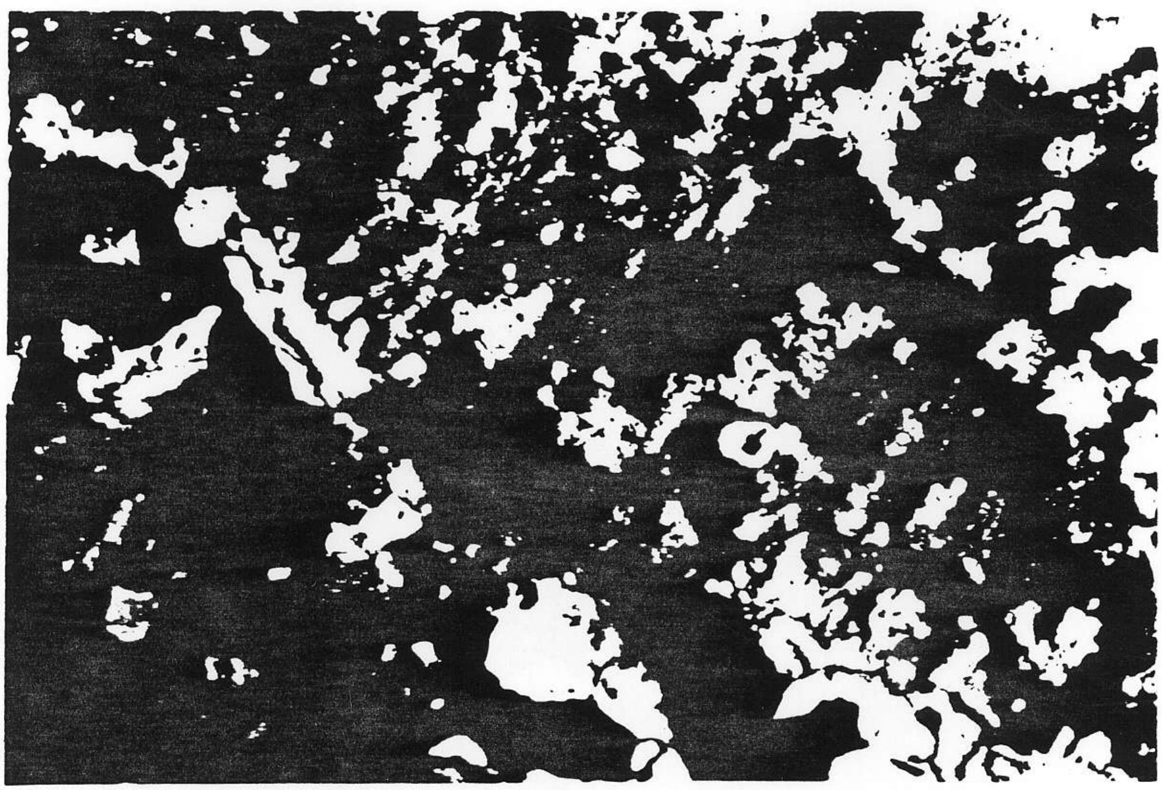


Plate 16-105.8-2. Region of coarse grained quartz that terminates the fabric in siliceous schist.

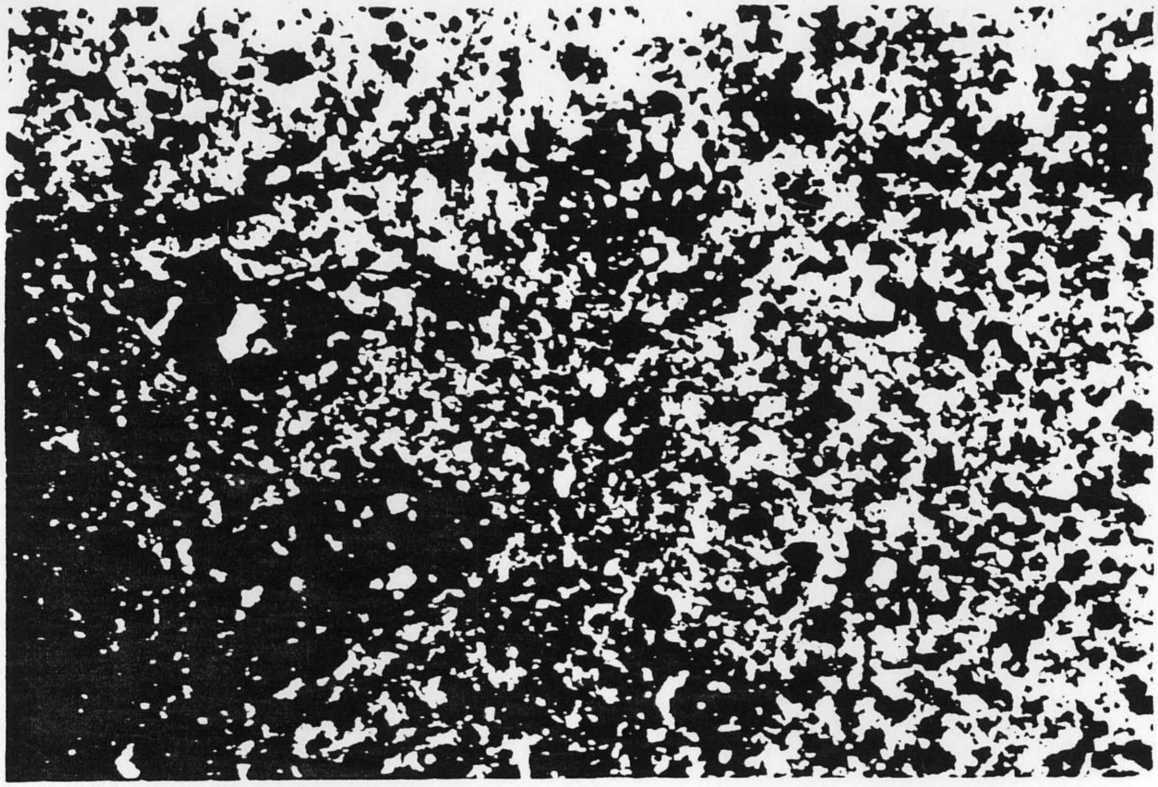


Plate 16-111.7-1. Patches of quartz in an evengrained multigranular quartz matrix with evenly dispersed muscovite, significantly without fabric.

Plate 16-111.7-2. Region of relatively fine grained quartz without muscovite in site specific volume of fluid access.

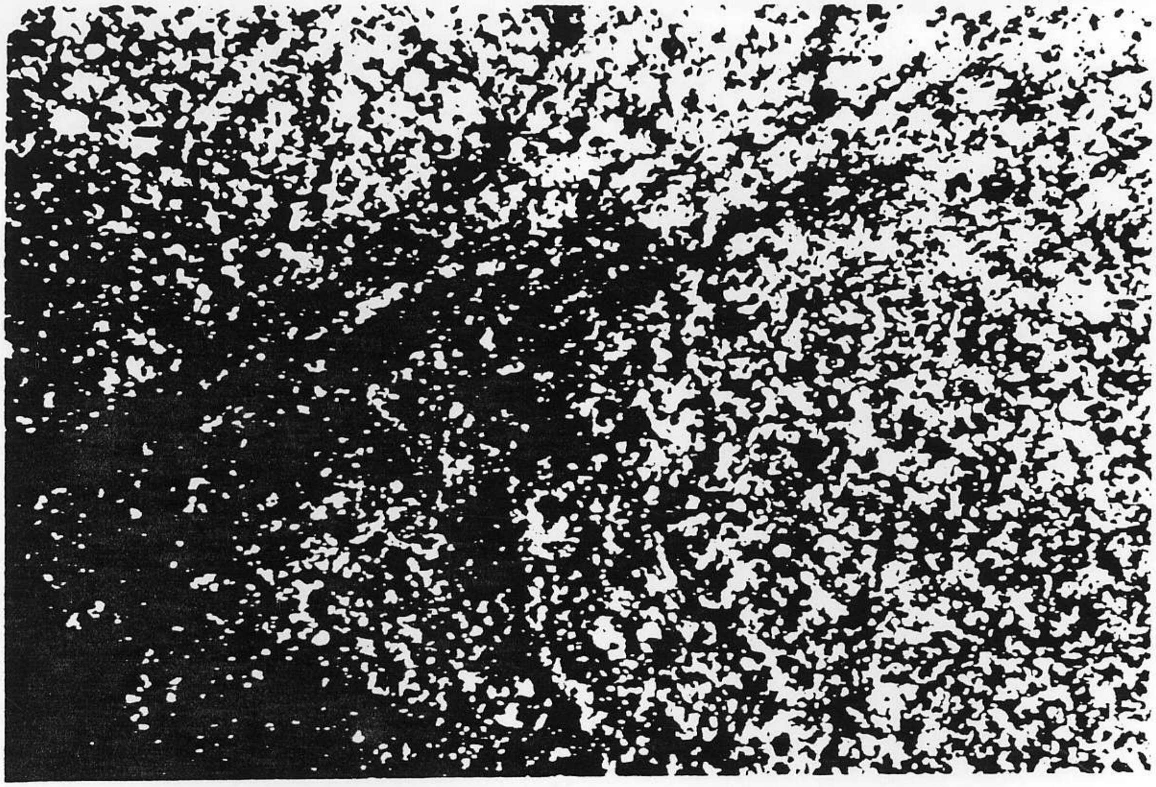


Plate 16-114.3-1. Roughly circular domains of fine multigranular quartz penetrated and replaced by muscovite and pyrite in zones with fabric.

Plate 16-130.2-1. Fine grained multigranular quartz muscovite rock with domain of quartz grained quartz with fluid inclusions.

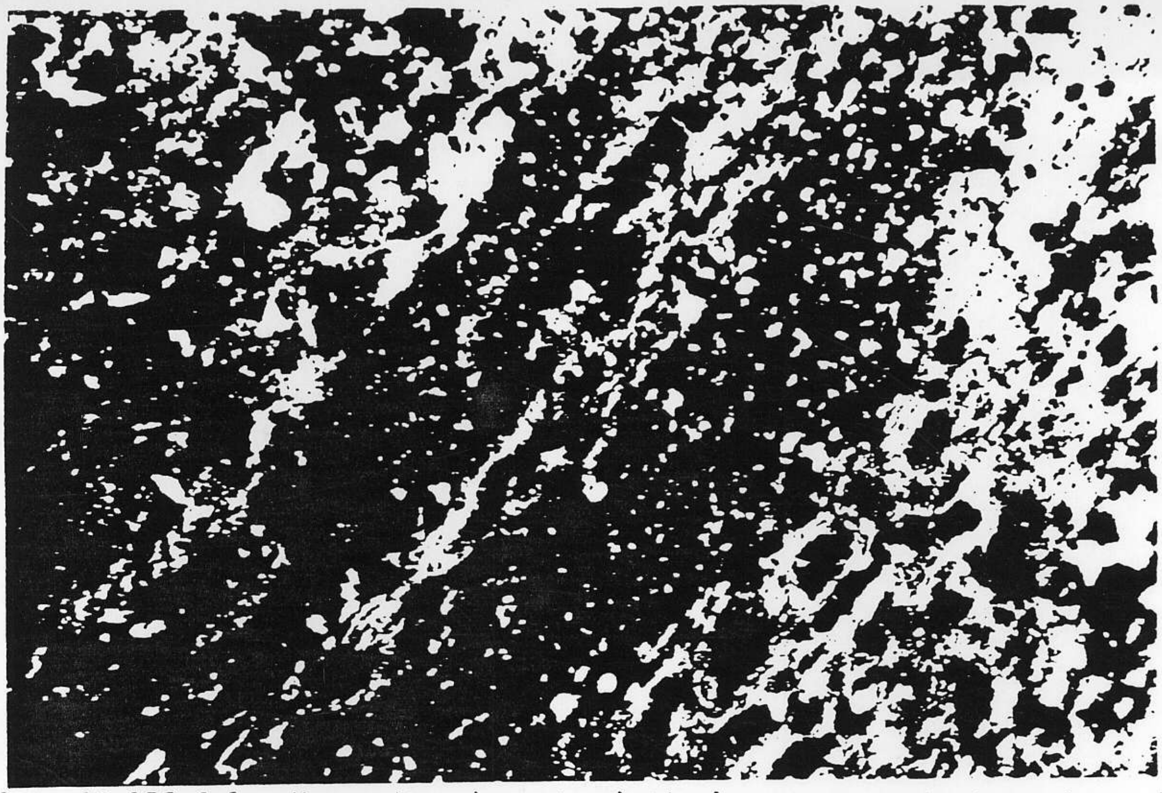


Plate 16-175.6-1. Muscovite altered relatively coarse grained quartz rock with subparallel planar zones of quartz K-feldspar development.

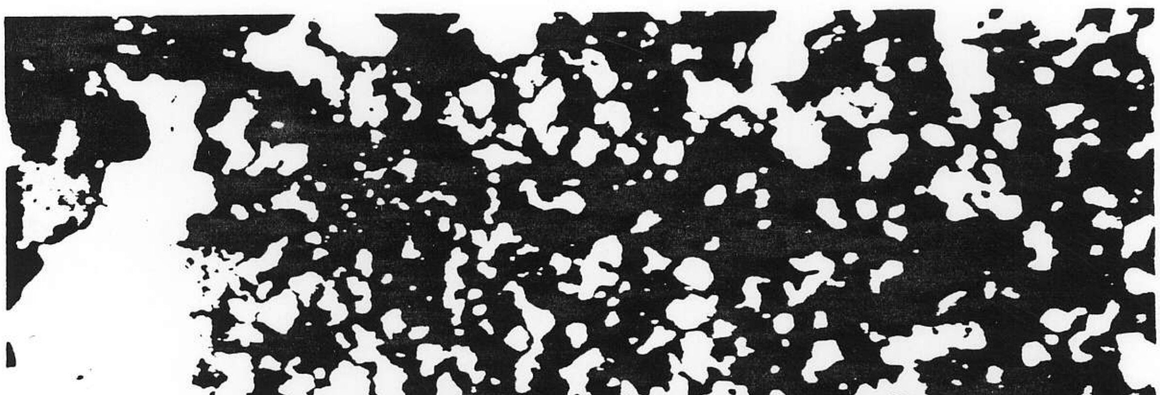


Plate 16-175.6-2. Region of ultrafine grained quartz K-feldspar intergrowth in planar zone of fluid access.

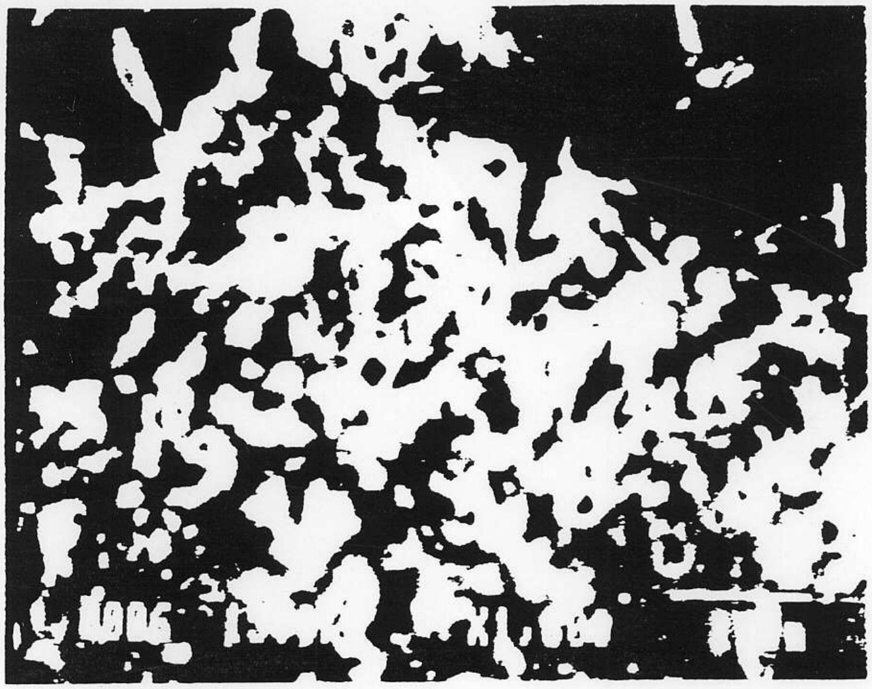


Plate 16-175.6-3. BSE image of K-feldspar, light grey, intergrowth with quartz, dark grey.

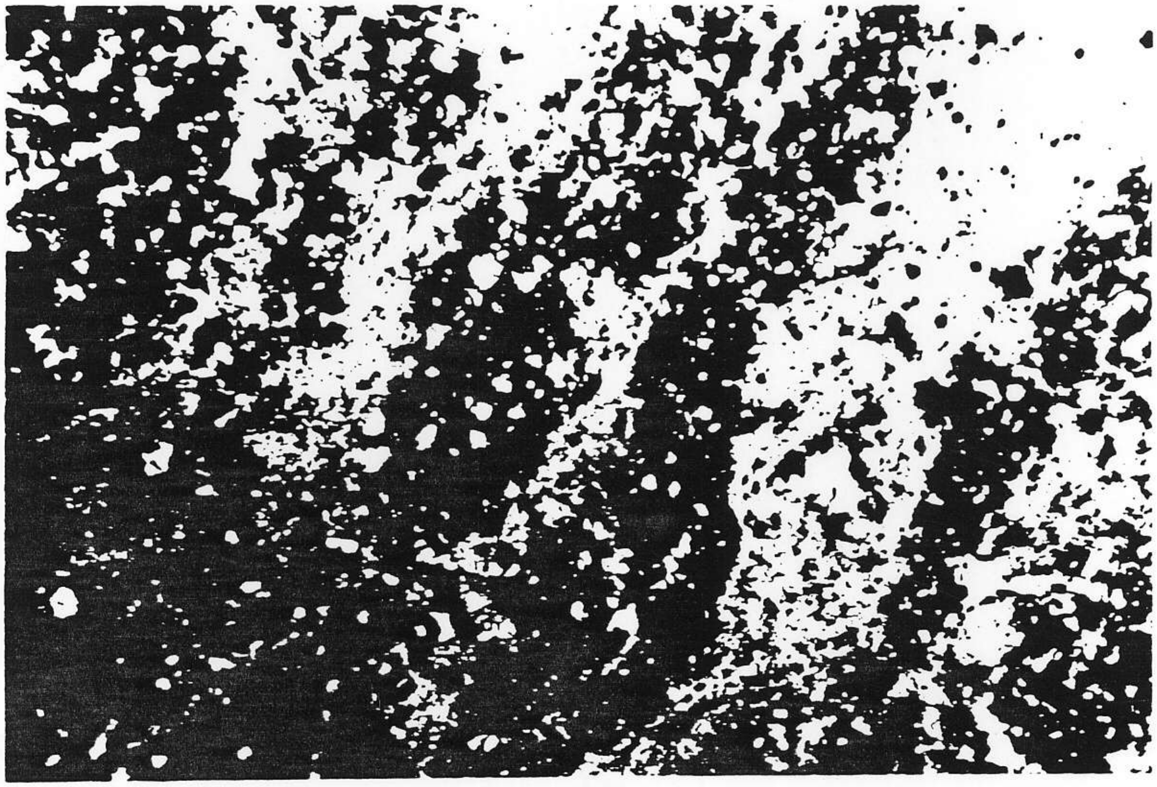


Plate 16-185.8-1. Subparallel planar zones of fine scale quartz K-feldspar intergrowth alternating with bands essentially muscovite.

DDH CA-88-18-66.5

- sheared muscovite altered felsic rock, rhyolite with late stage veins of coarse stibnite-muscovite.

muscovite	- 40%
quartz	- 50%
pyrite	- 3%
stibnite	- 7%

- patches of relatively coarse grained multigranular quartz often intergrown with stibnite scattered throughout a fine grained highly schistose muscovite quartz matrix (Plates 18-66.5-1, 2); this rock volume has been highly deformed.

- a myriad of minute pyrite spheres occur evenly throughout the matrix often with concentric rings of stibnite or zones of high arsenic in a specific structure (Plate 18-66.5-3).

- patches of coarse muscovite intergrown with stibnite occur throughout the sample as do coarse contorted veinlike features of stibnite-quartz intergrown with muscovite sheafs (Plates 18-66.5-4,5). These patches of coarse muscovite do not appear to be the result of pressure shadow growth and the features are interpreted to be true veins, the result of localized ingress of hydrothermal fluids late in the deformated history of the rock volume (Plate 18-66.5-6).

- the aspect of the multigranular quartz throughout the sample would suggest that the rock was from a volume of highly sheared muscovite altered rhyolite.

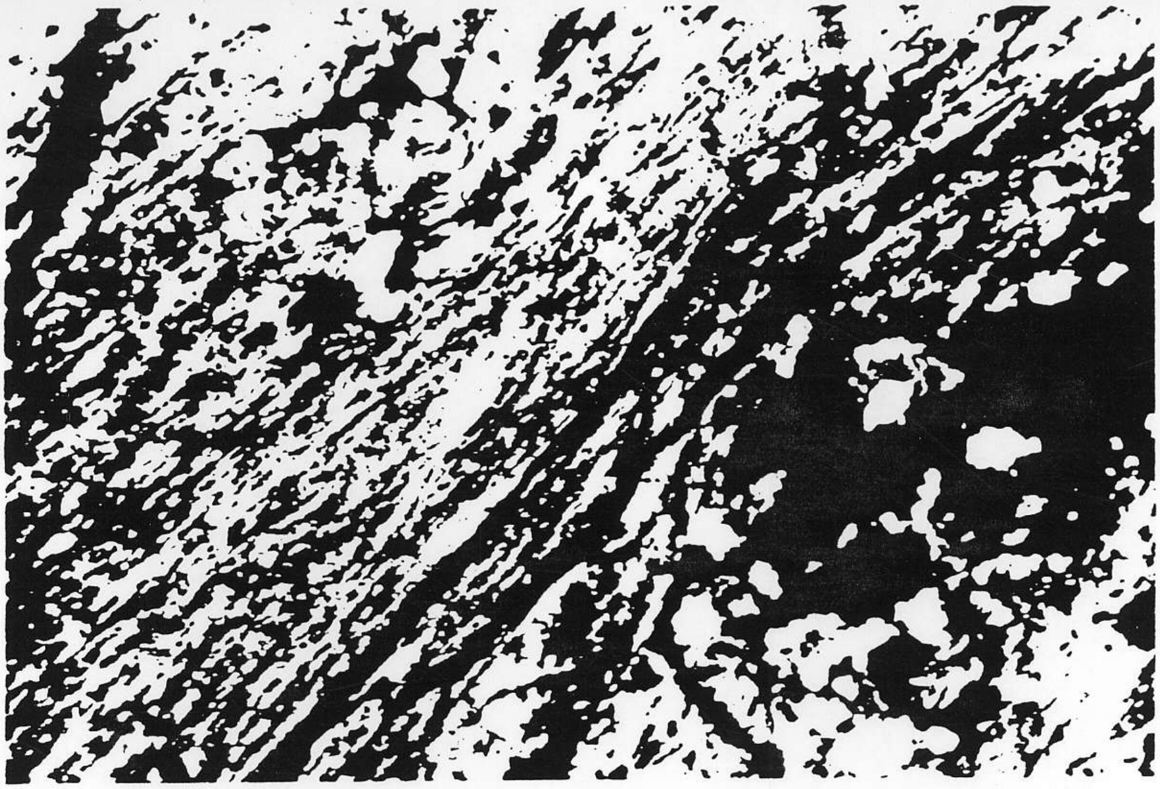


Plate 18-66.5-1. Attenuated patches of relatively coarse grained quartz with stibnite in a finer grained schistose muscovite quartz matrix.

Plate 18-66.5-2. Contorted vein of stibnite, quartz and coarse muscovite sheafs.

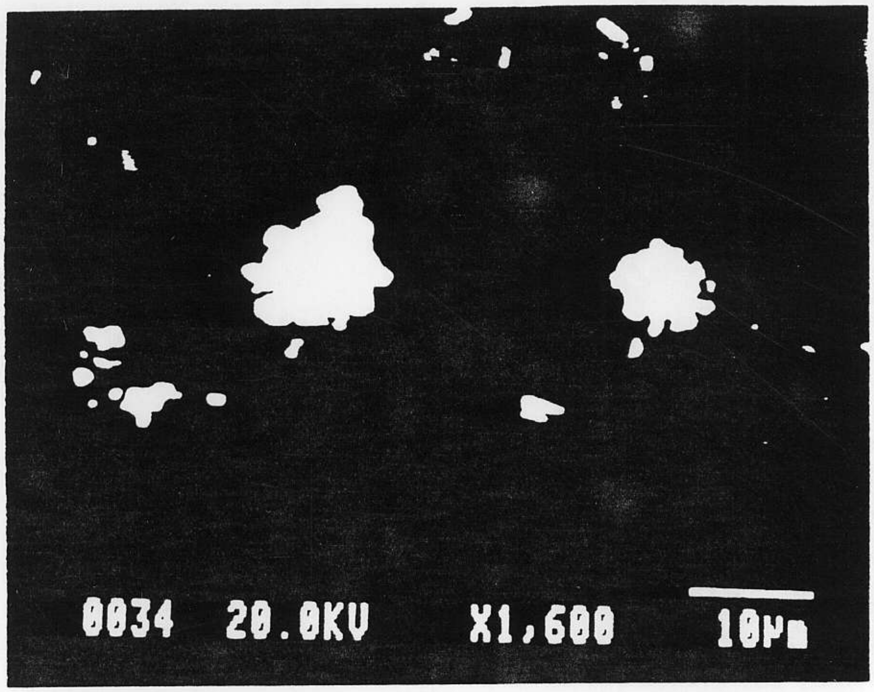


Plate 18-66.5-3. Pyrite structures with certain growth rings high arsenic, and with stibnite overgrowths.

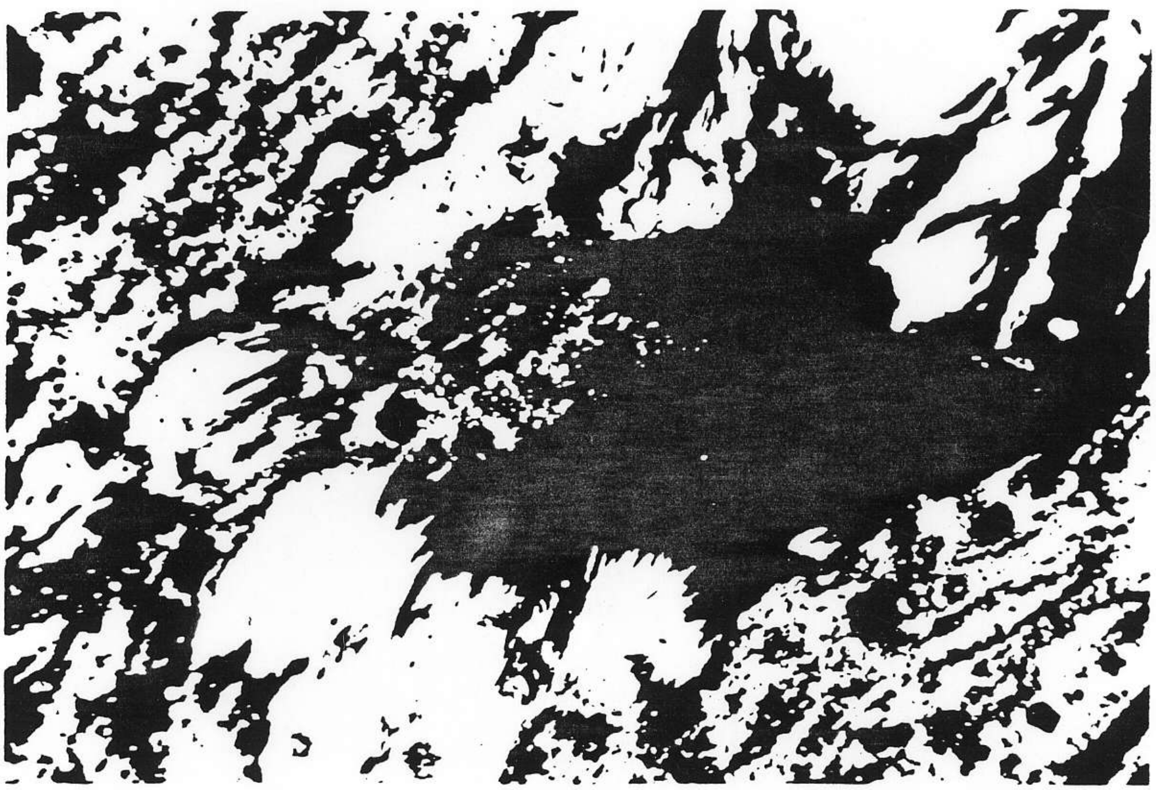


Plate 18-66.5-4. Coarse sheafs of muscovite intergrown with stibnite.

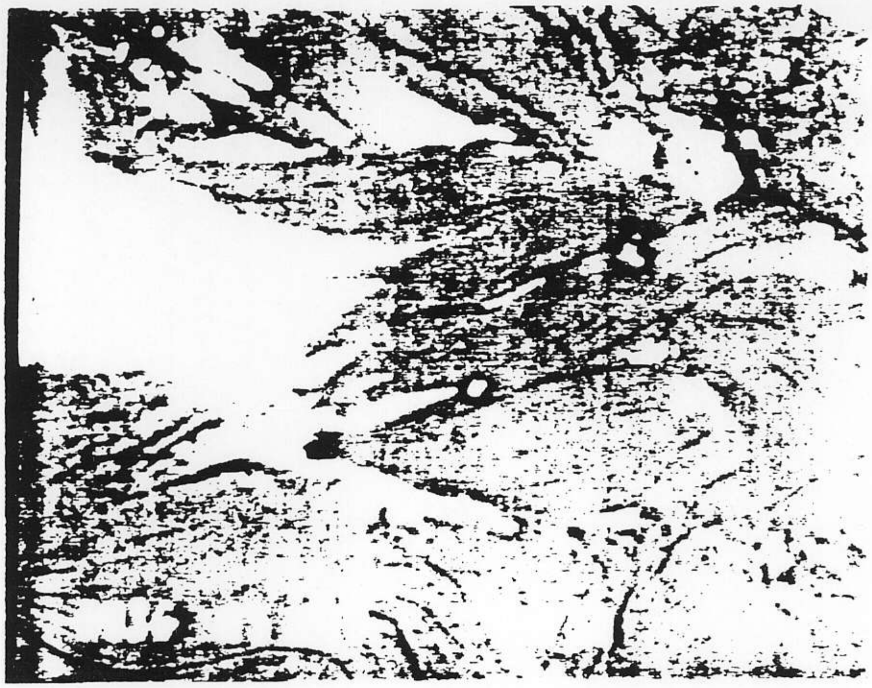


Plate 18-66.5-5. Fine scale interfringering of stibnite and muscovite, evidence for simultaneous hydrothermal growth.

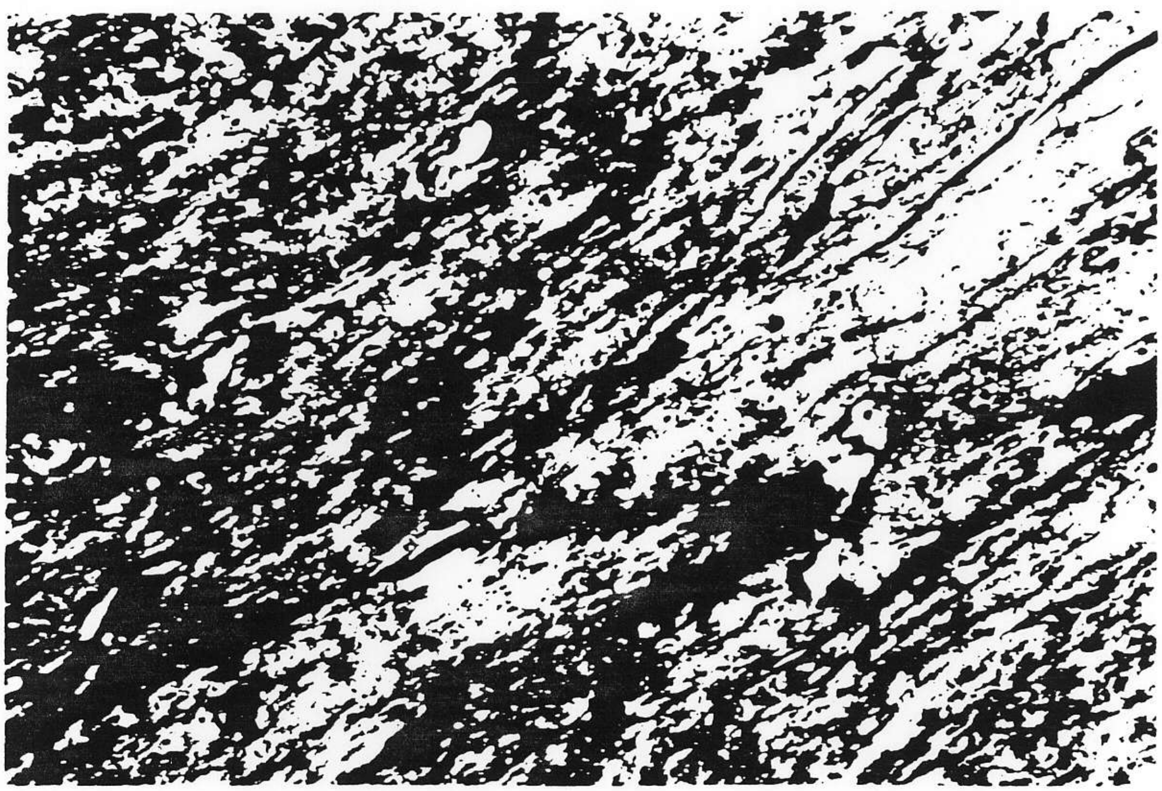


Plate 18-66.5-6. Contorted stibnite; quartz muscovite veinlet.

- muscovite schist with access of fluids producing quartz-stibnite veining late in the deformational history.

muscovite	-	%
quartz	-	%
pyrite	-	5%
stibnite	-	47%
PbSbS	-	2%
dolomite	-	1%

- coarse domains essentially massive stibnite and quartz and branching veinlets that alternate with regions of highly contorted schistose muscovite with evenly distributed fine grained pyrite (Plate 18-77.0-1).

- it is significant that angular pyrite grains throughout the matrix commonly exhibit marginal zones of relatively coarse oriented quartz and mica growth in pressure shadows (Plate 18-77.0-2) while the quartz and coarse micas associated with the regions of massive stibnite do not have this relationship. These are thus interpreted to be the result of late stage postdeformational migration and access of hydrothermal fluids.

- region of massive stibnite veining include pyrite, dolomite and quartz with an even distribution of a PbSbS mineral (Plate 18-77.0-3).

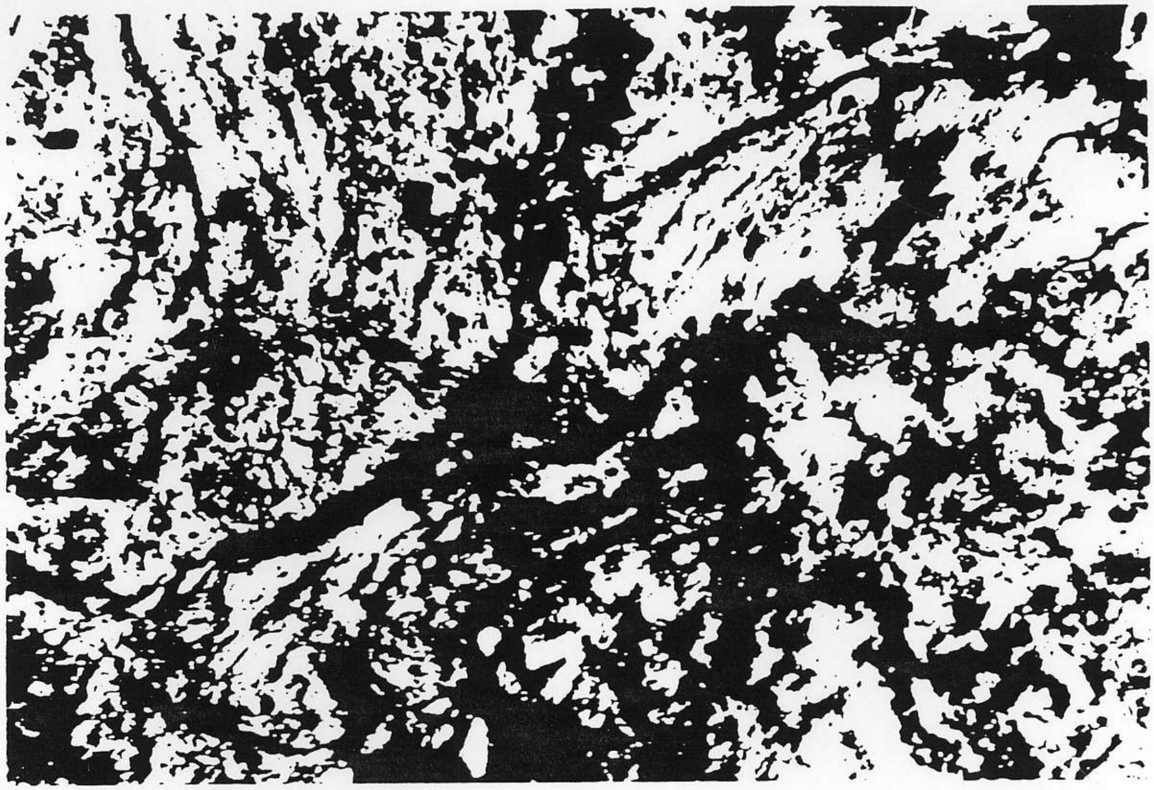


Plate 18-77.0-1. Contorted branching late stage stibnite quartz veinlets in a foliated muscovite matrix.

Plate 18-77.0-2. Pressure shadow zones of oriented quartz and micas on angular pryite in the schistose muscovite matrix.

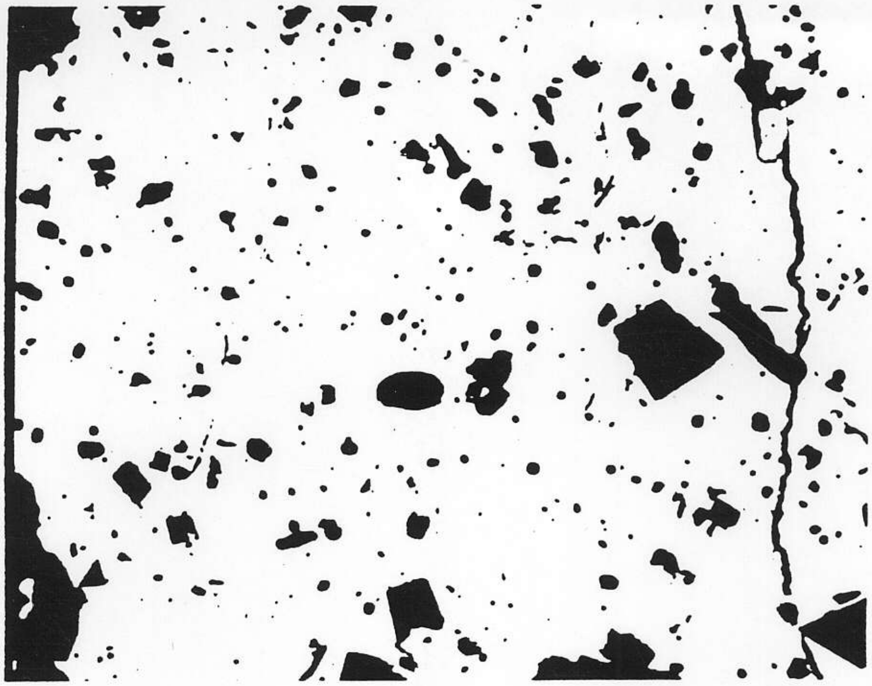


Plate 18-77.0-3. Massive stibnite with included angular pyrite and dolomite, black, and even distribution of PbSbS, white.

DDH CA-88-18-108.3

- massive Mg chloritite with sporadic sphalerite

Mg chlorite	- 90%
pyrite	- 5%
sphalerite	- 5%

- occasional honey coloured masses of sphalerite and evenly dispersed finer grained angular pyrite in an extemely fine grained massive Mg chlorite matrix (Plate 18-108.3-1).

- a peculiar fabric to the rock induced by contorted linear regions of veinlike recrystallized chlorite often with trails of pyrite.

- like 18-108.6 but with less sphalerite.

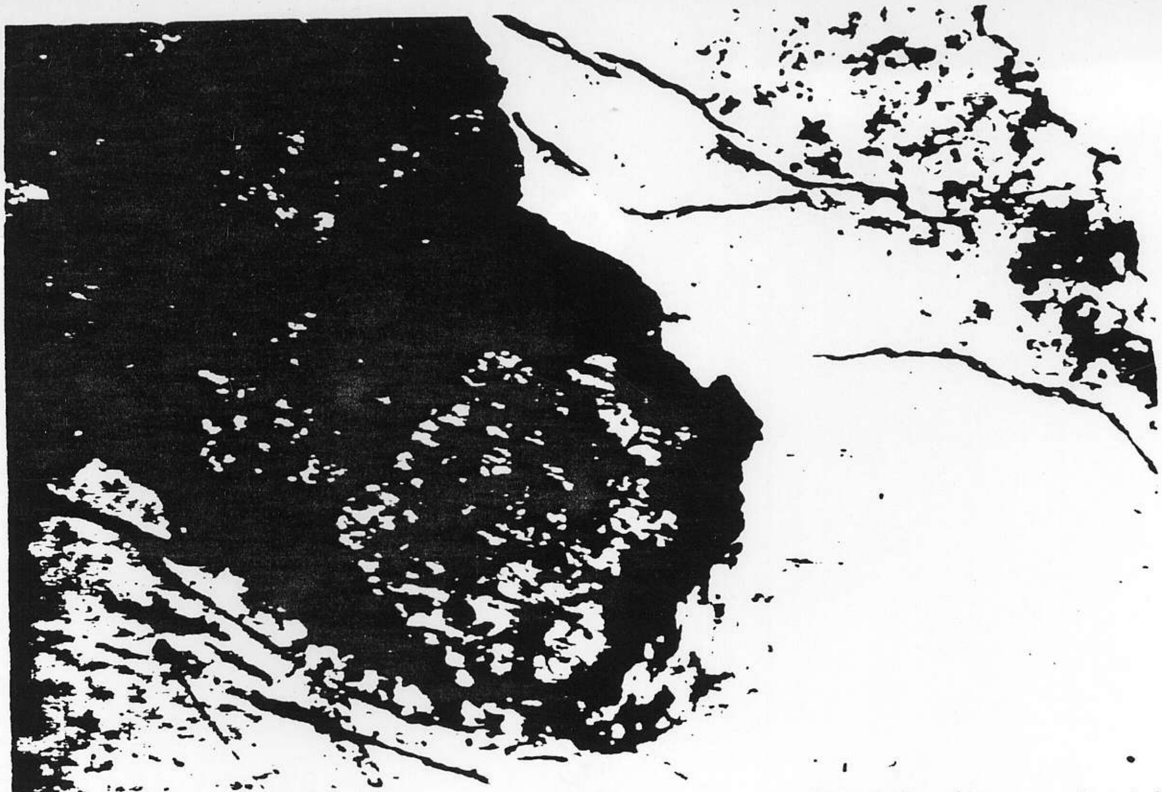
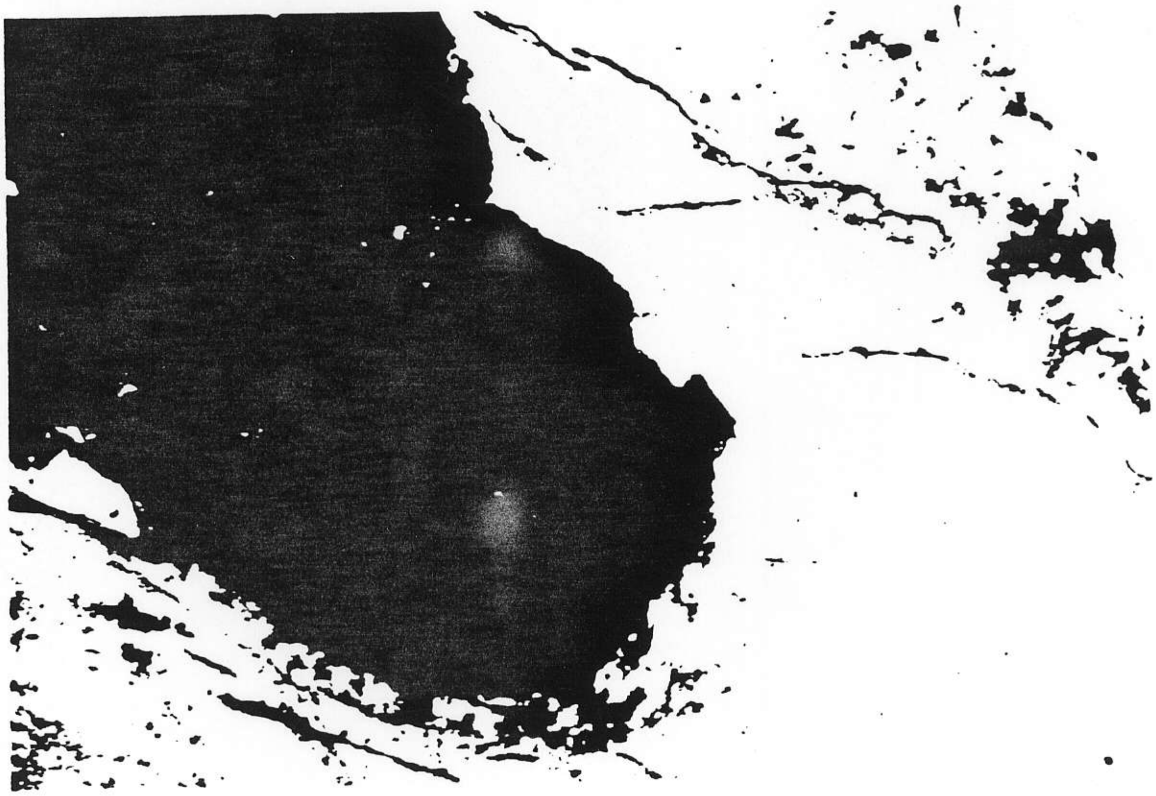


Plate 18-108.3-1. Honey coloured sphalerite in an extremely fine grained Mg chlorite matrix.



DDH CA-88-18-108.6

- Mg chloritite with sphalerite galena veins

Mg chlorite	- 80%
pyrite	- 3%
sphalerite	- 8%
galena	- 2%
quartz	- 7%

- linear veinlike regions of coarse honey coloured sphalerite overgrown by galena in a massive fine grained Mg chlorite rock volume (Plate 18-108.6-1).

- the vein is associated with marginal zones of coarse quartz which generally have some degree of alignment in regions of pressure shadow growth, an indication that the sphalerite was present in the rock during a weak deformational overprint (Plate 18-108.6-2).

- sample like 18-108.3 with evidence for sphalerite galena quartz veining prior to or in the late stages of deformation.

The origin of this Mg chlorite in this rock volume is unclear. The chloritite appears to be a localized volume within an overall rhyolite or rhyolite breccia unit as indicated in drill logs. The process by which the Mg chlorite was produced is unclear but veining of rhyolite breccia by Mg rich solutions prior to deformation is likely. It is interesting that both sphalerite and chlorite in this sample have a low but persistent iron content near 1.00 weight percent FeO in contrast with the end member Mg chlorite noted in many other samples from Eskay Creek in the mineralized zone.

Plate 18-108.6-1. Veinlike bands of honey coloured sphalerite and galena in an extremely fine grained Mg chlorite matrix.

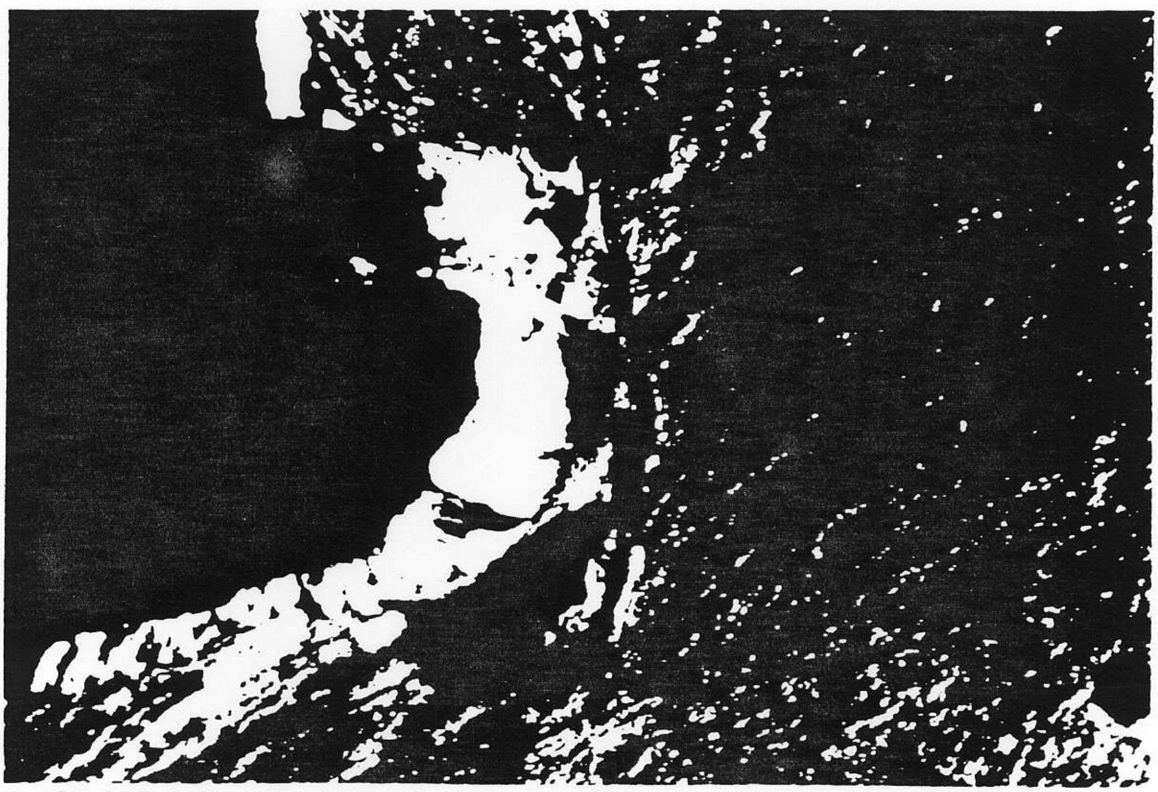


Plate 18-108.6-2. Regions of oriented elongate quartz in pressure shadow zones at margin of sphalerite.

DDH CA-88-18-200.4

- massive pyrite with quartz and mica interstices

quartz	- 15%
muscovite	- 25%
pyrite	- 60%
arsenopyrite	- <<1%
tetrahedrite	- <<1%
sphalerite	- <<1%

- regions of massive pyrite and an even distribution of pyrite cubes in a fine grained muscovite and multigranular quartz matrix (Plate 18-200.4-1).

- well developed pressure shadow zones of coarse micas and elongate oriented quartz occur on numerous pyrite grains indicating the rock underwent some degree of deformation (Plate 18-200.4-2).

- rarely sphalerite and tetrahedrite occur as inclusions and along cracks in certain pyrite grains (Plate 18-200.4-3).

- certain patches of coarse randomly oriented prismatic quartz occur interstitial to coarse pyrite. These patches would suggest some degree of fluid migration and quartz growth after the period of moderate deformation.

Interestingly these quartz patches have textural affinity with the coarse prismatic quartz in the samples from drill holes CA 12 and 13 examined.

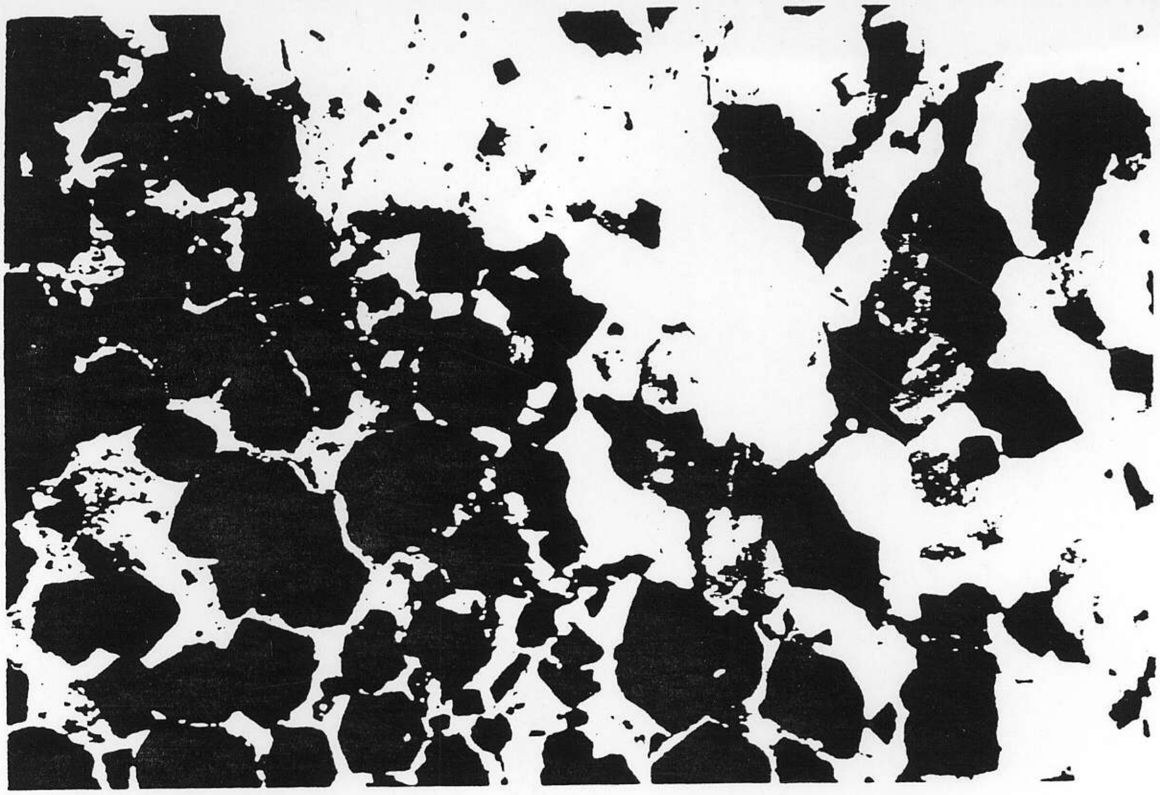


Plate 18-200.4-1. Pyrite cubes and masses in muscovite multigranular quartz matrix.

Plate 18-200.4-2. Pressure shadow zones of oriented recrystallized quartz at margin of pyrite grains.

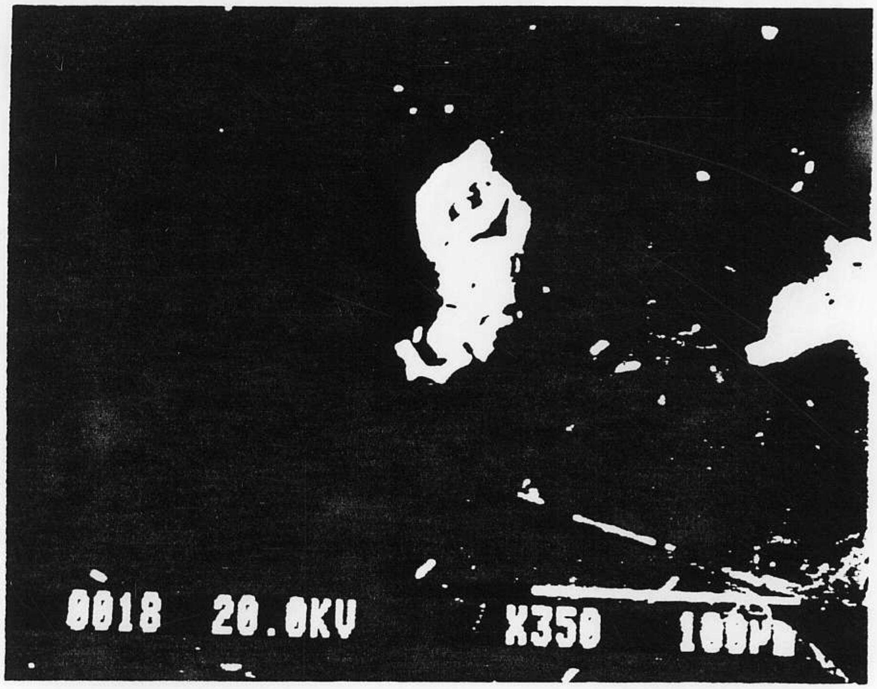


Plate 18-200.4-3. Sphalerite and tetrahedrite included in certain pyrite grains.

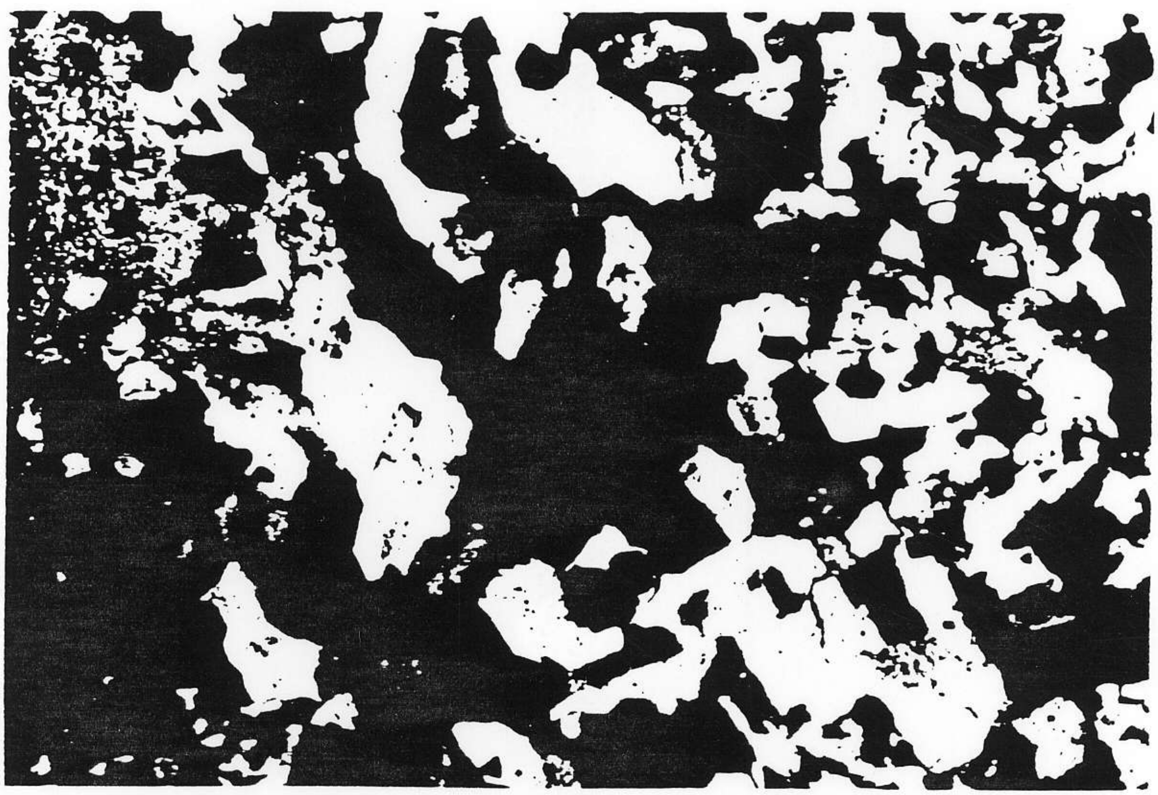


Plate 18-200.4-4. Region of randomly oriented terminated and prismatic quartz in pyrite interstices.

DDH CA-88-21-54.2

- coarse breccia consisting of lithic fragments, feldspathic felsite dike? and fossiliferous chert, variably calcite altered; cut by intersecting pyrite-muscovite and later calcite quartz veinlets

quartz	- 30%
albite	- 35%
calcite	- 25%
muscovite	- 2%
Mg chlorite	- <1%
pyrite	- 8%
sphalerite	- <1%

- section predominantly of large, up to 3.0 cm in size, fragments of a rapidly quenched felsic rock type consisting of randomly oriented acicular to feathery albite crystals; these lithic fragments are either unaltered or replaced by calcite in varying degrees of intensity (Plates 21-54.2-1, 2).

- certain fragments are essentially massive calcite.

- cherty fragments and hydrocarbon rich chert comprises the matrix to the calcite altered felsic rock or felsite; certain domains or fragments have an irregular or patchy distribution of dark hydrocarbon rich material in extremely fine grained cryptocrystalline quartz (Plate 21-54.2-3).

- significantly distinctive microfossils occur in certain cherty fragments strong evidence that less well defined circular features noted in other fine grained siliceous cherty samples of the Eskay suite might well have a biogenic origin (Plates 21-54.2-4,5,6).

- pyrite with distinctive framboidal apsect occurs restricted to the cherty domains (Plate 21-54.2-7). This pyrite type likely has a biogenic origin.

- the rock type produced by brecciation, variably carbonate altered felsite and fossiliferous hydrocarbon rich chert is cut by two sets of later veinlets.

(i) a sinuous zone of coarse pyrite with sphalerite and interstitial muscovite cuts certain felsite fragments and forms irregular interconnecting masses along margins of altered fragments (Plate 21-54.2-8). Most significantly certain portion of this irregular pyrite muscovite vein are sealed by a central region of Mg chlorite and calcite (Plate 21-54.2-9).

This texture is extremely important as it demonstrates the vein-like origin of F Mg chlorite in the genetically early stages of the Eskay Creek hydrothermal system.

(ii) the entire complex rock as described is cut by a late calcite quartz veinlet set (Plate 21-54.2-10).

Note - The chlorite in the pyrite-muscovite veinlet has a significant iron content reaching 9.61 weight percent FeO with a central region of more magnesian chlorite with 4.86 weight percent FeO. The inference is that in this early stage of chlorite stability in the evolving Eskay Creek fluid system, iron rich possibly rock dominated chlorite compositions were generated with a trend to magnesium enrichment indicated in this sample supported by a large body of Mg chlorite data obtained from numerous other samples.

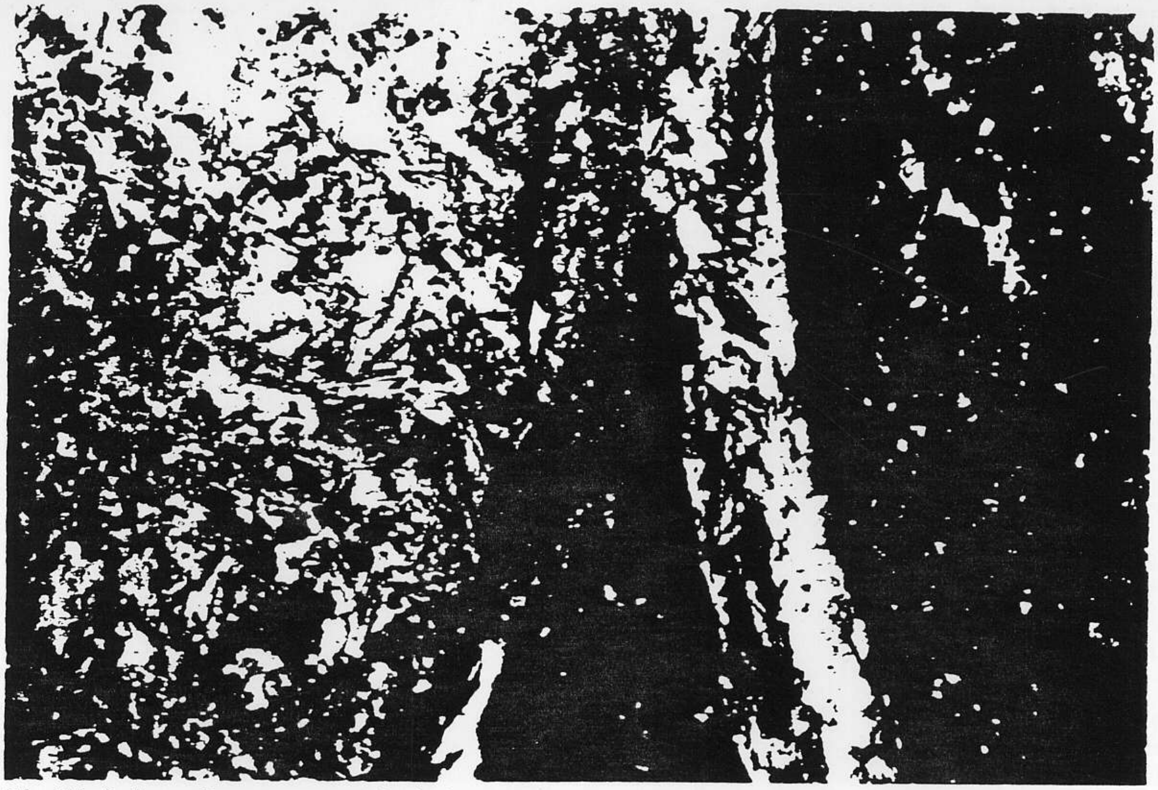


Plate 21-54.2-1. Fragments of felsite with feathery albite sheafs included in chert.

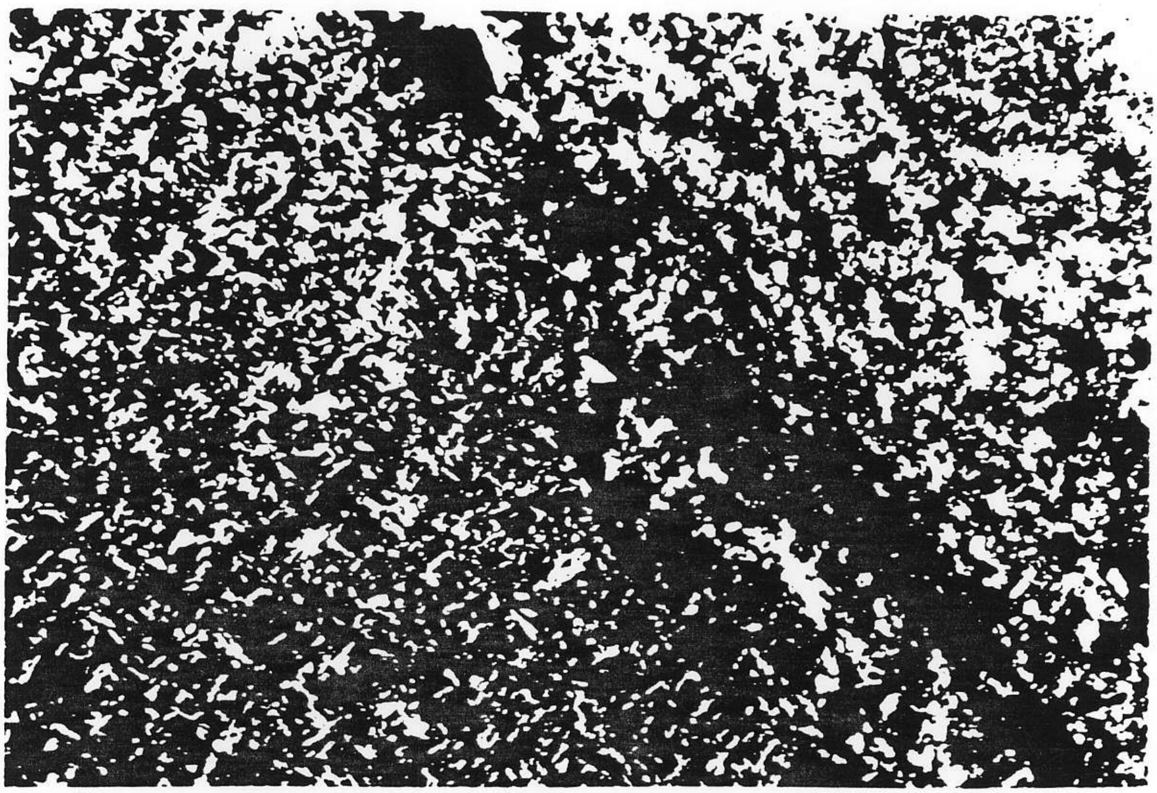


Plate 21-54.2-2. Felsite fragment in chert penetrated by muscovite-pyrite veinlet.

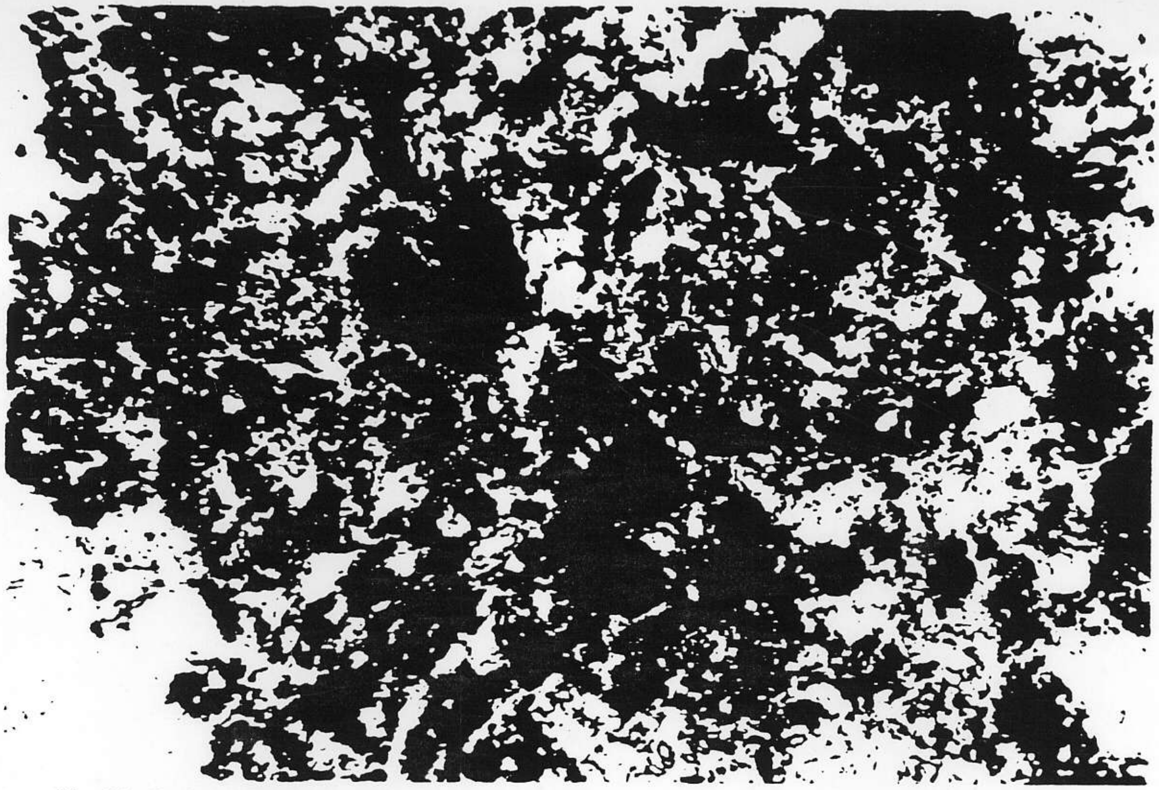


Plate 21-54.2-3. Patchy distribution of hydrocarbon rich zones and cryptocrystalline quartz in typical chert.

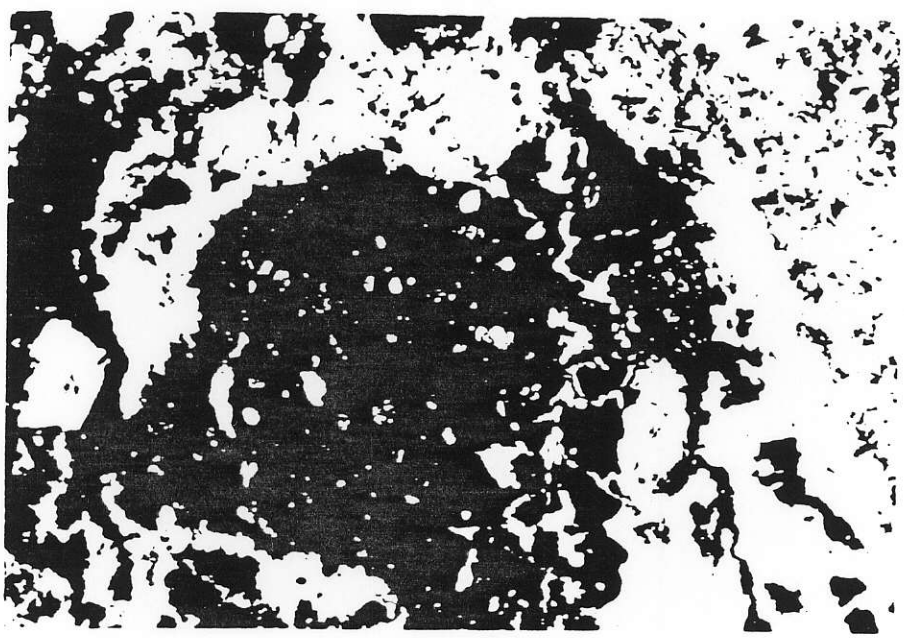


Plate 21-54.2-4. Chert domain with well preserved microfossils, possibly radiolaria.

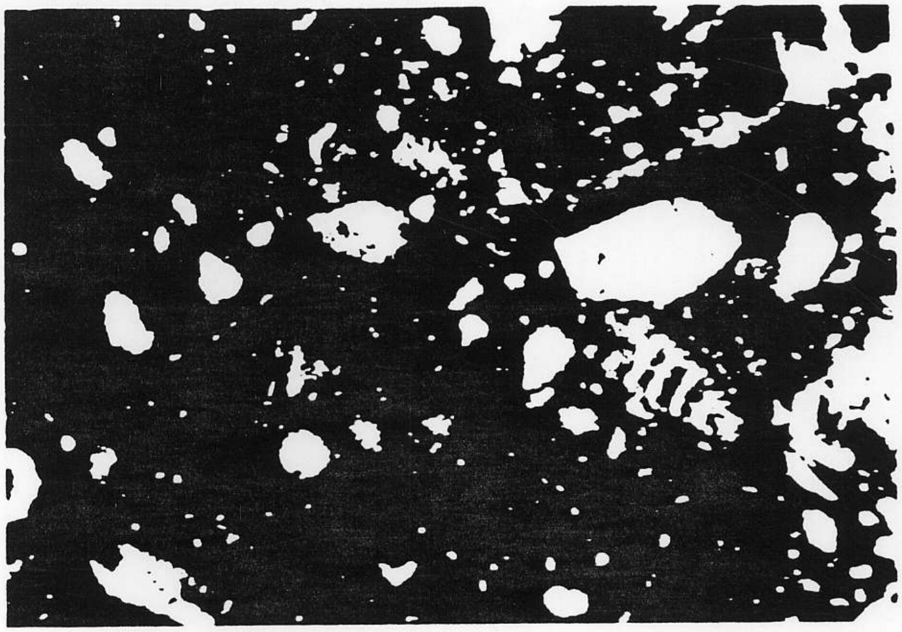


Plate 21-52.4-5. Possible radiolarian microfossil in chert.

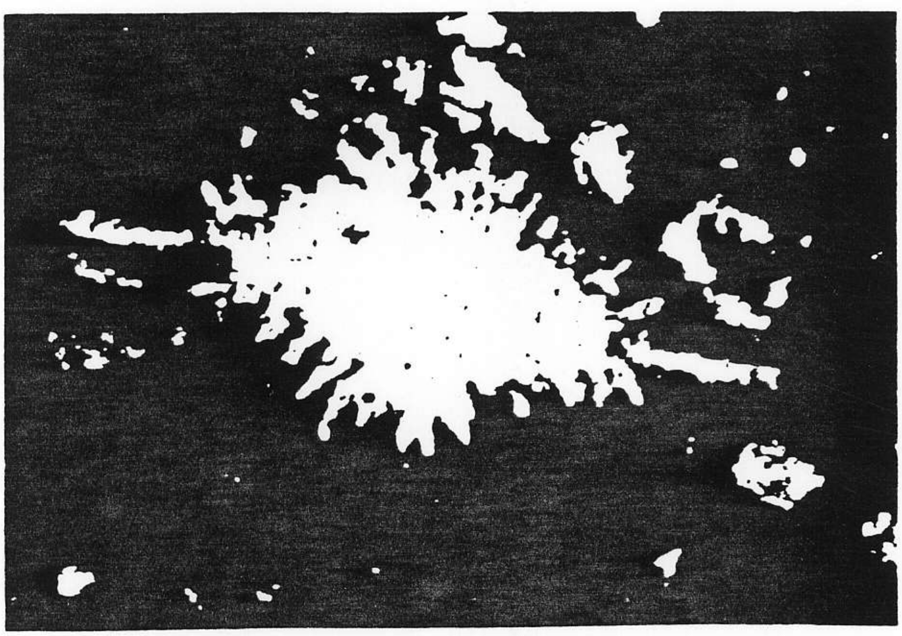


Plate 21-54.2-6. Possible radiolarian microfossil in chert.

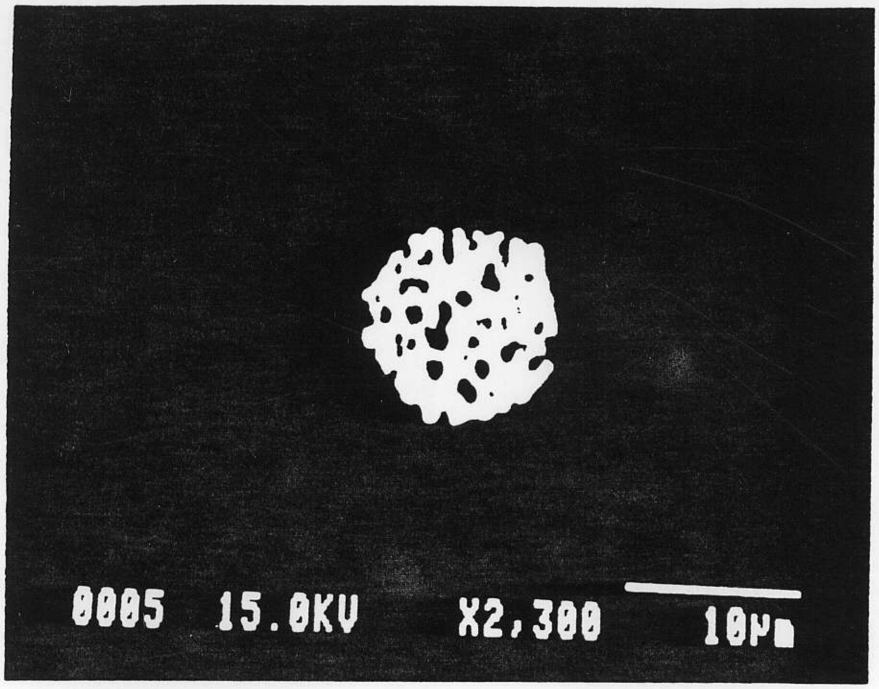


Plate 21-54.2-7. Pyrite framboid of probable biogenic origin in chert.

Plate 21-54.2-8. Sinuous cacite sphalerite pyrite zone along margin of felsite fragments with chert.

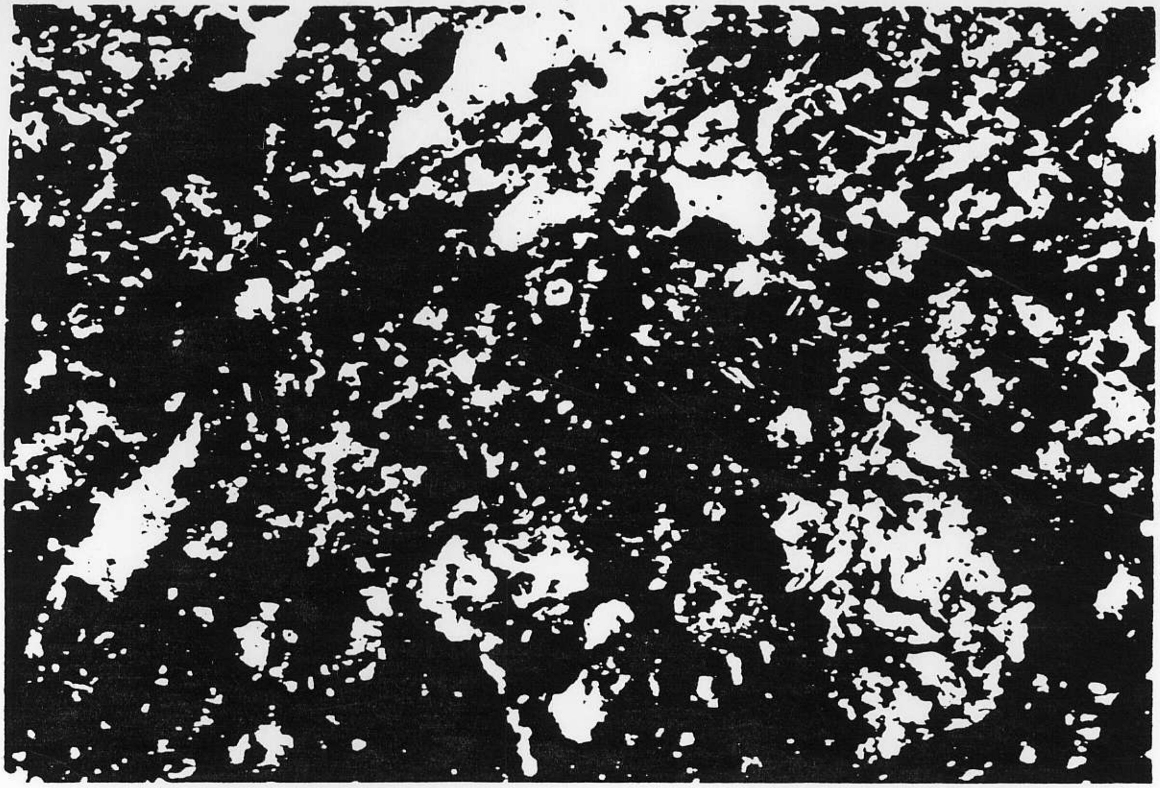


Plate 21-54.2-9. Chlorite developed with calcite in central region of this pyrite muscovite veinlet.

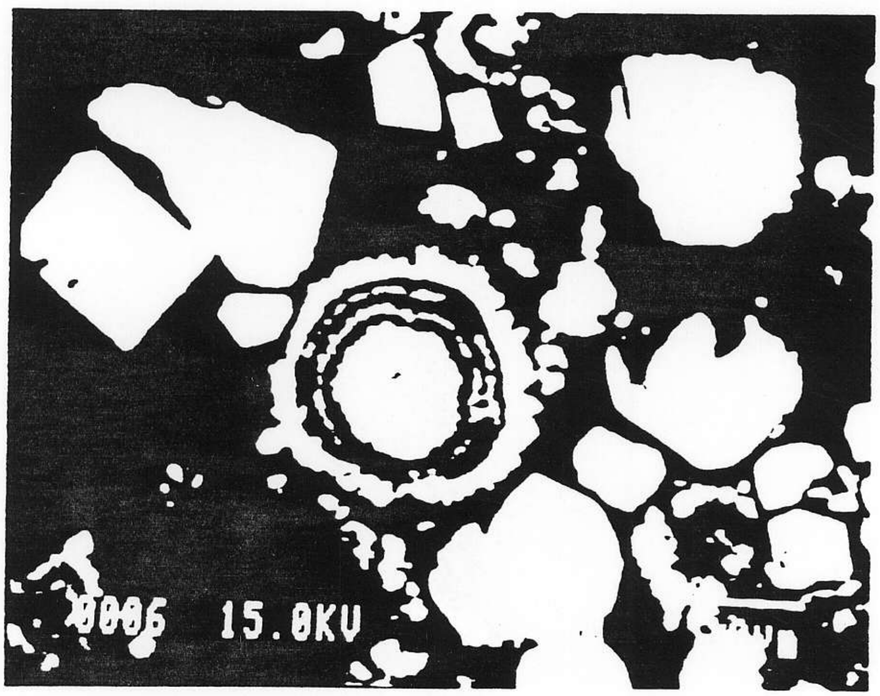


Plate 21-54.2-10. Concentric pyrite structure in late calcite veinlet.

- fragments of chert and types of alteration replaced pervasively by arsenopyrite Mg chlorite and muscovite, deformed

quartz	- 20%
muscovite	- 50%
Mg-chlorite	- 10%
barite	- <1%
calcite	- 5%
pyrite	- 5%
arsenopyrite	- 8%
sphalerite	- 1%
tetrahedrite	- <1%
stibnite	- 1%
realgar	- <<1%

- texturally confused sample consisting of chert fragments and fragments of various assemblages and textures of hydrothermal alteration noted in other samples, pervasively replaced by Mg chlorite and muscovite; outline and aspect of many fragments obscured to completely obliterated by the combined effects of pervasive muscovite alteration and deformation.

- large domains of section are and were hydrocarbon rich siliceous rock, or chert with characteristic patchy distribution of hydrocarbon material, spherical pyrite balls and aggregations and relatively clear domains of cryptocrystalline quartz (Plate 21-58.1-1).

- angular quartz eyes are well preserved in certain relatively unaltered chert domains (Plate 21-58.1-2).

- in addition to chert a variety of alteration fragments are present as isolated domains within highly foliated muscovite with original outline obscured by pervasive muscovite development and related strong fabric and it is not entirely clear whether these were original vein types developed within the chert lithology originally present or whether the rock is a true heterolithic breccia; the angular outline of certain alteration fragments would suggest the latter.

(i) circular domains of coarse randomly oriented quartz, with calcite, realgar stibnite and arsenopyrite.
(ii) angular fragment of Mg chloritite with 25% development of circular pyrite balls (Plate 21-58.1-3).
(iii) circular region of coarse quartz intergrown with stibnite (Plate 21-58.1-4).
(iv) linear angular domains of coarse randomly oriented quartz with calcite and stibnite, likely originally veinlets since dismembered (Plate 21-58.1-5).
(v) attenuated patches of Ba muscovite, Mg chlorite with stibnite, sphalerite (Plate 21-58.1-6).
(vi) angular fragment of oriented elongate Mg chlorite, stibnite and quartz (Plate 21-58.1-7).

- arsenopyrite occurs throughout the section with paragenetic relationship obscured by muscovite alteration; large domains of recognizable chert exists either without arsenopyrite or contain only sporadic evenly distributed rhombs (Plate 21-58.1-1, 2). Arsenopyrite generally occurs in specific concentations of radiating rhombs and needles associated with patches of relatively coarse grained quartz with minor calcite and muscovite (Plate 21-58.1-8) or as similar radial concentration associated with relatively coarse grained muscovite developed in pressure shadow zones (Plate 21-58.1-10).

It is not entirely clear whether the arsenopyrite developed in this rock volume in an earlier stage of fluid access and recrystallization of chert, as noted in other samples, or in an overlapping interval of arsenopyrite-quartz fixation with muscovite. In this writer's view an interpretation of muscovite alteration of arsenopyrite altered chert is favoured.

The entire texturally complex deformed rock is cut by a linear vein predominantly relatively coarse grained quartz with calcite and minor muscovite with stibnite and tetrahedrite developed along grain margins. This vein is aligned with the dominant fabric of the sample and indicates syndeformational fluid access As, Sb, Ag mobility and fixation.

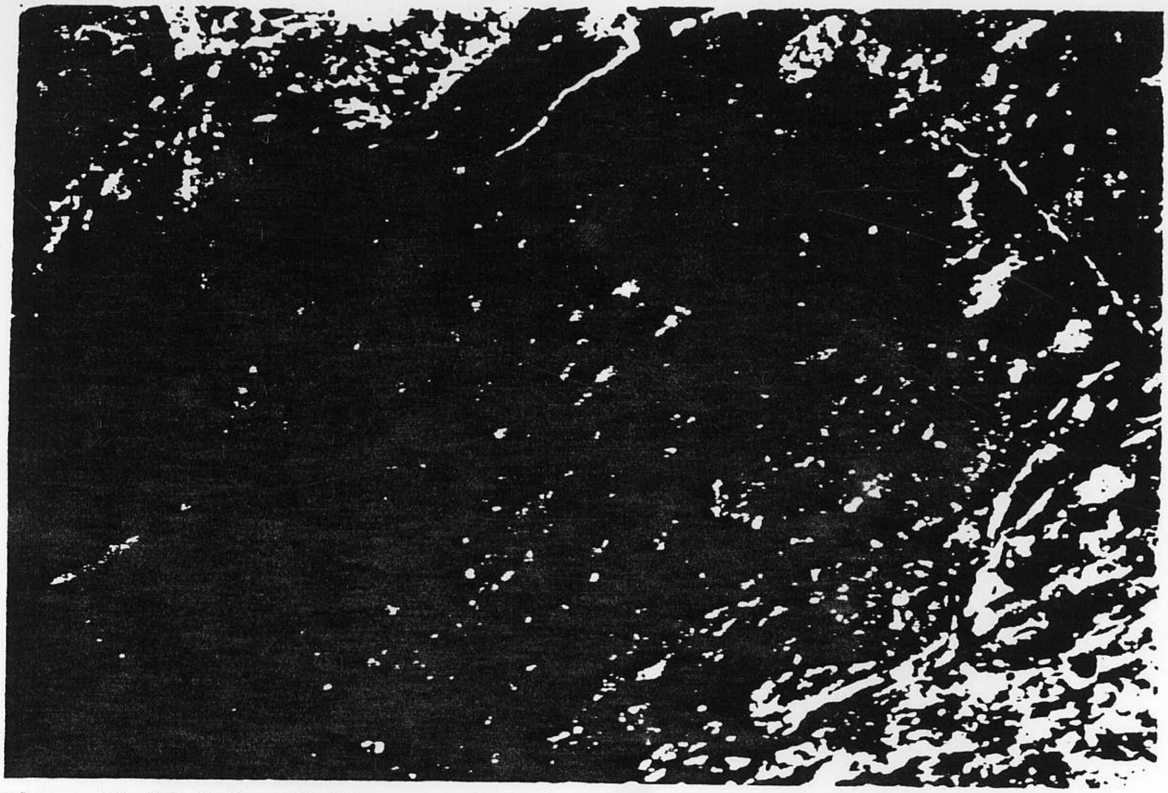


Plate 21-58.1-1. Relict domain of hydrocarbon rich siliceous rock, chert, with patchy distribution of hydrocarbon material and clear regions of cryptocrystalline quartz.

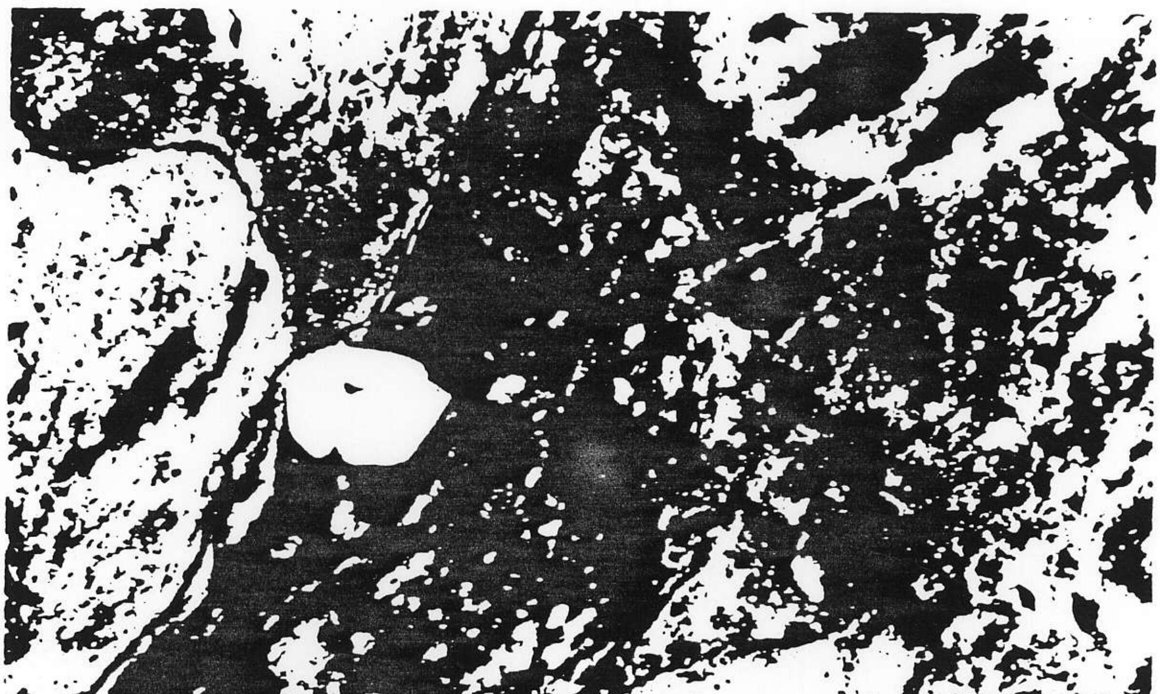


Plate 21-58.1-2. Angular quartz eye preserved in a region of relict chert.

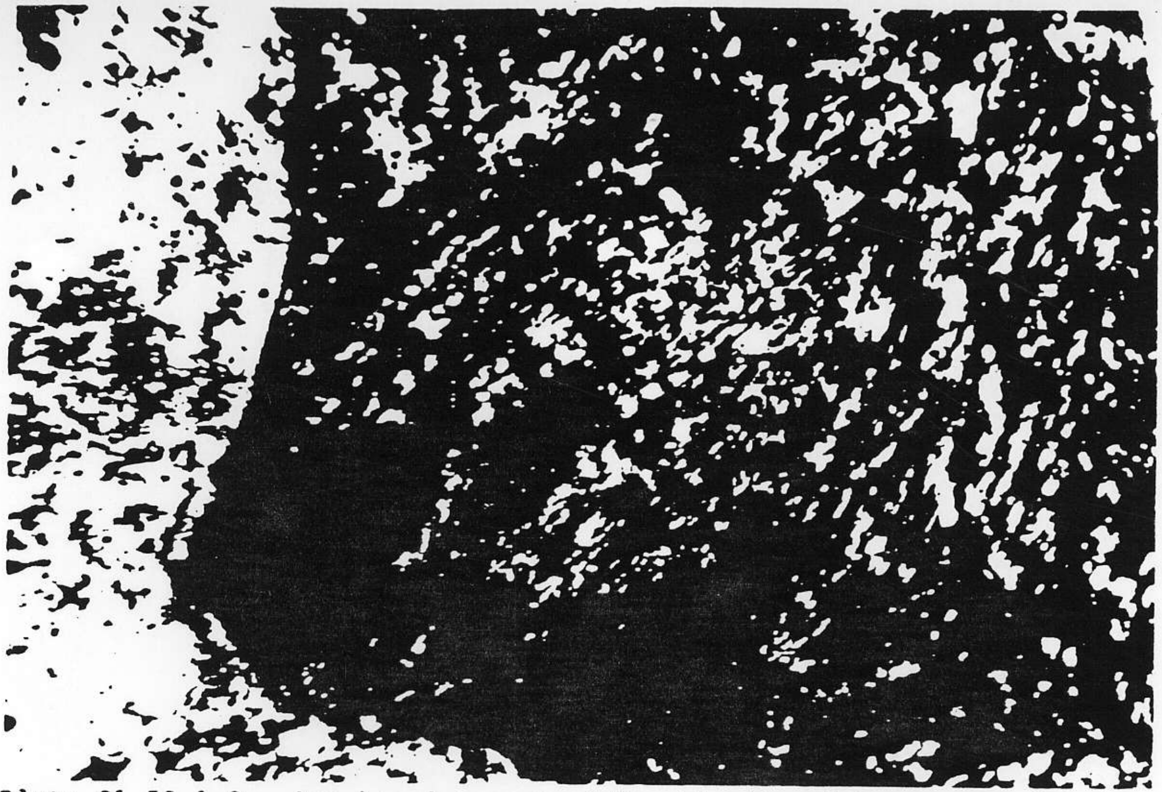


Plate 21-58.1-3. Angular fragment of Mg chlorite with apparent fabric and even distribution of pyrite grains and aggregations.

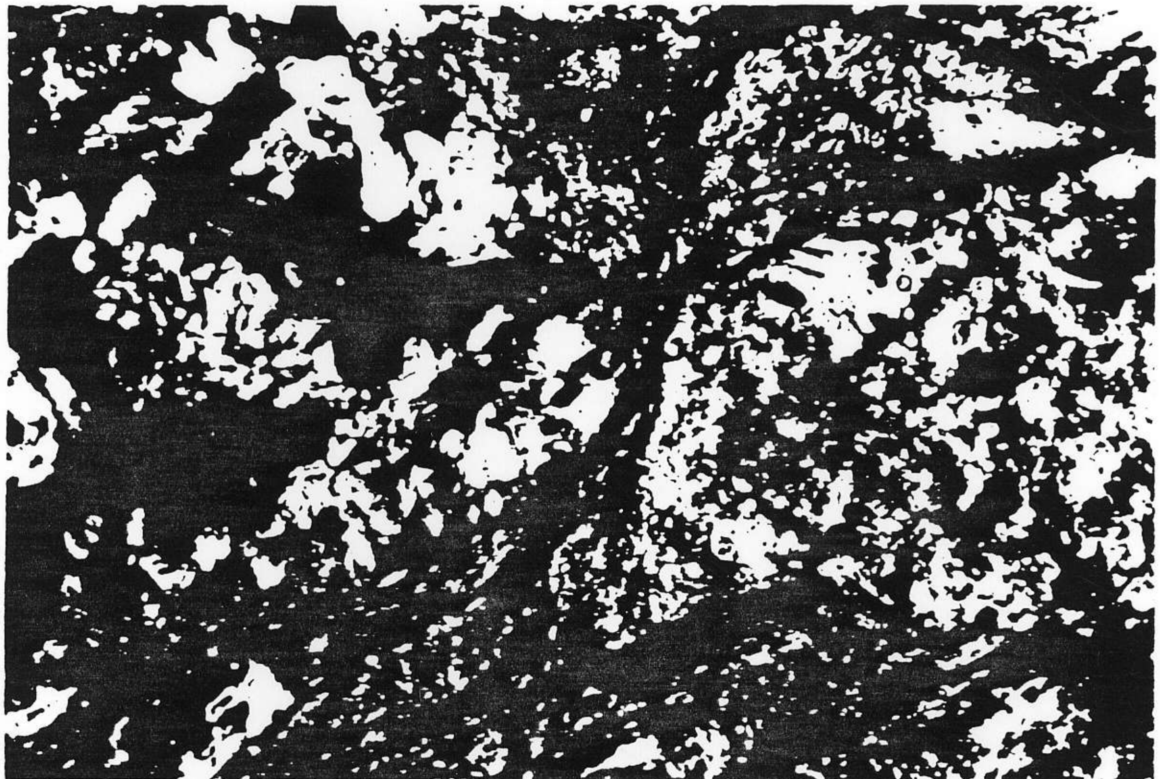


Plate 21-58.1-4. Circular region of coarse multicrystalline quartz with stibnite.

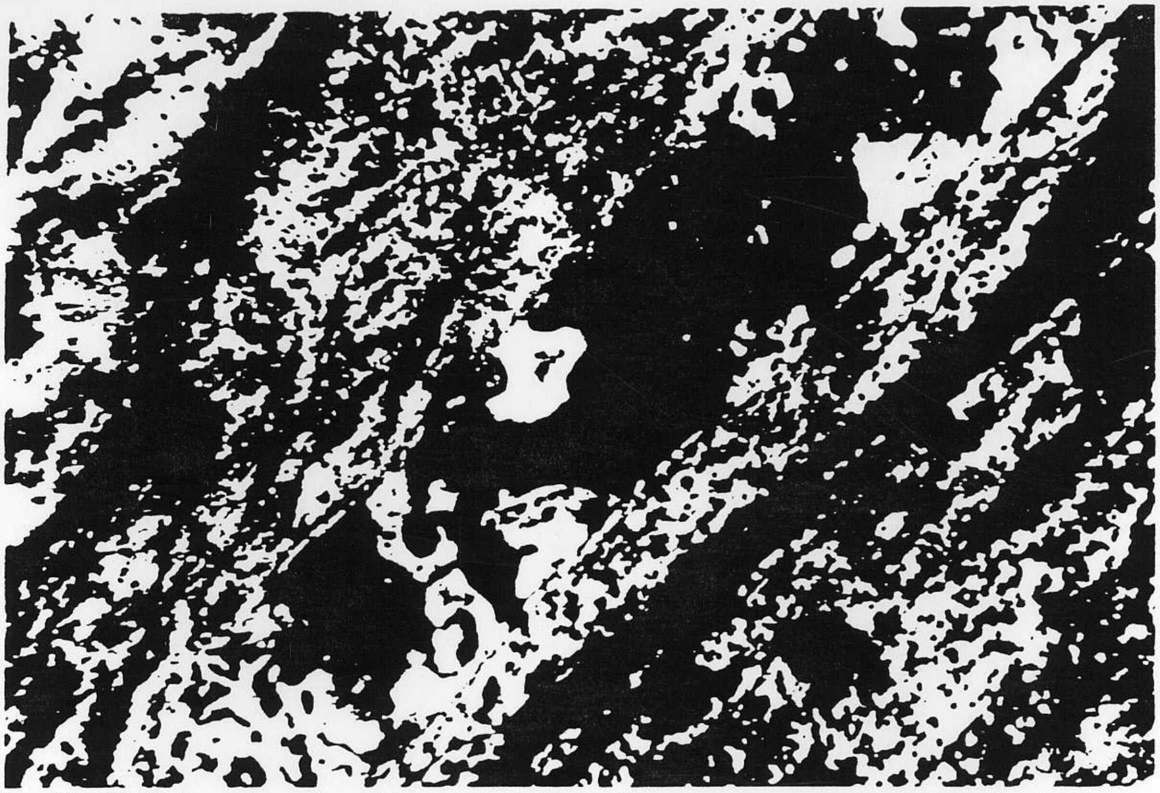


Plate 21-58.1-5. Angular linear region of coarse quartz with stibnite and calcite possibly a broken and dismembered veinlet.

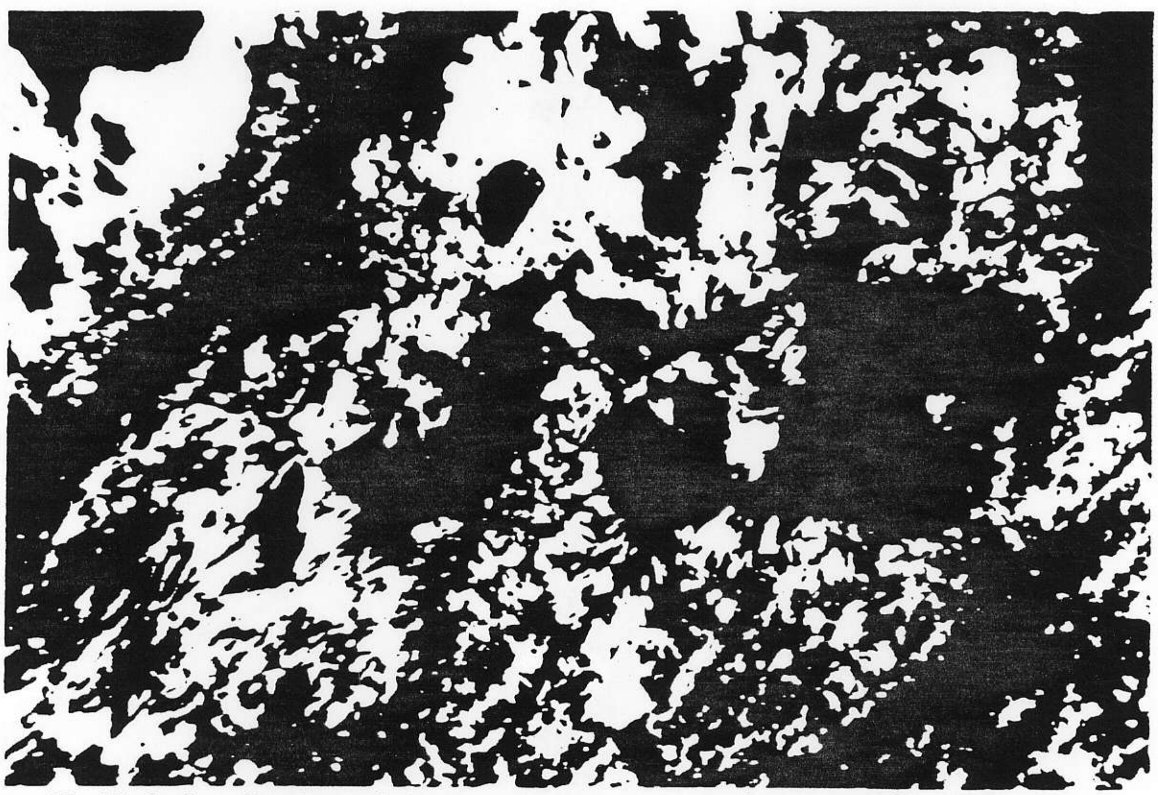


Plate 21-58.1-6. Region of intergrown coarse grained sheafs of Ba muscovite; Mg chlorite with stibnite and sphalerite.

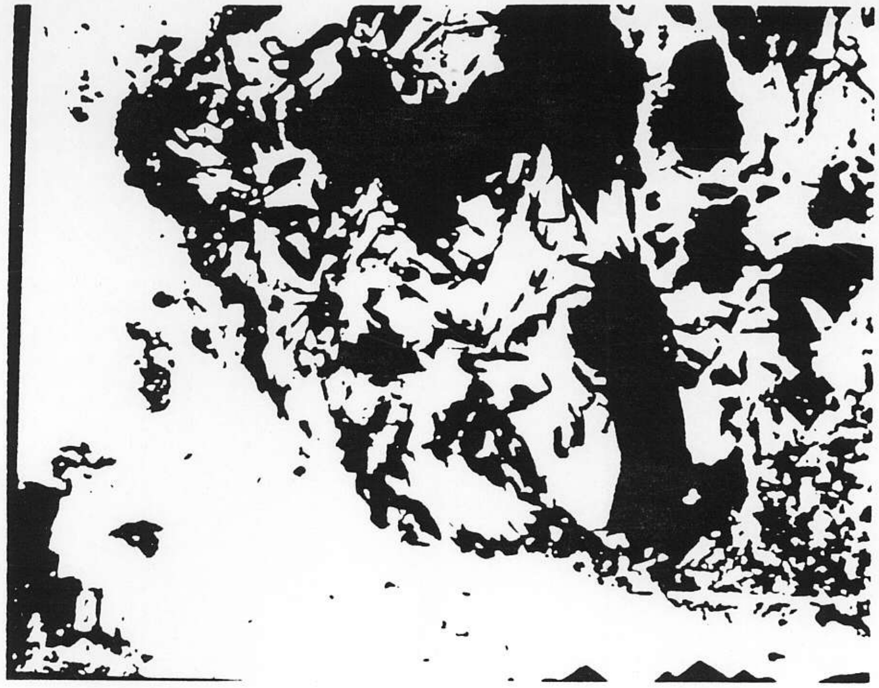


Plate 21-58.1-7. Angular apparent fragment of elongate Mg chlorite and stibnite intergrowth.

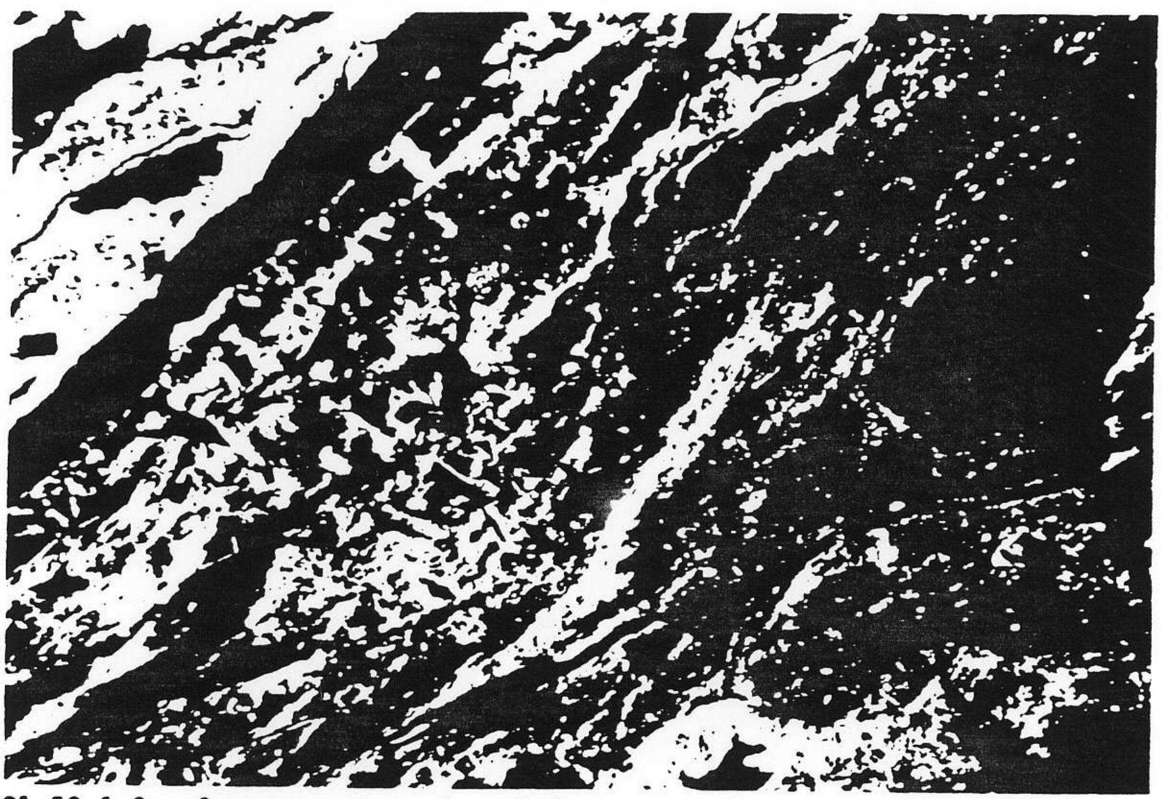


Plate 21-58.1-8. Concentration of radial arsenopyrite rhombhedra and needles associated coarse grained quartz and minor calcite.

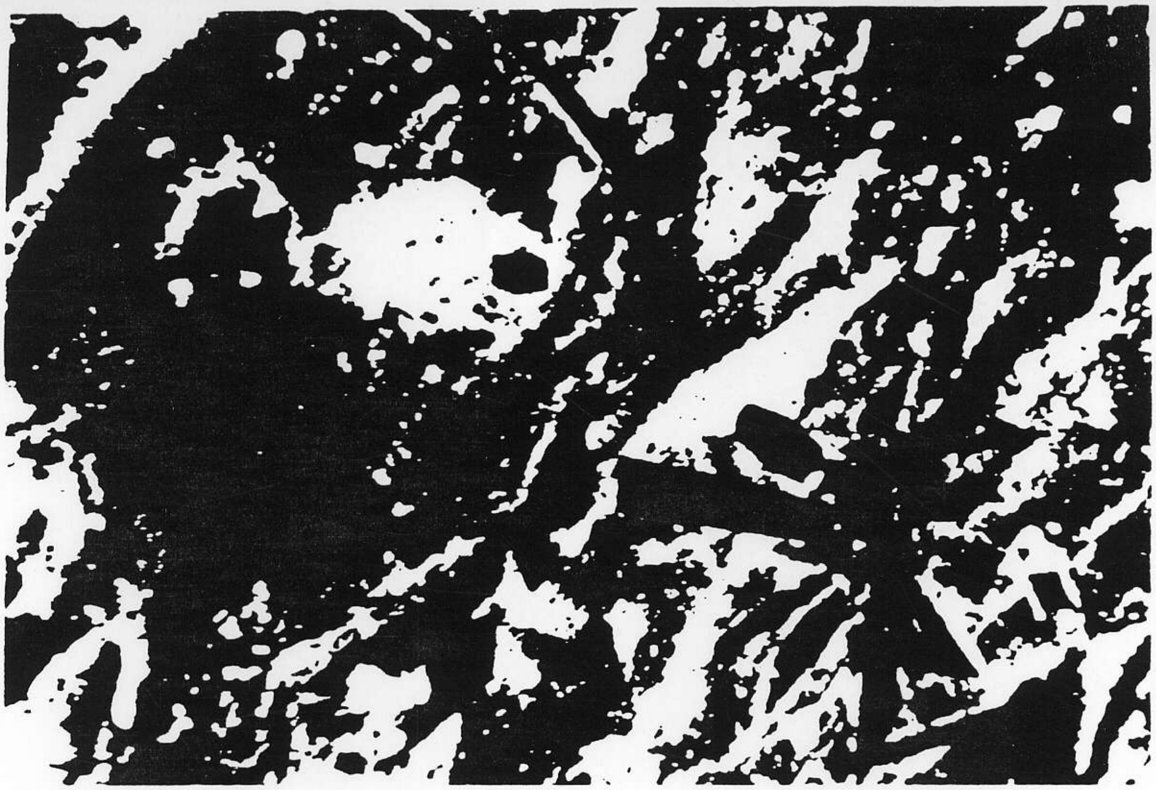


Plate 21-58.1-9. Radial concentrations of arsenopyrite needles with pressure shadows growth of oriented quartz and relatively coarse grained musocovite.

DDH CA-88-21-59.1

- **chert fragments and early stage Mg chlorite and Ba muscovite alteration assemblages in a relict zone included in a vein of massive stibnite with peripheral coarse calcite, barite and quartz and realgar bands (two grains native gold identified)**

quartz	- 5%
Ba muscovite	- 4%
stibnite	- 65%
arsenopyrite	- 10%
albite	- <<1%
barite	- 10%
calcite	- 10%
dolomite	- 1%
Mg-chlorite	- 1%
sphalerite	- 1%
aktashite	- 2%
PbSbAgAsS	- 2%
gold	**- <<1%**

- rythmically banded sample with a complex variation in assemblages and textures in adjacent bands likely reflecting local variations in chemical parameters and solution compositions with time.

- in a gross sense the sample consists essentially of central wide band of massive stibnite with a interstitial barite and other sulphides alternating with marginal zones with abundant barite, calcite and realgar.

- most significantly the massive stibnite zones contains several patches of fine grained chert with the characteristic mottled aspect generated by distribution of hydrocarbons and regions of clear cryptocrystalline quartz. These chert remnants are penetrated by calcite veinlets and subparallel bands of quartz recrystallization and veining (Plate 21-59.1-1) with stibnite in a manner quite similar to that of samples 88-7-111.7; CA-2 and 88-9-65.7, CA-4. The sample likely represents open space veining within a chert lithology at the focus of the Eskay Creek fluid system.

- the chert fragments are clearly replaced along veinlets and in wider marginal zones by regions of coarse crystalline Mg chlorite often with stibnite (Plate 21-59.1-2) and relatively coarse grained quartz. In addition patches of coarse Mg chlorite occur in the massive stibnite within regions spatially related to the relict lithic fragments (Plate 21-59.1-3).

- further a variety of highly muscovite altered chert fragments and pod-like circular masses of coarse Ba muscovite intergrown with stibnite and Mg chlorite occur in a narrow band along one margin of the band of massive stibnite (Plate 21-59.1-4). This band of chert fragments, Mg chlorite and Ba muscovite masses is interpreted to represent the rock lithology originally present in this rock volume and earlier stages of hydrothermal alteration of this rock volume now a relict zone in later stage hydrothermal assemblages of stibnite, barite, calcite and a complex variety of sulphide species.

- significantly rhombs of arsenopyrite occur sporadically in this narrow zone of relict chert and Mg chlorite, Ba muscovite altered chert. Arsenopyrite occurs as isolated grains in certain Ba muscovite masses (Plate 21-59.1-5) and as irregular clusters of rhombohedra included within massive stibnite spatially near the relict chert fragments and pod-like masses of Ba muscovite (Plate 21-59.1-6).

Interpretation of these textural spatial relationships is critical to the understanding of the position of arsenopyrite in the overall paragenesis at Eskay Creek. Arsenopyrite does not occur evenly distributed throughout the massive stibnite, as suggested by Van Pet. but is restricted to the narrow zone of relict chert fragments and earlier stage sheet silicate dominant hydrothermal assemblages. In the writer's view arsenopyrite does not form an assemblage with stibnite in this sample. The textures illustrated in Plates 21-59.1- 5 and 6 thus demonstrate relict arsenopyrite included within paragenetically later stibnite. Further in the writer's view arsenopyrite does not comprise an assemblage with Ba muscovite and the texture in Plate 21-59.1-6 actually represents a relict arsenopyrite that existed in the original chert lithology preserved in subsequent muscovite alteration.

- sphalerite also occurs in the sample in a small domain spatially associated with the chert fragments and Mg chlorite Ba muscovite regions with arsenopyrite (Plate 21-59.1-7) and is likely early in the paragenesis caught up in later stibnite.

- the massive stibnite includes randomly oriented blades of barite with a PbSbSAsAg mineral likely a suphosalt as included grains and evenly distributed along stibnite grain margins (Plates 21-59.1- 8 and 9).

- coarse grained barite, quartz, calcite and realgar along one margin of the sample (Plate 21-59.1-10) contains abundant aktashite, as an apparent late stage infilling (Plate 21-59.1-11).

- most significantly two grains of gold were located within this zone of coarse grained quartz, calcite, barite and realgar along one margin of the central stibnite band in the sample. Various variably altered chert fragments occur in this region as well (Plate 21-59.1-12). One grain of gold is situated within a chert fragment (Plates 21-59.1-13,14) while the other occurs within quartz in the coarse calcite barite (Plate 21-59.1-15) of a marginal zone. Presumably both gold grains are cotemporal and developed with the late stage calcite, barite, aktashite paragenesis.

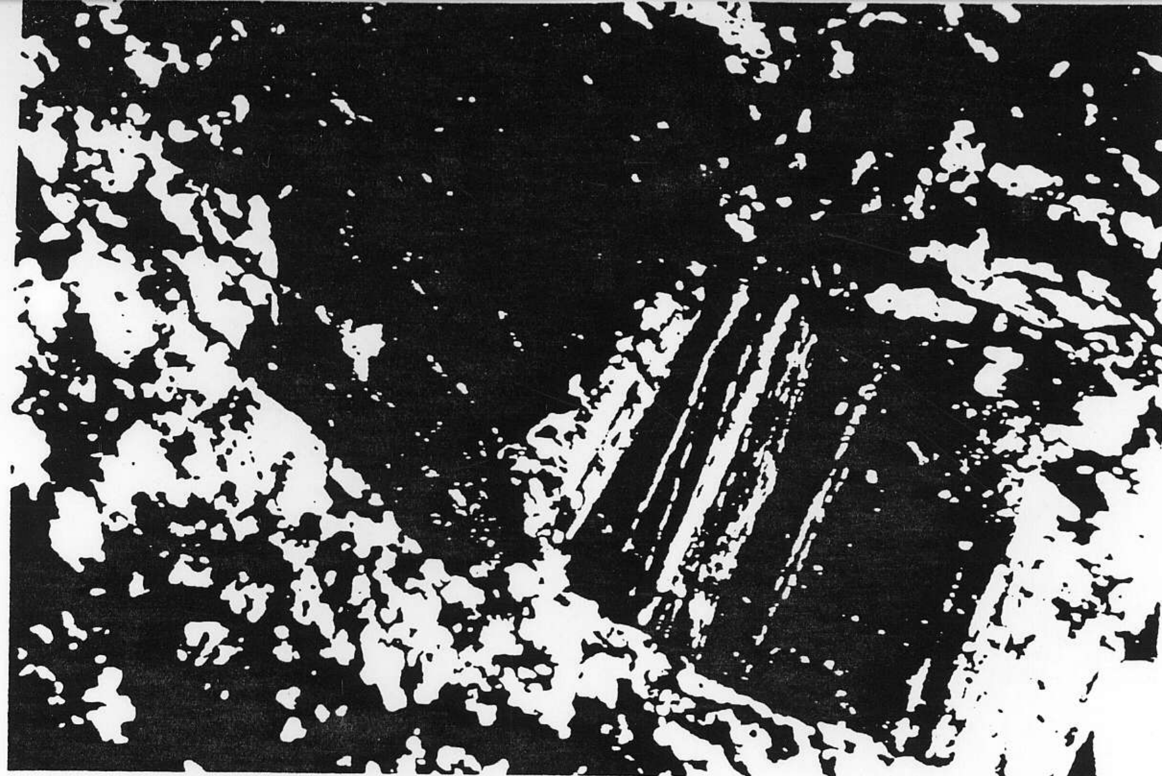


Plate 21-59.1-1. Fragment of chert included in massive stibnite, penetrated by subparallel bands of quartz recrystallization and calcite veinlets.

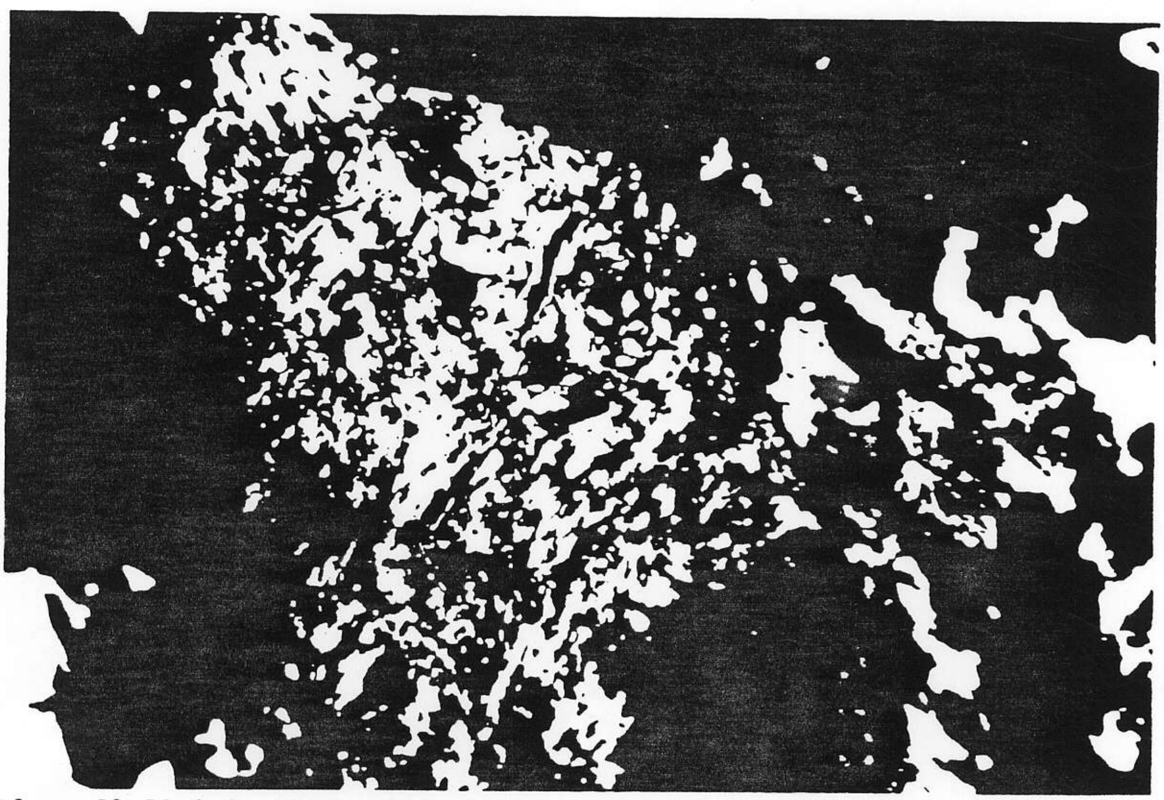


Plate 21-59.1-2. Region of coarse Mg chlorite replacing and spatially related to relict chert inclusions.

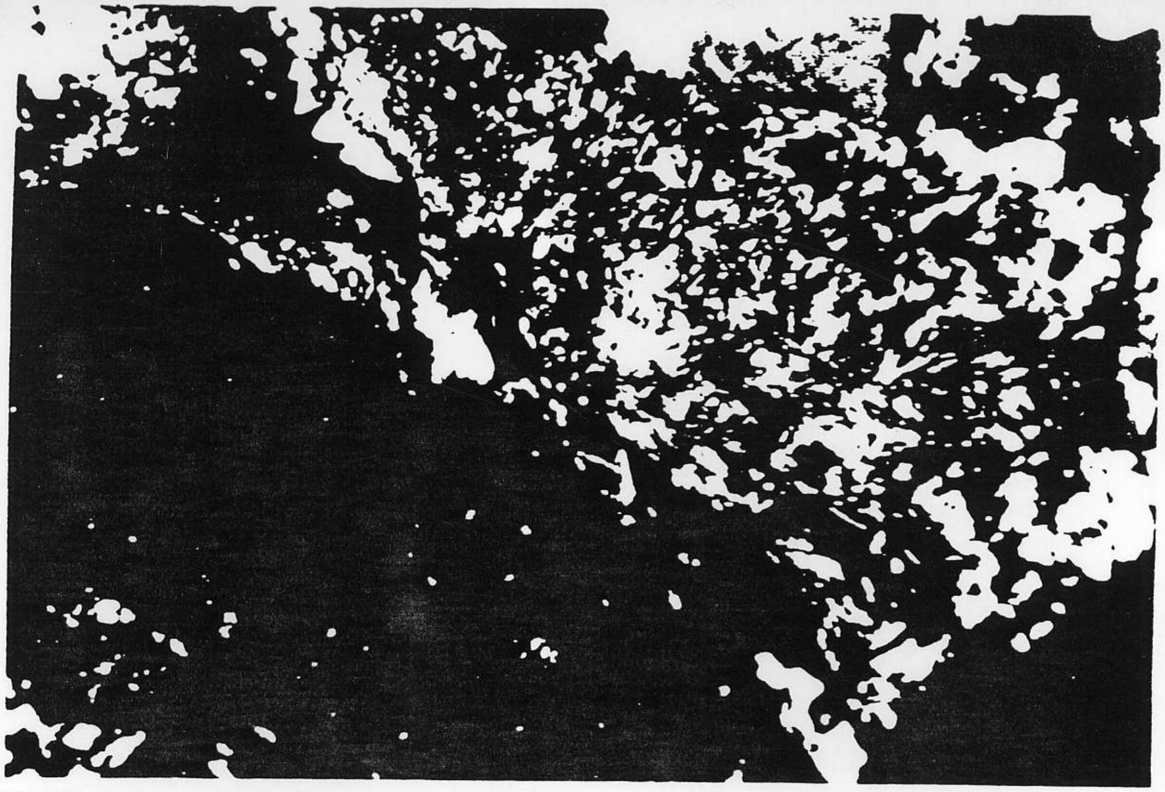


Plate 21-59.1-3. Spatial association of chert inclusions with replacement patches of coarse Mg chlorite.

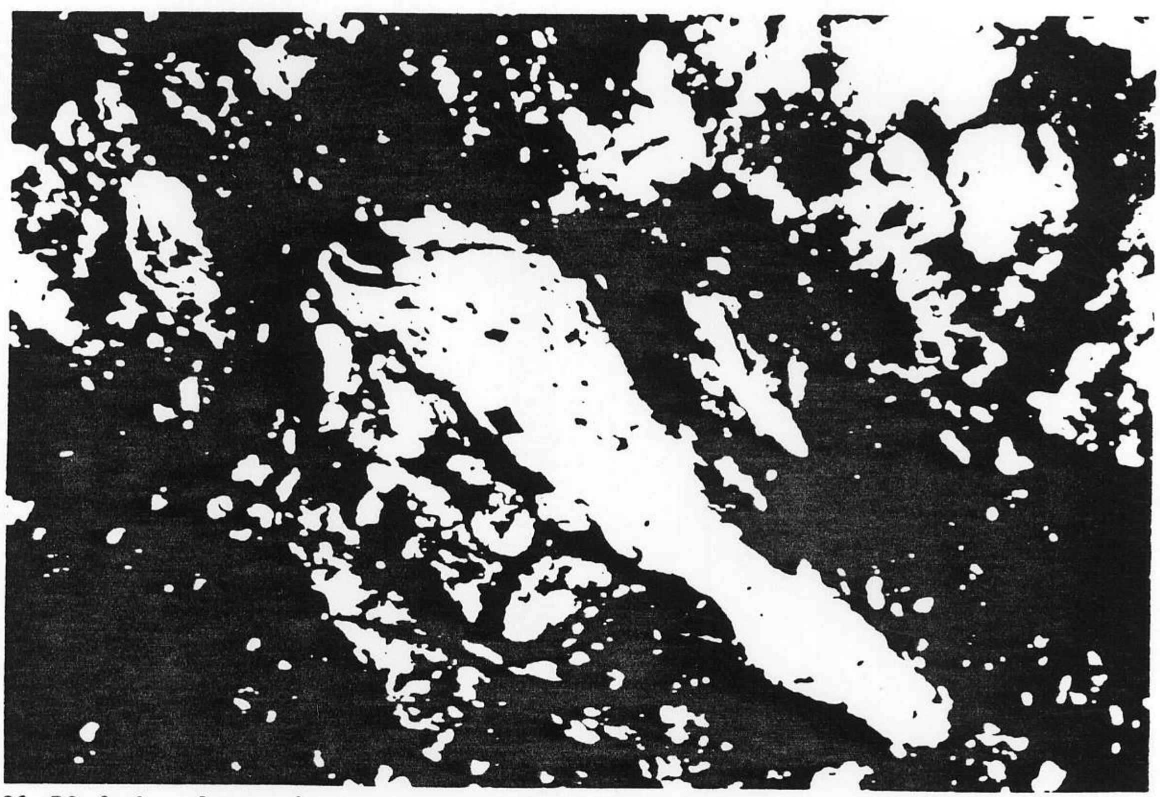


Plate 21-59.1-4. Irregular to circular masses of Ba muscovite associated with Mg chlorite in a relict zone with chert fragments.

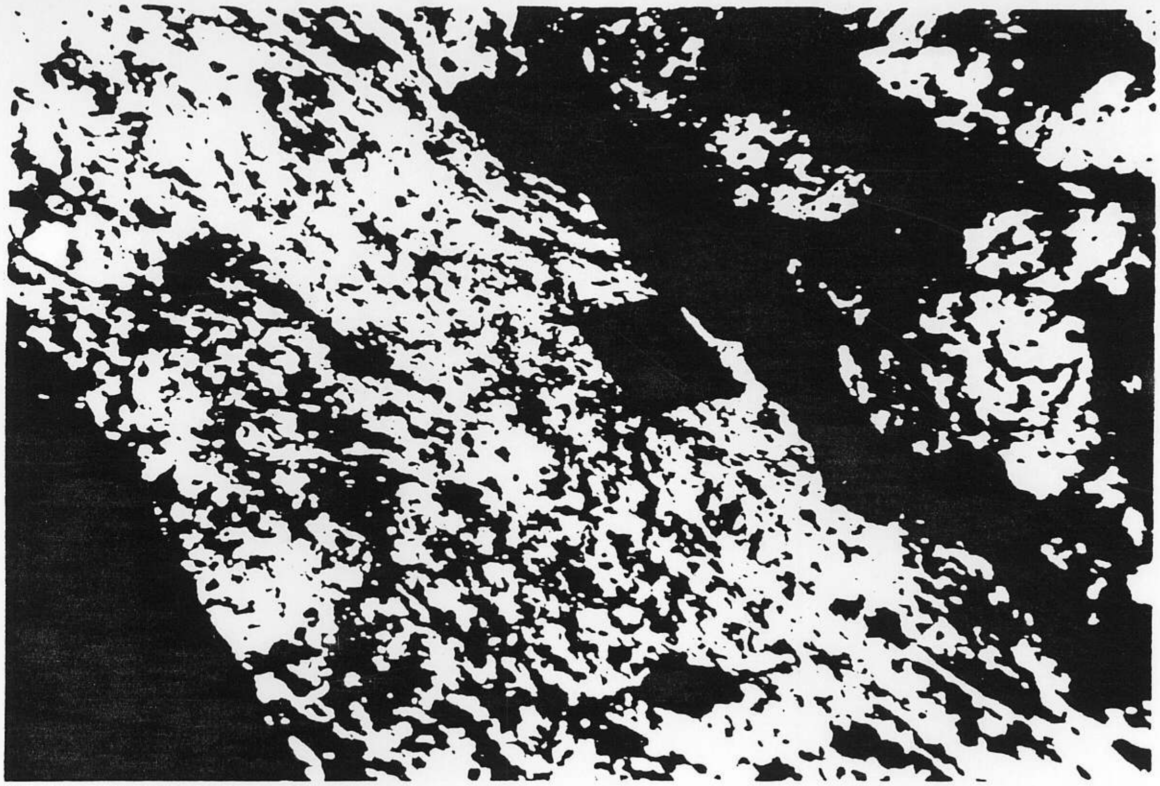


Plate 21-59.1-5. Arsenopyrite rhomb in region of coarse massive Ba muscovite.

Plate 21-59.1-6. Grains and clusters of arsenopyrite overgrown and included within regions of massive stibnite. Dark regions of BSE image are patches of Ba muscovite and Mg chlorite.

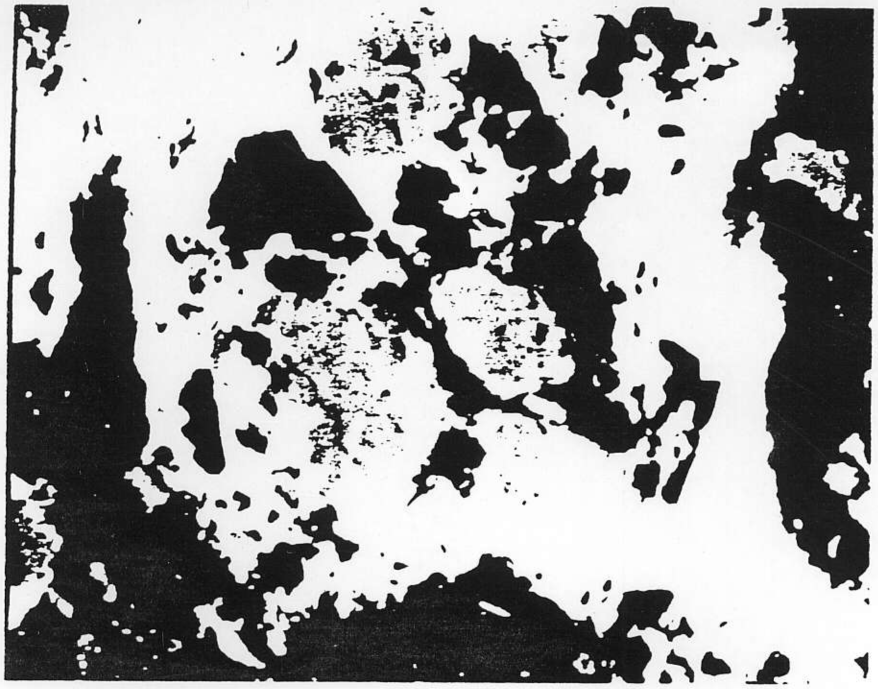


Plate 21-59.1-7. Grains of sphalerite, dark grey, associated with arsenopyrite rhombohedra, black, included within region of massive stibnite, light grey, note patches of PbSbAgAs phase, white, throughout the stibnite.

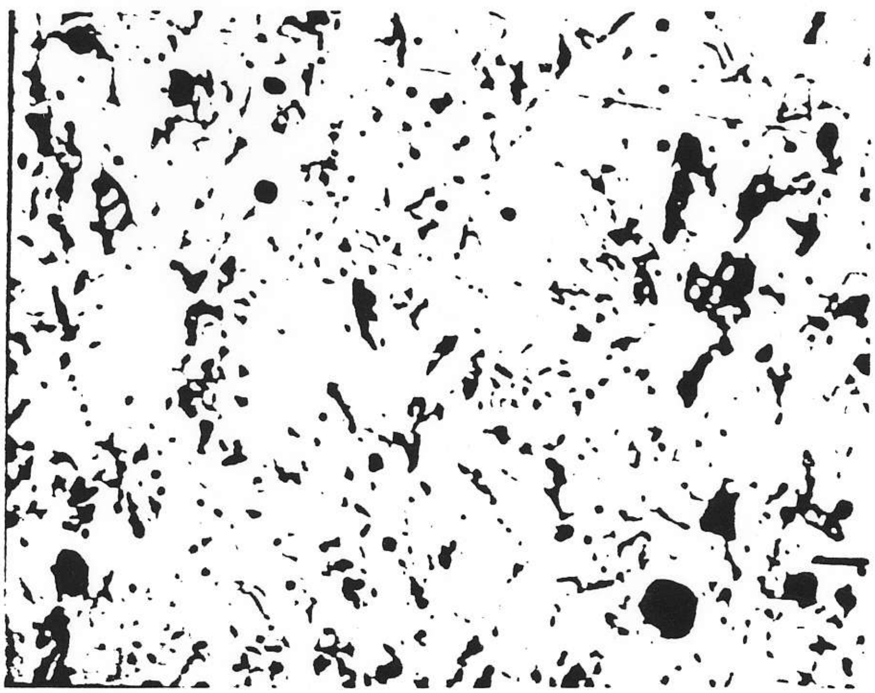


Plate 21-59.1-8. Massive stibnite with even distribution of PbSbAgAs mineral throughout.

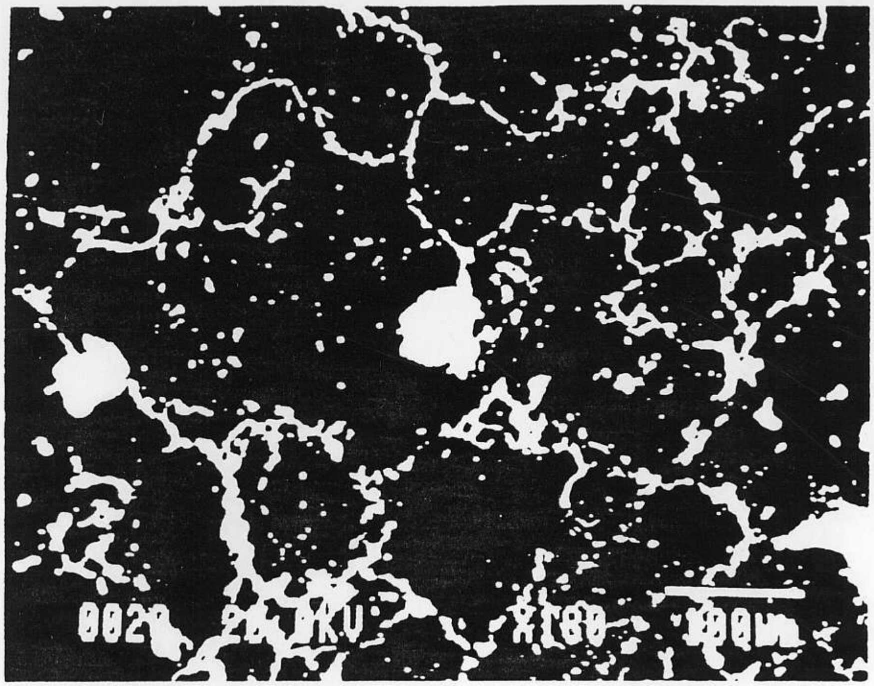


Plate 21-59.1-9. Massive stibnite with a PbSbAsAg mineral as included grains and distributed along grains margins.

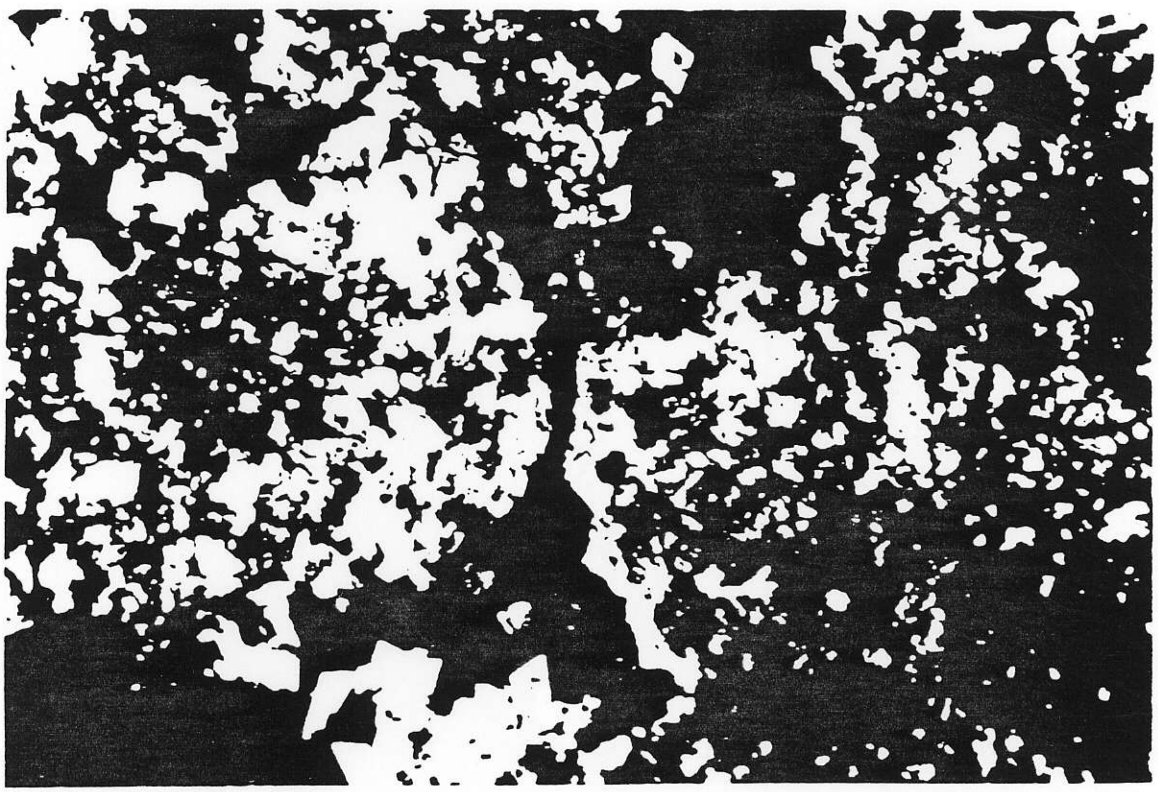


Plate 21-59.1-10. Region of coarse barite, calcite, realgar, quartz and sulphide phases along one margin of massive barite.

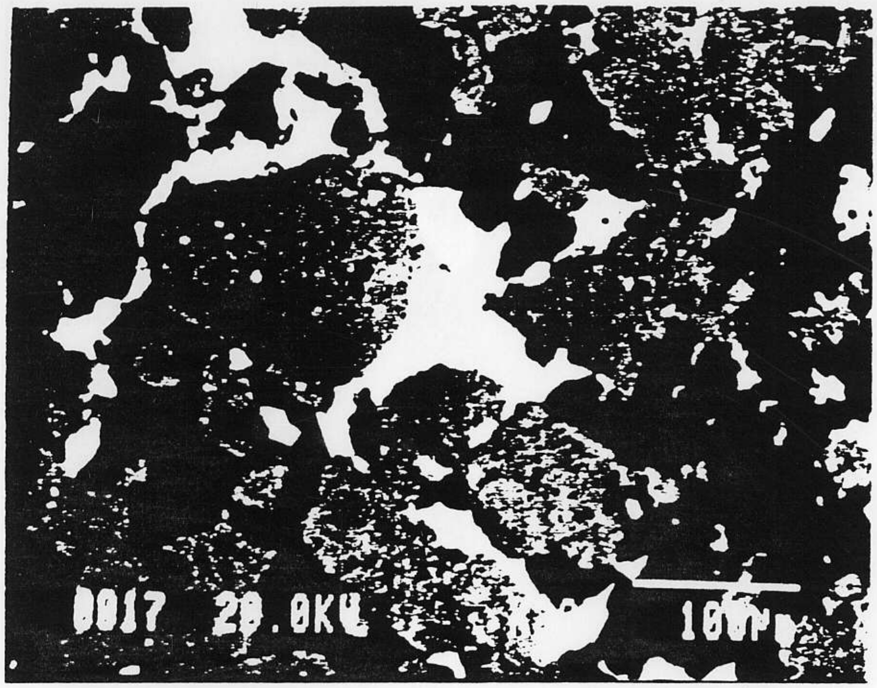


Plate 21-59.1-11. Aktashite, a CuHgAsS mineral, white, including crystalline barite, grey, and quartz, black.

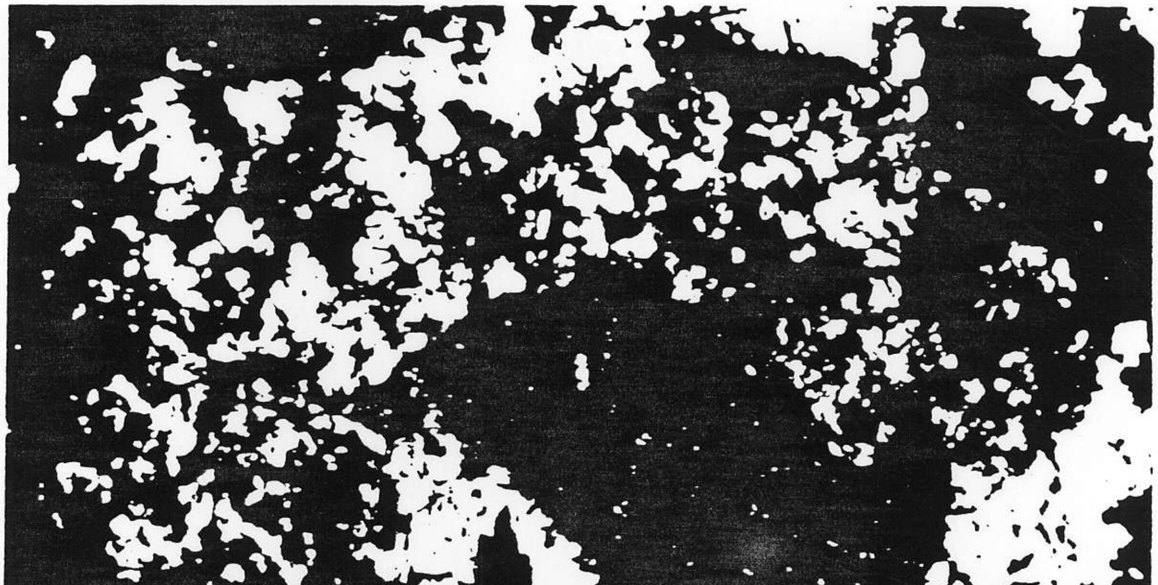


Plate 21-59.1-12. Chert fragment that contains gold within coarse veinlike region of calcite, barite and realgar along one edge of central stibnite vein.

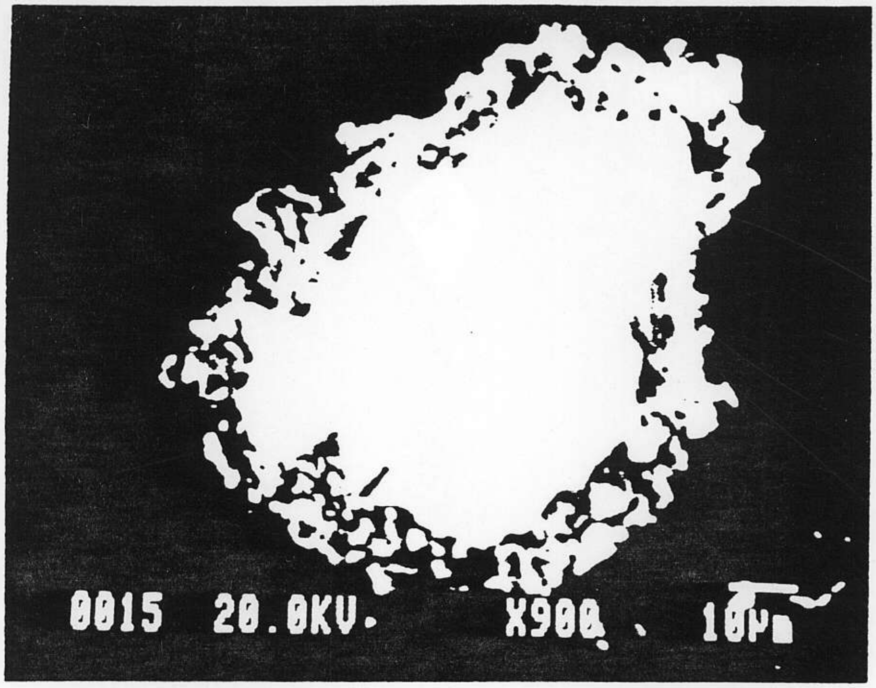


Plate 21-59.1-13. Grain of gold, white, with a margin of native arsenic included within the relict chert fragment.

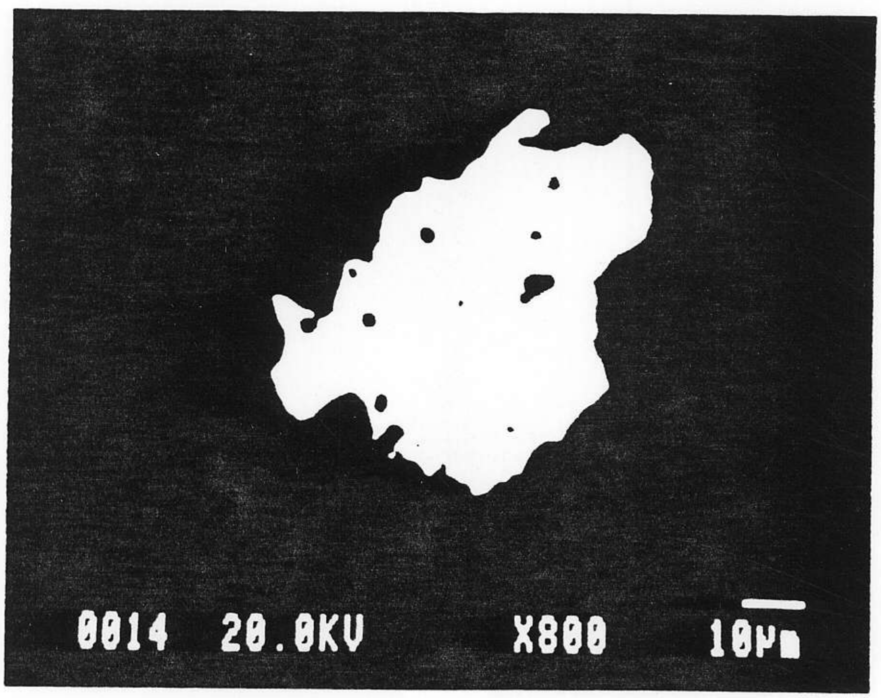


Plate 21-59.1-14. Same grain of gold as in Plate 21-59.1-13, with the gold grain set at the proper grey level in the BSE image.

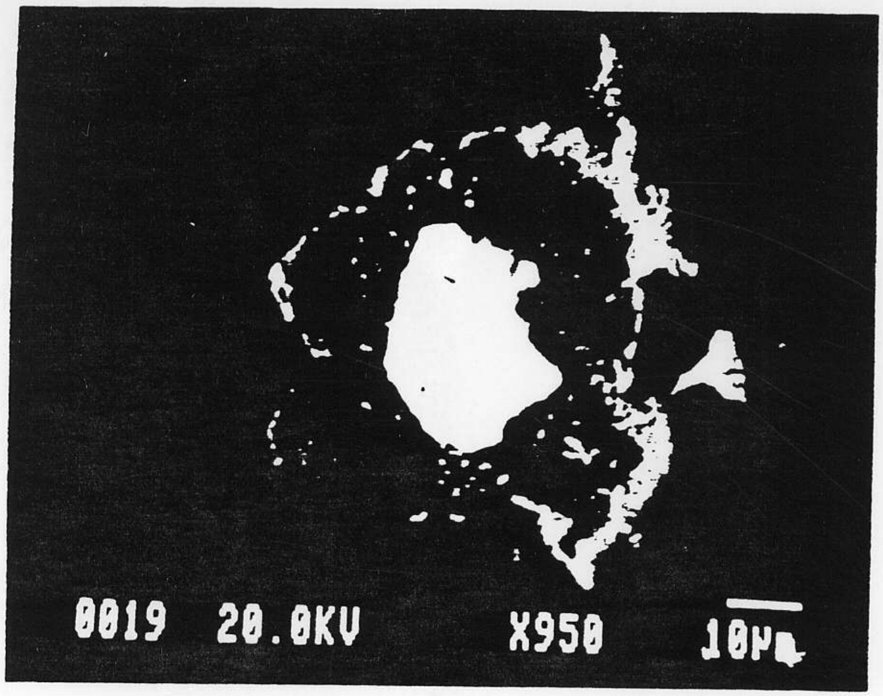


Plate 21-59.1-15. Grain of gold also surrounded by a zone of native arsenic located within quartz with the late coarse barite, calcite, realgar assemblage.

DDH CA-88-21-68.9

- pervasively silicified and arsenopyrite altered rock volume, possibly chert or rhyolite with spectacular colloform growth texture of pyrite and arsenopyrite

quartz	- 10%
muscovite	- 60%
arsenopyrite	- 10%
dolomite	- <1%
Mg-chlorite	- 2%
pyrite	- 15%
tetrahedrite	- <<1%
PbSbAgS	- 1%

- texturally complex relatively coarse grained quartz domains and tabular patches penetrated and clearly replaced by anastomosing muscovite veinlets, which often coalesce into domain of pervasive muscovite alteration (Plates 21-68.9-1,2).

- minute pyrite spheres with concentric growth textures and rhombs and aggregations of arsenopyrite occur within anastomosing muscovite regions and both pyrite and arsenopyrite apparently developed in this rock volume coincident with veinlike to pervasive mica-stable potassic alteration (Plate 21-68.9-3).

- pyrite spheres consistently contain central or concentric rings of stibnite (Plate 21-68.9-4).

- the rock volume has clearly been deformed as indicated by the penetrative fabric in micaceous regions; arsenopyrite grains are clearly broken and exhibit well developed pressure shadows of quartz (Plate 21-68.9-5); occasionally tetrahedrite occurs in cracks and at the conjunction of certain broken arsenopyrite grains (Plate 21-68.9-6).

- patches and concentrations of coarse grained arsenopyrite and pyrite with coarse quartz interstices occur throughout the sample (Plate 21-68.9-7) that significantly are associated with patches of coarse grained Mg chlorite and Ba muscovite (Plate 21-68.9-8). Most significantly in these regions arsenopyrite is often penetrated by and includes coarse blades of fluorine-rich Mg chlorite and muscovite (Plate 21-68.9-9). This texture is considered as strong evidence for the stability and simultaneous hydrothermal growth of arsenopyrite and F, Mg chlorite and muscovite in certain regions of the Eskay Creek hydrothermal system.

Pyrite in these coarse patches exhibits a truly spectacular array of growth textures. Certain grains have a radial pattern of silicate and sulphide inclusions (Plate 21-68.9-10) and most grains have a colloform aspect with contour zones in the growth structure tetrahedrite (Plate 21-68.9-11).

Strong evidence for the simultaneous stability of pyrite, stibnite, arsenopyrite and tetrahedrite is provided by the spectacular inclusion of concentric pyrite with infilled rings of stibnite and tetrahdrite all included within a single arsenopyrite grain (Plate 21-68.9-12).

The siliceous aspect and textures in certain regions of this sample indicate a strong affinity with samples from the so-called rhyolite studied in

CA-88-16. Thus this sample appears to represent a volume of rhyolite near the interface with the overlying chert that was accessible to the same fluid system. The textures in this sample are truly spectacular, the delicate banding is identical to numerous textures well documented for hydrothermal base metal rich fluid systems on the sea floor and in Kuroko deposits. The proximity to the overlying chert would suggest the colloform textures formed in a very similar environment and in a similar manner. The problem posed by these samples is that the interstitial silicates are not clays but rather Ba muscovite and F Mg chlorite, commonly though to be relatively high temperature mineral species.

A possible resolution is that these phenomena represent hot fluids in a rock volume near the water rock interface where a cover of sediments allowed a sufficently high geothermal gradient to allow stability of true mica and chlorite structures as apposed to clays.

However, textural relationships related to the arsenopyrite and coarse quartz pyrite-arsenopyrite patches would support the interpretation that the spectacular growth textures although truly reminiscent of near surface hydrothermal processes, as mentioned above, did actually develop in a post-deformational fluid regime. The acicular arsenopyrite throughout the highly foliated muscovite matrix has well developed pressure shadows while colloform pyrite-arsenopyrite masses do not. Classical interpretation would be that the coarse broken blades of arsenopyrite were in this rock volume prior to or at least developed synchronous with the deformation.

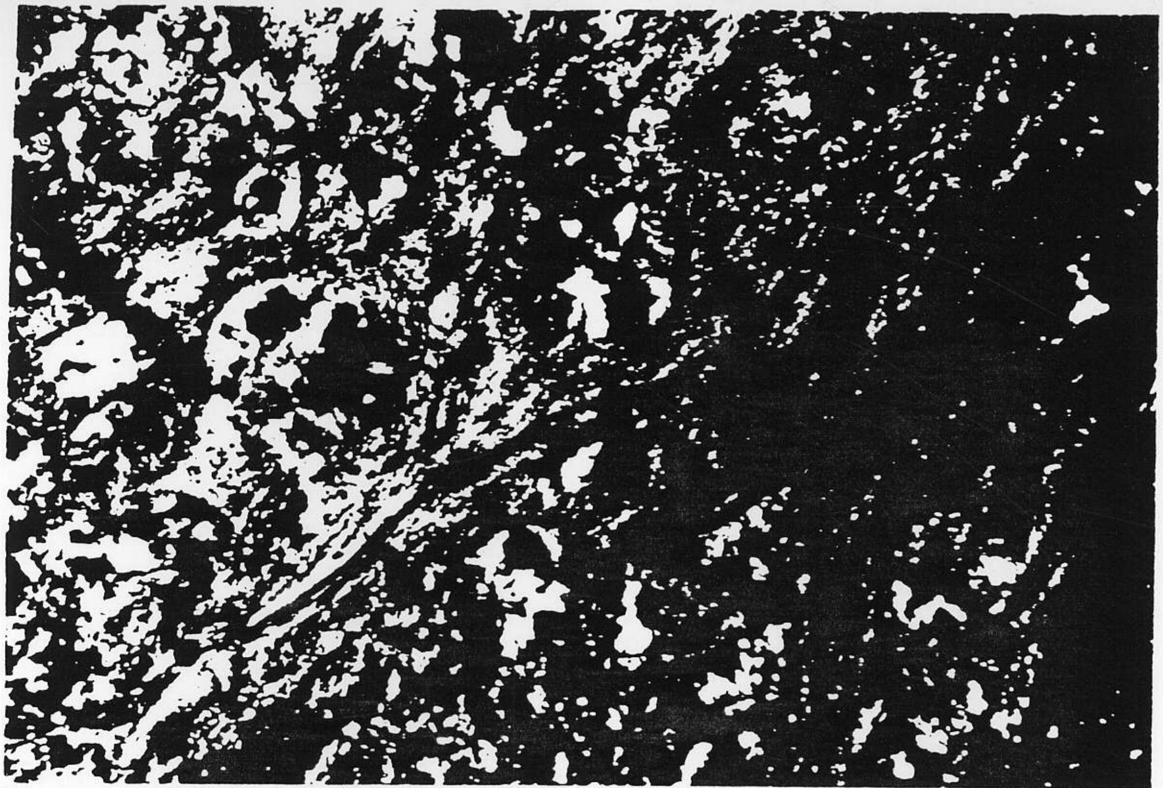


Plate 21-68.9-1. Region of coarse grained multigranular quartz significantly without fabric within a foliated pyritic muscovite matrix.

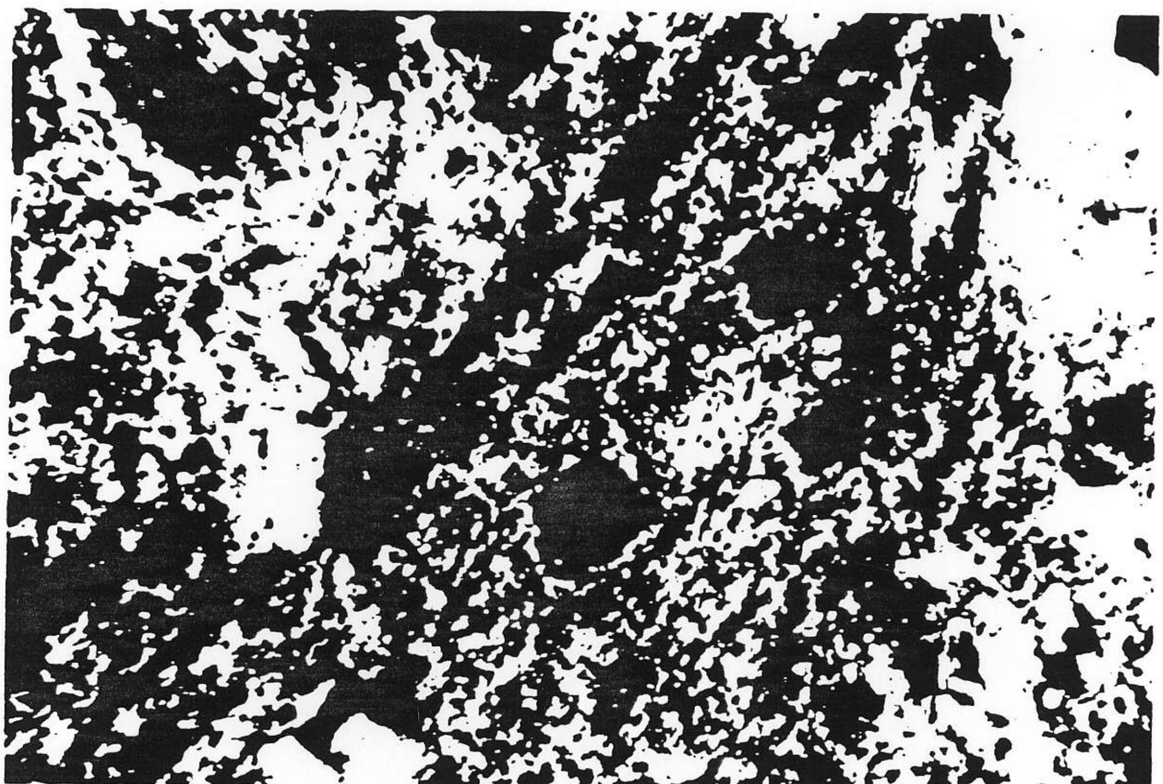


Plate 21-68.9-2. Strong fabric to muscovite with arsenopyrite rhombs and abundant minute pyrite spheres as matrix to patches of multigranular quartz.

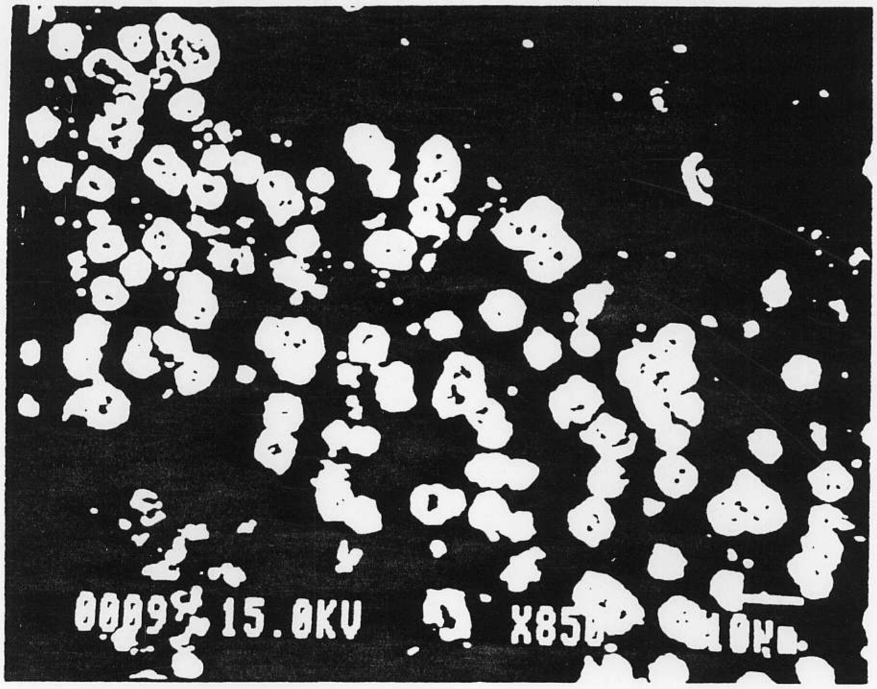


Plate 21-68.9-3. Concentration of pyrite spheres in regions of highly foliated muscovite.

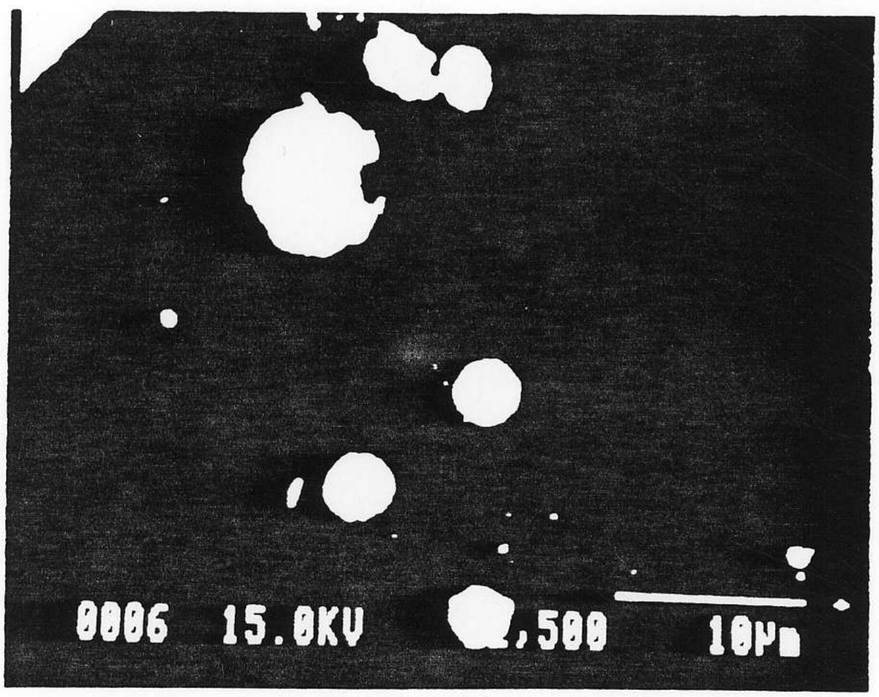


Plate 21-68.9-4. Pyrite spheres with central regions or rings of stibnite.

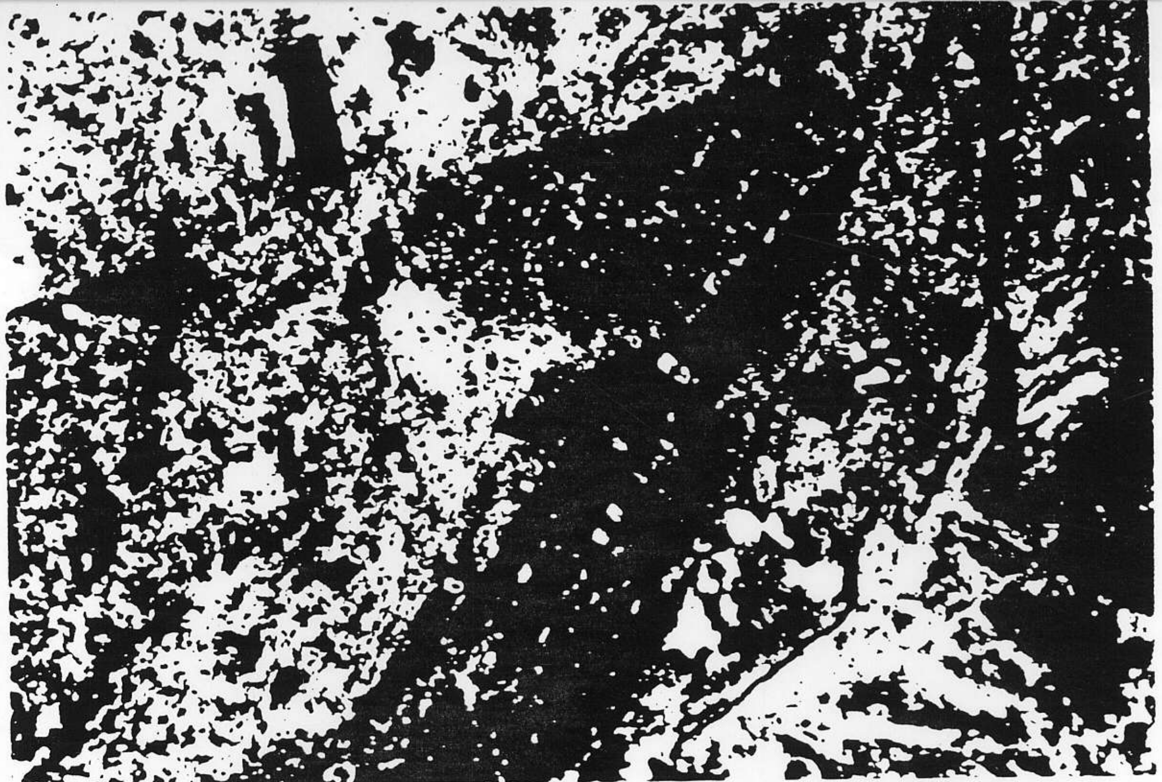


Plate 21-68.9-5. Arsenopyrite needles broken with well developed pressure shadow growth of oriented quartz.

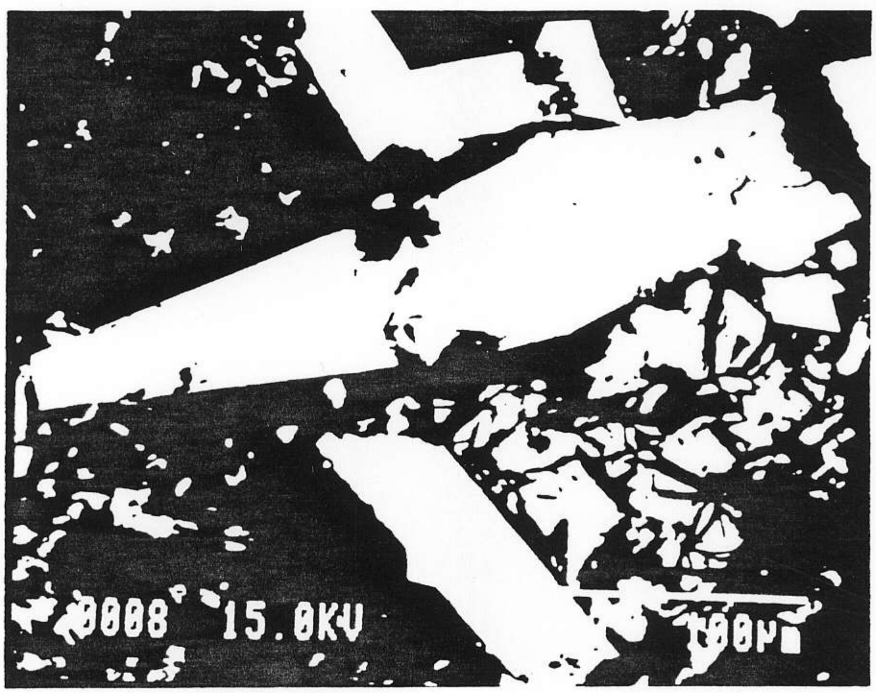


Plate 21-68.9-6. Tetrahedrite at conjunction of broken arsenopyrite grain. Note sheafs of Mg chlorite, black, clearly intergrown with the arsenopyrite.

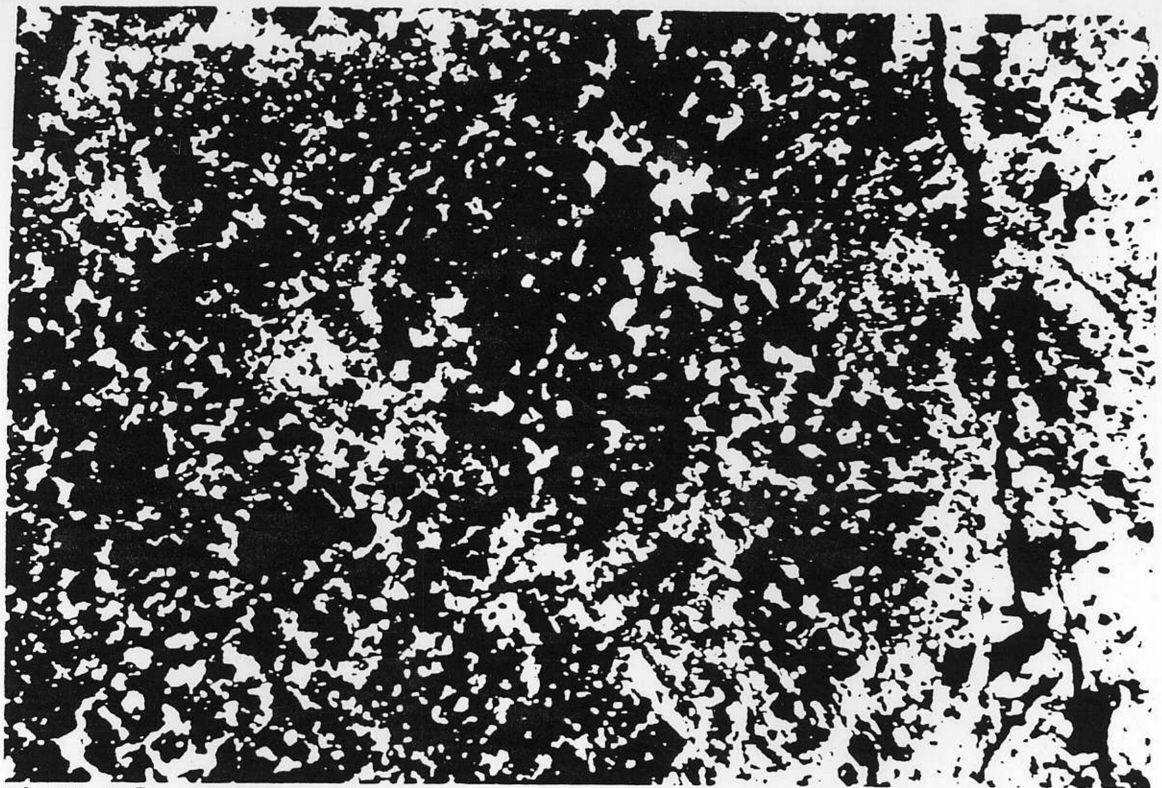


Plate 21-68.9-7. Patches of coarse grains of arsenopyrite and pyrite with interstitial regions of coarse multigranular quartz, muscovite and Mg chlorite.

Plate 21-68.9-8. Coarse muscovite and chlorite with quartz interstitial to the regions of coarse colloform pyrite and arsenopyrite.

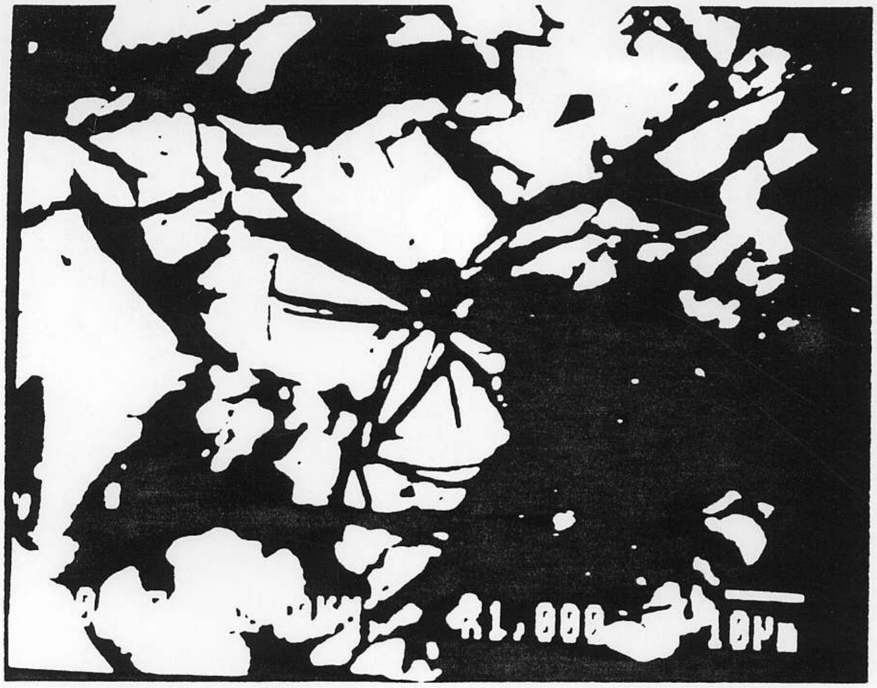


Plate 21-68.9-9. Arsenopyrite with spectacular intergrowth of Mg chlorite sheafs and associated muscovite.

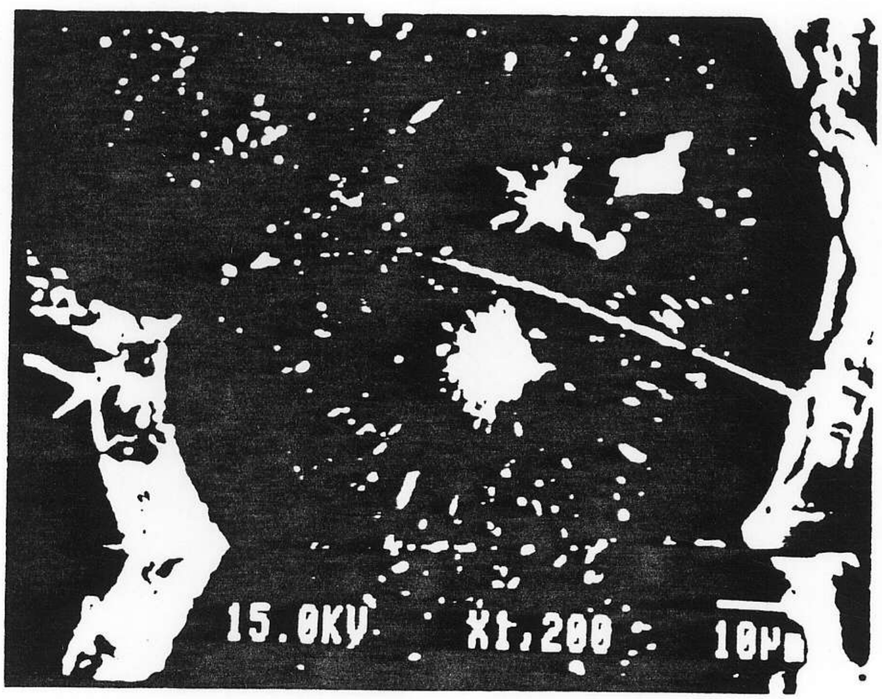


Plate 21-68.9-10. Pyrite sphere with radial distribution of silicate and sulphate inclusions.

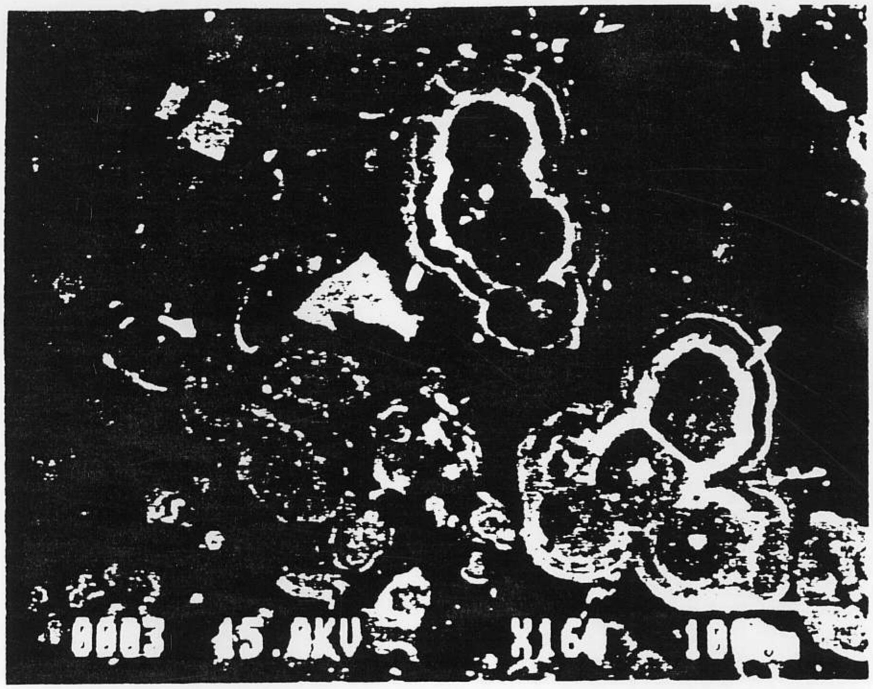


Plate 21-68.9-11. Pyrite with spectacular colloform growth texture with certain growth rings, tetrahedrite.

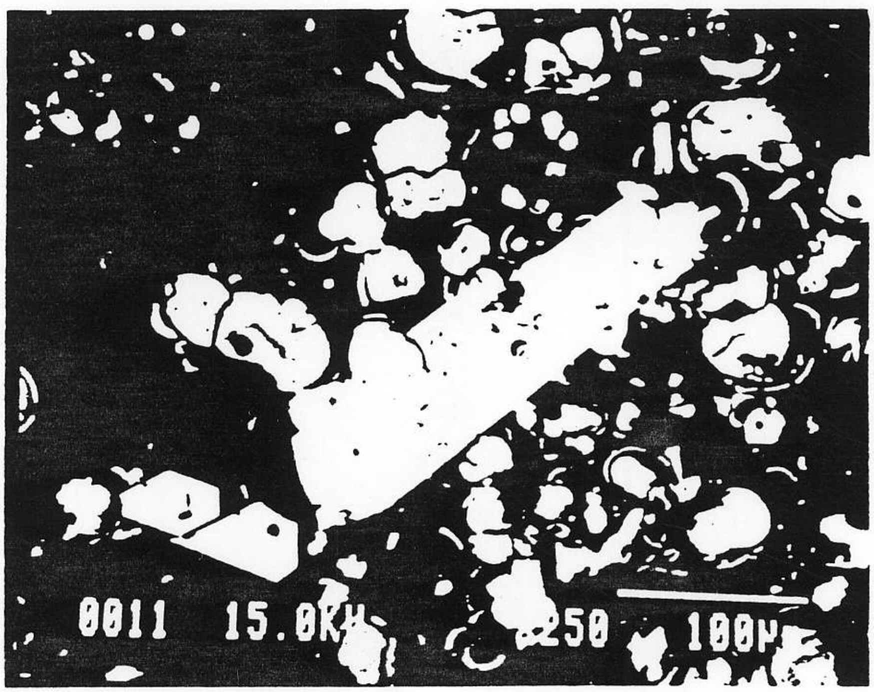


Plate 21-68.9-12. Spectacular inclusion of colloform pyrite tetrahedrite within a single arsenopyrite grain.

DDH CA-89-23-44.2

- framboidal pyrite bearing hydrocarbon rich siliceous rock with calcite albite apatite pyrite Mg-chlorite muscovite alteration patches associated with hydrocarbon recrystallization

quartz	- 70%
muscovite	- <1%
calcite	- 10%
albite	- 10%
Mg-chlorite	- 1%
pyrite	- 4%
apatite	- 1%
arsenopyrite	- 1%
cinnabar	- 1%
hydrocarbon	- 5%

- extremely fine grained quartz with coarse grains and masses associated with regions of recrystallized hydrocarbon (Plates 23-44.2-1,2).

- an even distribution of calcite grains, pyrite framboids and occasional arsenopyrite crystals (Plate 23-44.2-3); rock dark black in hand specimen due to pervasive hydrocarbon content.

- certain angular regions possibly lithic fragments but more likely specific regions of fluid access which consist of angular albite grains essentially cemented by pyrite that significantly does not have a framboidal aspect (Plate 23-44.2-4).

- apatite occurs as small angular grains often with albite in these patches and occasionally in peculiar domains more likely sites of fluid migration which are associated with coarse crystalline calcite, pyrite and Mg chlorite (Plates 23-44.2-5,6) and most significantly coarse recrystallized hydrocarbon which includes muscovite sheafs.

In certain patches of the section concentration of pyrite with interstitial relatively coarse grained quartz and albite represent domains of more intense fluid access. Significantly pyrite in these regions occurs as aggregation of cubes, not as the rounded aspect of the framboidal texture which characterizes the first generation of primary or biogenic pyrite. It is significant that arsenopyrite throught the section also consistently includes the pyrite framboids (Plate 23-44.2-7) indicating that arsenopyrite also developed as a result of access of hydrothermal fluids of some origin into a rock volume that already contained framboidal pyrite.

It is considered very significant that this black hydrocarbon rich siliceous rock with features of primary depositional origin such as biogenic pyrite, the framboids, is replaced by pyrite-Mg chlorite-muscovite in specific sites of fluid access. These minerals of certain hydrothermal origin are seen to pervasively replace rock volume elsewhere in the Eskay sample suite. Just as chert, a primary rock type, is preserved in certain relict portions of the hydrothermally altered rock volume, this hydrocarbon rich, siliceous albitic rock, also likely a primary rock in the section is also preserved in relict volumes within the hydrothermal "zone".

This sample is important as the later Mg chlorite - Ba muscovite assemblage demonstrates that this rock volume was in existence as a primary rock type and locally accessible to fluids which produced assemblages dominant in more focused regions of the Eskay system.

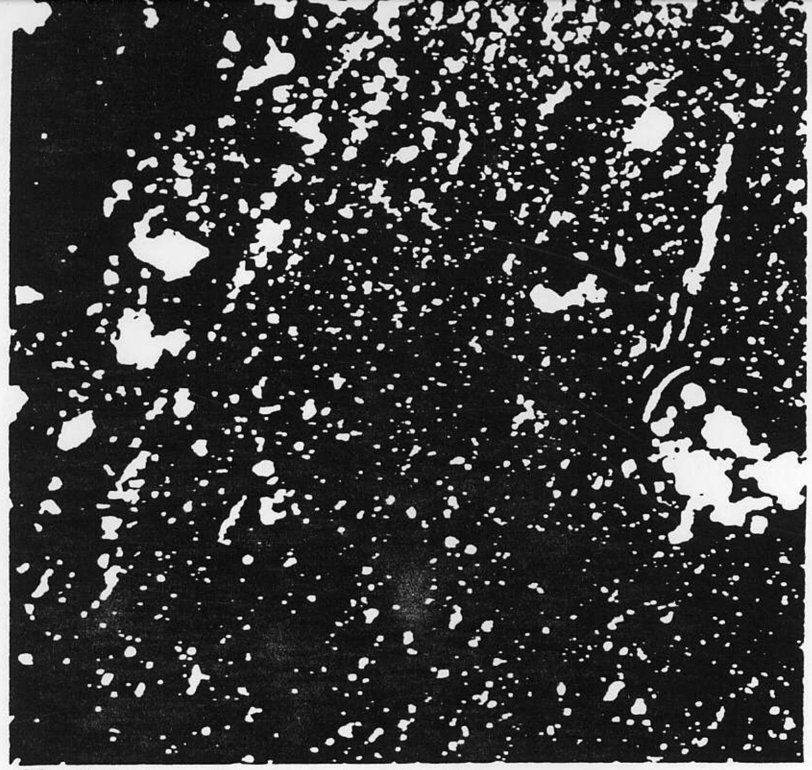


Plate 23-44.2-1. Fine grained siliceous sample with st patches and coarse veinlike masses of calcite associate recrystallized hydrocarbon.

Plate 23-44.2-2. Same region as Plate 23-44.2-1, in pl. of recrystallized hydrocarbon.

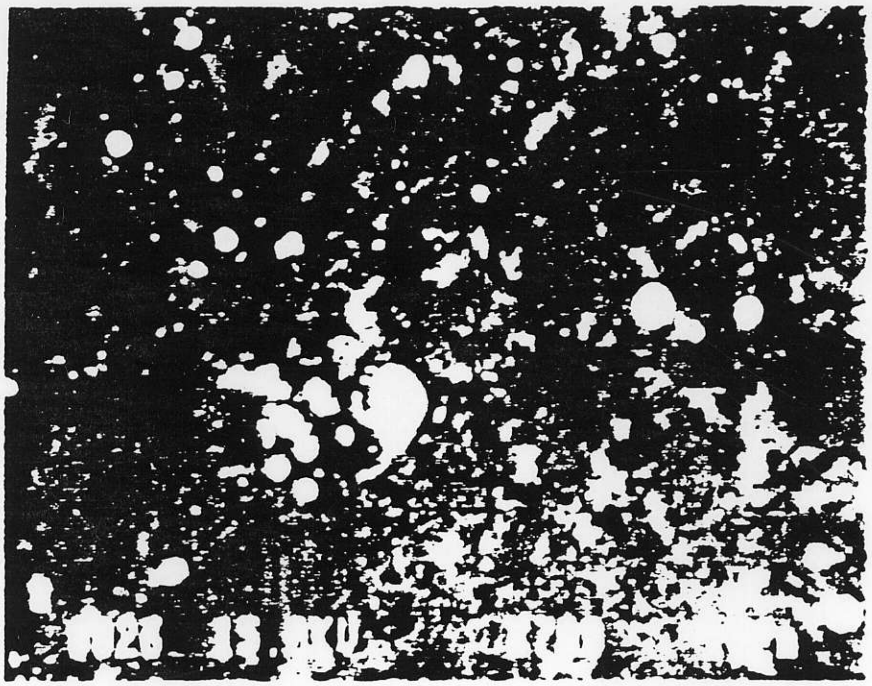


Plate 23-44.2-3. Pyrite framboids of probable biogenic origin white, and calcite grains, light grey, in the fine grained quartz matrix.

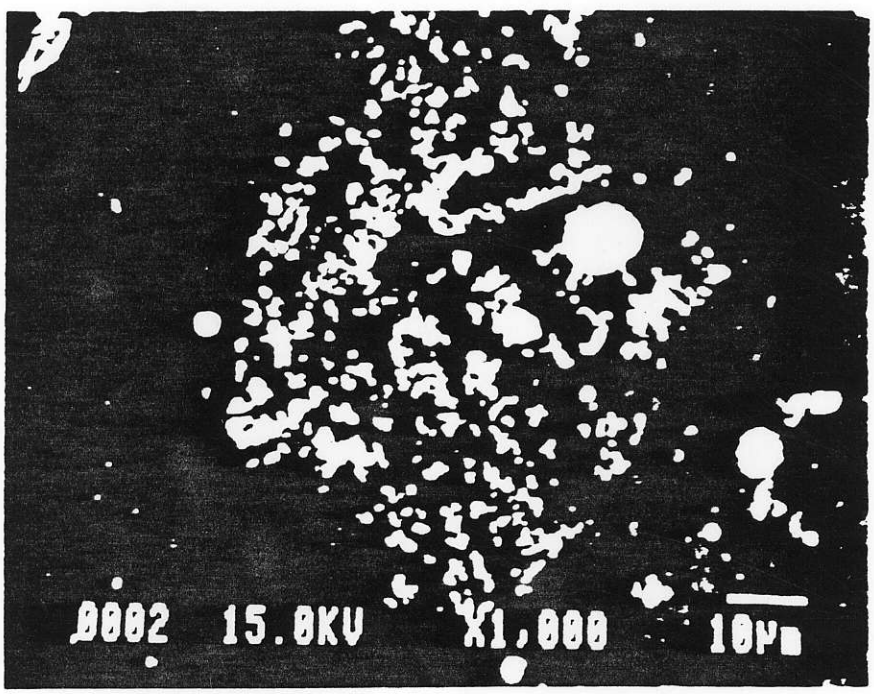


Plate 23-44.2-4. Angular region of albite with fine interstitial pyrite in a zone of probable solution access, note inclusions of pyrite framboid in this region.

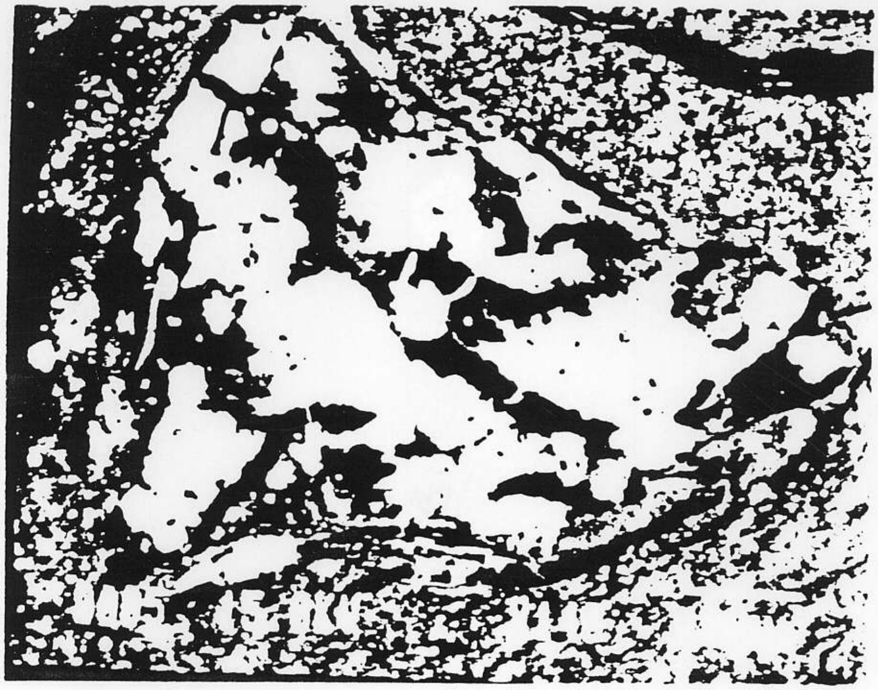


Plate 23-44.2-5. Association of coarse recrystallized hydrocarbon, black, intergrown with albite, light grey, apatite in a specific region of access of hydrothermal fluid.

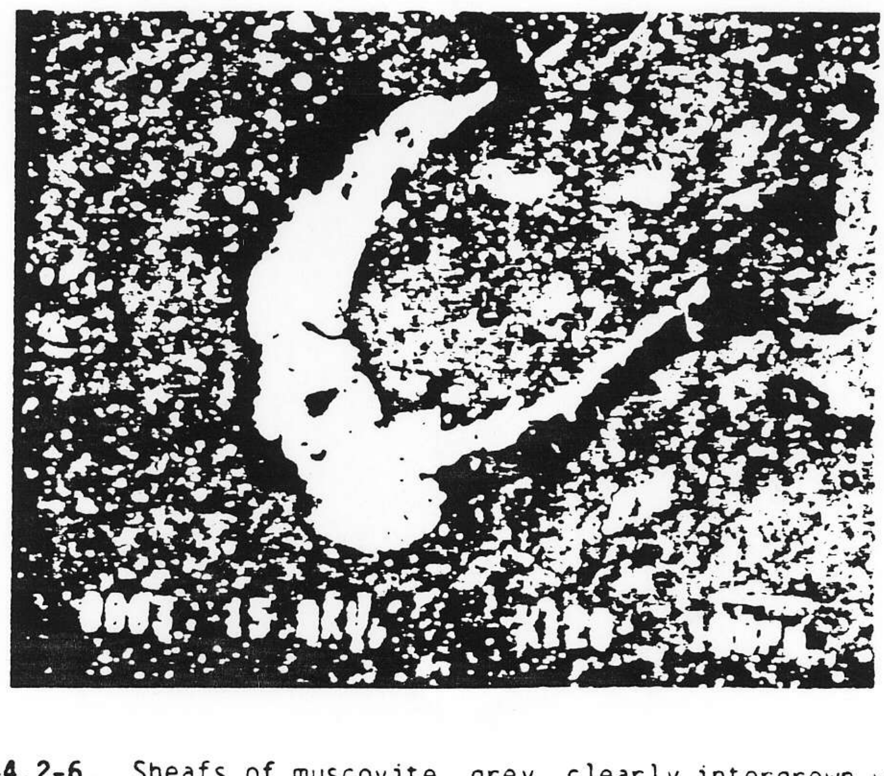


Plate 23-44.2-6. Sheafs of muscovite, grey, clearly intergrown with patches of recrystallized hydrocarbon, black, associated with apatite, white in an arcuate region of solution access.

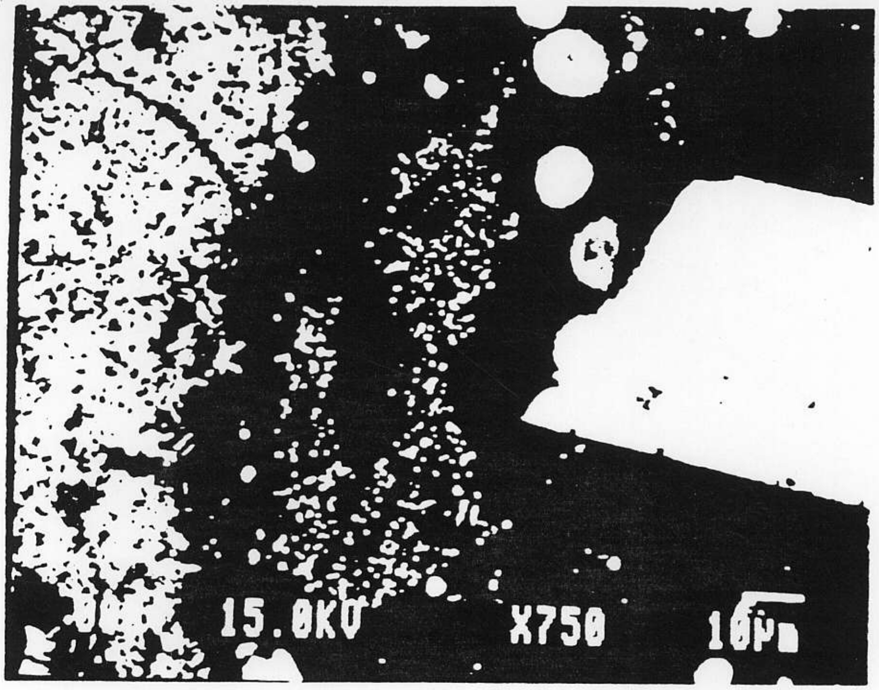


Plate 23-44.2-7. Arsenopyrite rhomb including framboidal pyrite at margin of site of possible solution access in chert.

DDH CA-89-23-86.0

- pyritic Mg chloritite replaced by network of calcite, quartz, muscovite veinlets

muscovite	- 2%
calcite	- 15%
dolomite	- 1%
barite	- <<1%
Mg-chlorite	- 75%
pyrite	- 8%
tetrahedrite	- <<1%

- rock essentially massive Mg chlorite with evenly dispersed grains and concentrations of pyrite, that significantly has an angular to equant aspect (Plates 23-86.0-1,2).

- the Mg chloritite-pyrite rock is cut by a branching network of calcite veins with variable abundance of quartz, dolomite, muscovite and trace barite (Plates 23-86.0-3,4); significantly spatially related to the margins of these late veinlets pyrite grains exhibit a characteristic hollow to concentric growth texture considered diagnostic of hydrothermal growth (Plate 23-86.0-5).

- the larger equant pyrite grains throughout the chlorite are consistently associated with narrow marginal zones of muscovite, particularly those grains with centrally located masses of tetrahedrite. This although the equant pyrite ± tetrahedrite grains do not exhibit the often spectacular concentric growth features, the narrow marginal zones of muscovite indicate that they developed through pervasive passage of potassic hydrothermal fluids through a Mg chloritite altered rock volume.

The problem posed by this rock volume is by what process was a rock consistently of essentially Mg chlorite generated. It may be significant that the chlorite in this sample does not have a fluorine content detectable with the microprobe compared with other chlorite rich samples in which the chlorite contains up to 1.00 weight percent F.

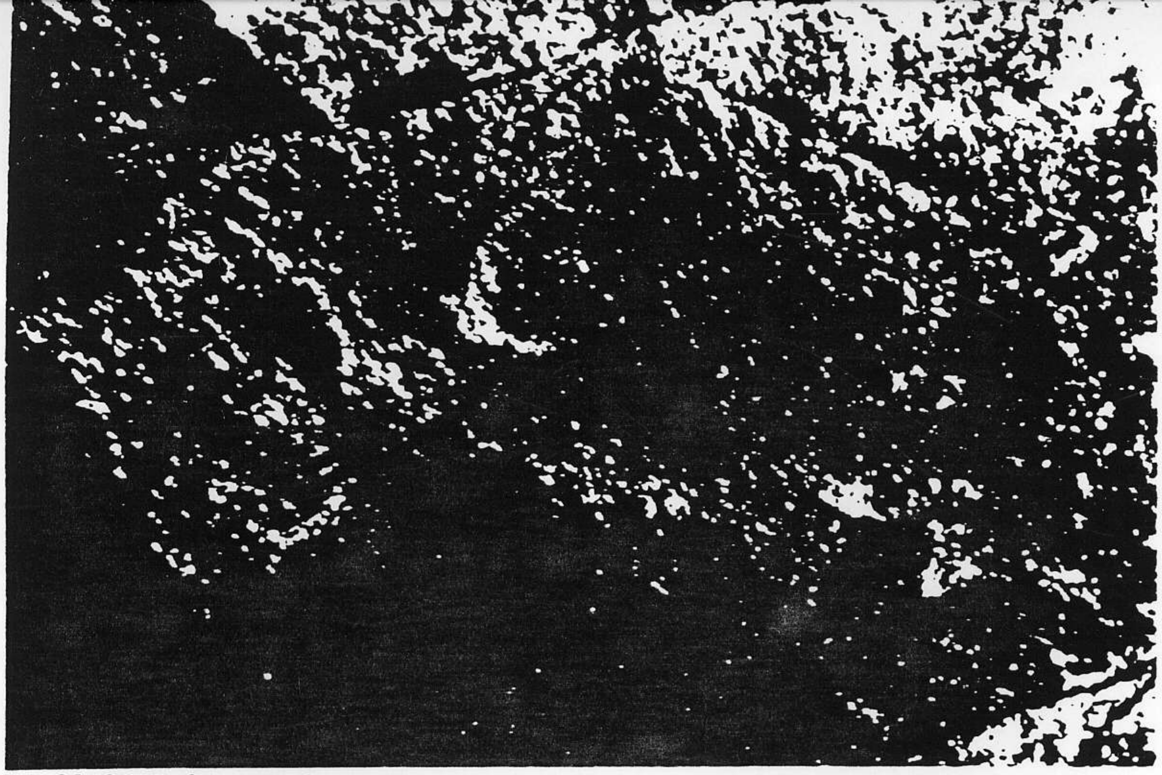


Plate 23-86.0-1. Uniform featureless massive Mg chlorite with evenly dispersed equant pyrite grains.

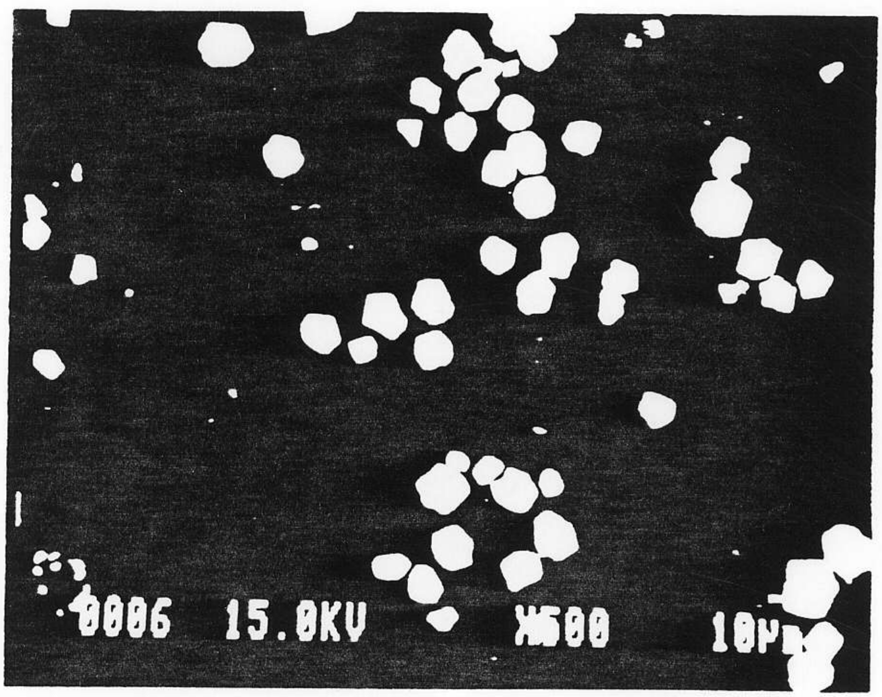


Plate 23-86.0-2. Equant angular pyrite grains in massive Mg chlorite.

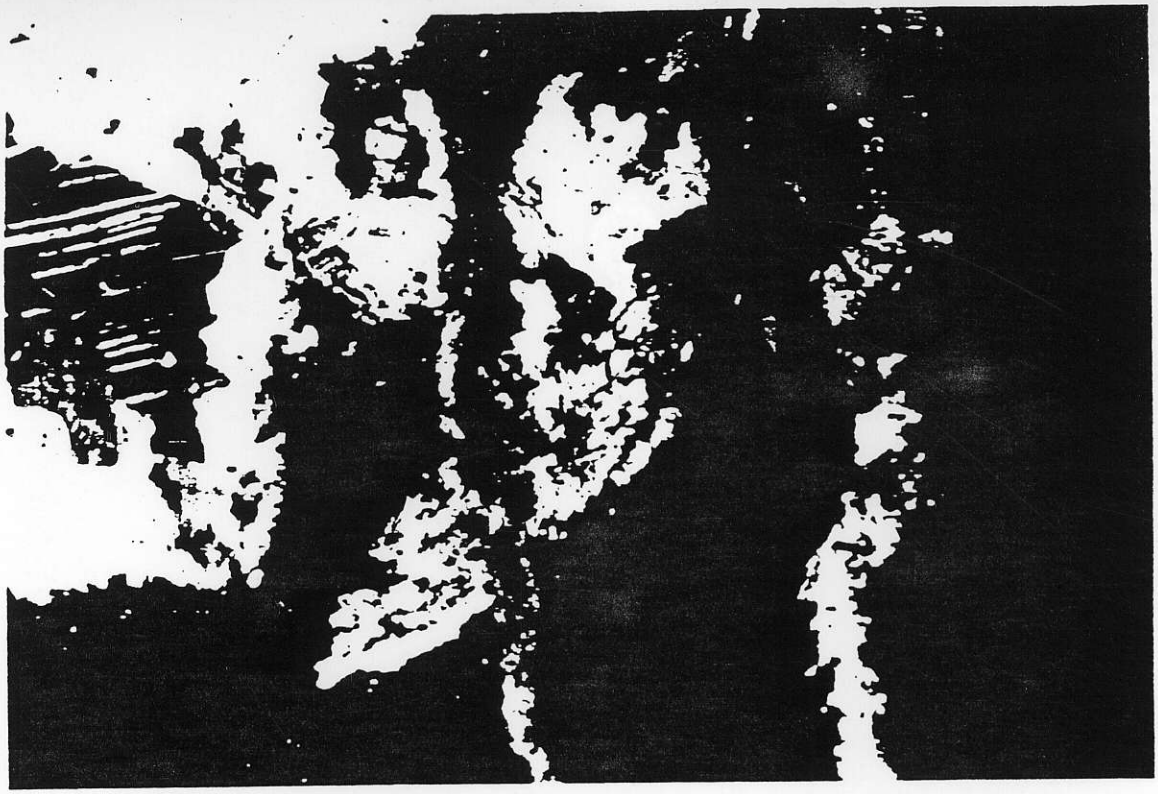


Plate 23-86.0-3. Network of calcite, muscovite and barite veinlets and patches in Mg chlorite.

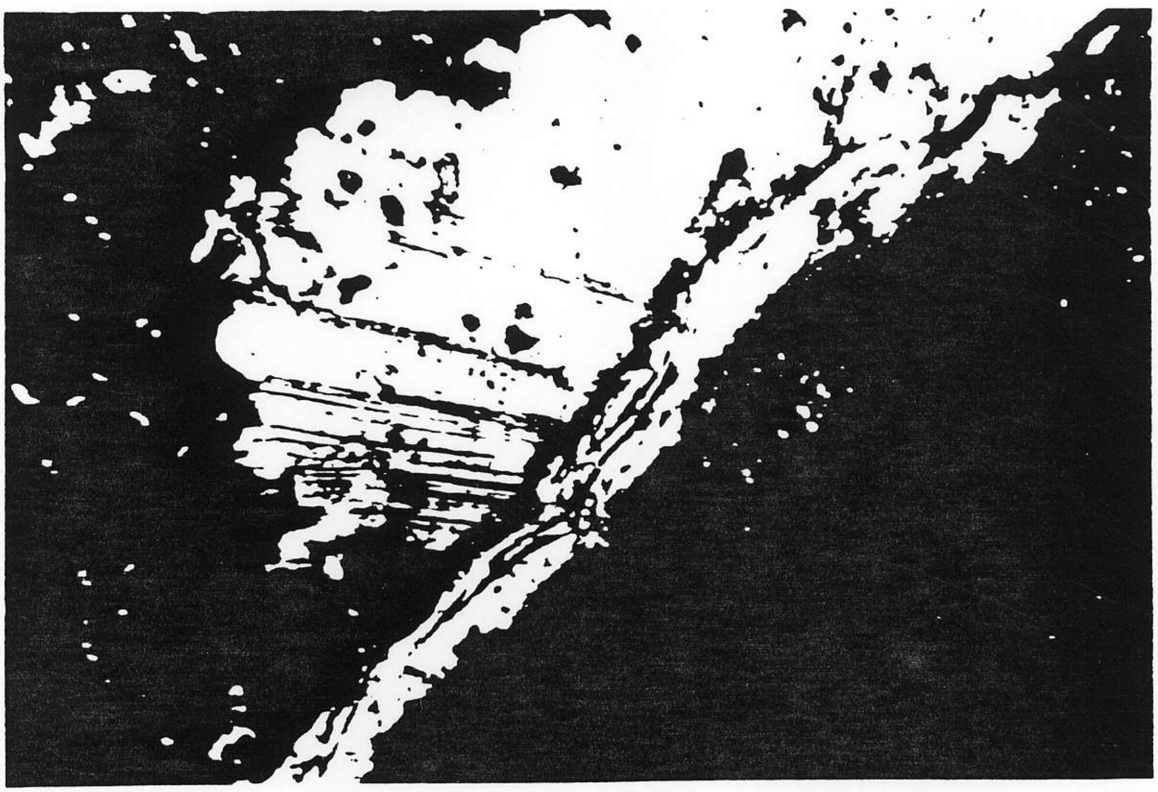


Plate 23-86.0-4. Coarse muscovite at margin of calcite veinlet in Mg chlorite.

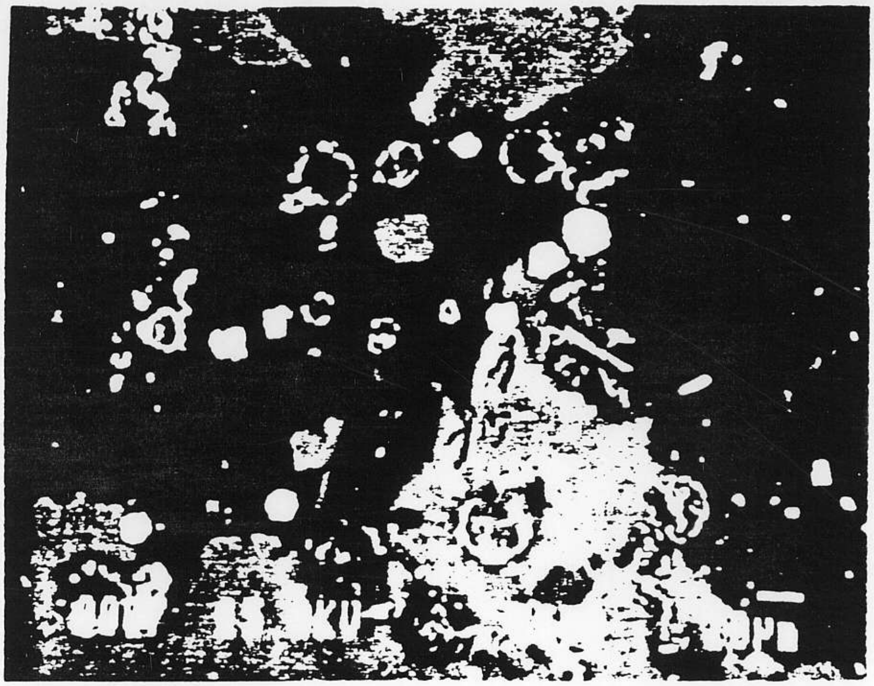


Plate 23-86.0-5. Development of pyrite with concentric growth textures in Mg chloritite in muscovite and chloritite at margin late calcite veinlets, a texture diagnostic of hydrothermal growth.

DDH CA-88-28-63.0

- felsite fragments in chert; replaced by calcite-pyrite with Mg chlorite and muscovite in glass shards and cavities, replaced by muscovite in a late vein, weakly deformed

felsite fragments	- 40%
pyrite	- 30%
chert matrix	- 30%
Mg chlorite	- 10%
muscovite	- 15%
calcite	- 20%
arsenopyrite	- 1%
sphalerite	- <<1%

- sample consists of fragments of rapidly quenched felsic rock, felsite of possible volcanic origin within graphitic chert (Plate 28-63.0-1).

- the felsite consists of radial sheafs of albite in a fine grained almost glassy matrix, a texture typical of rapid quench cooling (Plate 28-63.0-2).

- the felsite is variably replaced by calcite and pyrite along inwardly projecting veinlets and pervasive zones (Plate 28-63.0-2), in places the pyrite is massive.

- sites of possible phenocrysts in the felsite are replaced by calcite and variolitic cavities originally sealed by glassy material are largely replaced by Mg chlorite (Plates 28-63.0-3,4).

- chert regions of the section include a variety of altered felsite fragments and angular regions likely glass shards which have been largely replaced by Mg chlorite, calcite and muscovite in a variety of spectacular concentric textures (Plates 28-63.0-6,7).

- a narrow zone of moderately foliated calcite muscovite occurs at the interface between felsite and chert and both felsite and chert are pervasively replaced by muscovite producing a variety of confused textures (Plate 28-63.0-8).

- significantly clusters of arsenopyrite rhombs occur in this zone of pervasive muscovite alteration associated with and clearly overgrowing pyrite (Plate 28-63.0-11).

- most significantly grains of honey coloured sphalerite also occur in this muscovite.

- pressure shadows of oriented quartz occur about broken pyrite grains adjacent to this zone of muscovite alteration (Plate 28-63.0-9), clear evidence of recrystallization accompanying deformation.

- cavities throughout the sample have been sealed by Mg chlorite and significantly cavities in massive pyrite are also similarly sealed by this spectacularly textured radial chlorite (Plate 28-63.0-10).

- this relationship indicates that the Mg chlorite developed as part of or even subsequent to the calcite alteration regime likely in the early stages of the Eskay Creek fluid system.

- This sample is important as it provides evidence that the felsite chert relationships were in existence as a rock, prior to access by magnesian and potassic fluids of the Eskay system. The angular glass shards in the chert are clearly the origin of certain spectacularly zoned Mg chlorite and Ba muscovite regions noted in other more intensely hydrothermally altered and mineralized samples.

- the precise nature of the rapidly quenched rock fragments included in chert in this sample is critical. Pyroxene grains were not noted and the rock is predominantly feldspar and similar to the lithic fragments of sample 21-54.4. If this felsic rock was in any way related to the magmatism associated with this overlying andesite flows, samples 21-54.4 and 28-63.0 would provide strong evidence that the stratigraphic section was in place at Eskay Creek prior to the access of hydrothermal fluids. The felsite may however have another origin unrelated to andesitic volcanism. Whatever this origin the lithic fragments appear to have been included in the chert as a primary depositional feature.

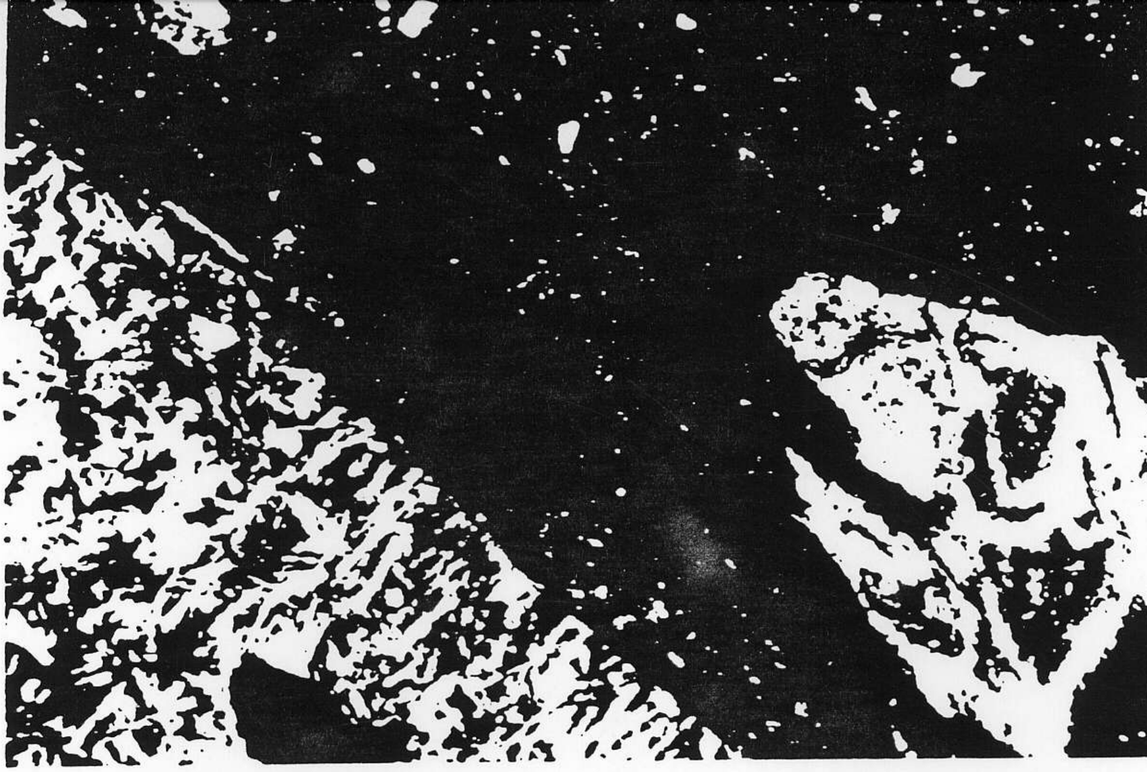


Plate 28-63.0-1. Contact between felsite fragment and chert, note irregular zone of radial Mg chlorite in possible glass shard in region of chert.

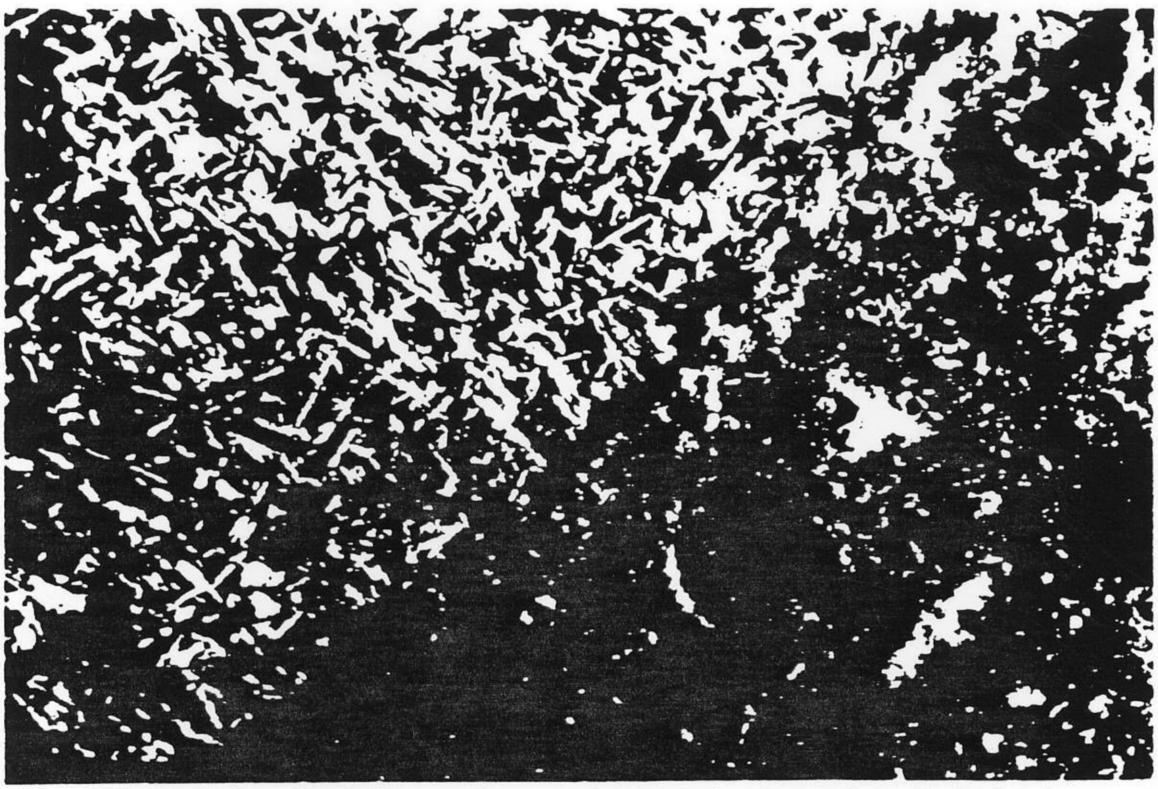


Plate 28-63.0-2. Rapidly quenched rock consisting of radial feldspar sheafs, felsite, replaced pervasively by calcite and pyrite.

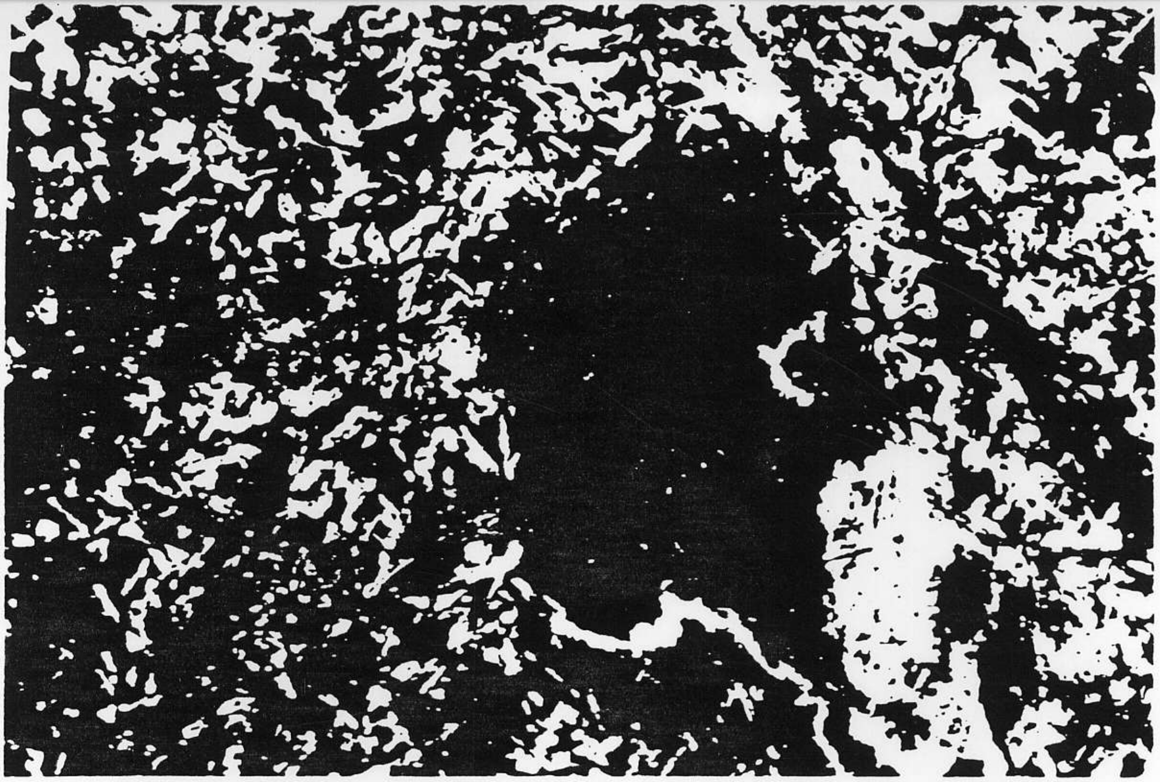


Plate 28-63.0-3. Felsite replaced by calcite and Mg chlorite in possible vesicles.

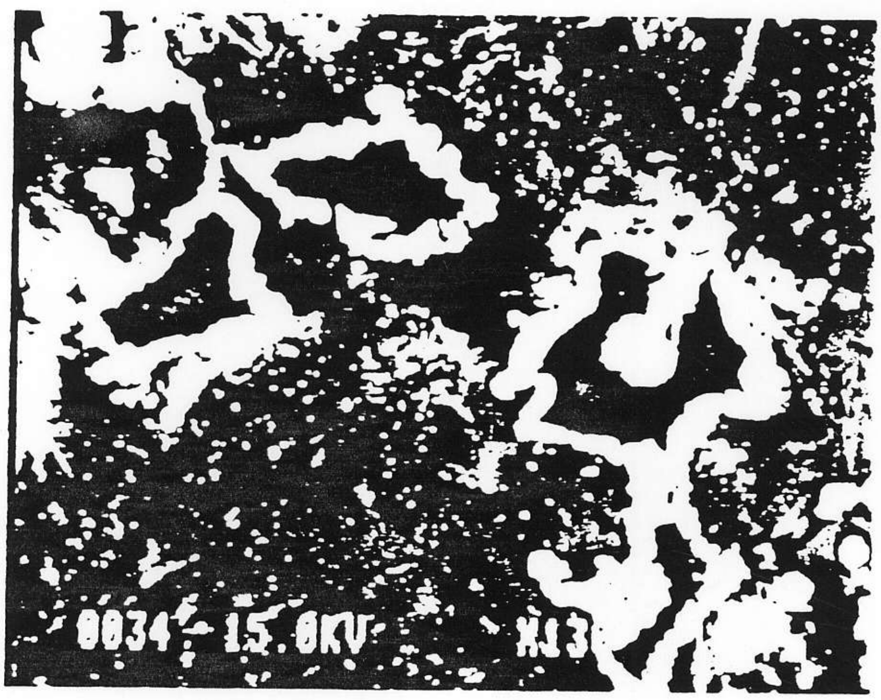


Plate 28-63.0-4. Vescicles in felsite sealed by zoned region of calcite, light grey, with central zones of Mg chlorite and muscovite.

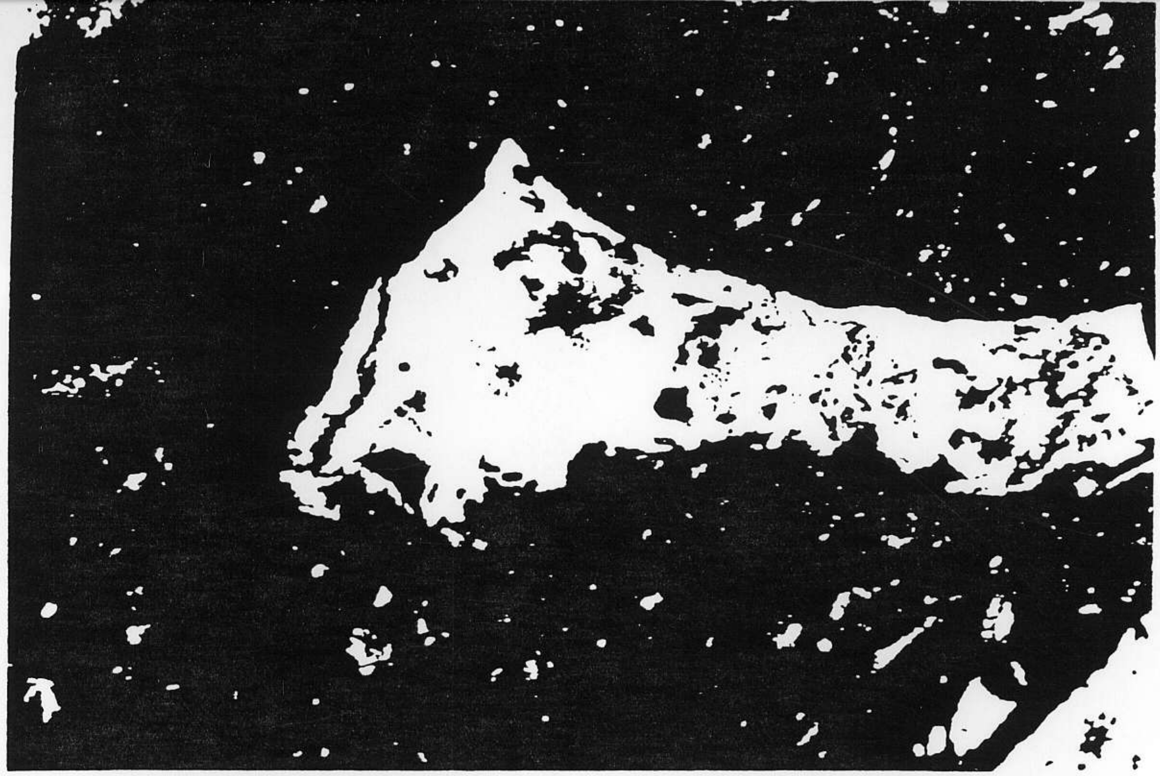


Plate 28-63.0-5. Angular probable glass shard in chert replaced by Mg chlorite and muscovite.

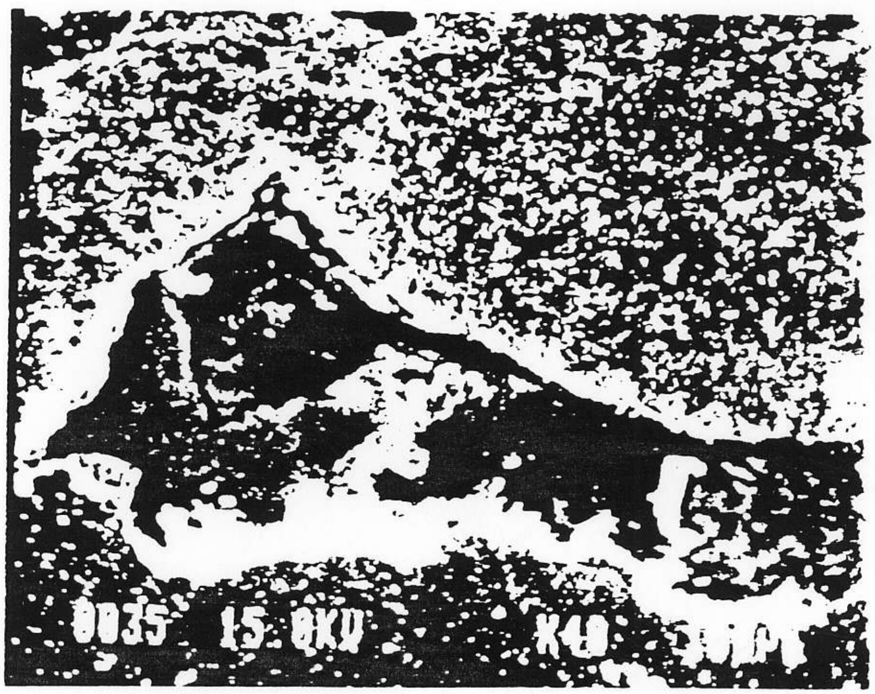


Plate 28-63.0-6. Same region as Plate 28-63.0-5 in BSE mode, note intergrowth of Mg chlorite, dark grey and muscovite, light grey.

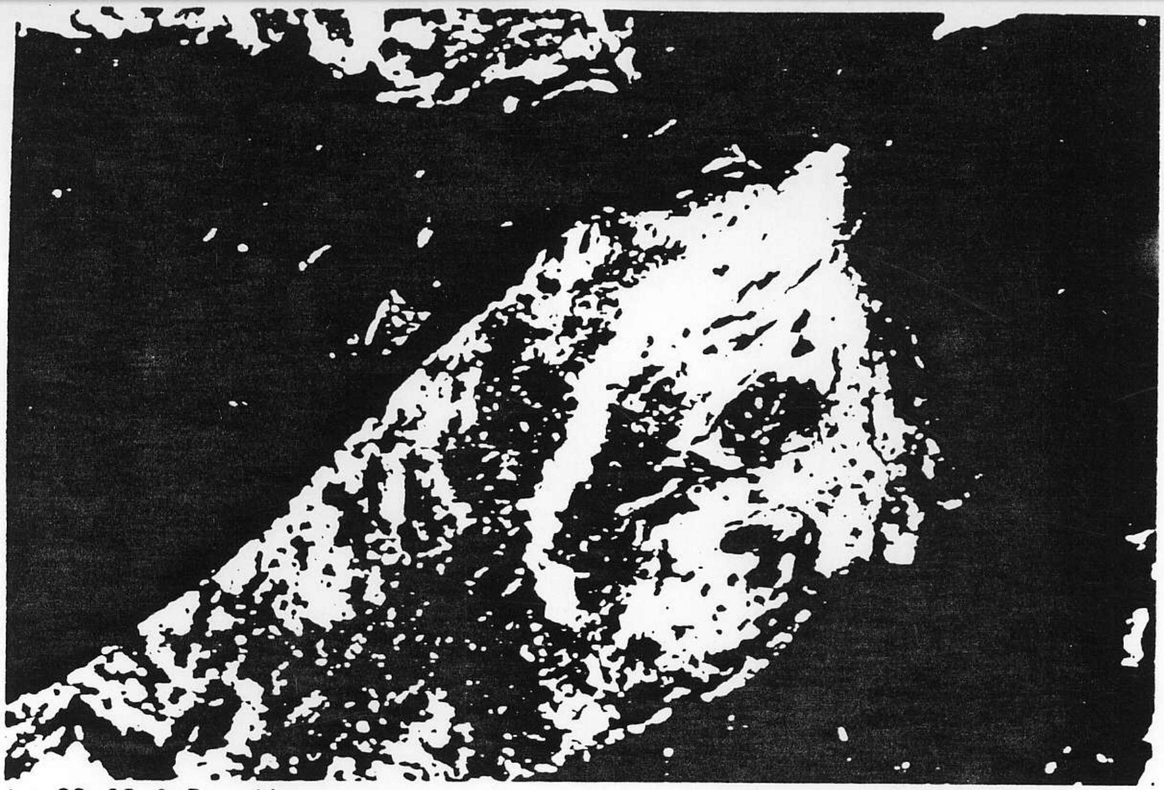


Plate 28-63.0-7. Glass shard replaced by Mg chlorite with a veinlike region of muscovite.

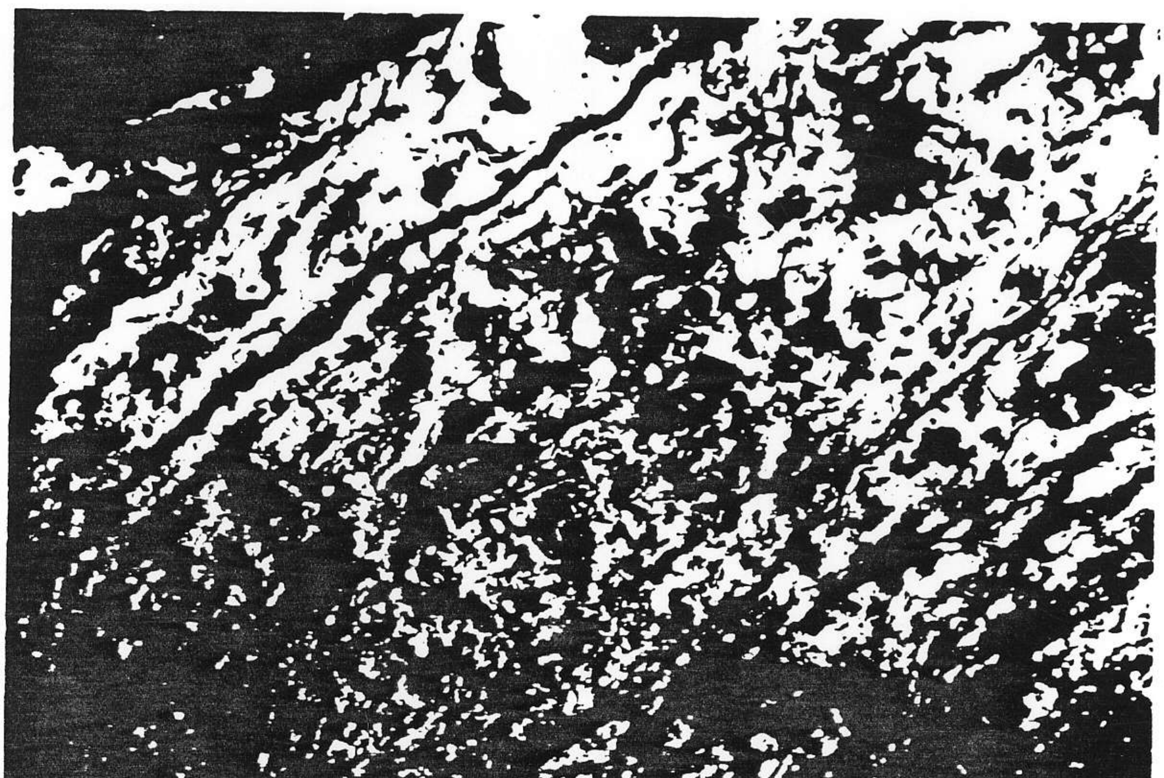


Plate 28-63.0-8. Zone of pervasive calcite muscovite alteration at interface between felsite and chert.

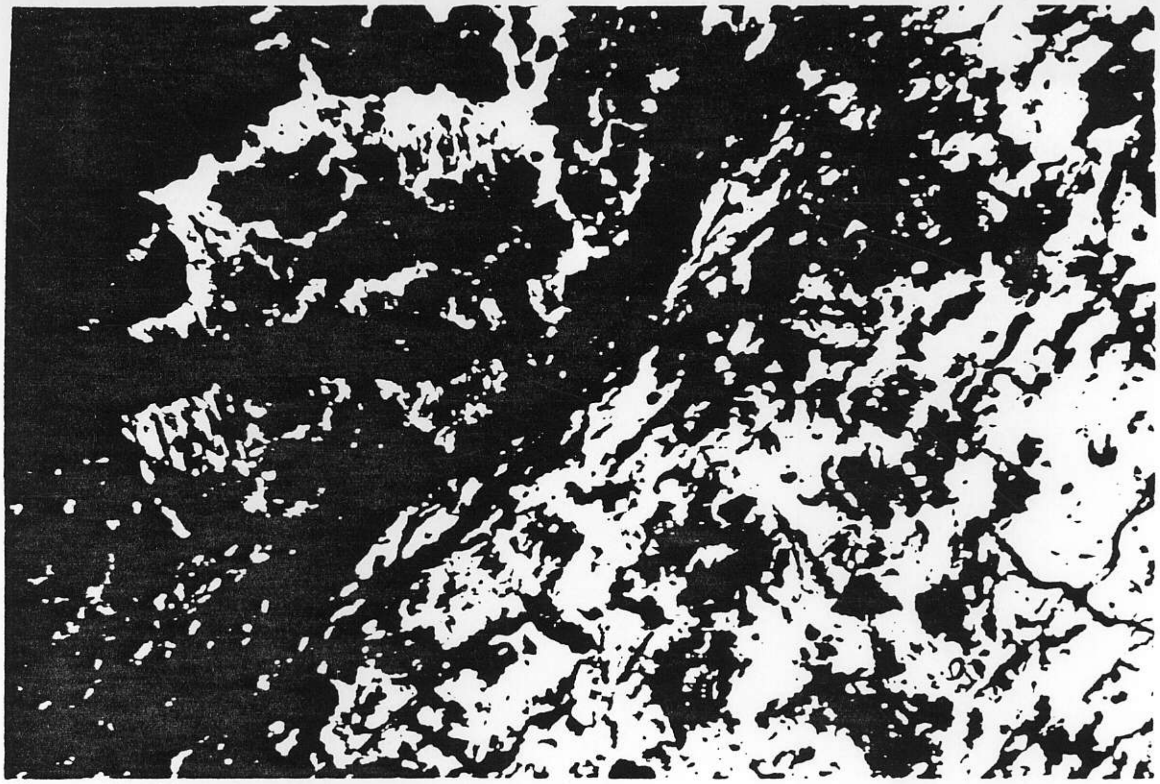


Plate 28-63.0-9. Regions of oriented quartz growth in pressure shadow zones on pyrite.

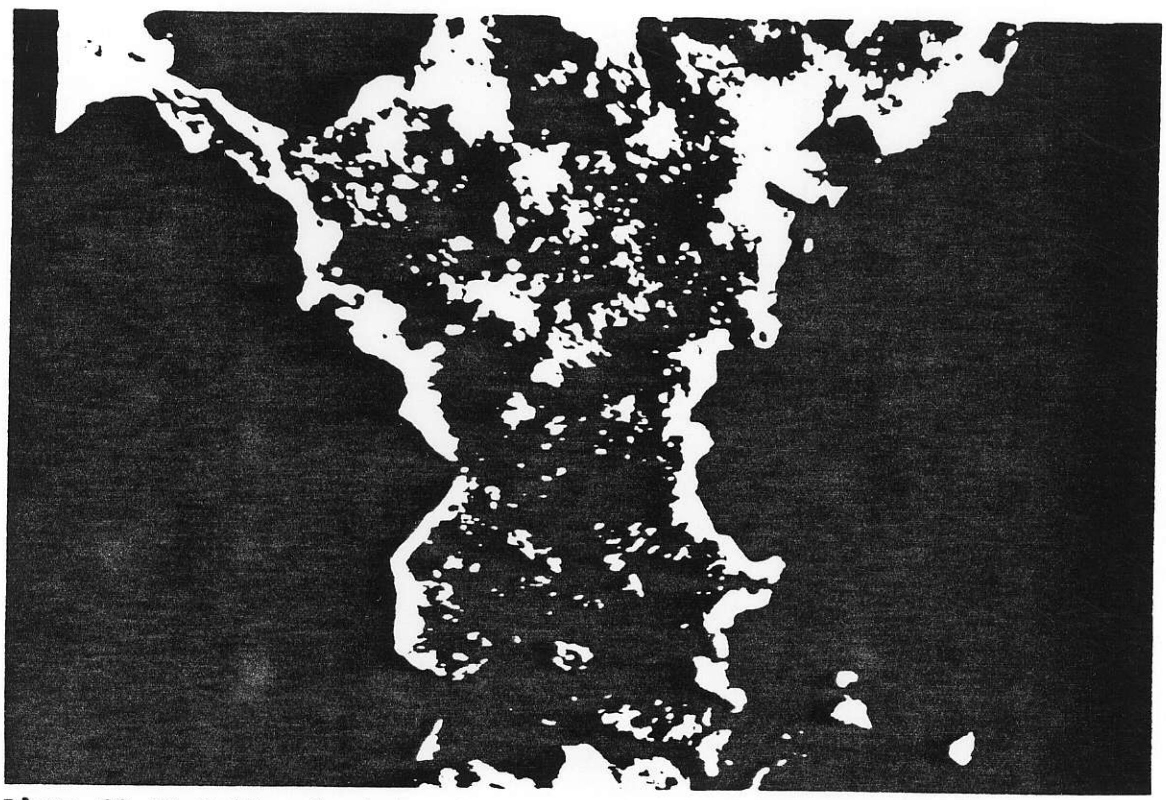


Plate 28-63.0-10. Cavities in pyrite sealed by zones of radial Mg chlorite.

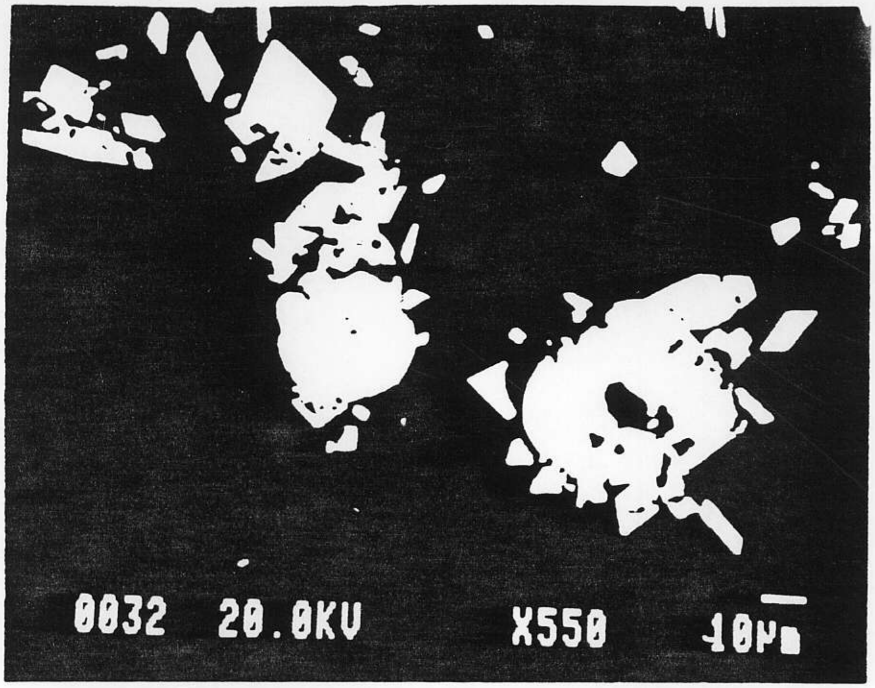


Plate 28-63.0-11. Arsenopyrite clearly overgrowing pyrite in a veinlike region of pervasive muscovite alteration.

DDH CA-88-28-71.5

- Mg chloritite pervasively replaced by muscovite and arsenopyrite deformed to produce an arsenopyrite muscovite schist, with patches and veinlets of stibnite and quartz in sites of postdeformational fluid access

quartz	- 10%
muscovite	- 65%
arsenopyrite	- 25%
stibnite	- 10%

- large regions of the section consist of radial clusters and needles of arsenopyrite within an extremely fine grained muscovite matrix with a strong fabric (Plate 28-71.5-1).

- circular patches of coarse quartz and muscovite and stibnite occur throughtout often surrounded by radial zones of muscovite sheafs (Plates 28-71.5-2,3); section also cut by almost massive stibnite veins with coarse sheafs of muscovite as vein selvage (Plates 28-71.5-4,5).

- It is significant that these are not pressure shadow phenomena and clearly represent sites of solution access inducing stibnite, quartz and mica recrystallization after the episode of deformation that produced the dominant fabric of the sample.

  The rock volume was clearly accessible to siliceous, Sb-rich solutions after an interval of deformation.

- most significantly occasional patches of Mg chloritite occur throughout the matrix that are significantly without arsenopyrite (Plate 28-71.5-6).

- arsenopyrite clearly developed in a Mg chloritite rock volume in a regime of ingress of potassic hydrothermal fluids.

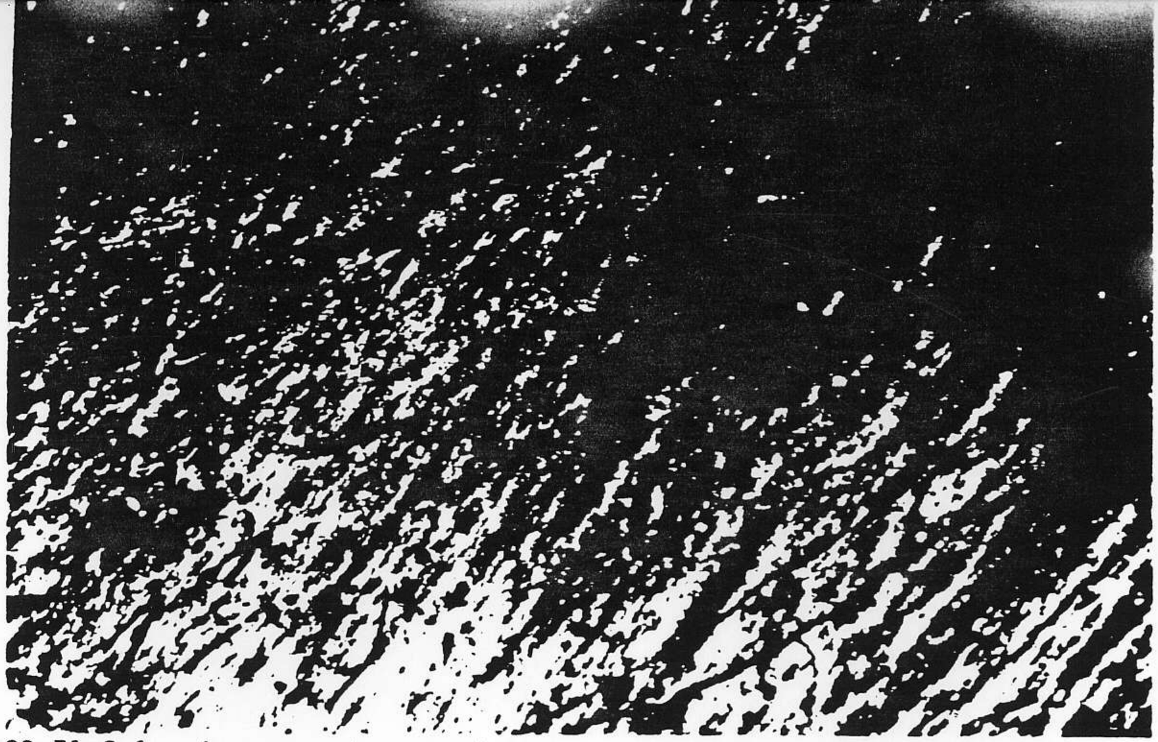


Plate 28-71.5-1. Arsenopyrite needles and rhombohedra within a highly foliated muscovite matrix.

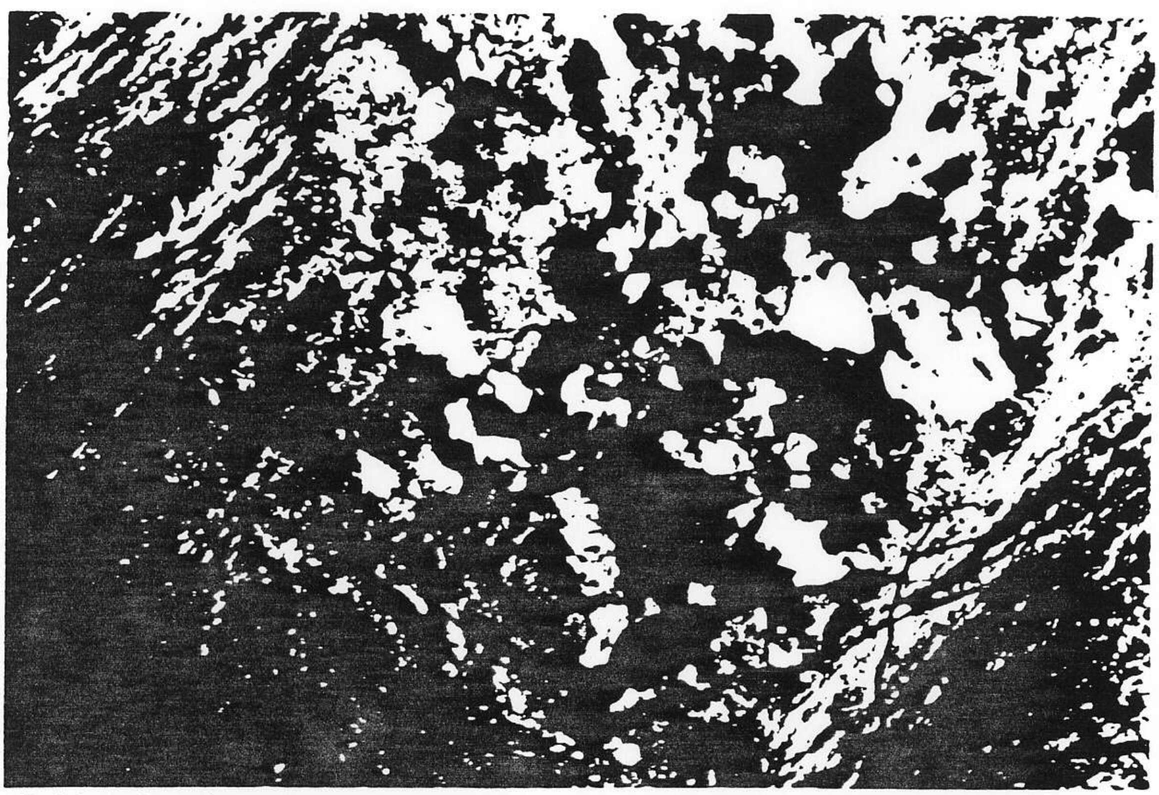


Plate 28-71.5-2. Circular region of coarse multigranular quartz with stibnite and coarse sheafs of muscovite.

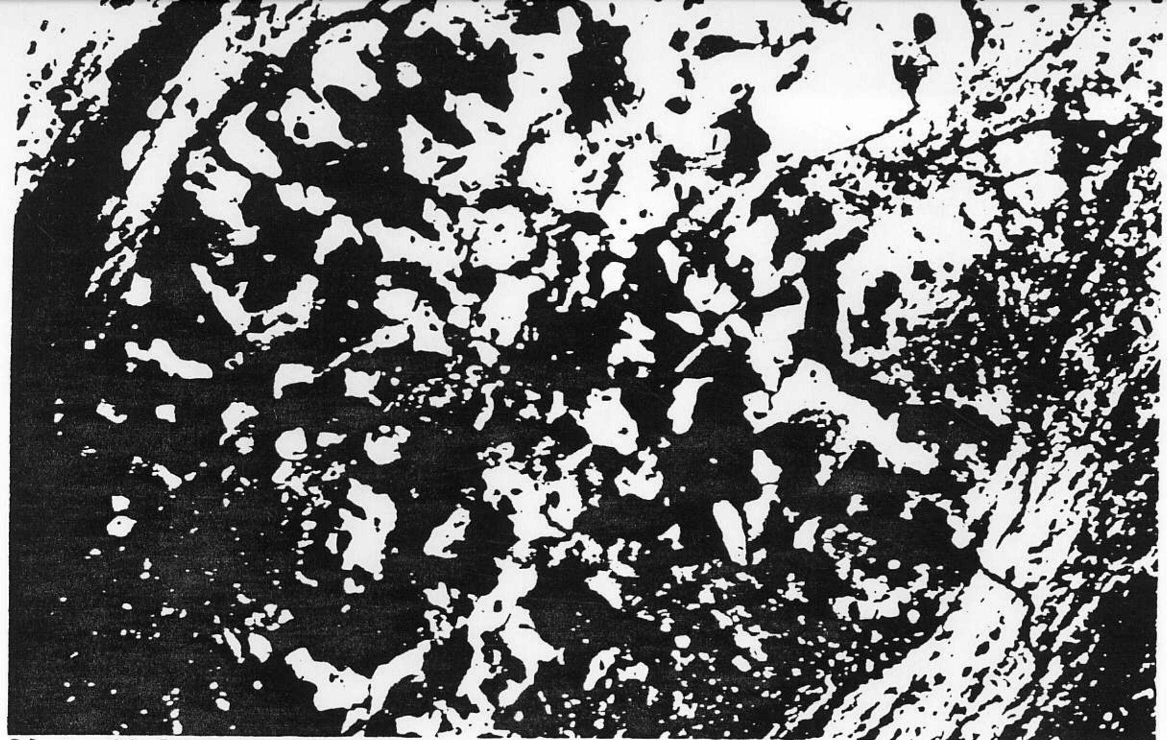


Plate 28-71.5-3. Domain of coarse quartz, stibnite and muscovite within foliated muscovite arsenopyrite matrix.

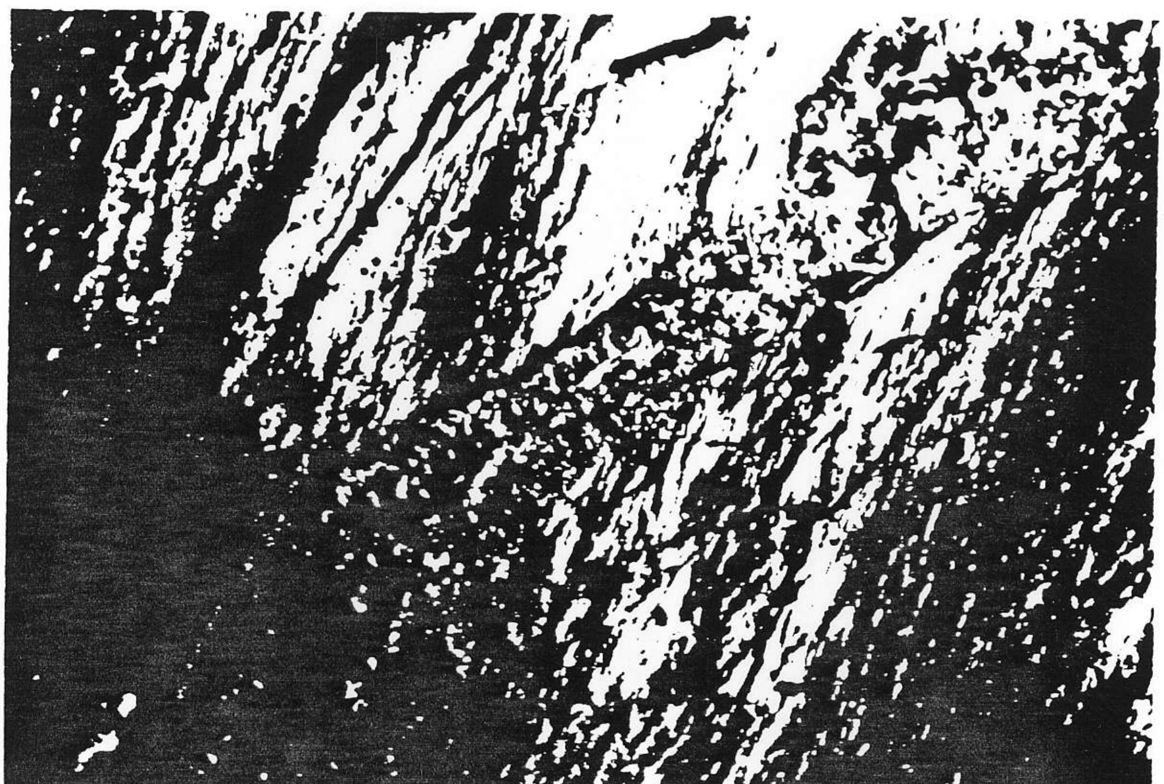


Plate 28-71.5-4. Vein of massive stibnite with coarse oriented muscovite at vein selvage.

Plate 28-71.5-5. Coarse muscovite at selvage of stibnite vein in foliated muscovite schistose matrix.

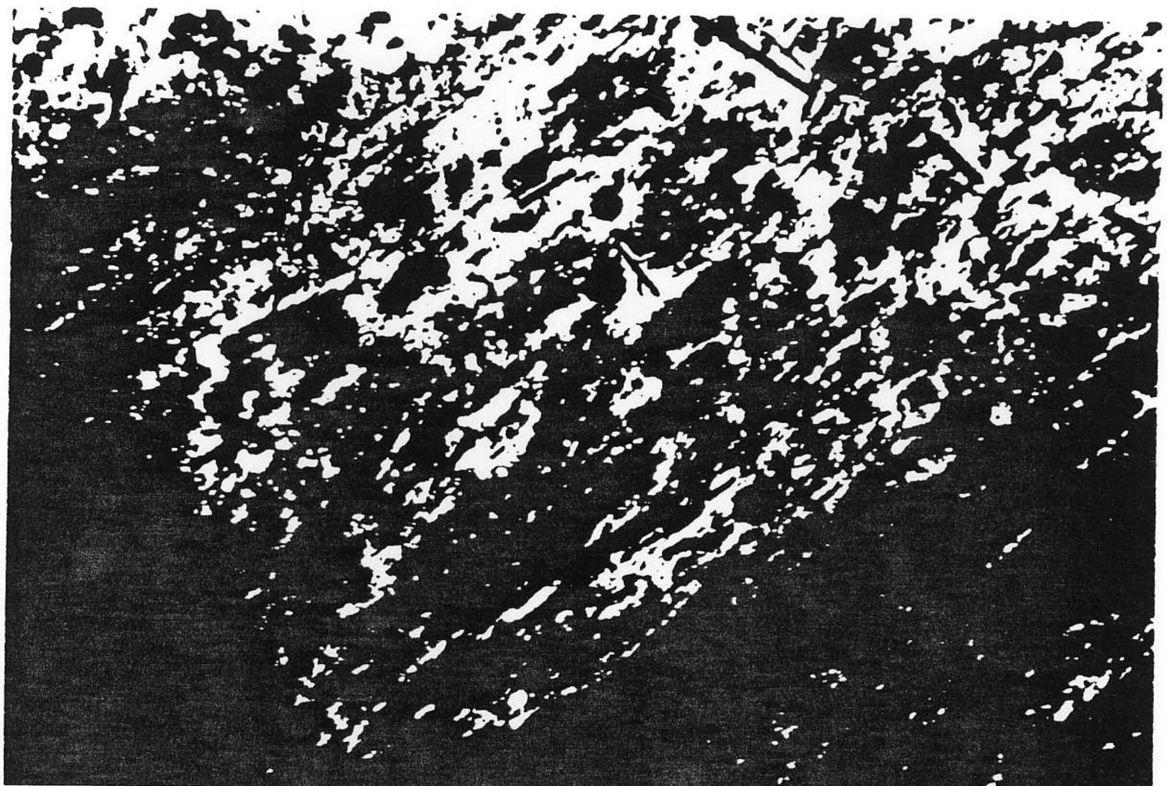


Plate 28-71.5-6. Relict domain of pyritic Mg chloritite significantly without arsenopyrite in muscovite schist.

DDH CA-88-55-94.2

- possible zone of hydrocarbon rich chert replaced by Mg chlorite and muscovite with superimposed late stage pervasive silicification

quartz	- 60%
muscovite	- 10%
calcite	- 5%
Mg chlorite	- 10%
hydrocarbon	- 15%

- angular masses and relict patches of opaque hydrocarbon material penetrated by narrow veins of fine grained quartz and largely replaced in large areas of section by multigranular often prismatic quartz (Plates 55-94.2-1,2).

- occasional relict angular domains of intergrowth of hydrocarbon Mg chlorite with spectacular radial features fractured and penetrated by zones of muscovite (Plate 55-94.2-3) replaced by multigranular quartz (Plate 55-94.2-4).

- certain coarse grained regions of late stage quartz cut the earlier stages of pervasive relatively fine grained quartz alteration (Plate 55-94.2-5).

This sample allows some speculation concerning the paragentic relationships between alteration assemblages at Eskay Creek. The abundant hydrocarbon content would suggest that the original rock volume was a hydrocarbon rich chert or related rock type. Mg chloritite development is clearly veined by muscovite and then pervasively replaced by prismatic to coarse grained vein-like quartz.

Thus fluids of evolving character in the Eskay system were sequentially accessible to the same rock volume with evidence for late stage development of prismatic to coarse vuggy silica.

Textures in sample 28-71.5 also support this interpretation wherein highly foliated arsenopyrite muscovite schist is clearly veined by stibnite coarse grained quartz.

The prismatic quartz in this sample has textural affinity with samples of altered rhyolite in drill holes CA 88-12,13 which also demonstrate stibnite, tetrahedrite and sphalerite development in volumes of silicification.

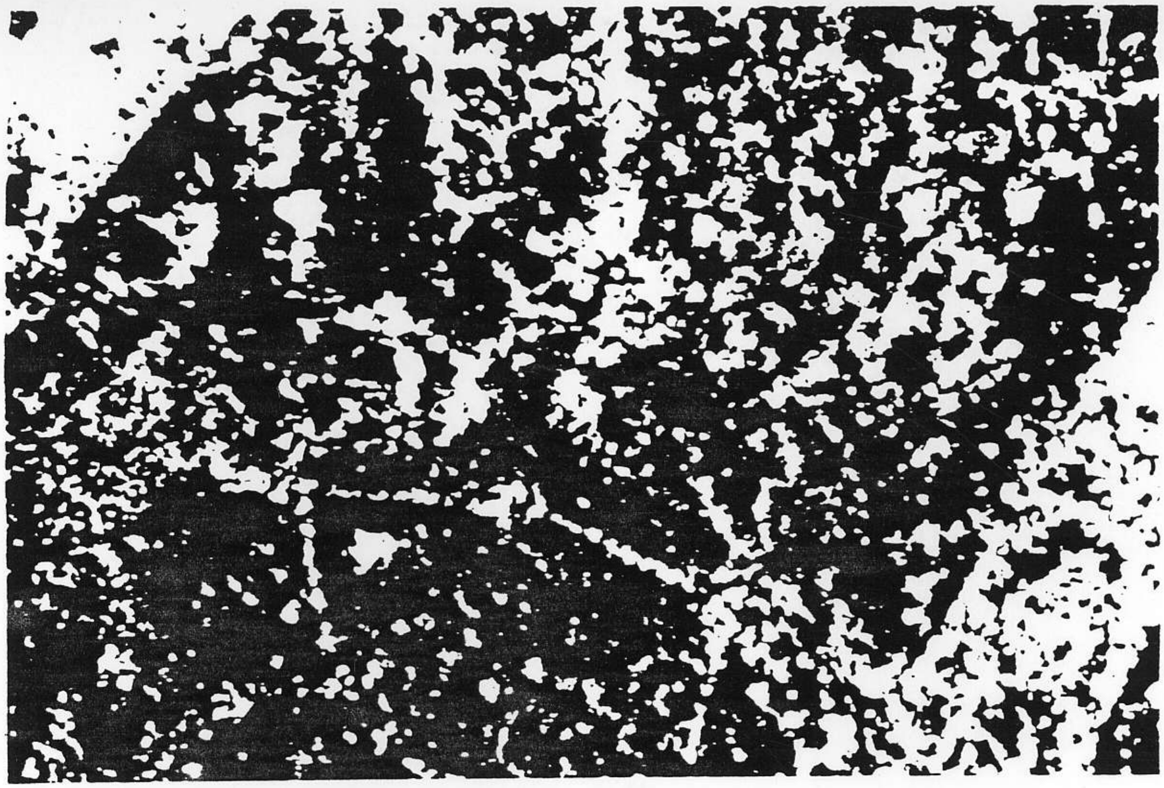


Plate 55-94.2-1. Angular region of opaque hydrocarbon material veined and replaced by various generation of multigranular quartz.

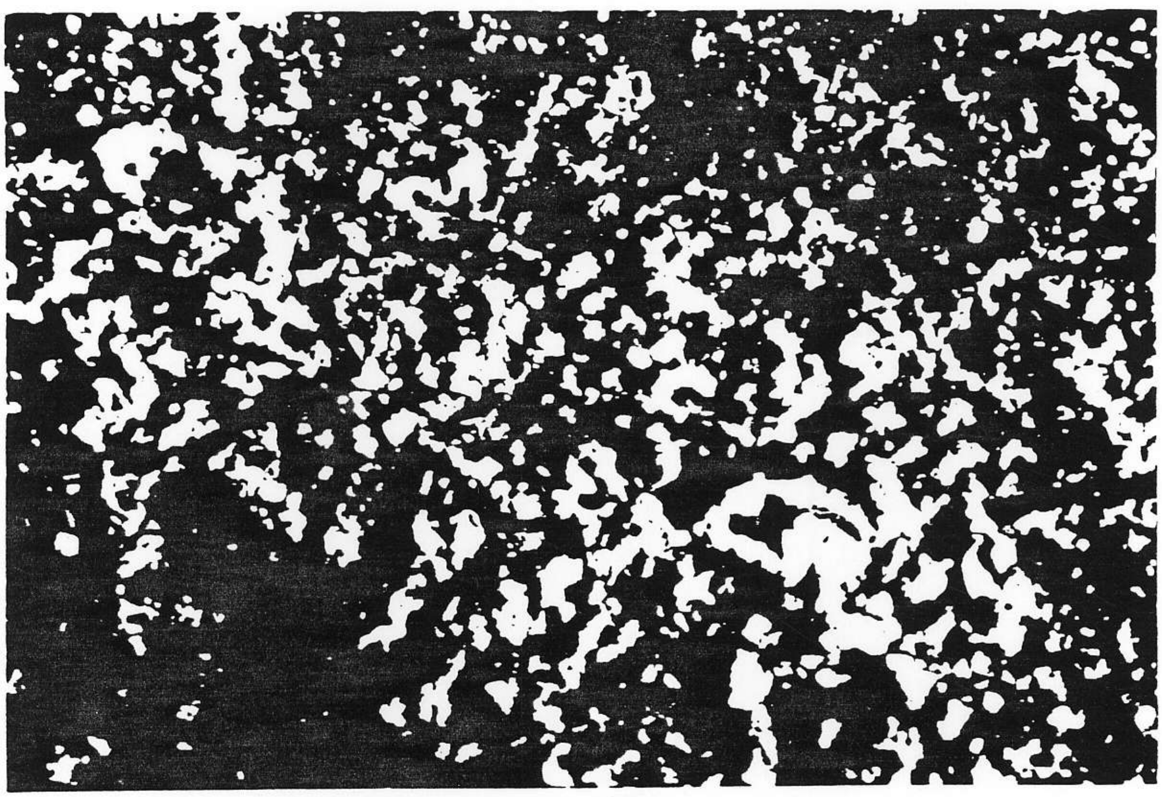


Plate 55-94.2-2. Relict region of hydrocarbon with patches domains of quartz of variable grain size, certain regions of coarse prismatic quartz.

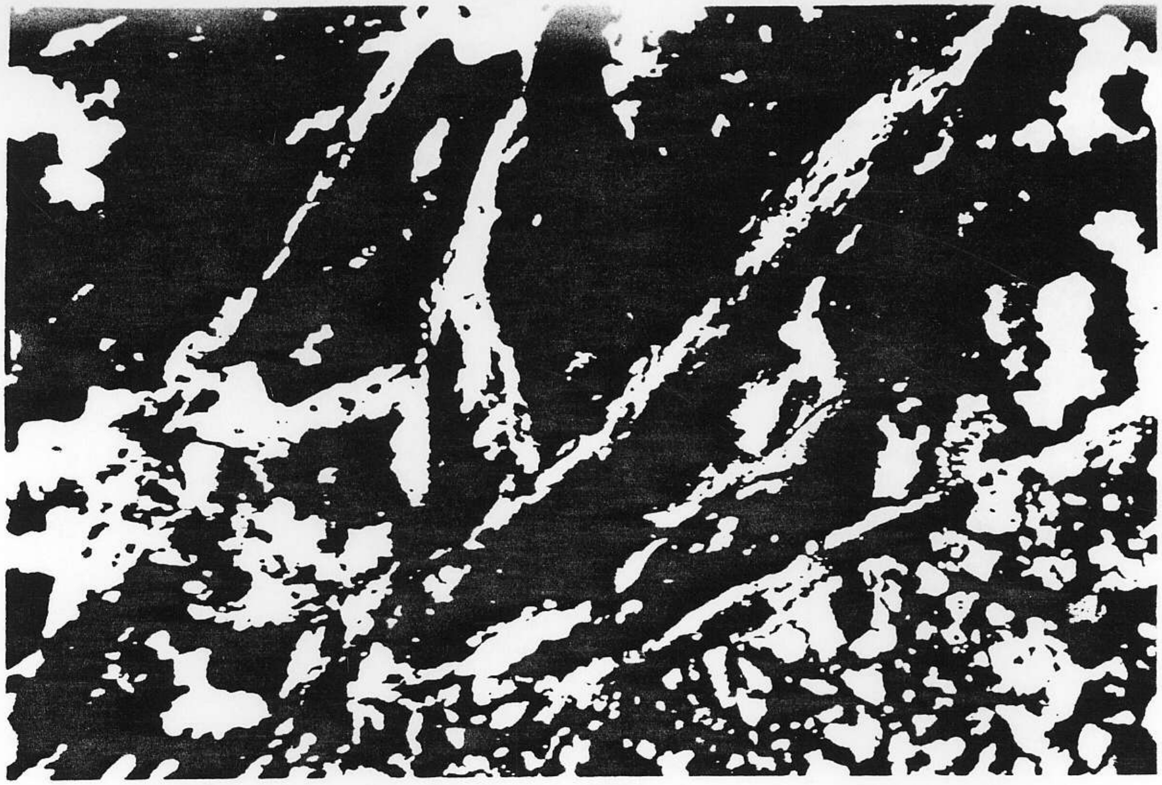


Plate 55-94.2-3. Angular region of contorted hydrocarbon material intergrown with Mg chlorite, veined and replaced by muscovite.

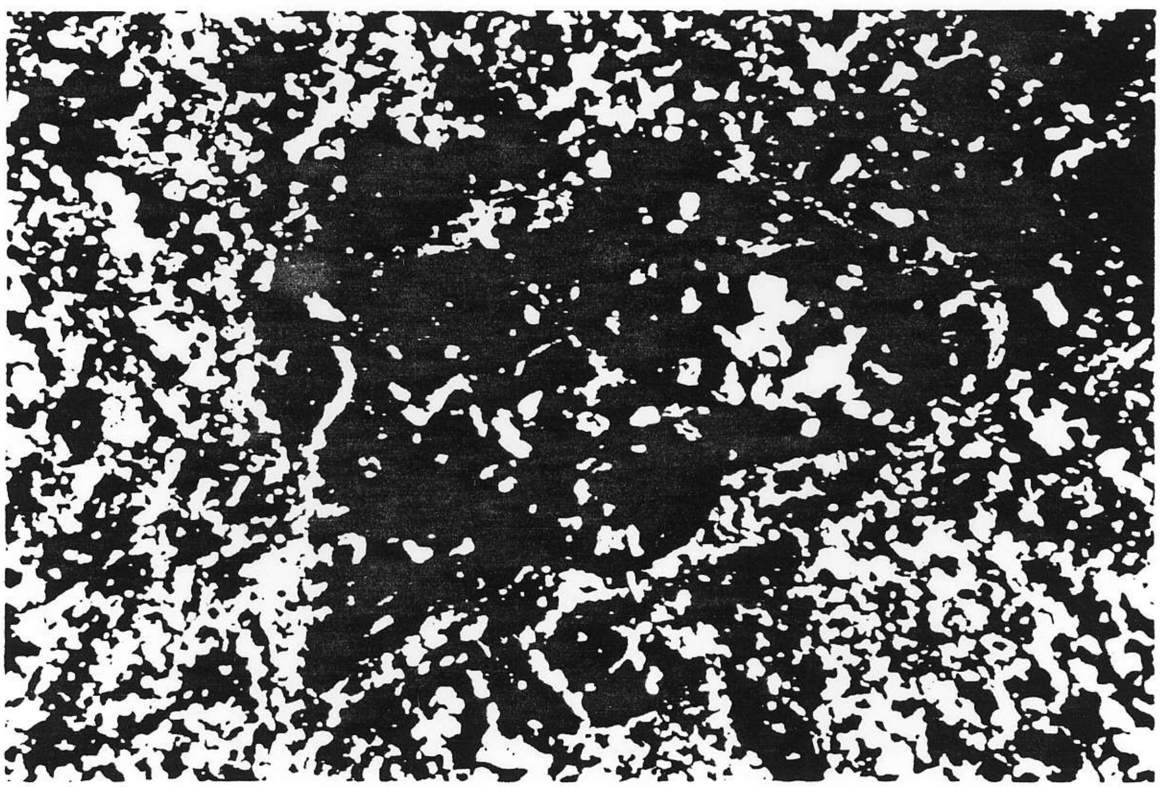


Plate 55-94.2-4. Angular relict hydrocarbon Mg chlorite domain within a region of coarse to prismatic multigranular quartz.

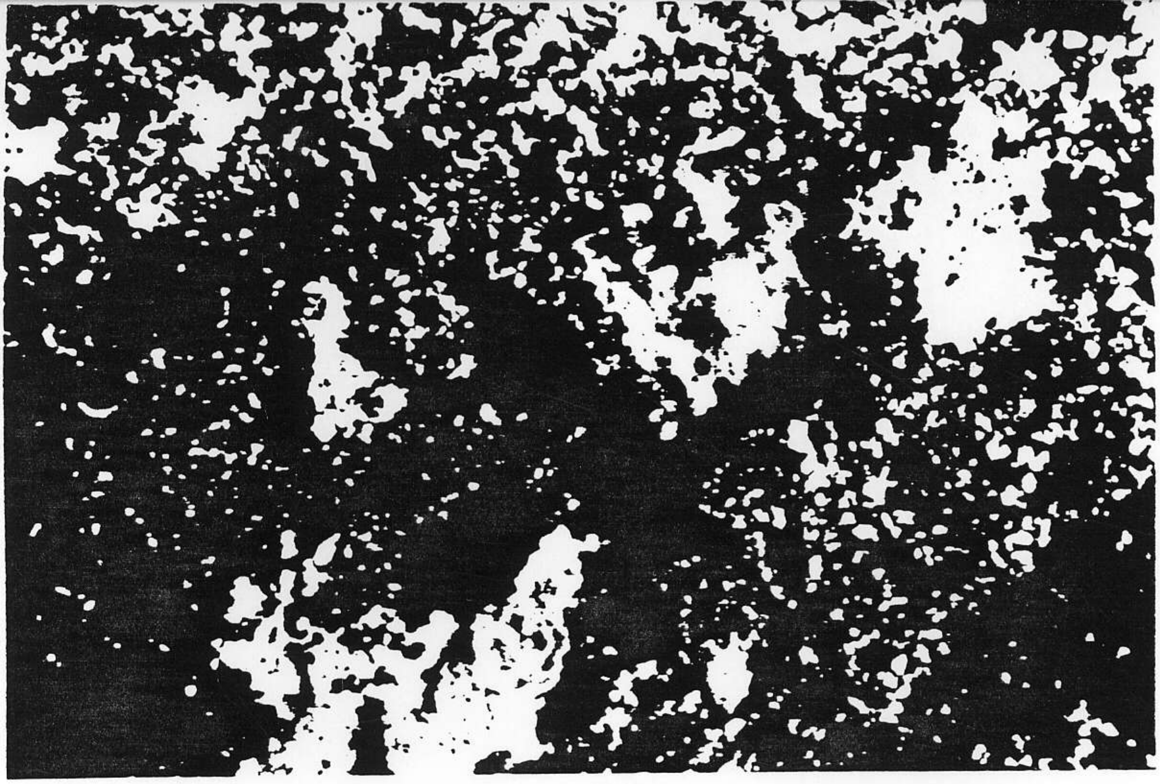


Plate 55-94.2-5. Late stage veinlike region of coarse grained quartz including domain of earlier stage multigranular quartz alteration.

- calcite chert rock, a primary rock type or early stages of Mg chlorite-silica replacement of limestone?

chert	- 35%
calcite	- 60%
Mg chlorite	- 5%

- interconnecting regions of dark hydrocarbon rich quartz or "chert" alternating with patches and including regions now calcite (Plate 55-98.0-1).

- significantly the calcite regions commonly have inclusion filled central areas surrounded by narrow peripheral border zones of clear calcite (Plate 55-98.0-2) that consistently demonstrate a crudely rectangular to rhombic outline (Plate 55-98.0-3) against regions of chert.

- region of massive aggregation of framboidal pyrite occur within the chert areas of the section.

- patchy to locally pervasive development of Mg chlorite in certain regions of the chert associated with the pyrite.

- It is not obvious whether or not the texture of this sample is one of hydrothermal alteration or that of a primary rock type still largely apparent. Some pre-existing mineral with cubic or rhombic habit has apparently been replaced and overgrown by calcite. Both halite and gypsum are possibilities. Indeed the overall texture may have a biogenic origin reflecting some calcite precipitating life form existing in the chert. However, the association of patchy regions of Mg chlorite within and marginal to regions of so-called chert in association with pyrite may, as in the case of sample 55-98.8 be evidence that the chert chlorite regions developed by ingress of Mg Si solutions and replacement of a pre-existing rock, possibly a micritic limestone.

- whatever the origin of the present texture a rock volume represented by this sample likely the precursor to samples CA-88-9-64.4 and 9-65.7. Originally interpreted as growth of radial terminated quartz rosettes in chert (Plates CA-88-9-64.4, 9-65.7)the present sample provide strong evidence that calcite or even the pre-existing mineral, possibly gypsum was replaced by quartz and Ba muscovite in these samples.

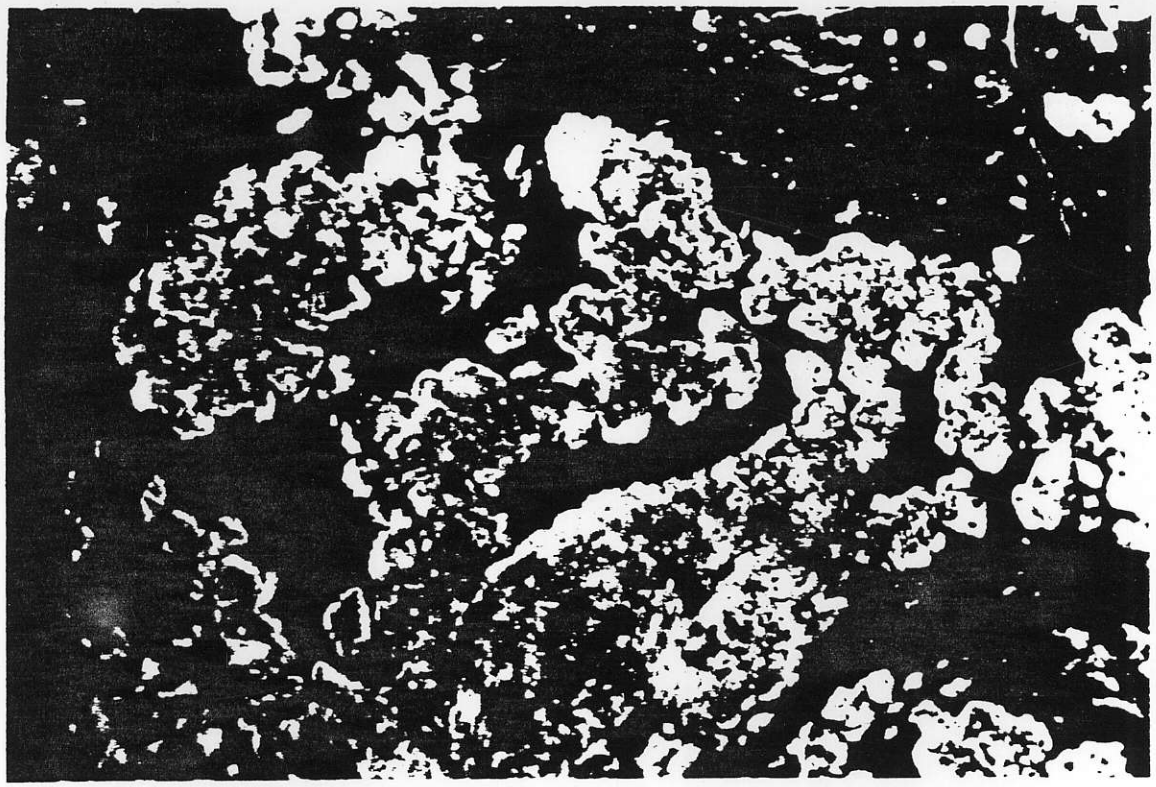


Plate 55-98.0-1. Interconnecting region of dark hydrocarbon rich quartz or "chert" intergrown with regions now calcite.

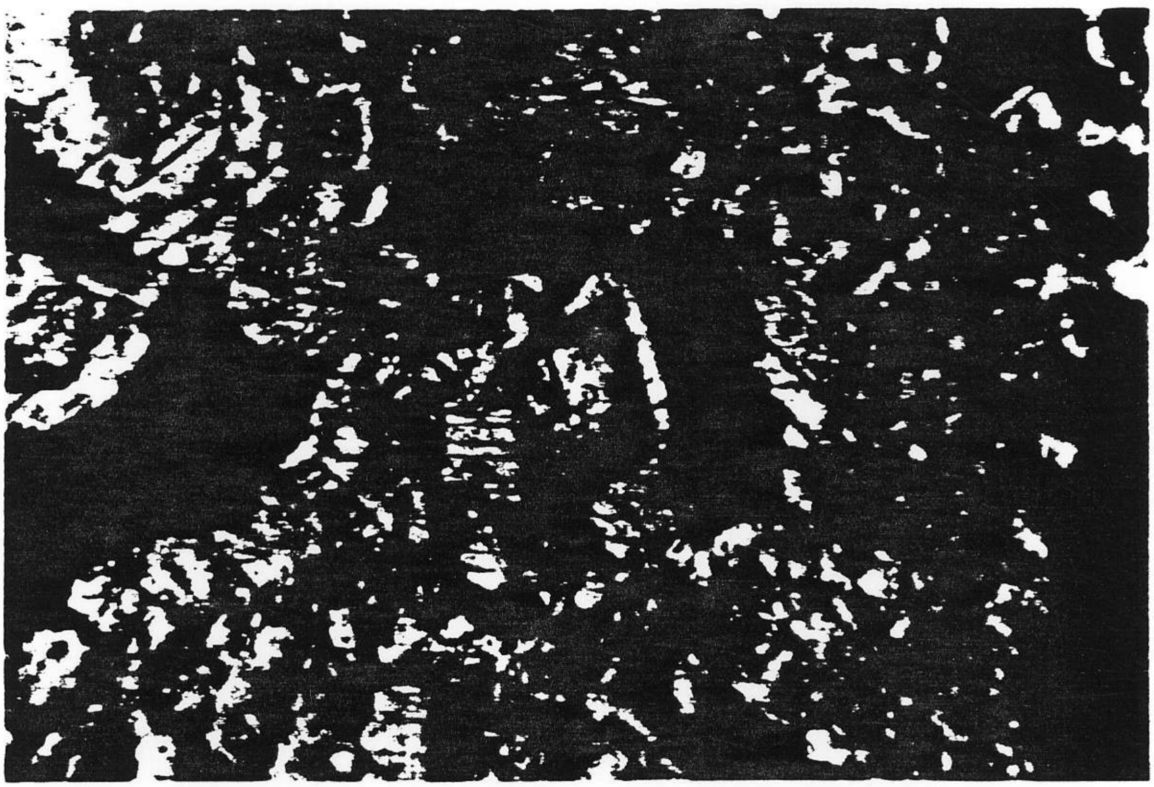


Plate 55-98.0-2. Distribution of inclusions define the rhombohedral outline of a pre-existing mineral replaced by calcite.

Plate 55-98.0-3. Same of field of view as 55-98.0-2, in crossed polars.

- crinoidal biomicritic limestone partly replaced by barite, quartz with sphalerite and stibnite, early stages of siliceous alteration producing so-called chert.

calcite	- 55%
barite	- 25%
quartz	- 15%
sphalerite	- 3%
stibnite	- 2%
PbSbCuS phase	- <1%

- coarse cm-scale randomly oriented intersecting blades (Plate 55-98.8-1) of barite and irregular cuspate patches of chert in a texturally confused multigranular calcite matrix (Plate 55-98.8-2).

- away from the grains of gypsum and chert, regions essentially calcite consist of arcuate areas of relatively clear crystalline calcite in a confused cloudy finer grained calcite. These features may well indeed be crinoid fossil fragments (Plates 55-98.9-3,4) that existed in the original rock volume, fossiliferous limestone, or micrite.

- a peculiar and possibly very significant feature of the sample is that regions of so-called chert are consistently surrounded by regions of crystalline calcite essentially free of cloudy inclusions which characterize the calcite matrix (Plates 55-98.8-5).

- in contrast the barite blades are essentially free of inclusions and in places appear to be broken and replaced by calcite, however it is not clear whether this texture is indeed replacement or a consequence of barite growth with inclusion of calcite matrix in marginal areas.

- significantly patches of stibnite, PbSbAsS phase and sphalerite occur throughout the sample generally in barite or calcite at or near the interface (Plate 55-98.8-6,7) of the barite with the calcite matrix.

- in rare examples stubby grains of barite can be clearly seen to project into domains of so-called chert with the outline of crystal termations of barite against so-called chert still apparent despite calcite replacement (Plate 55-98.8-8). In this region honey coloured sphalerite and stibnite occur in the calcite egion and within the patches of so-called chert (Plate 55-98.8-9).

The textures in this sample are very important and provide evidence that at least one variety of so-called chert noted in many Eskay Creek samples formed by access of siliceous solutions and pervasive replacement of crinoidoal micritic limestone. The regions of chert throughout the sample demonstrate an irregular patchy distribution of light and dark siliceous and hydrocarbon rich areas (Plate 55-98.8-5) and circular regions of unknown origin common in many other examples of rock loosely termed chert.

The peculiar continguous branching texture of "chert" illustrated in Plate 55-98.8-2 is thus interpreted to represent zones of porosity in the micrite accessible to siliceous solutions. The clear calcite margins that surround the "chert" domains are likely zones of calcite recrystallization induced by solution access.

Most significantly the patches of "chert" commonly contain grains and clusters of sphalerite indicating that the solutions were likely not simply pore waters but solutions an integral part of, either in the early stages of or peripheral to the focus of the Eskay Creek.

The paragenetic relationship between the barite and the hydrothermal chert is unclear but certain textural relationships would suggest simultaneous devlopment of barite, sphalerite, stibnite and the sulphide species from Ba, Zn, Sb, Pb, rich siliceous fluids.

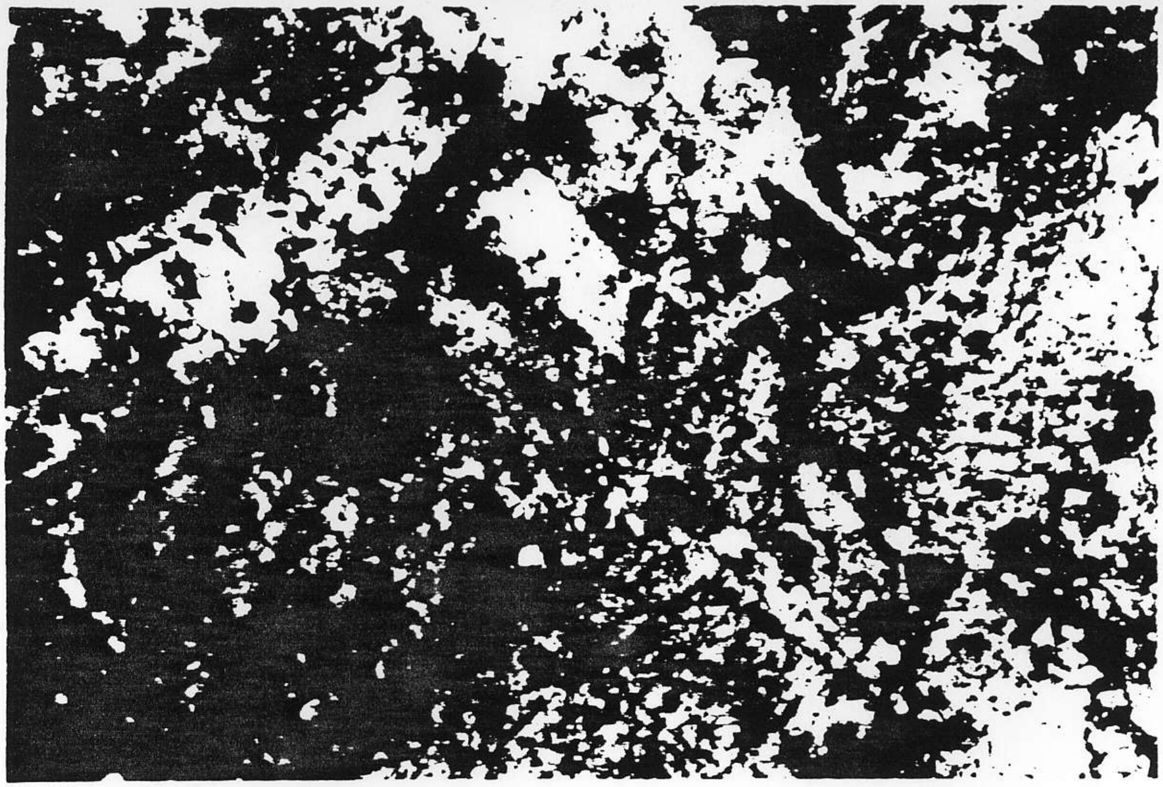


Plate 55-98.8-1. Coarse grained intersecting blades of barite in a multigranular calcite matrix.

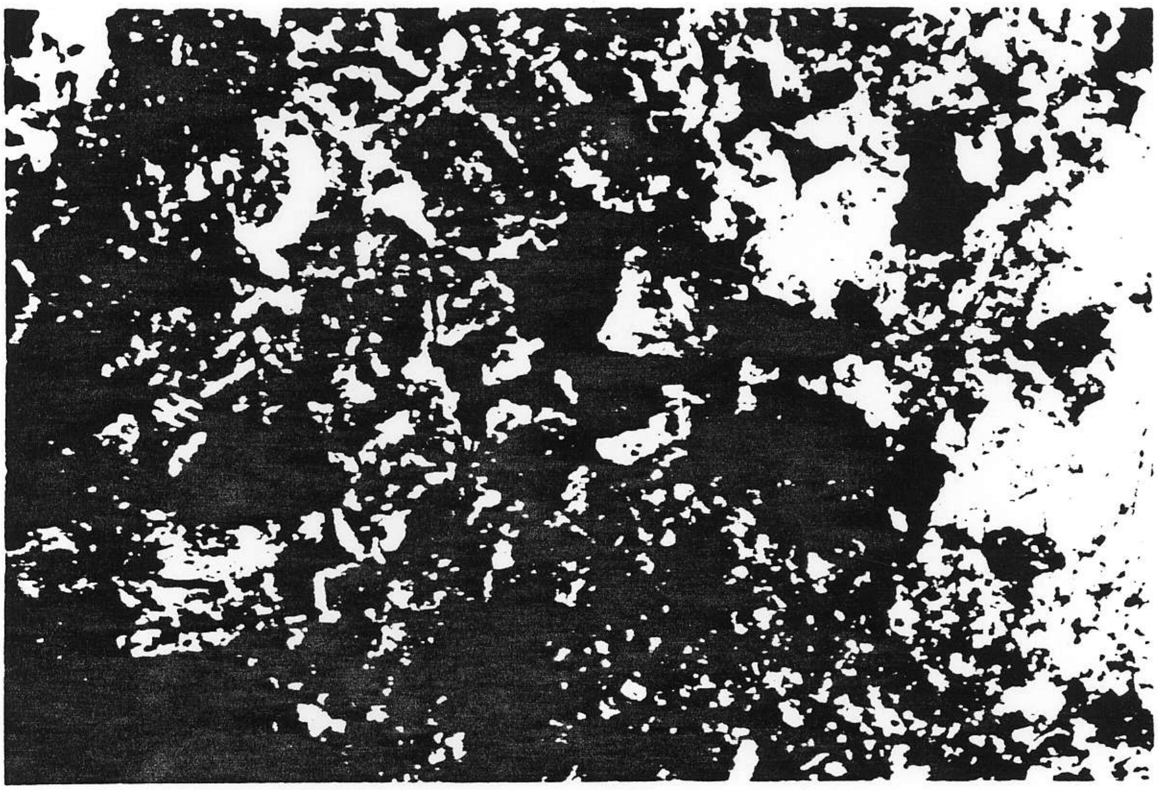


Plate 55-98.8-2. Cuspate regions of fine grained hydrocarbon rich quartz, chert, with barite in a confused calcite marix.

Plate 55-98.8-3. Outline of possible crinoid fragments as inclusion free region in limestone matrix.

Plate 55-98.8-4. Arcuate regions of inclusion free calcite, possible crinoid fragments in a dark limestone matrix.

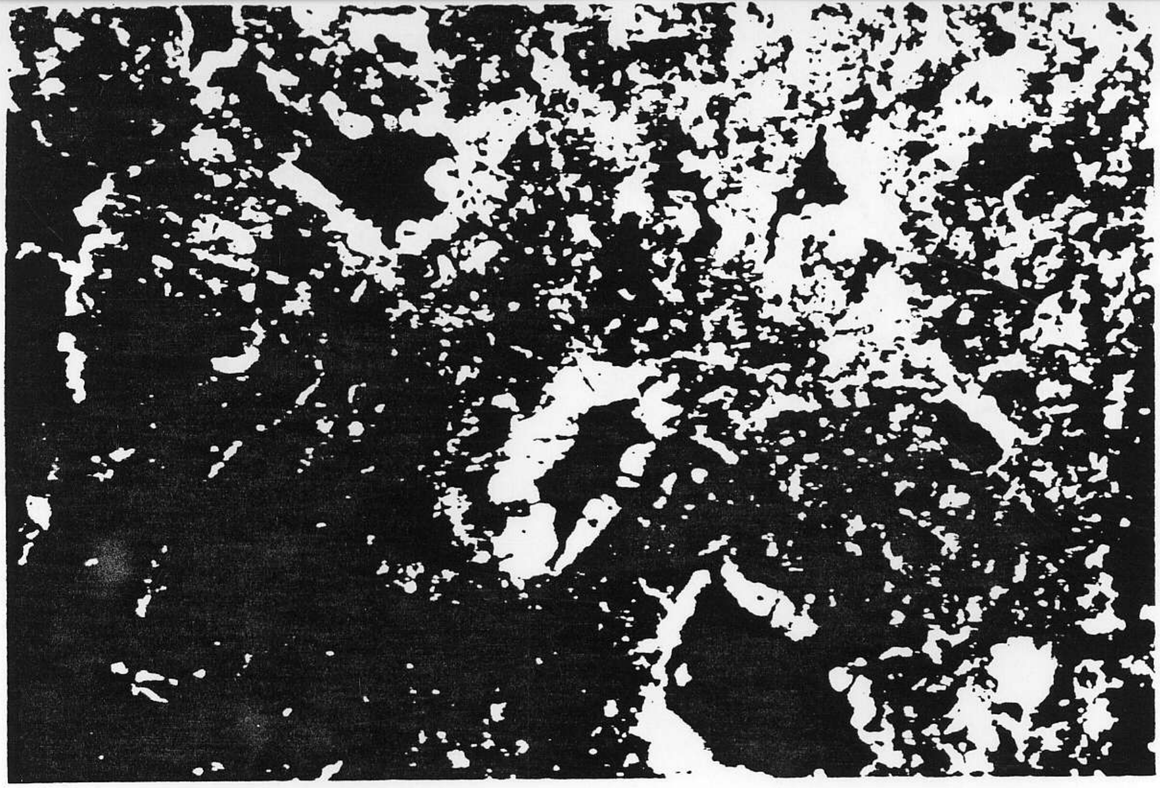


Plate 55-98.8-5. Regions of chert, with marginal zones of clear inclusion free calcite against the dark possibly micritic limestone matrix.

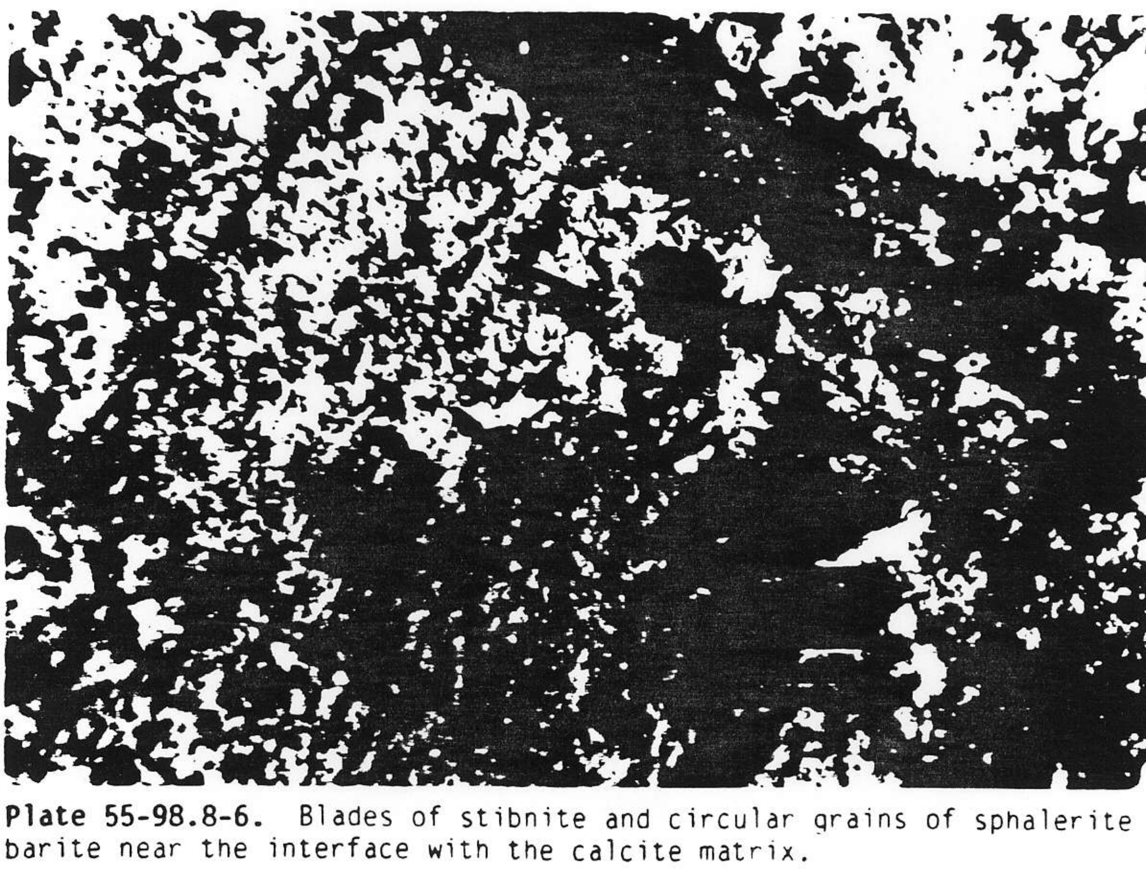


Plate 55-98.8-6. Blades of stibnite and circular grains of sphalerite in barite near the interface with the calcite matrix.

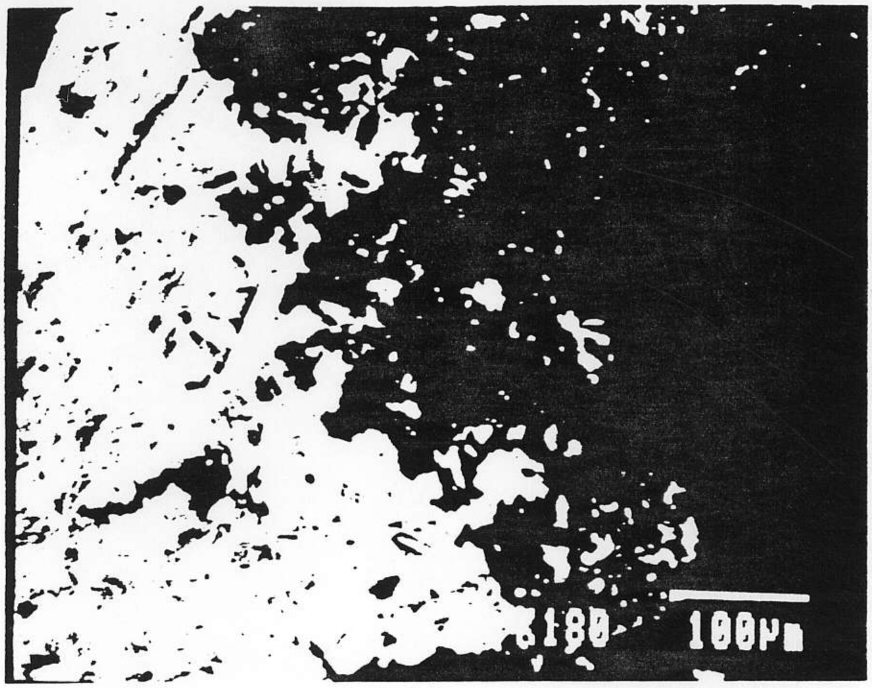


Plate 55-98.8-7. Pyrite, dark grey, sphalerite and stibnite, light grey in barite at margin with chert, black.

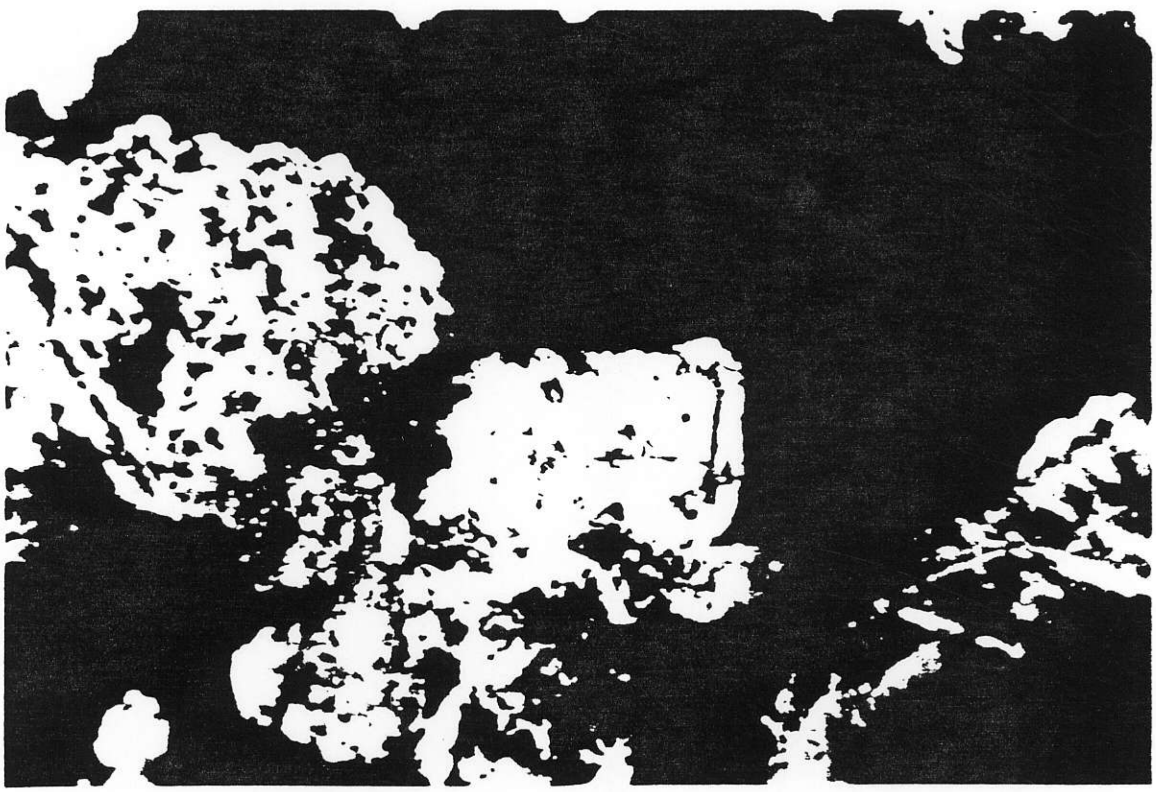


Plate 55-98.8-8. Crystal termination of barite against a region of chert.

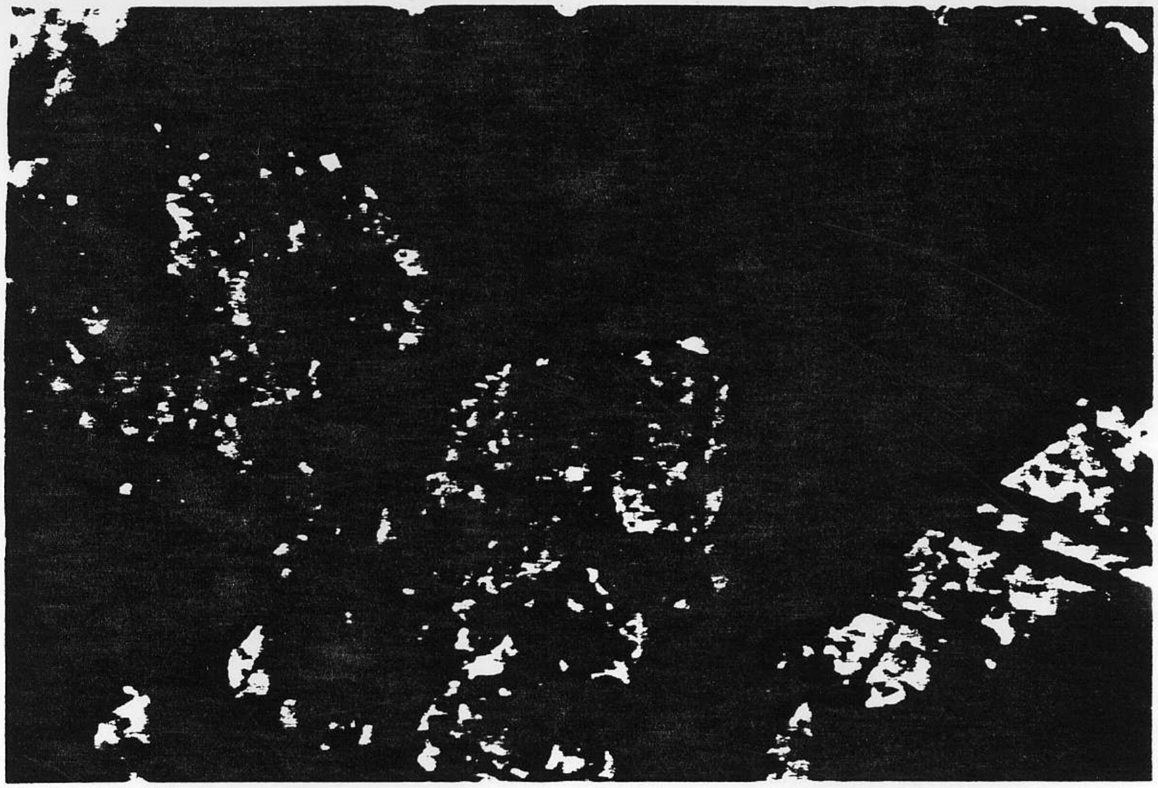


Plate 55-98.8-9. Honey sphalerite with stibnite in region of dark hydrocarbon rich silica; a zone of hydrothermal solution access and replacement of calcite by quartz.

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

SUB GROUP SI AL / AL TI CR FE MG MN / NA CA K BA / O F CL /

	1	2	3	4	5	6	7	8
SIO2	44.21	45.26	46.59	47.14	45.98	46.04	47.03	45.04
TIO2	.15	.15	.17	.20	.23	.18	.21	.15
A2O3	32.27	31.31	31.57	32.90	31.70	32.05	32.54	31.55
C2O3	0.00	0.00	.02	.05	.02	.02	.04	-.00
MNO	0.00	.05	0.00	0.00	0.00	.01	.03	-.01
FEO	.09	.08	.02	.02	0.00	.04	.09	.01
MGO	2.06	2.01	2.27	2.15	2.24	2.15	2.25	2.05
CAO	.13	.13	.07	.03	.12	.10	.14	.06
BAO	2.59	2.53	2.39	2.74	3.25	2.71	3.01	2.42
K2O	8.64	8.07	8.65	9.06	8.57	8.64	8.97	8.32
NA2O	.26	.21	.21	.20	.25	.23	.25	.20
F	0.00	0.00	.05	0.00	.16	.04	.10	-.02
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	90.40	91.38	92.22	94.49	92.53	92.20	94.63	89.77
-O= F+CL	0.00	0.00	.02	0.00	.07	.02	.04	-.01
SUM	90.40	91.38	92.20	94.49	92.46	92.17	94.59	89.78

	1		2		3		4		5		6		7		8	
SI	6.244	*	6.410	*	6.421	*	6.358	*	6.358	*	6.360	*	6.353	*	6.357	*
AL	1.756	8.000	1.584	8.000	1.579	8.000	1.642	8.000	1.642	8.000	1.640	8.000	1.647	8.000	1.633	8.000
AL	3.514	*	3.615	*	3.546	*	3.587	*	3.524	*	3.578	*	3.533	*	3.624	*
TI	.016	*	.016	*	.018	*	.020	*	.024	*	.019	*	.021	*	.016	*
CR	0.000	*	0.000	*	.002	*	.005	*	.002	*	.002	*	.004	*	-.000	*
FE	.011	*	.009	*	.002	*	.002	*	0.000	*	.005	*	.009	*	.001	*
MG	.434	*	.416	*	.466	*	.432	*	.462	*	.442	*	.452	*	.431	*
MN	0.000	4.075	.006	4.062	0.000	4.036	0.000	4.047	0.000	4.012	.001	4.046	.003	4.023	-.001	4.070
NA	.071	*	.056	*	.056	*	.052	*	.067	*	.061	*	.066	*	.055	*
CA	.020	*	.017	*	.010	*	.004	*	.018	*	.014	*	.020	*	.009	*
K	1.556	*	1.431	*	1.557	*	1.559	*	1.512	*	1.523	*	1.546	*	1.500	*
BA	.143	1.791	.141	1.649	.129	1.753	.145	1.760	.177	1.773	.147	1.745	.159	1.790	.134	1.597
F	0.000	*	0.000	*	.022	*	0.000	*	.070	*	.018	*	.044	*	-.009	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.025		.036		.005		.005		0.000		.014		.027		-.001
F/FM		.024		.035		.005		.005		0.000		.013		.026		-.001

1 ESK-6-97.5: MUSC SHEAFS INST TO STIB
2 MUSC
3 MUSC SHEAF WITH STUBBY TERM QTZ
4 MUSC
5 ANOTHER MUSC SHEAF IN STIB
6 AVERAGE
7 AVERAGE PLUS SIGMA
8 AVERAGE MINUS SIGMA

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	47.26	49.23	50.61	50.23	49.83	50.64	49.63	50.80
TIO2	.33	.20	.41	.15	.16	.25	.27	.38
A2O3	32.33	30.53	27.82	28.52	29.90	31.01	30.11	31.75
C2O3	0.00	.02	.03	0.00	0.00	0.00	.01	.02
MNO	.02	.03	.01	0.00	.05	.02	.02	.04
FEO	.29	.16	1.77	.73	.48	.10	.69	1.31
MGO	2.71	2.57	2.56	2.75	2.75	2.89	2.75	2.87
CAO	.03	.12	.06	.14	.11	.10	.09	.13
BAO	1.56	1.07	.93	1.09	1.08	1.18	1.15	1.35
K2O	9.08	8.37	6.74	8.31	8.27	8.36	8.19	8.87
NA2O	.22	.18	2.52	.18	.14	.14	.56	1.44
F	0.00	0.00	0.00	0.00	0.00	.02	.00	.01
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.44	92.53	93.82	92.11	92.77	94.71	93.48	99.00
-O= F+CL	0.00	0.00	0.00	0.00	0.00	.01	.00	.00
SUM	94.44	92.53	93.82	92.11	92.77	94.70	93.48	99.00

	1		2		3		4		5		6		7		8	
SI	6.314	*	6.643	*	6.791	*	6.826	*	6.715	*	6.672	*	6.651	*	6.516	*
AL	1.636	8.000	1.352	8.000	1.209	8.000	1.174	8.000	1.285	8.000	1.328	8.000	1.339	8.000	1.494	8.000
AL	3.433	*	3.515	*	3.170	*	3.343	*	3.462	*	3.487	*	3.422	*	3.316	*
TI	.033	*	.020	*	.044	*	.016	*	.016	*	.025	*	.027	*	.037	*
CR	0.000	*	.002	*	.003	*	0.000	*	0.000	*	0.000	*	.001	*	.002	*
FE	.073	*	.018	*	.221	*	.093	*	.054	*	.011	*	.077	*	.141	*
MG	.570	*	.517	*	.520	*	.557	*	.552	*	.558	*	.550	*	.549	*
MN	.002	4.176	.003	4.076	.001	3.993	0.000	4.047	.006	4.071	.002	4.093	.002	4.080	.004	4.347
NA	.057	*	.047	*	.056	*	.047	*	.037	*	.036	*	.147	*	.358	*
CA	.004	*	.017	*	.007	*	.020	*	.016	*	.014	*	.013	*	.018	*
K	1.547	*	1.442	*	1.154	*	1.440	*	1.421	*	1.405	*	1.402	*	1.455	*
BA	.082	1.670	.057	1.563	.049	1.867	.058	1.506	.057	1.531	.061	1.516	.061	1.622	.058	1.399
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.008	*	.001	*	.004	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.139		.042		.421		.149		.108		.023		.145		.253
F/FM		.122		.040		.296		.130		.098		.023		.127		.239

1 ESK-7: 7-197.7 CAL:CR MUS ASSO W ASP PAT
2 ASSOC DOMAIN EXT F GR MUS MASSIVE
3 MUSC
4 CR MUSC INST TO ASP IN ALTERA DOMAIN
5 MUSC
6 F GR MUSC
7 AVERAGE
8 AVERAGE PLUS SIGMA

APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

SUPER RECAL

	[illegible]
SIO2	[illegible]
TIO2	.15
AL2O3	[illegible]
CR2O3	-.0[illegible]
MNO	.01
FEO	.07
MGO	2.[illegible]
CAO	.06
BAO	.7[illegible]
K2O	7.4[illegible]
NA2O	-.[illegible]1
F	-.0[illegible]
CL	0.0[illegible]
SUM	[illegible]
-O= F+CL	-.0[illegible]
SUM	[illegible]

SI	6.31[illegible]	
AL	1.1[illegible]1	8.000
AL	3.52[illegible]	
TI	.016	
CR	-.00[illegible]	
FE	.00[illegible]	
MG	.551	
MN	.001	4.114
NA	-.08[illegible]	
CA	.008	
K	1.[illegible]43	
BA	.053	1.31[illegible]
F	-.02[illegible]	
CL	0.000	0.00[illegible]
O	22.000	
F/M		.016
F/FM		.016

[illegible] AVERAGE [illegible], SIGMA

SUPER RECAL APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5
SIO2	53.63	43.69	51.[illegible]	53.03	48.69
TIO2	0.00	0.00	0.00	0.00	0.00
AL2O3	14.7[illegible]	1[illegible].16	14.[illegible]3	15.16	14.79
CR2O3	0.00	0.00	0.00	0.00	0.00
MNO	.02	.03	.03	.03	.02
FEO	0.00	0.00	0.00	0.00	0.00
MGO	[illegible]	2[illegible].06	2[illegible].03	25.06	23.00
CAO	.10	.11	.11	.11	.10
BAO	0.00	0.00	0.00	0.00	0.00
K2O	0.00	.03	.02	.03	.00
NA2O	0.00	.03	.02	.03	.00
F	.[illegible]	.55	.55	.60	.55
CL	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	91.[illegible]	[illegible]	87.15
-O= F+CL	.2[illegible]	.23	.24	.25	.23
SUM	[illegible]	[illegible]	[illegible].76	[illegible]	86.92

	1		2		3		4		5	
SI	7.001	*	5.583	*	5.798	*	6.047	*	5.745	*
AL	.999	8.000	1.41[illegible]	8.000	1.202	8.000	1.153	8.000	1.255	8.000
AL	1.267	*	1.00[illegible]	*	1.137	*	1.117	*	1.160	*
TI	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
MG	[illegible].451	*	5.054	*	4.750	*	4.751	*	4.749	*
MN	.002	5.72[illegible]	.003	6.0[illegible]2	.003	5.8[illegible]2	.003	5.374	.002	5.711
NA	0.000	*	.00[illegible]	*	.00[illegible]	*	.007	*	.000	*
CA	.01[illegible]	*	.016	*	.015	*	.015	*	.015	*
K	0.000	*	.003	*	.003	*	.003	*	.000	*
BA	0.000	.014	0.000	.02[illegible]	0.000	.021	0.000	.027	0.000	.015
F	.247	*	.2[illegible]5	*	.241	*	.241	*	.241	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.000		.001		.001		.001		.000
F/FM		.000		.001		.001		.001		.000

1 ESK-7 [illegible]-7-111.7[illegible] CHLORITE
2 CHLORITE
3 AVERAGE
4 AVERAGE PLUS SIGMA
5 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	[illegible]	[illegible]	47.32	[illegible]	51.71	50.12	49.65	49.93
TIO2	.08	.17	.13	.10	.11	.16	.14	.13
AL2O3	[illegible]	[illegible]	[illegible]	31.0[illegible]	28.20	33.74	31.09	30.64
CR2O3	[illegible]	.07	[illegible]	0.02	0.00	0.00	0.00	.01
MNO	[illegible]	.11	0.00	0.00	0.00	.02	0.00	.00
FEO	.14	.15	.16	[illegible]	.22	0.00	.14	.17
MGO	[illegible]	[illegible]	[illegible]	2.31	3.78	2.27	2.09	2.99
CAO	.37	.04	[illegible]	.04	.09	0.00	.01	.09
BAO	[illegible]	[illegible]	[illegible]	1.65	1.15	1.82	1.65	1.45
K2O	[illegible]	[illegible]	[illegible]	[illegible]	8.07	8.55	9.08	8.43
NA2O	.25	[illegible]	[illegible]	[illegible]	.15	.19	.25	.22
F	.13	.14	[illegible]	.13	.17	.18	0.00	.12
CL	[illegible]	0.00	[illegible]	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	93.66	97.04	94.08	94.17
-O= F+CL	.06	.06	[illegible]	.05	.07	.08	0.00	.05
SUM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	96.76	94.08	94.14

	1		2		3		4	
SI	[illegible]	*	[illegible]	*	[illegible]	*	6.553	*
AL	[illegible]	[illegible]	1.561	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AL	[illegible]	*	[illegible]	*	3.377	*	[illegible]	*
TI	[illegible]	*	.017	*	.013	*	.010	*
CR	[illegible]	*	.007	*	0.000	*	0.000	*
FE	.015	*	.017	*	.015	*	.040	*
MG	[illegible]	*	.443	*	[illegible]	*	.461	*
MN	0.000	4.104	.001	4.054	0.000	[illegible]	0.000	4.019
NA	.053	*	.055	*	.053	*	.069	*
CA	.054	*	.006	*	[illegible]	*	.006	*
K	1.138	*	[illegible]	*	1.429	*	1.575	*
BA	.047	1.306	[illegible]	1.569	[illegible]	1.564	.086	1.732
F	.060	*	.058	*	.030	*	.055	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.018		.040		.023		.037
F/FM		.018		.038		.022		.060

	5		6		7		8	
SI	[illegible]	*	6.480	*	6.645	*	6.646	*
AL	1.121	8.000	1.520	8.000	1.355	8.000	1.354	8.000
AL	3.279	*	3.620	*	3.547	*	3.451	*
TI	.011	*	.016	*	.014	*	.013	*
CR	0.000	*	0.000	*	0.000	*	.001	*
FE	.024	*	0.000	*	.016	*	.017	*
MG	.749	*	.437	*	.415	*	.594	*
MN	0.000	4.084	.002	4.075	0.000	3.991	.000	4.073
NA	.041	*	.045	*	.065	*	.056	*
CA	.013	*	0.000	*	.001	*	.012	*
K	1.369	*	1.410	*	1.550	*	1.432	*
BA	.060	1.483	.092	1.547	.087	1.703	.076	1.575
F	.072	*	.074	*	0.000	*	.050	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.033		.005		.038		.032
F/FM		.032		.005		.036		.031

1 ESK-[illegible] [illegible]
2 MUSC
3 MUSC
4 MUSC
5 MUSC
6 CR MUSC SHEAR WITH SP INCLUDING STIB
7 MUSC WITH PY PERL ALBITE
8 AVERAGE

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10
SIO2	51.51	43.35
TIO2	.16	.12
AL2O3	33.21	23.07
CR2O3	.03	-.01
MNO	.01	-.00
FEO	.27	.07
MGO	3.83	2.15
CAO	.20	-.03
BAO	1.76	1.15
K2O	9.31	7.56
NA2O	.25	.19
F	.18	.06
CL	0.00	0.00
SUM	100.79	77.59
-O= F+CL	.07	.03
SUM	100.71	77.56

	9		10	
SI	6.460	*	6.856	*
AL	1.540	9.30?	1.144	9.30?
AL	3.358	*	3.340	*
TI	.015	*	.010	*
CR	.003	*	-.002	*
FE	.028	*	.008	*
MG	.726	*	.444	*
MN	.001	4.142	-.000	4.006
NA	.061	*	.050	*
CA	.023	*	-.005	*
K	1.499	*	1.367	*
BA	.037	1.564	.054	1.475
F	.070	*	.027	*
CL	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*
F/M		.040		.017
F/FM		.037		.017

9 AVERAGE PLUS SIGMA

10 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	30.41	29.76	45.10	45.91	31.79	47.76	46.60	29.15
TIO2	0.00	0.00	.10	.11	0.00	.07	.14	0.00
AL2O3	20.96	20.81	31.17	2?.27	20.48	31.05	32.49	20.55
CR2O3	.01	0.00	0.0?	0.00	.01	0.00	.03	0.00
MNO	0.00	.00	.01	.02	.09	.02	0.00	.07
FEO	.08	.06	.0?	.05	.02	0.00	0.00	.06
MGO	31.??	32.51	?.13	4.72	31.37	2.17	2.13	33.11
CAO	.15	.02	.1?	.11	.05	.11	.05	.04
BAO	0.00	0.00	1.35	1.1?	0.00	1.38	1.62	0.00
K2O	0.00	.11	9.37	7.74	.22	8.89	9.07	.01
NA2O	.02	0.00	.15	.15	0.00	.14	.24	0.00
F	1.35	1.10	.23	.19	1.28	.20	.13	1.31
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	85.37	84.65	89.77	86.56	85.33	91.80	92.50	84.31
-O= F+CL	.57	.50	.10	.08	.54	.08	.05	.55
SUM	8?.80	84.15	89.67	8?.?8	84.79	91.72	92.45	83.76

	1		2		3		4		5		6		7		8	
SI	4.45?	*	4.453	*	6.334	*	6.502	*	4.697	*	6.543	*	6.358	*	4.385	*
AL	3.541	8.000	3.547	8.000	1.666	8.000	1.470	8.000	3.303	8.000	1.457	8.000	1.632	8.000	3.615	8.000
AL	.030	*	.123	*	3.482	*	3.220	*	.263	*	3.555	*	3.600	*	.030	*
TI	0.000	*	0.000	*	.011	*	.012	*	0.000	*	.009	*	.014	*	0.000	*
CR	.001	*	0.000	*	0.000	*	0.000	*	.001	*	0.000	*	.003	*	0.000	*
FE	.010	*	.008	*	.011	*	.006	*	.002	*	0.000	*	0.000	*	.008	*
MG	7.297	*	7.273	*	.659	*	1.039	*	6.913	*	.443	*	.434	*	7.424	*
MN	0.000	7.389	.011	7.415	.001	4.159	.002	4.277	.011	7.190	.002	4.010	0.000	4.052	.009	7.471
NA	.00?	*	0.000	*	.041	*	.041	*	0.000	*	.037	*	.064	*	0.000	*
CA	.024	*	.003	*	.027	*	.017	*	.008	*	.016	*	.007	*	.006	*
K	0.000	*	.021	*	1.470	*	1.378	*	.041	*	1.552	*	1.581	*	.002	*
BA	0.000	.029	0.000	.024	.079	1.539	.066	1.522	0.000	.049	.074	1.679	.087	1.739	0.000	.009
F	.876	*	.763	*	.102	*	.035	*	.598	*	.087	*	.056	*	.523	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.001		.003		.016		.008		.002		.005		0.000		.002
F/FM		.001		.003		.016		.008		.002		.005		0.000		.002

1 ESK-9-64.4: CHLORITE
2 MG CHLORITE VEIN WITH CENTRAL MICA
3 CENTRAL MUSC
4 MUSC
5 STUBBY ANGULAR RELICT IN MIX OF MUS & CH
6 ASSOC SHEAF OF MUSC
7 CR MUSC SHEAF IN QTZ PATCH
8 CHLORITE

SUPER RECAL

APPENDIX I: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13	14	15	16
SIO2	47.56	30.16	47.54	46.34	49.22	46.23	46.92	46.34
TIO2	.15	0.00	.03	.10	.06	.06	.04	.06
AL2O3	31.49	21.07	30.64	32.10	32.50	31.91	31.34	31.77
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	.07	.12	0.00	0.00	0.00	0.00	0.00	0.00
FEO	0.00	.08	0.00	0.00	.03	.05	0.00	0.00
MGO	2.22	33.67	2.13	2.27	2.24	2.15	2.14	1.99
CAO	.07	0.00	.02	0.00	.01	.02	.03	.04
BAO	1.36	0.00	1.01	1.41	1.47	1.63	1.78	1.68
K2O	9.12	0.00	7.07	3.64	7.69	8.75	9.35	8.82
NA2O	.19	0.00	.25	.19	.16	.24	.19	.24
F	.26	1.31	.03	.05	.09	.15	.03	.12
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	92.90	86.41	91.36	91.10	93.46	91.20	91.82	91.06
-O= F+CL	.11	.55	.01	.02	.03	.05	.01	.05
SUM	92.80	85.86	91.35	91.08	93.43	91.14	91.81	91.01

	9		10		11		12		13		14		15		16	
SI	6.447	*	4.423	*	6.568	*	6.400	*	6.557	*	6.399	*	6.474	*	6.425	*
AL	1.553	8.000	3.577	8.000	1.432	8.000	1.600	8.000	1.443	8.000	1.601	8.000	1.526	8.000	1.575	8.000
AL	3.556	*	.065	*	3.555	*	3.623	*	3.659	*	3.604	*	3.570	*	3.615	*
TI	.015	*	0.000	*	.003	*	.010	*	.006	*	.006	*	.004	*	.006	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	0.000	*	.010	*	0.000	*	0.000	*	.003	*	.007	*	0.000	*	0.000	*
MG	.447	*	7.360	*	.431	*	.467	*	.445	*	.444	*	.440	*	.411	*
MN	.003	4.028	.015	7.450	0.000	4.192	0.000	4.101	0.000	4.113	0.000	4.060	0.000	4.015	0.000	4.034
NA	.050	*	0.000	*	.067	*	.051	*	.041	*	.064	*	.051	*	.065	*
CA	.010	*	0.000	*	.013	*	0.000	*	.001	*	.003	*	.004	*	.006	*
K	1.577	*	0.000	*	1.595	*	1.522	*	1.307	*	1.545	*	1.646	*	1.550	*
BA	.072	1.709	0.000	0.000	.097	1.766	.076	1.649	.077	1.426	.098	1.701	.096	1.797	.091	1.722
F	.111	*	.606	*	.013	*	.022	*	.034	*	.066	*	.013	*	.053	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.018		.003		0.000		0.000		.008		.016		0.000		0.000
F/FM		.018		.003		0.000		0.000		.007		.015		0.000		0.000

9 MUSC IN ANGULAR PATCH DOMAINS
10 CHL SURROUNDING MUSC
11 MUSC
12 CR RADIATING SHEAF OF MUSC
13 MUSC
14 MUSC
15 SAME SHEAF OF MUSC AGAIN
16 ANOTHER SHEAF OF MUSC

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	17		18		19		20		21		22		23		24	
SIO2	46.41		47.89		46.06		47.16		46.46		47.04		47.52		43.37	
TIO2	.13		.05		.07		.08		.11		.11		.08		.07	
AL2O3	31.07		31.10		31.36		30.93		29.05		31.75		31.49		28.97	
CR2O3	0.00		0.00		0.00		0.00		0.00		0.00		0.00		.00	
MNO	0.00		.06		0.00		0.00		0.00		0.00		0.00		.02	
FEO	.07		0.00		0.00		.02		0.00		0.00		0.00		.03	
MGO	2.15		2.09		2.16		2.30		2.26		2.08		2.09		8.99	
CAO	.05		.02		.01		0.00		.06		0.00		.13		.05	
BAO	1.59		1.43		.02		1.75		1.77		1.64		1.45		1.16	
K2O	8.83		8.87		9.25		9.23		8.89		9.03		8.27		6.89	
NA2O	.24		.18		.23		.22		.24		.26		.25		.15	
F	.15		.06		.10		.12		.10		.11		.19		.38	
CL	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
SUM	91.26		91.75		91.82		91.68		98.94		92.02		91.46		90.10	
-O= F+CL	.06		.03		.04		.05		.04		.05		.08		.15	
SUM	91.20		91.72		91.85		91.63		88.90		91.97		91.38		89.94	
SI	6.423	*	6.563	*	6.548	*	6.581	*	6.609	*	6.455	*	6.515	*	6.070	*
AL	1.577	8.000	1.437	8.000	1.452	8.000	1.419	8.000	1.391	8.000	1.545	8.000	1.495	8.000	1.930	8.000
AL	3.576	*	3.585	*	3.503	*	3.525	*	3.430	*	3.589	*	3.601	*	2.849	*
TI	.014	*	.005	*	.007	*	.008	*	.012	*	.011	*	.008	*	.007	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.000	*
FE	.008	*	0.000	*	0.000	*	.002	*	0.000	*	0.000	*	0.000	*	.003	*
MG	.444	*	.427	*	.437	*	.473	*	.479	*	.425	*	.427	*	1.875	*
MN	0.000	4.042	.007	4.025	0.000	4.031	0.000	4.008	0.000	3.971	0.000	4.026	0.000	4.036	.003	4.733
NA	.064	*	.048	*	.051	*	.057	*	.066	*	.059	*	.066	*	.045	*
CA	.007	*	.003	*	.001	*	0.000	*	.009	*	0.000	*	.019	*	.008	*
K	1.568	*	1.551	*	1.609	*	1.633	*	1.611	*	1.581	*	1.446	*	1.227	*
BA	.086	1.725	.077	1.678	.033	1.705	.095	1.787	.099	1.785	.098	1.739	.078	1.610	.064	1.345
F	.066	*	.025	*	.043	*	.052	*	.045	*	.048	*	.082	*	.168	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M	.016		.016		0.000		.005		0.000		0.000		0.000		.003	
F/FM	.016		.015		0.000		.005		0.000		0.000		0.000		.003	

17 ANOTHER SHEAF OF MUSC
18 ANOTHER SHEAF OF MUSC
19 SMALL MUSC SHEAF NEAR 017 (NEAR SP)
20 MUSC SHEAF NEAR SP AND CARB
21 MUSC SHEAF WITH GOL
22 ASSOCIATED MUSC SHEAF
23 MUSC
24 AVERAGE

SUPER RECAL

APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	25	26
SIO2	50.34	36.49
TIO2	.12	.02
A2O3	33.39	24.55
C2O3	.01	-.00
MNO	.06	-.01
FEO	.06	-.01
MGO	21.59	-3.09
CAO	.12	.00
BAO	1.82	.51
K2O	10.59	3.27
NA2O	.26	.07
F	.36	-.12
CL	0.00	0.00
SUM	117.02	61.10
-O= F+CL	.35	-.04
SUM	118.73	61.14

	25		26	
SI	5.591	*	7.093	*
AL	2.409	8.000	.917	8.000
AL	1.802	*	4.713	*
TI	.019	*	.003	*
CR	.001	*	-.001	*
FE	.005	*	-.001	*
MG	3.515	*	-1.043	*
MN	.006	5.338	-.072	3.557
NA	.054	*	.023	*
CA	.012	*	.001	*
K	1.464	*	.011	*
BA	.078	1.608	.037	.378
F	.278	*	-.063	*
CL	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*
F/A		.093		.016
F/FM		.003		.016

25 AVERAGE PLUS SIGMA

26 AVERAGE MINUS SIGMA

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1		2		3		4		5		6		7		8	
SIO2	49.13		49.94		52.37		31.81		31.49		48.80		50.52		52.96	
TIO2	.10		.16		.19		0.00		0.00		.15		.21		.13	
A2O3	31.21		30.57		32.40		19.90		20.22		30.51		31.55		27.55	
C2O3	0.00		.03		0.00		0.00		0.00		0.00		0.00		.01	
MNO	0.00		0.00		.02		.08		.05		.05		0.00		0.00	
FEO	.91		0.00		0.00		.03		0.00		0.00		.07		.11	
MGO	2.19		2.30		2.33		29.79		32.33		2.19		2.18		1.49	
CAO	.02		.02		.05		0.00		.03		0.00		.03		.05	
BAO	1.57		1.73		1.70		0.00		.01		1.52		1.91		1.67	
K2O	9.33		9.13		8.35		.35		.27		9.04		9.24		8.62	
NA2O	.17		.16		.15		0.00		0.00		.19		.20		.21	
F	.10		.17		.15		.99		.94		0.00		.15		.12	
CL	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
SUM	93.83		94.21		97.72		82.95		85.36		92.45		96.05		93.41	
-O= F+CL	.04		.07		.07		.42		.40		0.00		.06		.05	
SUM	93.79		94.14		97.65		82.53		84.96		92.45		96.00		93.36	
SI	6.599	*	6.675	*	6.689	*	4.823	*	4.660	*	6.642	*	6.633	*	7.083	*
AL	1.401	8.000	1.325	8.000	1.311	8.000	3.177	8.000	3.340	8.000	1.358	8.000	1.367	8.000	.917	8.000
AL	3.539	*	3.480	*	3.563	*	.379	*	.186	*	3.535	*	3.514	*	3.425	*
TI	.010	*	.016	*	.017	*	0.000	*	0.000	*	.015	*	.021	*	.013	*
CR	0.000	*	.003	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.001	*
FE	.001	*	0.000	*	0.000	*	.004	*	0.000	*	0.000	*	.008	*	.012	*
MG	.438	*	.458	*	.449	*	6.733	*	7.131	*	.444	*	.427	*	.395	*
MN	0.000	3.987	0.000	3.959	.002	4.029	.010	7.126	.006	7.323	.006	4.001	0.000	3.970	0.000	3.847
NA	.044	*	.041	*	.040	*	0.000	*	0.000	*	.050	*	.051	*	.054	*
CA	.003	*	.003	*	.007	*	0.000	*	.005	*	0.000	*	.004	*	.007	*
K	1.598	*	1.557	*	1.360	*	.068	*	.055	*	1.559	*	1.547	*	1.471	*
BA	.083	1.728	.091	1.692	.085	1.492	0.000	.068	.001	.060	.041	1.701	.078	1.701	.088	1.620
F	.042	*	.072	*	.065	*	.475	*	.440	*	0.000	*	.062	*	.051	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.003		0.000		.005		.002		.001		.013		.018		.031
F/FM		.003		0.000		.005		.002		.001		.013		.018		.030

1 ESK-9-65.7:CA4:MUSC
2 MUSC
3 MUSC
4 CHL ASSOC WITH CR MUSC NEAR AS
5 CHL RIND ON MUSC ;SOLN CHANNELWAY
6 CENTRAL MUSC
7 MUSC WITH CONC PY IN CHERT FRAG
8 CR MUSC ASP PATH IN CHERT

SUPER RECAL — APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13
SIO2	30.95	47.73	44.57	53.31	35.83
TIO2	0.00	.19	.11	.17	.03
A2O3	19.84	31.04	27.49	32.53	22.43
C2O3	0.00	0.00	.00	.01	-.01
MNO	.05	0.00	.03	.05	-.00
FEO	0.00	.03	.03	.06	-.01
MGO	32.90	2.21	11.09	24.57	-2.49
CAO	.05	.10	.04	.06	.01
BAO	0.00	1.47	1.16	1.92	.39
K2O	0.00	8.75	6.31	10.31	2.31
NA2O	0.00	.21	.13	.22	.04
F	.79	.14	.30	.77	-.02
CL	0.00	0.00	0.00	0.00	0.00
SUM	84.78	91.86	91.26	124.00	58.53
-O= F+CL	.41	.06	.15	.32	-.01
SUM	84.37	91.80	91.11	123.68	58.53

	9		10		11		12		13	
SI	4.612	*	6.537	*	6.142	*	5.586	*	7.212	*
AL	3.388	8.000	1.463	8.000	1.858	8.000	2.414	8.000	.788	8.000
AL	.075	*	3.547	*	2.069	*	1.501	*	4.533	*
TI	0.000	*	.019	*	.012	*	.015	*	.005	*
CR	0.000	*	0.000	*	.000	*	.001	*	-.001	*
FE	0.000	*	.003	*	.003	*	.005	*	-.002	*
MG	7.305	*	.451	*	2.253	*	3.837	*	-.746	*
MN	.006	7.406	0.000	4.020	.003	4.340	.005	5.464	-.001	3.788
NA	0.000	*	.056	*	.035	*	.041	*	.017	*
CA	.008	*	.015	*	.005	*	.007	*	.002	*
K	0.000	*	1.524	*	1.109	*	1.378	*	.593	*
BA	0.000	.008	.079	1.678	.063	1.212	.079	1.509	.031	.642
F	.452	*	.061	*	.163	*	.254	*	-.011	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.001		.008		.003		.003		.001
F/FM		.001		.008		.003		.003		.001

9 CHL ASP IN WITH CHERT
10 ASSOC COARSE MUSC
11 AVERAGE
12 AVERAGE PLUS SIGMA
13 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	47.95	46.74	48.93	49.33	47.39	49.80	48.46	50.01
TIO2	.20	.10	.10	.12	.15	.16	.42	.19
A2O3	33.36	33.75	32.64	34.02	32.45	32.23	31.55	34.65
C2O3	0.00	0.00	0.00	0.00	0.00	.03	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	0.00	.06	0.00	.05	.01	.02	.07	0.00
MGO	2.31	2.15	2.64	2.05	3.21	2.74	2.76	2.29
CAO	.08	.19	.07	.06	.07	.07	.07	.07
BAO	2.11	1.71	1.76	1.78	1.95	1.29	1.29	2.46
K2O	9.38	9.02	9.51	9.40	9.21	9.43	9.17	7.45
NA2O	.25	.20	.13	.22	.23	.19	.20	.17
F	.13	.12	.13	.13	.19	.11	.23	.08
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	96.37	94.04	96.36	97.75	96.87	96.07	94.22	97.89
-O= F+CL	.05	.05	.05	.05	.08	.05	.10	.03
SUM	96.32	93.99	96.31	97.71	96.79	96.02	94.12	97.85

	1		2		3		4		5		6		7		8	
ST	6.315	*	6.286	*	6.425	*	6.378	*	6.451	*	6.524	*	6.481	*	6.418	*
AL	1.685	8.000	1.714	8.000	1.575	8.000	1.622	8.000	1.549	8.000	1.476	8.000	1.519	8.000	1.582	8.000
AL	3.596	*	3.635	*	3.435	*	3.561	*	3.447	*	3.500	*	3.453	*	3.650	*
TI	.020	*	.010	*	.019	*	.012	*	.015	*	.016	*	.042	*	.018	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.003	*	0.000	*	0.000	*
FE	0.000	*	.007	*	0.000	*	.005	*	.001	*	.002	*	.008	*	0.000	*
MG	.453	*	.431	*	.557	*	.511	*	.625	*	.535	*	.550	*	.438	*
MN	0.000	4.059	0.000	4.063	0.000	4.062	0.000	4.068	0.000	4.088	0.000	4.056	0.000	4.053	0.000	4.117
NA	.064	*	.052	*	.045	*	.055	*	.058	*	.048	*	.052	*	.042	*
CA	.011	*	.027	*	.010	*	.008	*	.010	*	.010	*	.010	*	.010	*
K	1.576	*	1.547	*	1.595	*	1.550	*	1.534	*	1.576	*	1.564	*	1.303	*
BA	.107	1.760	.090	1.717	.101	1.755	.090	1.704	.100	1.702	.066	1.700	.068	1.694	.124	1.479
F	.054	*	.051	*	.054	*	.053	*	.078	*	.046	*	.097	*	.032	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		0.000		.016		0.000		.011		.002		.004		.014		0.000
F/FM		0.000		.015		0.000		.010		.002		.004		.014		0.000

1 ESK-9-74.9 ;CAS:FRAG W QTZ & COARSE MUSC
2 MUSC
3 MUSC
4 ANOTHER FRAG
5 ANOTHER MUSC
6 ANOTHER FRAG MUSC QTZ
7 MUSC
8 ANOTHER FRAG OF MUSC

SUPER RECAL

APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9		10		11		12		13		14		15		15	
SIO2	47.27		47.69		47.51		49.49		50.31		49.33		45.70		45.91	
TIO2	.29		.16		.23		.13		.13		.14		.14		.14	
A2O3	34.47		34.91		34.59		32.89		33.82		33.43		30.78		31.20	
C2O3	.01		.01		0.00		0.00		.04		0.00		0.00		0.00	
MNO	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
FEO	0.00		.03		.03		.11		.05		.05		0.00		.05	
MGO	2.19		2.06		2.15		2.82		2.48		2.53		2.72		2.69	
CAO	.13		.02		.05		.05		.11		.06		.17		.14	
BAO	2.95		2.79		2.71		1.50		1.50		1.43		1.97		2.03	
K2O	9.17		9.49		9.57		9.51		9.32		9.70		8.30		8.47	
NA2O	.26		.25		.27		.23		.20		.21		.25		.19	
F	0.00		.03		.01		.13		.16		.15		.19		.22	
CL	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
SUM	96.57		97.34		97.14		97.37		98.12		97.03		90.22		91.04	
-O= F+CL	0.00		.01		.00		.05		.07		.06		.08		.09	
SUM	96.57		97.33		97.14		97.32		98.05		96.97		90.14		90.95	
ST	6.247	*	6.250	*	6.251	*	6.478	*	6.454	*	6.420	*	6.409	*	6.387	*
AL	1.753	8.000	1.750	8.000	1.749	8.000	1.522	8.000	1.546	8.000	1.580	8.000	1.591	8.000	1.613	8.000
AL	3.619	*	3.641	*	3.613	*	3.500	*	3.566	*	3.546	*	3.495	*	3.502	*
TI	.020	*	.016	*	.023	*	.013	*	.013	*	.014	*	.015	*	.015	*
CR	.001	*	.001	*	0.000	*	0.000	*	.004	*	0.000	*	0.000	*	0.000	*
FE	0.000	*	.003	*	.003	*	.012	*	.005	*	.005	*	0.000	*	.006	*
MG	.431	*	.492	*	.422	*	.545	*	.474	*	.491	*	.569	*	.558	*
MN	0.000	4.071	0.000	4.063	0.000	4.061	0.000	4.069	0.000	4.062	0.000	4.056	0.000	4.078	0.000	4.080
NA	.057	*	.064	*	.059	*	.058	*	.050	*	.053	*	.068	*	.051	*
CA	.018	*	.003	*	.007	*	.008	*	.015	*	.008	*	.026	*	.021	*
K	1.546	*	1.545	*	1.575	*	1.572	*	1.525	*	1.610	*	1.485	*	1.503	*
BA	.148	1.779	.139	1.749	.150	1.802	.076	1.714	.075	1.665	.073	1.744	.108	1.686	.111	1.535
F	0.000	*	.012	*	.004	*	.053	*	.065	*	.062	*	.084	*	.097	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		0.000		.008		.006		.022		.011		.011		0.000		.010
F/FM		0.000		.008		.008		.021		.011		.011		0.000		.010

9 MUSC
10 MUSC
11 MUSC
12 COARSE MUSC SHEAF AT MARGIN ROCK FRAG
13 FRAG OR SOLN ZONE MASS MUSC
14 MUSCOVITE
15 MUSCOVITE
16 MUSCOVITE

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	17	18	19	20
SIO2	55.05	45.78	50.67	40.69
TIO2	.11	.17	.24	.10
A2O3	28.93	32.76	34.13	31.39
C2O3	0.00	.01	.02	-.01
MNO	0.00	0.00	0.00	0.00
FEO	.02	.03	.06	.00
MGO	2.35	2.53	2.83	2.22
CAO	.03	.07	.11	.04
BAO	1.69	1.75	2.05	1.45
K2O	7.73	9.08	9.62	8.54
NA2O	.18	.22	.25	.19
F	0.00	.12	.19	.05
CL	0.00	0.00	0.00	0.00
SUM	96.35	95.93	101.20	90.66
-O= F+CL	0.00	.05	.08	.02
SUM	96.35	95.88	101.12	90.64

	17		18		19		20	
SI	7.084	*	6.428	*	6.387	*	6.474	*
AL	.916	8.000	1.572	8.000	1.613	8.000	1.526	8.000
AL	3.478	*	3.547	*	3.495	*	3.603	*
TI	.011	*	.017	*	.023	*	.010	*
CR	0.000	*	.001	*	.002	*	-.001	*
FE	.002	*	.004	*	.007	*	.000	*
MG	.453	*	.496	*	.530	*	.459	*
MN	0.000	3.943	0.000	4.064	0.000	4.056	0.000	4.073
NA	.045	*	.055	*	.060	*	.050	*
CA	.004	*	.012	*	.015	*	.006	*
K	1.302	*	1.526	*	1.540	*	1.510	*
BA	.085	1.436	.101	1.694	.121	1.737	.079	1.645
F	0.000	*	.047	*	.075	*	.021	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.005		.007		.012		.001
F/FM		.005		.007		.012		.001

17 MUSCOVITE
18 AVERAGE
19 AVERAGE PLUS SIGMA
20 AVERAGE MINUS SIGMA

SUPER RECAL — APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1		2		3		4		5		6		7		8	
SIO2	45.65		47.97		47.37		47.70		29.78		29.49		47.62		30.93	
TIO2	.08		.09		.11		.15		0.00		0.00		.07		0.00	
AL2O3	31.05		32.31		31.75		30.12		20.56		20.58		32.68		19.89	
CR2O3	.01		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
MNO	0.00		0.00		0.00		0.00		0.00		0.00		0.00		.01	
FEO	.04		0.00		[illegible]		.03		0.00		0.00		0.00		.33	
MGO	2.17		2.69		2.34		2.17		33.15		32.73		2.19		30.64	
CAO	0.00		.04		.06		.03		.04		.02		.02		.11	
BAO	1.14		1.13		1.16		1.15		0.00		0.00		1.22		0.00	
K2O	9.40		8.39		8.61		8.93		0.00		.09		8.83		.03	
NA2O	.31		.25		.25		.31		.04		.04		.25		.13	
F	.12		.25		.05		.16		.97		.97		.17		.95	
CL	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
SUM	90.05		93.07		91.75		90.75		84.55		83.92		93.05		83.23	
-O= F+CL	.05		.11		.02		.07		.41		.41		.07		.40	
SUM	90.00		92.96		91.74		90.69		84.14		83.51		92.98		82.83	
SI	6.498	*	6.434	*	6.454	*	6.605	*	4.459	*	4.450	*	6.426	*	4.691	*
AL	1.502	8.000	1.566	8.000	1.536	8.000	1.395	8.000	3.542	8.000	3.550	8.000	1.574	8.000	3.309	8.000
AL	3.574	*	3.540	*	3.579	*	3.520	*	.085	*	.109	*	3.622	*	.245	*
TI	.008	*	.009	*	.011	*	.016	*	0.000	*	0.000	*	.007	*	0.000	*
CR	.001	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.005	*	0.000	*	.003	*	.003	*	0.000	*	0.000	*	0.000	*	.042	*
MG	.451	*	.533	*	.470	*	.448	*	7.399	*	7.361	*	.440	*	6.971	*
MN	0.000	4.059	0.000	4.087	0.000	4.271	0.000	3.987	0.000	7.484	0.000	7.470	0.000	4.070	.001	7.250
NA	.084	*	.065	*	.050	*	.083	*	.012	*	.012	*	.065	*	.038	*
CA	0.000	*	.006	*	.009	*	.004	*	.006	*	.003	*	.003	*	.018	*
K	1.597	*	1.521	*	1.493	*	1.577	*	0.000	*	.017	*	1.520	*	.006	*
BA	.062	1.657	.062	1.654	.062	1.635	.062	1.727	0.000	.018	0.000	.032	.065	1.653	0.000	.052
F	.053	*	.106	*	.022	*	.070	*	.457	*	.453	*	.073	*	.460	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.010		0.000		.010		.008		0.000		0.000		0.000		.035
F/FM		.010		0.000		.009		.008		0.000		0.000		0.000		.035

1 ESK-9-74.9 : COARSE SHEAF OF MUSC
2 MUSCOVITE
3 MUSCOVITE
4 MUSCOVITE
5 CHLORITE
6 CHLORITE SHEAF
7 ASSOCIATED MUSC SHEAF
8 FINE GRAIN CHLORITE FRAG

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13	14	15
SIO2	32.77	31.89	33.09	45.76	39.40	47.43	31.37
TIO2	0.00	0.00	0.00	.11	.05	.10	-.00
AL2O3	20.94	17.33	20.93	31.59	25.97	31.65	20.33
CR2O3	0.00	.02	0.00	0.00	.00	.01	-.00
MNO	.06	0.00	0.00	0.00	.01	.02	-.01
FEO	0.00	0.00	0.00	0.00	.04	.13	-.05
MGO	29.74	30.38	27.21	1.90	16.03	31.05	2.22
CAO	.02	.12	.13	.05	.06	.10	.02
BAO	0.00	0.00	.08	1.18	.59	1.17	.01
K2O	.08	.03	.05	8.10	4.41	8.65	.17
NA2O	.07	.07	.07	.24	.17	.27	.07
F	.75	.93	.93	.09	.55	.95	.14
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	84.70	82.77	80.08	90.11	87.90	121.56	54.25
-O= F+CL	.40	.39	.39	.04	.23	.40	.05
SUM	84.30	82.38	80.67	90.07	87.67	121.15	54.19

	9		10		11		12		13		14		15	
SI	4.850	*	4.840	*	4.951	*	6.488	*	5.636	*	5.083	*	6.744	*
AL	3.150	8.000	3.160	8.000	3.049	8.000	1.512	8.000	2.364	8.000	2.917	8.000	1.256	9.000
AL	.901	*	.297	*	.555	*	3.652	*	2.017	*	1.082	*	3.892	*
TI	0.000	*	0.000	*	0.000	*	.011	*	.005	*	.008	*	-.001	*
CR	0.000	*	.002	*	0.000	*	0.000	*	.000	*	.001	*	-.001	*
FE	0.000	*	0.000	*	0.000	*	0.000	*	.004	*	.011	*	-.010	*
MG	6.560	*	6.873	*	6.362	*	.412	*	3.546	*	4.960	*	.711	*
MN	.009	7.069	0.000	7.172	0.000	6.916	0.000	4.075	.001	5.574	.002	6.064	-.002	4.591
NA	.020	*	.021	*	.020	*	.065	*	.047	*	.057	*	.027	*
CA	.014	*	.023	*	.020	*	.007	*	.009	*	.012	*	.004	*
K	.015	*	.006	*	.158	*	1.433	*	.805	*	1.192	*	.047	*
BA	0.000	.049	0.000	.046	.005	.203	.064	1.570	.033	.894	.049	1.300	.001	.079
F	.445	*	.446	*	.430	*	.037	*	.247	*	.323	*	.093	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.001		0.000		0.000		0.000		.001		.003		-.016
F/FM		.001		0.000		0.000		0.000		.001		.003		-.016

9 EXT F GR CHLORITE W QTZ VIEW TENSION GAS
10 CHLORITE
11 CHLORITE
12 MUSCOVITE

13 AVERAGE
14 AVERAGE PLUS SIGMA
15 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	46.89	47.14	47.01	47.66	47.48	46.05	47.04	47.55
TIO2	.13	.17	.12	.09	.15	.12	.14	.17
A2O3	33.13	32.81	33.02	32.82	33.37	33.45	33.12	33.37
C2O3	.02	0.00	0.00	0.00	0.00	0.00	.00	.01
MNO	0.00	0.00	0.00	0.00	0.00	.01	.00	.01
FEO	.01	.02	0.00	.01	0.00	.03	.01	.02
MGO	2.03	2.18	1.64	2.19	1.72	2.09	2.06	2.16
CAO	0.00	.01	.12	.08	.06	.13	.07	.12
BAO	1.72	1.31	1.66	1.66	1.75	1.77	1.73	1.78
K2O	9.35	9.17	9.09	9.24	9.26	9.13	9.20	9.30
NA2O	.20	.25	.25	.23	.26	.25	.24	.27
F	0.00	0.00	0.00	.03	.12	.13	.03	.08
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	93.57	93.59	93.[illegible]	94.01	94.29	93.17	93.63	94.84
-O= F+CL	0.00	0.00	0.00	.01	.01	.05	.01	.03
SUM	93.[illegible]	93.59	93.18	94.00	94.28	93.12	93.62	94.81

	1		2		3		4		5		6		7		8	
SI	6.343	*	6.376	*	6.371	*	6.407	*	6.368	*	6.265	*	6.355	*	6.349	*
AL	1.657	8.000	1.624	8.000	1.629	8.000	1.593	8.000	1.632	8.000	1.735	8.000	1.645	8.000	1.651	8.000
AL	3.634	*	3.695	*	3.652	*	3.605	*	3.645	*	3.630	*	3.628	*	3.600	*
TI	.018	*	.017	*	.012	*	.009	*	.015	*	.012	*	.014	*	.017	*
CR	.002	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.000	*	.001	*
FE	.001	*	.002	*	0.000	*	.001	*	0.000	*	.003	*	.001	*	.002	*
MG	.409	*	.437	*	.392	*	.439	*	.384	*	.424	*	.415	*	.431	*
MN	0.000	4.065	0.000	4.064	0.000	4.056	0.000	4.054	0.000	4.044	.001	4.070	.000	4.059	.001	4.052
NA	.052	*	.063	*	.063	*	.060	*	.058	*	.066	*	.064	*	.069	*
CA	0.000	*	.001	*	.017	*	.012	*	.009	*	.019	*	.010	*	.017	*
K	1.614	*	1.595	*	1.550	*	1.584	*	1.584	*	1.584	*	1.585	*	1.585	*
BA	.031	1.757	.026	1.751	.088	1.739	.087	1.743	.092	1.752	.094	1.764	.091	1.749	.093	1.753
F	0.000	*	0.000	*	0.000	*	.013	*	.008	*	.056	*	.013	*	.032	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M	.003		.005		0.000		.003		0.000		.011		.004		.007	
F/FM	.003		.005		0.000		.003		0.000		.011		.004		.007	

1 ESK-9-75.2: COARSE MUSC SHEAF
2 MUSCOVITE
3 MUSC SHEAF IN A.S
4 MUSCOVITE
5 CIRCULAR SHEAF OF F GR MUSC
6 RADIAL SHEAF OF MUSC IN ASS
7 AVERAGE
8 AVERAGE PLUS SIGMA

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

SUPER RECAL

	9
SIO2	46.52
TIO2	.11
A2O3	32.87
C2O3	-.00
MNO	-.00
FEO	.00
MGO	1.75
CAO	.02
BAO	1.67
K2O	9.37
NA2O	.22
F	-.02
CL	0.00
SUM	92.43
-O= F+CL	-.01
SUM	92.43

SI	6.361	*
AL	1.639	8.000
AL	3.658	*
TI	.011	*
CR	-.000	*
FE	.000	*
MG	.357	*
MN	-.000	4.026
NA	.057	*
CA	.003	*
K	1.585	*
BA	.090	1.735
F	-.009	*
CL	0.000	0.000
O	22.000	*
F/M	-.000	
F/FM	-.000	

9 AVERAGE MINUS SIGMA

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	47.34	44.1[illegible]	45.2[illegible]	45.70	47.33	29.10	45.85	47.07
TIO2	.12	.13	.15	.05	.06	0.00	.09	.11
A2O3	34.10	32.5[illegible]	30.4[illegible]	32.17	33.00	20.45	34.18	33.81
C2O3	.02	0.06	0.06	.05	0.00	0.00	.06	0.00
MNO	0.00	.01	0.00	0.00	.04	.13	0.00	.02
FEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MGO	1.5[illegible]	1.5[illegible]	1.7[illegible]	1.71	1.76	34.00	1.57	1.64
CAO	0.00	.02	0.00	.02	0.00	0.00	0.00	0.00
BAO	1.74	2.10	1.7[illegible]	1.84	1.72	0.00	2.17	2.15
K2O	9.03	8.6[illegible]	9.[illegible]5	8.76	8.91	.02	8.76	8.97
NA2O	.20	.24	.2[illegible]	.25	.23	0.00	.26	.21
F	.17	.33	.22	.8[illegible]	.16	1.33	.29	.35
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.65	89.79	90.[illegible]4	91.35	93.41	85.03	93.33	94.53
-O= F+CL	.07	.14	.09	.34	.07	.56	.12	.15
SUM	94.58	89.65	90.1[illegible]	91.0[illegible]	93.34	84.47	93.21	94.38

	1		2		3		4		5		6		7		8	
SI	6.323	*	6.24[illegible]	*	6.503	*	6.331	*	6.401	*	4.347	*	6.227	*	6.308	*
AL	1.677	8.000	1.753	8.000	1.497	8.000	1.667	8.000	1.599	8.000	3.600	7.947	1.773	8.000	1.592	8.000
AL	3.6[illegible]1	*	3.661	*	3.950	*	3.582	*	3.660	*	0.000	*	3.697	*	3.647	*
TI	.012	*	.014	*	.015	*	.005	*	.006	*	0.000	*	.009	*	.011	*
CR	.002	*	0.000	*	0.000	*	.007	*	0.000	*	0.000	*	.006	*	0.000	*
FE	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
MG	.334	*	.335	*	.357	*	.353	*	.355	*	7.571	*	.338	*	.368	*
MN	0.000	4.040	.001	4.011	0.000	3.933	0.000	3.947	.005	4.025	.016	7.587	0.000	4.051	.002	4.027
NA	.052	*	.056	*	.063	*	.067	*	.060	*	0.000	*	.068	*	.055	*
CA	0.000	*	.003	*	0.000	*	.003	*	0.000	*	0.000	*	0.000	*	0.000	*
K	1.547	*	1.537	*	1.652	*	1.548	*	1.537	*	.004	*	1.518	*	1.533	*
BA	.1[illegible]2	1.700	.115	1.774	.106	1.[illegible]37	.100	1.718	.102	1.699	0.000	.004	.115	1.701	.113	1.701
F	.072	*	.147	*	.098	*	.350	*	.068	*	.628	*	.125	*	.148	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M	0.000		.004		0.000		0.000		.013		.002		0.000		.005	
F/FM	0.000		.004		0.000		0.000		.013		.002		0.000		.005	

1 ESK-9-76.4: C&G CHARGE MUSC SHEAF INST 5
2 MUSC
3 MUSC
4 MUSC
5 MUSC
6 ASSOC CHLORITE SHEAFS INST MUSC
7 MUSC SHEAFS
8 MUSC

SUPER PECAL — APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9		10		11		12		13	
SIO2	47.36		45.42		44.56		47.74		39.39	
TIO2	.09		.03		.02		.13		.05	
A2O3	33.67		33.32		31.63		35.77		27.88	
C2O3	.05		.03		.02		.05		-.00	
MNO	.07		.02		.03		.07		-.01	
FEO	0.00		0.00		0.00		0.00		0.00	
MGO	1.72		1.62		4.74		14.63		-4.75	
CAO	0.00		0.00		.02		.01		-.00	
BAO	1.73		1.74		1.75		2.35		1.16	
K2O	9.02		7.42		8.10		10.80		5.40	
NA2O	.21		.33		.22		.39		.14	
F	.28		.35		.43		.78		.09	
CL	0.00		0.00		0.00		0.00		0.00	
SUM	94.25		90.06		92.08		114.83		69.34	
-O= F+CL	.12		.15		.18		.33		.04	
SUM	94.13		89.90		91.90		114.51		69.30	
SI	6.346	*	6.266	*	6.145	*	5.640	*	6.920	*
AL	1.654	8.000	1.734	8.000	1.855	8.000	2.359	8.000	1.080	8.000
AL	3.653	*	3.650	*	3.305	*	2.412	*	4.692	*
TI	.009	*	.003	*	.004	*	.011	*	.006	*
CR	.005	*	.003	*	.002	*	.004	*	-.003	*
FE	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
MG	.344	*	.340	*	1.013	*	2.465	*	-1.243	*
MN	.006	4.020	.002	4.003	.003	4.333	.007	4.898	-.002	3.453
NA	.055	*	.096	*	.056	*	.065	*	.047	*
CA	0.000	*	0.000	*	.001	*	.001	*	-.001	*
K	1.542	*	1.520	*	1.422	*	1.556	*	1.210	*
BA	.093	1.690	.092	1.708	.095	1.575	.105	1.729	.080	1.336
F	.117	*	.162	*	.186	*	.276	*	.049	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.023		.007		.003		.003		.013
F/FM		.023		.007		.003		.003		.013

9 MUSC
10 MUSC
11 AVERAGE
12 AVERAGE PLUS SIGMA
13 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	32.22	32.60	31.30	31.00	31.90	30.67	30.05	31.02
TIO2	.03	0.00	0.00	0.00	0.00	.16	0.00	0.00
A2O3	20.80	21.00	1[illegible]	18.91	18.19	19.23	19.59	17.64
C2O3	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00
MNO	.03	0.00	.23	.17	.17	.22	.06	.17
FEO	.32	.29	.0[illegible]	.05	.09	.13	.50	.11
MGO	32.47	32.78	32.3[illegible]	31.7[illegible]	32.21	31.34	32.15	32.41
CAO	.19	.13	.05	.14	.11	.18	.11	.02
BAO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NA2O	.01	0.00	0.00	0.00	0.00	0.00	.02	0.00
F	.24	.23	.72	.75	.82	.70	.72	.75
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	86.31	87.11	84.25	82.83	83.49	82.69	83.21	82.12
-O= F+CL	.10	.10	.30	.32	.35	.29	.30	.32
SUM	86.21	87.01	83.95	82.51	83.14	82.39	82.91	81.80

	1		2		3		4		5		6		7		8	
SI	4.708	*	4.716	*	4.671	*	4.724	*	4.820	*	4.687	*	4.578	*	4.773	*
AL	3.22[illegible]	8.000	3.284	8.000	3.30[illegible]	8.000	3.276	8.000	3.180	8.000	3.313	8.000	3.422	8.000	3.198	7.971
AL	.270	*	.311	*	.13[illegible]	*	.170	*	.053	*	.151	*	.094	*	0.000	*
TI	.003	*	0.000	*	0.000	*	0.003	*	0.000	*	.018	*	0.000	*	0.000	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.006	*	0.000	*	0.000	*
FE	.039	*	.034	*	.013	*	.005	*	.011	*	.017	*	.064	*	.014	*
MG	7.072	*	7.06[illegible]	*	7.23[illegible]	*	7.221	*	7.254	*	7.139	*	7.302	*	7.433	*
MN	.004	7.4[illegible]	0.000	7.412	.02[illegible]	7.307	.025	7.372	.022	7.345	.028	7.359	.008	7.468	.022	7.459
NA	.003	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.006	*	0.000	*
CA	.030	*	.020	*	.008	*	.023	*	.018	*	.029	*	.018	*	.003	*
K	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
BA	0.000	.03[illegible]	0.000	.020	0.000	.008	0.000	.023	0.000	.018	0.000	.029	0.000	.024	0.000	.003
F	.111	*	.195	*	.341	*	.361	*	.392	*	.338	*	.347	*	.355	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.006		.005		.005		.004		.005		.006		.010		.005
F/FM		.006		.005		.005		.004		.005		.006		.010		.005

1 ESK-2-102.5: CHLORITE
2 CHLORITE
3 CHLORITE
4 CHLORITE
5 CHLORITE
6 FOLIATED CHL CUT BY GYPSUM VIEN
7 RELICT CHL IN GYSUM VEIN
8 CHLORITE

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13	14	15	16
SIO2	31.40	46.46	47.12	46.35	46.88	47.09	47.78	47.97
TIO2	.10	.18	.11	.09	.09	.81	.11	.05
AL2O3	17.29	32.23	33.30	30.93	32.89	31.90	33.05	32.44
CR2O3	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	.29	0.00	0.00	0.00	.03	0.00	0.00	0.00
FEO	.40	.03	.01	0.00	.05	.26	0.00	.10
MGO	32.42	1.72	1.74	2.50	1.77	2.05	1.82	2.29
CAO	.09	.19	.10	1.05	0.00	.09	.04	.12
BAO	.04	.57	.56	.58	.59	.31	.50	.32
K2O	.01	9.52	9.64	9.15	9.45	9.36	9.96	9.81
NA2O	.01	.22	.22	.20	.28	.25	.26	.26
F	.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	92.92	91.32	93.14	90.85	92.53	92.13	93.52	93.37
-O= F+CL	.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	92.53	91.32	93.14	90.86	92.53	92.13	93.52	93.37

	9		10		11		12		13		14		15		16	
SI	4.071	*	6.397	*	6.363	*	6.420	*	6.382	*	6.414	*	6.420	*	6.451	*
AL	[illegible]	7.849	1.603	8.000	1.637	8.000	1.572	8.000	1.619	8.000	1.586	8.000	1.580	8.000	1.549	8.000
AL	0.000	*	3.626	*	3.563	*	3.482	*	3.658	*	3.534	*	3.653	*	3.589	*
TI	.011	*	.017	*	.011	*	.009	*	.009	*	.083	*	.011	*	.005	*
CR	.005	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.051	*	.003	*	.001	*	0.000	*	.006	*	.030	*	0.000	*	.011	*
MG	7.398	*	.195	*	.390	*	.517	*	.359	*	.415	*	.365	*	.457	*
MN	.038	7.493	0.003	4.044	0.000	4.070	0.000	4.008	.003	4.035	0.000	4.063	0.000	4.029	0.000	4.052
NA	.003	*	.059	*	.056	*	.054	*	.074	*	.069	*	.068	*	.068	*
CA	.015	*	.027	*	.014	*	.150	*	0.000	*	.013	*	.006	*	.017	*
K	.002	*	1.672	*	1.655	*	1.618	*	1.728	*	1.626	*	1.707	*	1.682	*
BA	.002	.022	.031	1.789	.029	1.758	.032	1.860	.031	1.833	.017	1.724	.026	1.807	.017	1.784
F	.445	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.012		.009		.003		0.000		.025		.071		0.000		.025
F/FM		.012		.009		.003		0.000		.025		.066		0.000		.024

9 CHLORITE: AG TENN & GYP POST FABRIC
10 MUSC SHEAR W TENN AT CHL-GYM INTERFACE
11 COARSE MUSC AT CHL CUT BY GYP
12 MUSC CUT WITH ARG TENN
13 COARSE MUSC ASSOC W CC IN CHL
14 MUSC
15 MUSC
16 MUSC

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	17	18	19	20
SIO2	46.63	30.75	45.62	30.87
TIO2	.07	.11	.29	-.08
A2O3	33.19	25.42	32.18	15.06
C2O3	0.00	.01	.02	-.01
MNO	0.00	.08	.13	-.02
FEO	.09	.15	.29	.03
MGO	1.72	16.01	33.05	2.74
CAO	.05	.15	.39	-.07
BAO	.52	.23	.49	-.02
K2O	9.41	4.52	7.31	-.28
NA2O	.25	.12	.24	-.00
F	0.00	.34	.71	-.02
CL	0.00	0.00	0.00	0.00
SUM	92.33	87.[illegible]	123.[illegible]	51.97
-O= F+CL	0.00	.14	.30	-.01
SUM	92.33	87.[illegible]4	123.51	51.98

	17		18		19		20	
SI	6.364	*	5.555	*	4.926	*	6.883	*
AL	1.636	8.000	2.445	8.000	3.074	8.000	1.117	8.000
AL	3.679	*	1.350	*	.933	*	3.786	*
TI	.007	*	.011	*	.023	*	-.013	*
CR	0.000	*	.001	*	.002	*	-.002	*
FE	.010	*	.013	*	.026	*	.000	*
MG	.339	*	3.349	*	5.210	*	.776	*
MN	0.000	4.085	.010	5.739	.015	6.210	-.004	4.744
NA	.066	*	.033	*	.049	*	-.002	*
CA	.007	*	.024	*	.044	*	-.016	*
K	1.631	*	.826	*	1.255	*	-.079	*
BA	.028	1.732	.013	.896	.020	1.368	-.002	-.100
F	0.000	*	.150	*	.237	*	-.015	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.026		.007		.008		-.003
F/FM		.026		.007		.008		-.003

17 MUSC
18 AVERAGE
19 AVERAGE PLUS SIGMA
20 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	29.67	30.02	30.51	30.24	30.55	30.20	30.52	29.87
TIO2	.02	.02	.04	.02	.03	.03	.03	.02
AL2O3	23.37	23.74	23.01	22.89	23.60	23.31	23.64	22.99
CR2O3	0.00	0.00	0.00	.02	0.00	.00	.01	-.00
MNO	0.00	0.00	0.00	.03	.05	.03	.06	-.01
FEO	1.[illegible]	1.[illegible]	1.[illegible]	1.80	1.96	1.91	1.98	1.83
MGO	30.3[illegible]	29.74	30.44	30.32	29.72	30.12	30.44	29.80
CAO	.11	.15	.15	.20	.14	.15	.18	.12
BAO	.05	0.00	.05	0.00	.05	.03	.06	.01
K2O	.01	0.00	.03	0.00	0.00	.01	.02	-.00
NA2O	0.00	0.00	0.00	.01	0.00	.00	.01	-.00
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	85.51	85.66	86.07	85.59	86.10	85.79	86.96	84.61
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	85.51	85.66	86.07	85.59	86.10	85.79	86.96	84.61

	1		2		3		4		5		6		7		8	
SI	4.421	*	4.456	*	4.50[illegible]	*	4.495	*	4.510	*	4.476	*	4.470	*	4.487	*
AL	3.579	8.000	3.544	8.000	3.491	8.000	3.505	8.000	3.4[illegible]0	8.000	3.522	8.000	3.530	8.000	3.513	8.000
AL	.515	*	.609	*	.516	*	.504	*	.616	*	.552	*	.549	*	.555	*
TI	.002	*	.002	*	.004	*	.002	*	.003	*	.003	*	.004	*	.002	*
CR	0.000	*	0.000	*	0.000	*	.002	*	0.000	*	.000	*	.001	*	-.000	*
FE	.243	*	.247	*	.220	*	.224	*	.242	*	.236	*	.243	*	.230	*
MG	6.747	*	6.590	*	6.7[illegible]5	*	6.718	*	6.540	*	6.658	*	6.644	*	6.571	*
MN	0.000	7.507	0.000	7.439	0.000	7.451	.011	7.462	.006	7.407	.004	7.453	.008	7.450	-.001	7.455
NA	0.000	*	0.000	*	0.000	*	.003	*	0.000	*	.001	*	.002	*	-.001	*
CA	.018	*	.024	*	.024	*	.032	*	.022	*	.024	*	.028	*	.019	*
K	.002	*	0.000	*	.006	*	0.000	*	0.000	*	.002	*	.004	*	-.001	*
BA	.003	.02[illegible]	0.000	.024	.003	.033	0.000	.035	.003	.025	.002	.028	.003	.037	.000	.017
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.036		.038		.034		.035		.038		.036		.038		.034
F/FM		.035		.036		.033		.034		.037		.035		.036		.033

1 ESK-11-115.1[illegible] MASS CHL WITH PY & GAL.
2 CHLORITE
3 CHLORITE
4 CHLORITE
5 CHLORITE
6 AVERAGE
7 AVERAGE PLUS SIGMA
8 AVERAGE MINUS SIGMA

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	50.66	50.11	49.41	50.94	49.75	50.36	49.52	50.11
TIO2	.15	.13	.14	.15	.12	.09	.11	.13
A2O3	33.77	33.33	33.18	33.35	33.31	32.28	33.61	33.27
C2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.17	.19	.19	.21	.13	.17	.11	.17
MGO	1.71	1.65	2.25	1.81	1.79	1.94	1.97	1.88
CAO	.21	.23	.20	.18	.20	.22	.20	.21
BAO	.23	.22	.17	.24	.21	.20	.19	.21
K2O	8.95	9.30	9.29	9.55	9.24	9.24	9.73	9.33
NA2O	.12	.14	.15	.12	.12	.14	.13	.13
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	96.01	95.30	94.78	96.55	94.87	94.64	95.59	95.42
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	96.01	95.30	94.98	96.56	94.87	94.64	95.59	95.42

	1		2		3		4	
SI	6.559	*	6.543	*	6.487	*	6.574	*
AL	1.450	8.000	1.452	8.000	1.513	8.000	1.426	8.000
AL	3.677	*	3.571	*	3.620	*	3.548	*
TI	.015	*	.013	*	.014	*	.015	*
CR	0.000	*	0.000	*	0.000	*	0.000	*
FE	.021	*	.021	*	.020	*	.023	*
MG	.330	*	.321	*	.442	*	.348	*
MN	0.000	4.064	0.000	4.034	0.000	4.096	0.000	4.033
NA	.030	*	.035	*	.041	*	.030	*
CA	.029	*	.032	*	.028	*	.025	*
K	1.476	*	1.550	*	1.554	*	1.572	*
BA	.012	1.547	.011	1.629	.009	1.632	.012	1.637
F	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.062		.065		.045		.065
F/FM		.059		.061		.043		.061

	5		6		7		8	
SI	6.528	*	6.622	*	6.473	*	6.540	*
AL	1.472	8.000	1.378	8.000	1.527	8.000	1.450	8.000
AL	3.678	*	3.623	*	3.649	*	3.657	*
TI	.012	*	.009	*	.011	*	.012	*
CR	0.000	*	0.000	*	0.000	*	0.000	*
FE	.014	*	.019	*	.012	*	.018	*
MG	.350	*	.380	*	.388	*	.355	*
MN	0.000	4.054	0.000	4.031	0.000	4.060	0.000	4.053
NA	.031	*	.036	*	.033	*	.034	*
CA	.026	*	.031	*	.028	*	.029	*
K	1.546	*	1.550	*	1.622	*	1.553	*
BA	.011	1.616	.010	1.627	.010	1.693	.011	1.525
F	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.041		.049		.031		.050
F/FM		.039		.047		.030		.048

1 ESK-11-116.3M MASS F. GR MUSC ASSOC/PYRI
2 ANOTHER MUSCOVITE GRAIN
3 MUSCOVITE
4 MUSCOVITE
5 MUSCOVITE
6 MUSCOVITE
7 MUSCOVITE
8 AVERAGE

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9		10	
SIO2	50.64		47.57	
TIO2	.15		.11	
AL2O3	33.71		32.82	
CR2O3	0.00		0.00	
MNO	0.00		0.00	
FEO	.29		.14	
MGO	2.07		1.63	
CAO	.22		.17	
BAO	.23		.19	
K2O	9.56		9.10	
NA2O	.15		.12	
F	0.00		0.00	
CL	0.00		0.00	
SUM	96.93		93.91	
-O= F+CL	0.00		0.00	
SUM	96.93		93.91	
SI	6.518	*	6.553	*
AL	1.482	8.000	1.447	8.000
AL	3.630	*	3.684	*
TI	.014	*	.011	*
CR	0.000	*	0.000	*
FE	.022	*	.015	*
MG	.397	*	.333	*
MN	0.000	4.063	0.000	4.043
NA	.037	*	.031	*
CA	.030	*	.027	*
K	1.569	*	1.536	*
BA	.012	1.648	.010	1.603
F	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*
F/M		.055		.045
F/FM		.052		.043

9 AVERAGE PLUS SIGMA

10 AVERAGE MINUS SIGMA

SUPER RECAL APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	53.29	51.17	[illegible]	48.97	49.28	48.97	49.77	50.14
TIO2	.12	.14	.11	.12	.15	.22	.14	.14
AL2O3	31.18	31.63	32.14	32.44	31.05	31.65	30.93	31.58
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	.04	0.09	0.00	0.00	0.00	.01
FEO	.33	.46	1.14	.54	.56	.39	.48	.55
MGO	3.12	2.42	2.34	2.33	2.39	2.44	2.12	2.45
CAO	.11	.03	.04	.05	.46	.09	.09	.13
BAO	.40	.20	.66	.81	.70	.71	.23	.50
K2O	9.11	9.78	10.52	10.04	10.20	10.12	9.30	9.87
NA2O	.07	.12	.12	.13	.12	.09	.13	.11
F	.03	0.00	0.00	0.00	0.00	0.00	0.00	.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	97.73	95.51	95.87	95.44	94.92	94.68	93.19	95.60
-O= F+CL	.01	0.00	0.00	0.00	0.00	0.00	0.00	.00
SUM	97.72	95.51	95.87	95.44	94.92	94.68	93.19	95.60

	1		2		3		4		5		6		7		8	
SI	6.775	*	6.656	*	6.496	*	6.478	*	6.566	*	6.525	*	6.666	*	6.596	*
AL	1.225	8.000	1.344	8.000	1.504	8.000	1.522	8.000	1.434	8.000	1.475	8.000	1.334	8.000	1.404	8.000
AL	3.446	*	3.505	*	3.462	*	3.534	*	3.442	*	3.494	*	3.548	*	3.490	*
TI	.011	*	.014	*	.011	*	.012	*	.015	*	.022	*	.014	*	.014	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.035	*	.050	*	.127	*	.060	*	.062	*	.043	*	.054	*	.052	*
MG	.591	*	.463	*	.457	*	.459	*	.475	*	.485	*	.423	*	.481	*
MN	0.000	4.084	0.000	4.038	.004	4.062	0.009	4.065	0.000	3.994	0.000	4.044	0.000	4.039	.001	4.047
NA	.022	*	.030	*	.031	*	.033	*	.031	*	.023	*	.034	*	.029	*
CA	.015	*	.013	*	.005	*	.007	*	.066	*	.013	*	.013	*	.019	*
K	1.477	*	1.623	*	1.759	*	1.694	*	1.733	*	1.720	*	1.589	*	1.655	*
BA	.020	1.534	.025	1.671	.044	1.840	.042	1.778	.037	1.866	.037	1.793	.012	1.648	.031	1.735
F	.012	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.002	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.059		.107		.288		.130		.131		.090		.127		.123
F/FM		.056		.096		.224		.115		.116		.082		.113		.115

1 ESK-11-144.5M F GR MICA INTER TO SPHAL
2 ANOTHER MICA
3 MUSCOVITE
4 COARSE MICA
5 MUSCOVITE
6 REGION-EXT.FMGR.GMICA
7 ANOTHER MICA
8 AVERAGE

SUPER RECAL — APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10
SIO2	51.60	46.08
TIO2	.19	.11
AL2O3	32.19	31.05
CR2O3	0.00	0.00
MNO	.02	-.01
FEO	.82	.32
MGO	2.74	2.15
CAO	.27	-.09
BAO	.82	.30
K2O	10.34	9.40
NA2O	.13	.12
F	.01	-.01
CL	0.00	0.00
SUM	99.02	92.18
-O= F+CL	.01	-.00
SUM	99.01	92.18

	9		10	
SI	6.586	*	6.605	*
AL	1.414	8.000	1.395	8.000
AL	3.414	*	3.571	*
TI	.017	*	.011	*
CR	0.000	*	0.000	*
FE	.087	*	.035	*
MG	.522	*	.437	*
MN	.002	4.042	-.001	4.057
NA	.032	*	.026	*
CA	.037	*	-.009	*
K	1.683	*	1.627	*
BA	.041	1.797	.021	1.673
F	.006	*	-.003	*
CL	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*
F/M		.171		.077
F/FM		.146		.071

9 AVERAGE PLUS SIGMA

10 AVERAGE MINUS SIGMA

SUPER RECAL — APPENDIX I: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	48.47	[illegible]	[illegible]	48.54	50.45	49.97	50.21	50.77
TIO2	.09	.14	[illegible]	.08	.10	.14	.10	.09
AL2O3	[illegible]	31.50	32.00	31.52	30.69	33.58	31.25	33.09
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.85	.83	[illegible]	.71	.75	.77	.90	.81
MGO	[illegible]	[illegible]	1.62	1.84	1.69	1.71	1.92	1.74
CAO	.12	.12	.15	.08	.06	.08	.07	.14
BAO	.57	.59	.58	.63	.61	.59	.54	.58
K2O	9.56	9.56	9.61	9.71	7.94	8.26	8.45	7.86
NA2O	.15	[illegible]	.13	.17	.08	.12	.08	.09
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	91.75	95.23	93.25	93.29	92.36	95.22	93.52	95.14
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	91.75	95.23	93.25	93.28	92.36	95.22	93.52	95.14

	1		2		3		4	
SI	6.652	*	6.657	*	[illegible]	*	6.553	*
AL	1.348	8.000	1.343	8.000	[illegible]	8.000	1.447	8.000
AL	[illegible]	*	3.547	*	[illegible]	*	3.567	*
TI	.009	*	.014	*	.007	*	.008	*
CR	0.000	*	0.000	*	0.000	*	0.000	*
FE	.098	*	.091	*	.070	*	.090	*
MG	.395	*	.352	*	.356	*	.370	*
MN	0.000	4.004	0.000	4.005	0.000	4.051	0.000	4.026
NA	.040	*	.047	*	.034	*	.044	*
CA	.018	*	.017	*	.023	*	.012	*
K	1.674	*	1.697	*	1.656	*	1.672	*
BA	.032	1.763	.030	1.792	.031	1.744	.033	1.761
F	0.009	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.247		.250		.247		.217
F/FM		.198		.206		.178		.179

	5		6		7		8	
SI	6.772	*	6.527	*	6.687	*	6.613	*
AL	1.228	8.000	1.473	8.000	1.313	8.000	1.397	8.000
AL	3.625	*	3.695	*	3.591	*	3.691	*
TI	.010	*	.014	*	.010	*	.008	*
CR	0.000	*	0.000	*	0.000	*	0.000	*
FE	.084	*	.084	*	.100	*	.088	*
MG	.338	*	.333	*	.381	*	.338	*
MN	0.000	4.057	0.000	4.127	0.000	4.082	0.000	4.125
NA	.021	*	.030	*	.021	*	.020	*
CA	.009	*	.011	*	.010	*	.020	*
K	1.357	*	1.376	*	1.435	*	1.306	*
BA	.032	1.421	.030	1.448	.028	1.494	.030	1.375
F	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.249		.253		.263		.251
F/FM		.199		.202		.208		.207

1 ESK-12-75.6M MICA/QTZ ASSOCIATION
2 RADIATING MICA WITH CC & QTZ
3 ANOTHER MICA
4 MUSCOVITE
5 MUSCOVITE
6 MUSCOVITE POINT 3
7 MUSCOVITE POINT 4
8 MUSCOVITE POINT 5

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13	14	15	16
SIO2	51.17	53.12	50.64	50.60	51.50	50.13	32.71	26.51
TIO2	.09	.11	.12	.15	.11	.14	.03	.37
AL2O3	32.13	30.44	32.20	35.08	31.65	32.84	16.51	19.63
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	.17	.20
FEO	.66	.71	.69	.93	.99	1.04	16.99	20.01
MGO	1.81	1.92	1.60	1.81	1.81	1.91	15.79	17.89
CAO	.15	.07	.12	.10	.15	.09	.04	1.22
BAO	.53	.41	.32	.85	.54	.53	.04	.06
K2O	7.85	8.65	8.06	8.13	7.51	7.89	0.00	0.00
NA2O	.08	.09	.10	.11	.10	.05	0.00	0.00
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.72	95.51	93.65	97.77	94.37	94.62	82.27	85.97
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.03
SUM	94.72	95.51	93.65	97.77	94.37	94.62	82.27	85.94

	9		10		11		12		13		14		15		16	
SI	6.691	*	6.894	*	6.677	*	6.447	*	6.747	*	6.579	*	5.427	*	4.375	*
AL	1.309	8.000	1.105	8.000	1.323	8.000	1.553	8.000	1.253	8.000	1.421	8.000	2.573	8.000	3.625	8.000
AL	3.647	*	3.547	*	3.680	*	3.714	*	3.634	*	3.657	*	.656	*	.172	*
TI	.009	*	.011	*	.012	*	.014	*	.011	*	.014	*	.004	*	.046	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.074	*	.077	*	.076	*	.099	*	.108	*	.114	*	2.358	*	2.752	*
MG	.353	*	.371	*	.314	*	.344	*	.353	*	.374	*	3.903	*	4.400	*
MN	0.000	4.105	0.000	4.008	0.000	4.082	0.000	4.171	0.000	4.107	0.000	4.159	.024	6.943	.028	7.423
NA	.020	*	.020	*	.020	*	.027	*	.025	*	.013	*	0.000	*	0.000	*
CA	.021	*	.010	*	.017	*	.014	*	.021	*	.013	*	.007	*	.216	*
K	1.329	*	1.432	*	1.355	*	1.321	*	1.255	*	1.321	*	0.000	*	0.000	*
BA	.027	1.378	.021	1.463	.017	1.415	.043	1.405	.028	1.329	.027	1.373	.003	.010	.004	.220
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.042	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.257		.207		.242		.288		.307		.306		.610		.634
F/FM		.219		.172		.195		.224		.235		.234		.379		.333

9 MUSCOVITE POINT 7
10 MUSCOVITE POINT 8
11 MUSCOVITE POINT 9
12 MUSCOVITE POINT 10
13 MUSCOVITE POINT 11
14 MUSCOVITE POINT 12
15 CHLORITE GRAIN: F GR GRAPHATIC REGION
16 MG-FE CHLORITE

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	17	18	19	20	21	22	23	24
SIO2	28.07	31.57	[illegible]	[illegible]	28.18	29.59	42.75	52.90
TIO2	.09	.07	.07	.16	.03	.06	.11	.18
AL2O3	19.61	[illegible]	17.05	[illegible]	18.40	18.52	27.13	33.71
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	.11	.13	.25	.25	.26	.23	.07	.17
FEO	29.59	15.47	26.37	22.01	20.65	21.41	7.75	16.98
MGO	19.12	15.59	17.09	19.61	19.19	19.87	7.83	15.87
CAO	.13	.34	.01	.15	.08	.05	.16	.40
BAO	.01	0.00	.12	.11	.11	.13	.38	.64
K2O	0.00	0.00	0.00	.02	.02	.03	5.41	9.54
NA2O	0.00	0.00	0.00	0.00	.01	.05	.07	.13
F	.12	0.00	.06	0.00	.05	0.00	.01	.05
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	97.75	[illegible]	[illegible]	91.71	96.98	[illegible]	91.69	130.57
-O= F+CL	.05	0.00	[illegible]	0.00	.02	0.00	.01	.02
SUM	97.70	[illegible]	[illegible]	91.71	96.96	89.44	91.59	130.55

	17		18		19		20		21		22		23		24	
SI	4.507	*	[illegible]	*	[illegible]	*	4.386	*	4.583	*	4.653	*	6.040	*	5.525	*
AL	3.473	8.000	2.345	8.000	[illegible]	8.000	3.614	8.000	3.417	8.000	3.347	8.000	1.960	8.000	2.475	8.000
AL	.216	*	.723	*	.112	*	.189	*	.110	*	.085	*	2.556	*	1.674	*
TI	.010	*	.007	*	[illegible]	*	.017	*	.004	*	.007	*	.012	*	.014	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	2.753	*	2.237	*	[illegible]	*	2.340	*	2.604	*	2.816	*	.916	*	1.483	*
MG	4.576	*	[illegible]	*	[illegible]	*	[illegible]	*	4.652	*	4.657	*	1.650	*	2.471	*
MN	.015	7.522	[illegible]	[illegible]	.034	[illegible]	.033	7.654	.036	7.610	.031	7.595	.009	5.142	.015	5.557
NA	0.000	*	0.000	*	0.000	*	0.000	*	.003	*	.015	*	.020	*	.026	*
CA	.022	*	.059	*	.002	*	.025	*	.014	*	.008	*	.024	*	.045	*
K	0.000	*	0.000	*	0.000	*	.004	*	.004	*	.006	*	.976	*	1.271	*
BA	.001	.023	0.000	.057	[illegible]	[illegible]	.007	.035	.007	.028	.008	.038	.021	1.041	.026	1.357
F	.051	*	0.000	*	[illegible]	*	0.000	*	.026	*	0.000	*	.006	*	.015	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.605		.577		[illegible]		.631		.611		.611		.560		.607
F/FM		.377		.374		[illegible]		.387		.377		.379		.359		.379

17 ANOTHER CHLORITE
18 ANOTHER FE-MG CHLORITE
19 CHLORITE IN ALTERATION ZONE
20 FE-MG CHL. COARSE REGION WITH M.CARB.
21 ANOTHER CHLORITE
22 MG-FE CHLORITE AT CENTRE OF SPHERE
23 AVERAGE
24 AVERAGE PLUS SIGMA

SUPER RECAL

APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	25
SIO2	32.61
TIO2	.06
AL2O3	20.54
CR2O3	0.00
MNO	-.03
FEO	-1.47
MGO	-.20
CAO	-.08
BAO	.13
K2O	1.23
NA2O	.01
F	-.02
CL	0.00
SUM	52.02
-O= F+CL	-.01
SUM	52.02

SI	7.116	*
AL	.884	8.000
AL	4.398	*
TI	.007	*
CR	0.000	*
FE	-.257	*
MG	-.066	*
MN	-.005	4.065
NA	.006	*
CA	-.017	*
K	.358	*
BA	.011	.356
F	-.012	*
CL	0.000	0.000
O	22.000	*
F/M		.695
F/FM		.377

25 AVERAGE [illegible], SIGMA

SUPER RECAL

APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	51.26	62.07	50.33	47.80	48.94	49.79	49.93	49.21
TIO2	.09	.11	.12	.08	.05	.06	.10	.10
AL2O3	32.07	23.67	31.22	32.50	32.32	30.82	31.02	30.40
CR2O3	0.00	0.00	0.00	0.00	0.00	.01	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.44	.53	.22	.11	.30	.05	.53	.12
MGO	2.53	1.34	2.79	2.41	2.32	2.93	2.90	3.04
CAO	.05	.05	.03	.01	.01	.12	.11	.11
BAO	.62	.35	.44	.72	.48	.71	.62	.62
K2O	9.87	7.31	[illegible]	10.44	10.08	9.85	9.64	9.96
NA2O	.15	.17	.21	.20	.21	.15	.18	.15
F	.16	0.00	.27	.10	.02	.29	.30	.34
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	95.24	96.35	95.64	94.44	94.73	94.79	95.33	94.06
-O= F+CL	.07	0.00	.11	.04	.01	.12	.13	.14
SUM	95.17	95.35	95.53	94.40	94.72	94.67	95.20	93.92

	1		2		3		4		5		6		7		8	
SI	6.755	*	7.846	*	6.583	*	6.404	*	6.499	*	6.603	*	6.586	*	6.587	*
AL	1.245	8.000	.154	8.000	1.417	8.000	1.596	8.000	1.501	8.000	1.397	8.000	1.414	8.000	1.413	8.000
AL	3.424	*	3.344	*	3.425	*	3.535	*	3.556	*	3.419	*	3.408	*	3.382	*
TI	.009	*	.010	*	.012	*	.026	*	.005	*	.006	*	.010	*	.010	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.001	*	0.000	*	0.000	*
FE	.048	*	.056	*	.024	*	.012	*	.033	*	.006	*	.058	*	.013	*
MG	.497	*	.344	*	.553	*	.481	*	.459	*	.579	*	.570	*	.606	*
MN	0.000	3.978	0.000	3.754	0.000	4.021	0.000	4.037	0.000	4.053	0.000	4.011	0.000	4.046	0.000	4.011
NA	.038	*	.041	*	.054	*	.052	*	.054	*	.041	*	.046	*	.042	*
CA	.007	*	.007	*	.011	*	.001	*	.001	*	.017	*	.016	*	.016	*
K	1.659	*	1.169	*	1.649	*	1.784	*	1.707	*	1.666	*	1.622	*	1.700	*
BA	.032	1.736	.027	1.244	.033	1.747	.041	1.879	.025	1.788	.037	1.761	.032	1.715	.033	1.799
F	.067	*	0.000	*	.112	*	.042	*	.008	*	.122	*	.125	*	.144	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000		22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.088		.152		.043		.026		.073		.010		.103		.022
F/FM		.089		.139		.041		.025		.068		.009		.093		.022

1 ESK-12-84.5M CSE PERIPHERAL MICA
2 MICA GRAIN 2
3 MICA GRAIN 3
4 MICA IN PRESSURE SOL'N
5 ANOTHER MICA
6 EXT F. GR. MICA MATRIX
7 ANOTHER MICA SAME ASSOC.
8 ANOTHER MICA SAME ASSOC.

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11
SIO2	51.29	55.61	46.79
TIO2	.09	.11	.07
A2O3	30.26	32.87	27.65
C2O3	.00	.00	-.00
MNO	0.00	0.00	0.00
FEO	.29	.47	.11
MGO	2.61	2.49	2.22
CAO	.07	.11	.03
BAO	.03	.72	.34
K2O	9.62	10.53	8.72
NA2O	.18	.20	.15
F	.19	.31	.06
CL	0.00	0.00	0.00
SUM	95.13	103.92	85.35
-O= F+CL	.08	.13	.03
SUM	95.06	103.79	85.32

	9		10		11	
SI	6.741	*	6.716	*	6.771	*
AL	1.259	8.000	1.284	8.000	1.229	8.000
AL	3.430	*	3.394	*	3.445	*
TI	.009	*	.010	*	.007	*
CR	.000	*	.000	*	-.000	*
FE	.032	*	.047	*	.013	*
MG	.512	*	.534	*	.490	*
MN	0.000	3.788	0.000	3.990	0.000	3.786
NA	.045	*	.047	*	.044	*
CA	.010	*	.014	*	.004	*
K	1.616	*	1.621	*	1.610	*
BA	.032	1.704	.034	1.717	.031	1.589
F	.077	*	.118	*	.028	*
CL	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*
F/M		.052		.088		.027
F/FM		.056		.081		.026

9 AVERAGE
10 AVERAGE PLUS SIGMA
11 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	51.34	57.77	49.24	50.41	55.57	51.75	52.69	55.67
TIO2	.17	.16	.10	.13	.14	.13	.14	.15
AL2O3	29.53	22.33	29.54	32.59	33.42	31.50	29.80	33.44
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.21	[illegible]	[illegible]	.15	.42	.26	.30	.42
MGO	3.19	2.51	2.58	2.55	2.47	2.93	2.79	3.01
CAO	.13	.12	[illegible]	.11	.11	.11	.12	.16
BAO	.43	.42	.43	.45	.85	.78	.64	.83
K2O	9.72	7.82	[illegible]	9.63	6.27	9.51	8.81	10.14
NA2O	.13	.14	.15	.18	.09	.14	.14	.17
F	.26	.11	.13	0.00	0.00	0.00	.08	.18
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	95.04	91.47	92.46	90.54	99.84	97.12	95.49	104.19
-O= F+CL	.11	.05	.05	0.00	0.00	0.00	.04	.08
SUM	94.93	91.42	92.41	90.54	99.84	97.12	95.45	104.11

	1		2		3		4		5		6		7		8	
SI	6.763	*	7.011	*	6.692	*	6.554	*	6.801	*	6.674	*	6.861	*	6.695	*
AL	1.237	8.000	.391	8.000	1.308	8.000	1.446	8.000	1.199	8.000	1.326	8.000	1.139	8.000	1.305	8.000
AL	3.347	*	3.205	*	3.423	*	3.539	*	3.621	*	3.460	*	3.435	*	3.432	*
TI	.017	*	.016	*	.010	*	.013	*	.013	*	.013	*	.014	*	.015	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.025	*	.056	*	.025	*	.017	*	.043	*	.028	*	.032	*	.042	*
MG	.601	*	.495	*	.525	*	.476	*	.542	*	.563	*	.539	*	.539	*
MN	0.000	3.999	0.000	3.775	0.000	3.981	0.000	4.060	0.000	4.218	0.000	4.063	0.000	4.019	0.000	4.023
NA	.033	*	.036	*	.042	*	.045	*	.021	*	.035	*	.035	*	.039	*
CA	.013	*	.027	*	.015	*	.015	*	.014	*	.015	*	.017	*	.020	*
K	1.633	*	1.329	*	1.720	*	1.597	*	.979	*	1.564	*	1.464	*	1.556	*
BA	.022	1.707	.022	1.414	.025	1.801	.044	1.702	.041	1.055	.039	1.654	.032	1.549	.039	1.654
F	.193	*	.046	*	.050	*	0.000	*	0.000	*	0.000	*	.034	*	.068	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.042		.112		.040		.035		.079		.050		.060		.078
F/FM		.040		.101		.040		.034		.074		.047		.057		.072

1 ESK-12-44.5 M F GR MICA MATRIX
2 ANOTHER MUSCOVITE
3 MUSCOVITE
4 CSE MICA WITH QTZ IN PRESS SHAD
5 CSE MICA IN LGE AGG. PYRITE
6 ANOTHER MUSCOVITE
7 AVERAGE
8 AVERAGE PLUS SIGMA

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

SUPER PECAL

	9	
SIO2	49.68	
TIO2	.12	
A2O3	26.17	
C2O3	0.00	
MNO	0.00	
FEO	.18	
MGO	2.54	
CAO	.37	
BAO	.44	
K2O	7.48	
NA2O	.11	
F	-.01	
CL	0.00	
SUM	86.82	
-O= F+CL	-.01	
SUM	86.81	
SI	7.057	*
AL	.943	8.000
AL	3.437	*
TI	.012	*
CR	0.000	*
FE	.021	*
MG	.538	*
MN	0.000	4.008
NA	.031	*
CA	.014	*
K	1.359	*
BA	.025	1.429
F	-.006	*
CL	0.000	0.000
O	22.000	*
F/M		.039
F/FM		.038

9 AVERAGE MINUS SIGMA

SUPER RECAL APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	46.22	47.19	30.44	31.54	51.69	47.68	49.60	49.67
TIO2	.06	.05	.01	0.00	.05	.08	.10	.12
A2O3	27.64	25.33	22.27	19.03	30.11	28.57	29.74	29.35
C2O3	0.00	0.00	[illegible]	0.00	0.00	.01	0.00	.03
MNO	.05	.03	.15	.03	0.00	.02	0.00	.04
FEO	1.95	.04	.2?	.29	.13	0.00	.12	0.00
MGO	7.23	7.78	25.55	32.71	3.28	4.49	2.84	3.04
CAO	.06	.05	0.07	0.00	0.00	.06	.03	.09
BAO	.49	.34	.03	0.00	.25	.71	.54	.77
K2O	7.03	[illegible]	1.76	.22	8.79	8.33	9.46	8.89
NA2O	.12	.10	0.00	0.00	.07	.11	.10	.10
F	.30	.26	.49	.83	.18	.25	.25	.22
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	91.26	93.37	86.79	89.71	94.74	90.40	92.78	92.33
-O= F+CL	.13	.11	.12	.35	.08	.11	.11	.09
SUM	91.13	93.26	86.71	89.35	94.66	90.29	92.67	92.24

	1		2		3		4		5		6		7		8	
SI	6.375	*	6.503	*	5.255	*	4.712	*	6.788	*	6.596	*	6.693	*	6.723	*
AL	1.625	8.000	1.497	8.000	2.745	8.000	3.288	8.000	1.212	8.000	1.404	8.000	1.307	8.000	1.277	8.000
AL	2.799	*	3.011	*	1.041	*	.062	*	3.431	*	3.269	*	3.421	*	3.404	*
TI	.006	*	.003	*	.001	*	0.000	*	.005	*	.008	*	.010	*	.012	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.001	*	0.000	*	.003	*
FE	.225	*	.004	*	.031	*	.036	*	.014	*	0.000	*	.014	*	0.000	*
MG	1.496	*	1.533	*	5.473	*	7.289	*	.640	*	.924	*	.571	*	.613	*
MN	.006	4.563	.003	4.560	.017	6.584	.011	7.394	0.000	4.090	.002	4.204	0.000	4.016	.005	4.039
NA	.032	*	.026	*	0.000	*	0.000	*	.018	*	.030	*	.026	*	.026	*
CA	.009	*	.007	*	0.000	*	0.000	*	0.000	*	.009	*	.004	*	.013	*
K	1.237	*	1.160	*	.324	*	.042	*	1.467	*	1.470	*	1.628	*	1.533	*
BA	.022	1.249	.018	1.211	.002	.345	0.000	.042	.013	1.498	.038	1.547	.029	1.687	.042	1.514
F	.131	*	.129	*	.201	*	.392	*	.074	*	.109	*	.107	*	.094	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.155		.005		.007		.007		.022		.003		.024		.007
F/FM		.134		.005		.004		.006		.022		.003		.023		.007

1 ESK-12-57.9M CA-MG CHL/MICA INTER
2 SIMILAR INTERGROWTH
3 CHLORITE
4 MG CHLORITE
5 CSE MICA ASSOC WITH ABOVE
6 MUSCOVITE
7 CSE PS ON ASP: MICA
8 EXT F. GR. MICA

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12	13	14	15	16
SIO2	53.27	46.31	51.37	48.29	49.87	49.86	47.37	53.17
TIO2	.07	.05	.12	.09	.19	.12	.08	.13
A2O3	31.08	27.37	29.59	28.96	28.39	28.17	27.86	30.93
C2O3	0.00	0.07	.02	0.00	0.00	0.00	.00	.01
MNO	0.07	0.00	.05	0.07	0.00	.06	.03	.07
FEO	0.07	.06	.07	.20	.21	.31	.26	.74
MGO	4.42	7.41	3.13	3.16	2.92	2.97	7.92	16.85
CAO	.02	.06	.10	.11	.11	.14	.06	.10
BAO	.40	.33	.69	.74	.79	.75	.49	.75
K2O	7.17	6.79	6.53	6.95	8.45	8.02	6.95	9.56
NA2O	.19	.14	.08	.10	.07	.11	.09	.13
F	.24	.25	.21	.29	.24	.22	.31	.45
CL	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
SUM	90.77	91.29	92.29	90.88	91.26	90.73	91.42	112.97
-O= F+CL	.10	.11	.13	.12	.10	.09	.13	.19
SUM	90.67	91.17	92.07	90.76	91.16	90.64	91.30	112.79

	9		10		11		12		13		14		15		16	
SI	6.757	*	6.555	*	6.843	*	6.652	*	6.813	*	6.836	*	6.455	*	6.014	*
AL	1.243	8.000	1.445	8.000	1.157	8.000	1.336	8.000	1.187	8.000	1.164	8.000	1.545	8.000	1.936	8.000
AL	3.493	*	4.011	*	3.484	*	3.371	*	3.383	*	3.387	*	2.929	*	2.144	*
TI	.007	*	.006	*	.012	*	.009	*	.020	*	.012	*	.008	*	.011	*
CR	0.000	*	0.000	*	.002	*	0.000	*	0.000	*	0.000	*	.000	*	.001	*
FE	0.000	*	.007	*	.010	*	.023	*	.024	*	.036	*	.030	*	.070	*
MG	.836	*	1.499	*	.621	*	.650	*	.595	*	.607	*	1.609	*	2.841	*
MN	0.000	4.246	0.000	4.522	.006	4.135	0.000	4.053	0.000	4.021	.007	4.049	.004	4.581	.007	5.075
NA	.025	*	.037	*	.021	*	.027	*	.024	*	.029	*	.023	*	.028	*
CA	.003	*	.009	*	.014	*	.016	*	.016	*	.021	*	.009	*	.013	*
K	1.163	*	1.175	*	1.103	*	1.575	*	1.472	*	1.402	*	1.208	*	1.379	*
BA	.020	1.211	.018	1.238	.042	1.186	.040	1.659	.042	1.555	.040	1.493	.026	1.266	.034	1.453
F	.096	*	.107	*	.131	*	.122	*	.104	*	.095	*	.131	*	.155	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		0.000		.005		.025		.036		.040		.070		.021		.027
F/FM		0.000		.005		.025		.034		.039		.065		.021		.025

9 CHL/MUSC INTERGROWTH
10 MUSCOVITE
11 MUSCOVITE
12 MUSC/CHL INTERGROWTH
13 MUSCOVITE
14 ANOTHER MUSCOVITE
15 AVERAGE
16 AVERAGE PLUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	17
SIO2	41.57
TIO2	.04
A2O3	24.73
C2O3	-.0?
MNO	-.01
FEO	-.2?
MGO	-1.01
CAO	.0?
BAO	.2?
K2O	[illegible]
NA2O	.0?
F	[illegible]
CL	0.00
SUM	[illegible]
-O= F+CL	[illegible]
SUM	[illegible]

SI	7.1??	
AL	.8??	[illegible]
AL	4.11?	
TI	.00?	
CR	-.001	
FE	-.031	
MG	-.257	
MN	-.001	[illegible]
NA	.01?	
CA	.003	
K	.94?	
BA	.015	[illegible]
F	.0?0	
CL	0.000	0.000
O	22.000	
F/M		0.000
F/FM		0.000

17 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX I: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	30.71	47.67	[illegible]	[illegible]	52.35	49.92	29.54	32.85
TIO2	0.00	.09	.07	.11	.10	.11	0.00	0.00
AL2O3	[illegible]	27.39	[illegible]	33.75	32.05	30.85	20.50	22.62
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	.17	0.00	0.00	0.00	0.00	.01	0.00	.07
FEO	[illegible]	.03	.02	.11	.13	0.00	.22	.15
MGO	[illegible]	10.26	3.53	2.59	2.58	2.59	32.47	28.68
CAO	.03	.12	.09	.14	.08	.11	0.00	.06
BAO	0.00	.24	.26	.82	.72	.89	0.00	0.00
K2O	.01	[illegible]	[illegible]	[illegible]	8.64	9.33	.03	1.15
NA2O	.01	.11	.04	.13	.17	.19	.05	.06
F	[illegible]	.13	0.00	0.00	0.00	0.00	.94	.87
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	93.71	93.75	85.54
-O= F+CL	.11	.05	0.00	0.00	0.00	0.00	.40	.37
SUM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	93.91	83.35	86.17

	1		2		3		4		5		6		7		8	
SI	[illegible]	*	[illegible]	*	7.157?	*	6.657?	*	6.712	*	6.656	*	4.468	*	4.789	*
AL	3.442?	8.000	[illegible]	8.000	[illegible]	8.000	1.333	8.000	1.289	8.000	1.344	8.000	3.532	8.000	3.211	8.000
AL	[illegible]	*	[illegible]	*	[illegible]	*	[illegible]	*	3.553	*	3.504	*	.121	*	.675	*
TI	0.000	*	.005?	*	.007?	*	.010	*	.010	*	.011	*	0.000	*	0.000	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	[illegible]	*	.013	*	[illegible]	*	[illegible]	*	.014	*	0.000	*	.028	*	.018	*
MG	7.258?	*	2.059?	*	[illegible]	*	.494?	*	.493	*	.515	*	7.320	*	6.232	*
MN	.021	7.532?	0.000	6.909?	0.000	4.160?	0.000	4.180	0.000	4.070	.001	4.030	0.000	7.469	.009	5.935
NA	.003	*	.023	*	.010	*	.032	*	.030	*	.049	*	.015	*	.017	*
CA	[illegible]	*	.027	*	.011	*	.017	*	.011	*	.016	*	0.000	*	.007	*
K	.002	*	1.062	*	[illegible]	*	1.122	*	1.446	*	1.587	*	.006	*	.216	*
BA	0.000	.017	.013	1.131	.012	[illegible]	.040	1.213	.036	1.523	.042	1.693	0.000	.020	0.000	.242
F	.117	*	.055	*	0.000	*	0.000	*	0.000	*	0.000	*	.450	*	.410	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/A		.006		.005?		.003		.024		.028		.002		.004		.034
F/FM		[illegible]		[illegible]		.003		.023		.027		.002		.004		.034

1 ESK-12-49.2? MG CHL MIXED WITH MICA
2 INST REGION [illegible] MICA
3 MUSCOVITE
4 [illegible] MICA INST [illegible]
5 MICA ALONG GR. BUS:QTZ REGION
6 MUSCOVITE
7 MG CHLORITE MARGIN OF SPHAL
8 FE-MG CHLORITE

SUPER RECAL APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12	13	14	15	16
SIO2	[illegible].48	[illegible]	47.4[illegible]	46.75	47.14	51.80	48.82	48.14
TIO2	.07	.11	.11	.09	.08	.08	.09	.09
AL2O3	[illegible]	[illegible].45	30.35	31.65	30.34	29.85	29.16	30.57
CR2O3	0.0[illegible]	0.0[illegible]	0.0[illegible]	0.0[illegible]	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.0[illegible]	.02	.01	0.00	.01
FEO	.01	0.00	.13	.43	0.00	.73	.05	.15
MGO	2.[illegible]	2.[illegible]1	2.3[illegible]	2.35	2.36	2.15	2.56	2.44
CAO	.1[illegible]	.1[illegible]	.13	.15	.16	.12	.18	.12
BAO	.2[illegible]	.2[illegible]	.65	.63	.69	.69	.74	.54
K2O	[illegible].07	[illegible].21	9.4[illegible]	9.41	9.47	9.22	9.75	9.42
NA2O	.17	.17	.24	.17	.14	.18	.18	.14
F	.34	.47	.[illegible]7	.33	.42	.30	.46	.45
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	91.2[illegible]	93.95	91.32	95.13	91.98	92.07
-O= F+CL	.14	.20	.11	.14	.18	.13	.19	.17
SUM	[illegible]	[illegible].23	91.13	93.81	91.14	95.00	91.79	91.90

	9		10		11		12	
SI	6.[illegible]	*	6.64[illegible]	*	6.547	*	6.517	*
AL	1.031	[illegible]	1.35[illegible]	8.000	1.453	8.000	1.483	8.000
AL	3.3[illegible]	*	3.341	*	3.470	*	3.504	*
TI	.006	*	.011	*	.011	*	.0[illegible]	*
CR	0.000	*	0.000	*	0.000	*	0.000	*
FE	.001	*	0.000	*	.015	*	.040	*
MG	.561	*	.517	*	.4[illegible]	*	.463	*
MN	0.000	3.374	0.000	3.[illegible]	0.000	3.9[illegible]	0.000	4.02[illegible]
NA	.047	*	.0[illegible]	*	.06[illegible]	*	.044	*
CA	.02[illegible]	*	.021	*	.01[illegible]	*	.023	*
K	1.665	*	1.6[illegible]	*	1.6[illegible]	*	1.604	*
BA	.016	1.75[illegible]	.016	1.705	.036	1.708	.031	1.703
F	.155	*	.[illegible]	*	.113	*	.140	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.002		0.000		.031		.103
F/FM		.002		0.000		.030		.093

	13		14		15		16	
SI	6.492	*	6.814	*	6.680	*	6.559	*
AL	1.508	8.000	1.186	8.000	1.320	8.000	1.441	8.000
AL	3.477	*	3.440	*	3.382	*	3.470	*
TI	.003	*	.008	*	.008	*	.009	*
CR	0.000	*	0.000	*	0.000	*	0.000	*
FE	0.000	*	.090	*	.006	*	.017	*
MG	.484	*	.422	*	.522	*	.496	*
MN	.002	3.992	.001	3.951	0.000	3.919	.001	3.993
NA	.037	*	.046	*	.048	*	.037	*
CA	.024	*	.017	*	.026	*	.018	*
K	1.663	*	1.547	*	1.702	*	1.637	*
BA	.037	1.762	.036	1.645	.040	1.815	.029	1.720
F	.183	*	.125	*	.199	*	.194	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.005		.193		.011		.037
F/FM		.005		.162		.011		.035

9 CSF MICA
10 MUSCOVITE
11 MICA
12 MICA

13 MICA
14 MICA
15 MUSCOVITE
16 MICA

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	17	18	19	20	21	22	23	24
SIO2	30.75	46.68	35.49	27.61	30.87	48.42	43.80	52.63
TIO2	0.00	.03	.01	0.00	0.00	.01	.06	.10
AL2O3	20.85	27.57	23.24	20.34	21.00	29.14	27.14	31.44
CR2O3	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00
MNO	.06	0.00	.03	.10	.08	0.00	.03	.07
FEO	.19	.05	.15	.10	.16	0.00	.14	.30
MGO	32.32	5.56	22.21	32.62	26.15	2.42	11.67	24.24
CAO	.18	.05	.11	0.00	.04	.11	.11	.17
BAO	0.00	.21	0.00	0.00	0.00	.63	.37	.68
K2O	.15	7.08	2.05	0.00	1.26	9.94	6.19	10.12
NA2O	0.00	.09	0.00	0.00	0.00	.21	.11	.18
F	1.32	.34	.35	.06	.78	.15	.43	.77
CL	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	83.50	80.34	91.03	90.03	120.70
-O= F+CL	.56	.14	.35	.28	.33	.06	.18	.32
SUM	85.35	[illegible]	83.81	83.22	80.01	90.97	89.85	120.39

	17		18		19		20		21		22		23		24	
SI	4.574	*	6.517	*	5.270	*	4.499	*	4.846	*	6.694	*	6.091	*	5.627	*
AL	3.455	8.000	1.493	8.000	2.730	8.000	3.511	8.000	3.154	8.000	1.305	8.000	1.909	8.000	2.373	8.000
AL	.155	*	3.061	*	1.337	*	.122	*	.731	*	3.441	*	2.539	*	1.599	*
TI	0.000	*	.003	*	.001	*	0.000	*	0.000	*	.001	*	.006	*	.008	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.023	*	.007	*	.020	*	.013	*	.021	*	0.000	*	.016	*	.027	*
MG	7.115	*	1.219	*	4.716	*	7.387	*	6.119	*	.499	*	2.418	*	3.854	*
MN	.007	7.302	0.000	4.290	.004	5.278	.013	7.534	.011	6.882	0.000	3.941	.003	4.982	.006	5.494
NA	0.000	*	.024	*	0.000	*	0.000	*	0.000	*	.056	*	.029	*	.038	*
CA	.023	*	.007	*	.018	*	0.000	*	.007	*	.016	*	.016	*	.019	*
K	.039	*	1.617	*	.390	*	0.000	*	.252	*	1.753	*	1.098	*	1.380	*
BA	0.000	.059	.011	1.660	0.000	.408	0.000	0.000	0.000	.259	.034	1.957	.020	1.164	.029	1.455
F	.615	*	.150	*	.404	*	.316	*	.387	*	.056	*	.187	*	.261	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.024		.006		.025		.003		.005		0.000		.008		.009
F/FM		.024		.006		.025		.003		.005		0.000		.008		.009

17 MICA/CHL INST TO SPHAL
18 MICA
19 FINE SCALE MICA/CHL INTGR.
20 CSE CHL AT MARGIN OF SP

21 CHLORITE
22 MICA
23 AVERAGE
24 AVERAGE PLUS SIGMA

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	25
SIO2	3[illegible].[illegible]7
TIO2	.01
AL2O3	22.34
CR2O3	0.00
MNO	-.02
FEO	-.02
MGO	-.[illegible]1
CAO	.05
BAO	.06
K2O	[illegible].[illegible]6
NA2O	.0[illegible]
F	.08
CL	0.00
SUM	[illegible]7.[illegible]6
-O= F+CL	.03
SUM	5[illegible].33

SI	[illegible]	:
AL	1.046	[illegible]
AL	4.395	:
TI	.002	:
CR	0.000	:
FE	-.004	:
MG	-.270	:
MN	-.003	4.011
NA	.013	:
CA	.012	:
K	.574	:
BA	.003	.503
F	.059	:
CL	0.000	0.000
O	22.000	:
F/M		.004
F/FM		.004

25 AVERAGE [illegible] SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	47.61	47.39	49.32	40.16	47.65	50.95	48.55	49.79
TIO2	.18	.14	.15	.34	.26	.09	.19	.28
A2O3	33.45	32.[illegible]	32.43	30.74	32.08	34.25	32.65	33.75
C2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.18	.14	.12	.17	.18	.26	.18	.22
MGO	2.17	2.27	2.24	2.32	2.25	2.12	2.23	2.29
CAO	.13	.14	.22	.25	.22	.17	.19	.23
BAO	.71	.54	.36	.42	.44	.42	.48	.60
K2O	9.44	9.92	9.21	9.04	9.05	7.61	9.14	9.93
NA2O	.22	.21	.12	.13	.14	.07	.16	.21
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.59	93.59	94.23	91.57	92.48	95.98	93.76	97.29
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.59	93.59	94.23	91.57	92.48	95.98	93.76	97.29

	1		2		3		4		5		6		7		8	
SI	6.343	*	6.379	*	6.532	*	6.570	*	6.472	*	6.545	*	6.475	*	6.432	*
AL	1.652	8.000	1.625	8.000	1.465	8.000	1.424	8.000	1.528	8.000	1.455	8.000	1.525	8.000	1.568	8.000
AL	3.694	*	3.534	*	3.602	*	3.523	*	3.586	*	3.730	*	3.606	*	3.570	*
TI	.013	*	.014	*	.015	*	.035	*	.026	*	.009	*	.019	*	.027	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.020	*	.016	*	.013	*	.019	*	.020	*	.028	*	.020	*	.024	*
MG	.431	*	.455	*	.442	*	.472	*	.454	*	.406	*	.443	*	.442	*
MN	0.000	4.073	0.000	4.067	0.000	4.072	0.000	4.049	0.000	4.036	0.000	4.172	0.000	4.088	0.000	4.052
NA	.057	*	.060	*	.031	*	.034	*	.037	*	.022	*	.040	*	.052	*
CA	.019	*	.020	*	.031	*	.037	*	.032	*	.023	*	.027	*	.032	*
K	1.699	*	1.712	*	1.556	*	1.574	*	1.553	*	1.247	*	1.555	*	1.636	*
BA	.037	1.803	.028	1.821	.017	1.635	.022	1.668	.023	1.655	.021	1.314	.025	1.647	.030	1.750
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.047		.035		.030		.041		.045		.069		.044		.054
F/FM		.044		.033		.029		.037		.043		.064		.042		.051

1 ESK-12-72.3, IOL F GR MUSC
2 MUSC
3 F GR MUSC MATRIX WITH PY
4 MUSC
5 MUSC
6 MUSC
7 AVERAGE
8 AVERAGE PLUS SIGMA

SUPER RECAL 9

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

SIO2	47.[illegible]9
TIO2	.11
AL2O3	31.[illegible]5
CR2O3	0.00
MNO	0.00
FEO	.13
MGO	2.16
CAO	.14
BAO	.32
K2O	8.35
NA2O	.19
F	0.00
CL	0.00
SUM	90.[illegible]
-O= F+CL	0.00
SUM	90.[illegible]

SI	6.520	*
AL	1.480	8.000
AL	3.644	*
TI	.011	*
CR	0.000	*
FE	.015	*
MG	.444	*
MN	0.000	4.114
NA	.026	*
CA	.021	*
K	1.469	*
BA	.020	1.537
F	0.000	*
CL	0.000	0.000
O	22.000	*
F/M		.034
F/FM		.033

9 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	52.74	46.36	43.73	45.37	47.96	47.71	54.50	50.65
TIO2	.19	0.39	.06	.05	.05	.08	.03	.07
AL2O3	30.23	31.77	34.57	34.05	33.12	34.18	29.90	31.25
CR2O3	0.00	0.00	0.00	0.00	0.00	.01	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.07	.42	0.00	.19	.07	.15	.10	.13
MGO	1.73	2.35	1.87	1.94	1.70	1.85	1.56	2.54
CAO	.19	.01	.14	.02	.02	.18	.10	.12
BAO	.29	.17	.36	.22	.23	.48	.20	.24
K2O	9.25	7.79	10.21	10.55	10.29	9.89	9.38	9.37
NA2O	.13	.18	.27	.21	.17	.25	.26	.20
F	.45	.20	.49	.20	.05	.50	.20	.49
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	96.61	91.57	95.83	95.75	93.68	95.29	96.23	95.67
-O= F+CL	.19	.08	.20	.08	.02	.21	.08	.21
SUM	96.42	91.49	95.63	95.68	93.36	95.08	96.15	95.45

	1		2		3		4		5		6		7		8	
SI	6.785	*	6.643	*	6.320	*	6.356	*	6.418	*	6.300	*	7.009	*	6.626	*
AL	1.215	8.000	1.357	8.000	1.680	8.000	1.644	8.000	1.582	8.000	1.700	8.000	.991	8.000	1.374	8.000
AL	3.567	*	3.532	*	3.617	*	3.632	*	3.641	*	3.618	*	3.540	*	3.442	*
TI	.010	*	0.000	*	.006	*	.005	*	.005	*	.008	*	.003	*	.007	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.001	*	0.000	*	0.000	*
FE	.008	*	.048	*	0.000	*	.011	*	.008	*	.017	*	.011	*	.014	*
MG	[illegible]	*	.417	*	.391	*	.380	*	.379	*	.365	*	.299	*	.515	*
MN	0.000	4.012	0.000	4.040	0.000	4.006	0.000	4.028	0.000	4.033	0.000	4.009	0.000	3.853	0.000	3.977
NA	.047	*	.045	*	.065	*	.054	*	.047	*	.067	*	.065	*	.051	*
CA	.014	*	.001	*	.017	*	.003	*	.003	*	.025	*	.014	*	.017	*
K	1.513	*	1.713	*	1.687	*	1.767	*	1.756	*	1.664	*	1.539	*	1.646	*
BA	.019	[illegible]	.007	1.772	.016	1.775	.014	1.838	.012	1.821	.025	1.781	.010	1.627	.012	1.725
F	.193	*	.087	*	.177	*	.043	*	.021	*	.209	*	.081	*	.203	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.012		.115		0.000		.024		.021		.045		.036		.028
F/FM		.012		.103		0.000		.028		.020		.043		.035		.027

1 ESK-12-117.7: F GR MUSC MATRIX
2 MUSC IN PRESSURE SHADOW IN PY
3 MUSC
4 MUSC COARSE PRESSURE SHADOW ON QTZ
5 ANOTHER COARSE PRESS SHADOW ON QTZ
6 MUSC MATRIX W TETR MIXED W PY
7 MUSC W PY OVERGROWTH CIRC IN TETRA SIMUL
8 F GR MATRIX MUSC MASSIVE

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12
SIO2	[illegible]	[illegible]	51.73	47.13
TIO2	.04	.05	.08	.03
AL2O3	33.44	32.57	34.2[illegible]	30.65
CR2O3	.03	.00	.01	-.01
MNO	0.00	0.00	0.00	0.00
FEO	.1[illegible]	.14	.2[illegible]	.02
MGO	1.86	2.12	2.51	1.63
CAO	.09	.09	.15	.03
BAO	.25	.27	.35	.18
K2O	10.[illegible]4	[illegible]	10.35	9.53
NA2O	.21	.22	.25	.19
F	[illegible]	.32	.48	.16
CL	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	100.79	99.31
-O= F+CL	.13	.13	.2[illegible]	.07
SUM	[illegible]	[illegible]	100.5[illegible]	[illegible]

	9		10		11		12	
SI	6.37[illegible]	*	6.31[illegible]	*	6.47[illegible]	*	6.357	*
AL	1.62[illegible]	8.000	1.69[illegible]	8.000	1.523	8.000	1.631	8.000
AL	3.62[illegible]	*	3.5[illegible]	*	3.591	*	3.631	*
TI	.004	*	.005	*	.006	*	.003	*
CR	.003	*	.000	*	.001	*	-.001	*
FE	.021	*	.015	*	.020	*	.003	*
MG	.364	*	.415	*	.49[illegible]	*	.337	*
MN	0.000	4.017	0.000	3.99[illegible]	0.000	4.0[illegible]0	0.000	3.973
NA	.054	*	.056	*	.061	*	.050	*
CA	.013	*	.012	*	.019	*	.005	*
K	1.71[illegible]	*	1.660	*	1.643	*	1.673	*
BA	.01[illegible]	1.792	.01[illegible]	1.7[illegible]8	.017	1.7[illegible]0	.010	1.757
F	.12[illegible]	*	.133	*	.1[illegible]7	*	.072	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
H	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.057		.030		.0[illegible]		.0[illegible]
F/FM		.05[illegible]		.03[illegible]		.0[illegible]4		.006

9 V.F. GR. MATRIX MUSC.
10 AVERAGE
11 AVERAGE PLUS SIGMA
12 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7
SIO2	50.87	[illegible]	51.16	51.33	51.14	51.31	50.97
TIO2	.11	[illegible]	[illegible]	.11	.09	.11	.07
AL2O3	[illegible]	[illegible]	[illegible]	31.71	31.35	31.65	31.07
CR2O3	0.00	.01	[illegible]	.04	.01	.03	-.00
MNO	0.00	[illegible]	0.05	0.00	0.00	0.00	0.00
FEO	.17	.19	[illegible]	.22	.19	.21	.17
MGO	2.41	2.76	[illegible]	3.05	2.70	3.01	2.78
CAO	.15	.24	[illegible]	.21	.20	.23	.16
BAO	[illegible]	.25	[illegible]	[illegible]	.29	.37	.20
K2O	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8.85
NA2O	.21	[illegible]	[illegible]	[illegible]	.20	.29	.19
F	[illegible]	[illegible]	.45	.56	.46	.54	.38
CL	0.00	[illegible]	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	96.85	94.84
-O= F+CL	[illegible]	[illegible]	[illegible]	[illegible]	.13	.23	.16
SUM	[illegible]	[illegible]	[illegible]	[illegible]	95.05	96.52	94.68

	1		2		3		4		5		6		7	
SI	6.667	*	[illegible]	*	[illegible]	*	[illegible]	*	6.644	*	6.611	*	6.677	*
AL	1.333	8.000	[illegible]	8.000	[illegible]	8.000	1.372	[illegible]	1.356	8.000	1.389	8.000	1.323	8.000
AL	[illegible]	*	3.441	*	[illegible]	*	3.416	*	3.444	*	3.415	*	3.472	*
TI	.011	*	.007	*	.008	*	.011	*	.009	*	.011	*	.007	*
CR	0.000	*	.001	*	0.000	*	[illegible]	*	.001	*	.003	*	-.003	*
FE	.019	*	.020	*	.022	*	.024	*	.021	*	.023	*	.019	*
MG	[illegible]	*	.574	*	.543	*	.585	*	.561	*	.578	*	.543	*
MN	0.000	4.038	0.000	4.042	0.000	4.027	0.000	4.041	0.000	4.036	0.000	4.031	0.000	4.041
NA	.053	*	[illegible]	*	.048	*	.047	*	.049	*	.051	*	.047	*
CA	.021	*	.033	*	.025	*	.027	*	.027	*	.032	*	.023	*
K	1.515	*	1.450	*	1.517	*	[illegible]	*	1.495	*	1.511	*	1.478	*
BA	.010	[illegible]	.013	1.544	.021	1.511	.015	1.588	.015	1.585	.019	1.612	.010	1.559
F	.141	*	[illegible]	*	.185	*	.223	*	.188	*	.219	*	.157	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.034		.034		.041		.040		.037		.039		.035
F/FM		.033		.033		.039		.037		.036		.038		.034

1 ESK-12-121.6M: MUSC REPLACING [illegible]
2 MUSC
3 MUSC
4 MUSC

5 AVERAGE
6 AVERAGE PLUS SIGMA
7 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	31.79	47.31	37.14	50.35	53.64	50.33	50.37	50.44
TIO2	0.00	.04	0.00	.04	.08	.08	.05	.11
AL2O3	19.57	25.70	20.50	22.43	28.51	24.29	29.36	28.67
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	.13	.10	.03	.03	.05	0.00	0.00	0.00
FEO	1.04	.25	.71	.27	.12	.05	0.00	.04
MGO	31.17	9.50	20.01	6.80	3.31	3.34	3.05	3.10
CAO	.03	.03	.04	.02	.13	.13	.08	.05
BAO	0.00	.59	.13	.49	.29	.22	.47	.38
K2O	.10	7.71	2.05	6.71	7.22	8.79	9.28	8.97
NA2O	.01	.11	.02	.05	.11	.08	.11	.12
F	.66	.45	.42	.28	.44	.32	.16	.21
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	85.51	92.81	83.72	87.48	93.90	87.67	92.93	92.10
-O= F+CL	.28	.19	.20	.12	.19	.13	.07	.09
SUM	85.23	92.62	83.52	87.36	93.71	87.54	92.86	92.01

	1		2		3		4		5		6		7		8	
SI	4.708	*	6.174	*	5.816	*	7.110	*	7.001	*	7.139	*	6.764	*	6.817	*
AL	3.292	8.000	1.826	8.000	2.184	8.000	.890	8.000	.999	8.000	.851	8.000	1.236	8.000	1.193	8.000
AL	.296	*	2.735	*	1.425	*	2.842	*	3.386	*	3.194	*	3.410	*	3.383	*
TI	0.000	*	.070	*	0.000	*	.004	*	.008	*	.009	*	.005	*	.011	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.129	*	.026	*	.093	*	.032	*	.013	*	.006	*	0.000	*	.005	*
MG	6.893	*	1.775	*	4.555	*	1.431	*	.644	*	.705	*	.610	*	.524	*
MN	.016	7.325	.011	4.597	.004	6.162	.004	4.313	.006	4.057	0.000	3.914	0.000	4.026	0.000	4.023
NA	.003	*	.028	*	.006	*	.010	*	.028	*	.022	*	.029	*	.031	*
CA	.005	*	.004	*	.010	*	.003	*	.018	*	.020	*	.012	*	.009	*
K	.019	*	1.360	*	.377	*	1.203	*	1.202	*	1.587	*	1.599	*	1.546	*
BA	0.000	.027	.031	1.451	.008	.411	.027	1.254	.015	1.263	.012	1.541	.025	1.554	.020	1.507
F	.309	*	.193	*	.221	*	.125	*	.182	*	.143	*	.068	*	.090	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.021		.022		.020		.025		.029		.008		0.000		.007
F/FM		.021		.022		.020		.024		.028		.008		0.000		.007

1 ESK 13-49.5-CALC CHL MASS IN PRIS QTZ
2 ASSOC MUSC AND PY W STIB OVERGROWTH
3 MUSC AND CHL
4 MUSC AND CHL
5 MASS MUSC REGION
6 MUSC
7 MUSC
8 MUSC

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12	13
SIO2	47.23	50.69	47.19	53.49	40.89
TIO2	.07	.17	.06	.07	.02
A2O3	25.62	[illegible]	25.65	29.03	22.27
C2O3	0.09	0.00	0.09	0.00	0.00
MNO	0.00	.01	.04	.09	-.01
FEO	4.69	0.70	.72	2.09	-.64
MGO	3.27	3.22	0.67	17.79	-.45
CAO	.04	.08	.07	.10	.03
BAO	.55	.59	.39	.01	.17
K2O	8.32	7.29	6.65	9.08	3.83
NA2O	.09	.07	.03	.11	.04
F	.33	.24	.36	.53	.21
CL	0.00	0.00	0.00	0.00	0.00
SUM	96.32	[illegible].12	90.95	113.75	66.35
-O= F+CL	.14	.17	.15	.21	.09
SUM	99.16	[illegible]	[illegible]	113.54	66.26

	9		10		11		12		13	
SI	5.709	*	6.727	*	5.545	*	6.556	*	7.320	*
AL	1.291	9.000	1.273	9.000	[illegible]	8.000	1.744	9.000	.680	8.000
AL	2.978	*	[illegible]	*	2.733	*	1.727	*	4.018	*
TI	.007	*	.010	*	.006	*	.008	*	.003	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.556	*	0.000	*	.085	*	.177	*	-.097	*
MG	.692	*	.637	*	1.792	*	3.002	*	-.120	*
MN	0.000	4.254	.001	4.041	.004	4.624	.008	5.142	-.001	3.803
NA	.022	*	.016	*	.021	*	.025	*	.014	*
CA	.006	*	.011	*	.010	*	.013	*	.005	*
K	1.508	*	1.556	*	1.213	*	1.427	*	.874	*
BA	.037	1.572	.030	1.623	.021	1.264	.027	1.492	.012	.905
F	.143	*	.101	*	.156	*	.178	*	.121	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/O		.333		.002		.049		.068		.029
F/FM		.445		.002		.046		.054		.028

9 MUSC CENTRE OF PY ZONE
10 MUSC
11 AVERAGE
12 AVERAGE PLUS SIGMA
13 AVERAGE MINUS SIGMA

SUPER PECAL APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	51.35	49.34	49.37	48.90	50.02	50.63	49.83	50.51
TIO2	.15	.16	.17	.18	.14	.19	.18	.20
AL2O3	[illegible]	27.22	26.71	26.76	30.09	28.91	29.17	28.35
CR2O3	0.00	0.00	0.00	0.00	0.00	.02	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.45	.53	.71	.50	.59	.58	.62	.55
MGO	2.39	3.05	2.95	2.99	2.94	3.05	3.00	3.02
CAO	.05	0.00	.04	.02	.04	.08	.10	.02
BAO	[illegible]	.35	[illegible]	.31	.34	.25	.23	.30
K2O	7.25	10.54	10.70	10.03	9.85	10.55	10.46	10.14
NA2O	.10	.06	.11	.10	.08	.16	.09	.11
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	92.09	91.23	93.17	89.78	94.09	94.42	93.68	93.20
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	92.09	91.23	93.17	89.79	94.09	94.42	93.69	93.20

	1		2		3		4		5		6		7		8	
SI	7.709	*	6.810	*	6.735	*	6.857	*	6.675	*	6.759	*	6.707	*	6.812	*
AL	.291	8.000	1.179	8.000	1.232	8.000	1.143	8.000	1.325	8.000	1.241	8.000	1.273	8.000	1.188	8.000
AL	3.229	*	3.371	*	3.309	*	3.277	*	3.406	*	3.307	*	3.333	*	3.317	*
TI	.015	*	.017	*	.017	*	.014	*	.014	*	.019	*	.018	*	.020	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.002	*	0.000	*	0.000	*
FE	.050	*	.067	*	.071	*	.057	*	.066	*	.055	*	.070	*	.062	*
MG	.467	*	.617	*	.603	*	.623	*	.585	*	.607	*	.602	*	.607	*
MN	0.000	3.837	0.000	3.973	0.000	4.006	0.000	3.979	0.000	4.071	0.000	4.000	0.000	4.023	0.000	4.007
NA	.026	*	.016	*	.027	*	.027	*	.021	*	.041	*	.023	*	.029	*
CA	.007	*	0.000	*	.005	*	.003	*	.006	*	.011	*	.014	*	.003	*
K	1.222	*	1.861	*	1.859	*	1.794	*	1.676	*	1.796	*	1.796	*	1.744	*
BA	.015	1.269	.018	1.895	.020	1.903	.017	1.841	.018	1.721	.013	1.862	.012	1.845	.016	1.792
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.105		.106		.134		.099		.113		.107		.116		.102
F/FM		.096		.078		.113		.086		.101		.096		.104		.093

1 ESK-13-293.1:F GR MUSC W DOMAINAL BA K-S
2 LINEAR ZONE F GR MUSC AT PY MARGIN
3 MUSC
4 MUSC
5 MUSC
6 F GR MUSC PERIPH TO K-SPAR
7 IRREG MUSC CENTRAL TO QTZ DOMAIN, ZONE LA
8 MUSC

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9		10		11	
SIO2	50.87		53.75		47.99	
TIO2	.17		.19		.15	
A2O3	27.78		29.83		25.74	
C2O3	.09		.01		-.07	
MNO	0.00		0.05		0.00	
FEO	.57		.55		.50	
MGO	2.92		3.12		2.71	
CAO	.04		.07		.01	
BAO	.30		.35		.25	
K2O	9.74		10.99		8.87	
NA2O	.10		.13		.07	
F	0.00		0.00		0.00	
CL	0.00		0.00		0.00	
SUM	92.71		99.09		86.32	
-O= F+CL	0.00		0.00		0.00	
SUM	92.71		99.09		86.32	
SI	6.894	*	6.932	*	6.749	*
AL	1.115	8.000	1.166	8.000	1.055	8.000
AL	3.315	*	3.279	*	3.333	*
TI	.017	*	.018	*	.017	*
CR	.010	*	.001	*	-.003	*
FE	.065	*	.067	*	.060	*
MG	.589	*	.572	*	.535	*
MN	0.000	3.986	0.000	3.979	0.000	3.945
NA	.027	*	.032	*	.021	*
CA	.006	*	.010	*	.002	*
K	1.716	*	1.782	*	1.640	*
BA	.016	1.765	.017	1.841	.015	1.678
F	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*
F/M		.110		.116		.103
F/FM		.099		.104		.094

9 AVERAGE
10 AVERAGE PLUS SIGMA
11 AVERAGE MINUS SIGMA

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

SUB GROUP SI AL / AL TI CR FE MG MN / NA CA K BA / O F CL /

	1	2	3	4	5	6	7	8
SIO2	54.62	46.93	48.62	51.44	51.07	52.18	51.30	51.41
TIO2	.12	.09	[illegible]	.11	.09	.07	.09	.05
AL2O3	23.39	26.71	27.85	29.55	29.96	28.40	29.71	29.50
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	.01	0.00	.04	.01
FEO	1.52	.13	.26	.15	.12	.18	.21	.22
MGO	2.20	2.59	2.63	2.78	2.79	2.75	2.69	2.72
CAO	.19	1.24	0.00	0.00	0.00	0.00	.02	0.00
BAO	.29	.45	.46	.47	.54	.31	.41	.21
K2O	7.73	9.20	9.12	9.57	9.91	8.69	9.56	9.29
NA2O	.08	.08	.11	.14	.14	.09	.10	.09
F	.15	.20	.24	.24	.20	.11	.23	.15
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	94.47	94.83	92.77	94.35	93.65
-O= F+CL	.07	.08	.10	.10	.08	.05	.10	.07
SUM	[illegible]	[illegible]	[illegible]	94.37	94.75	92.72	94.26	93.59

	1		2		3		4		5		6		7		8	
SI	7.469	*	6.456	*	6.763	*	6.601	*	6.748	*	6.964	*	6.789	*	6.828	*
AL	.549	8.000	1.14?	8.000	1.237	8.000	1.199	8.000	1.252	8.000	1.036	8.000	1.211	8.000	1.172	8.000
AL	3.22?	*	3.260	*	3.32?	*	3.40?	*	3.412	*	3.430	*	3.423	*	3.444	*
TI	.012	*	.008	*	.02?	*	.011	*	.009	*	.007	*	.009	*	.005	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.17?	*	.015	*	.030	*	.016	*	.013	*	.020	*	.023	*	.024	*
MG	.466	*	.541	*	.545	*	.548	*	.549	*	.547	*	.531	*	.538	*
MN	0.000	3.885	0.000	3.8?1	0.000	3.977	0.000	3.983	.001	3.985	0.000	4.004	.004	3.990	.001	4.013
NA	.021	*	.022	*	.030	*	.036	*	.036	*	.021	*	.026	*	.023	*
CA	.026	*	.185	*	0.000	*	0.000	*	0.000	*	0.000	*	.003	*	0.000	*
K	1.347	*	1.660	*	1.61?	*	1.614	*	1.670	*	1.479	*	1.614	*	1.574	*
BA	.015	1.410	.02?	1.8?3	.025	1.5?3	.024	1.674	.028	1.734	.016	1.516	.021	1.664	.011	1.503
F	.069	*	.09?	*	.106	*	.100	*	.084	*	.046	*	.096	*	.057	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.377		.028		.055		.032		.026		.037		.052		.047
F/FM		.23?		.027		.05?		.031		.026		.035		.050		.045

1 ESK-14-50.?; CALL: MUSC
2 MUSC
3 MUSC
4 MUSC
5 MUSC
6 MUSC
7 MUSC
8 MUSC

SUPER RECAL APPENDIX I: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12
SIO2	51.31	51.21	[illegible]	[illegible]
TIO2	.15	.17	.35	-.03
AL2O3	[illegible]	[illegible]	[illegible]	26.25
CR2O3	0.00	[illegible]	0.00	0.00
MNO	.02	.01	.02	-.00
FEO	.17	.34	[illegible]	-.11
MGO	[illegible]	2.67	[illegible]	[illegible]
CAO	0.00	.16	.55	-.23
BAO	.44	[illegible]	[illegible]	.30
K2O	[illegible]	[illegible]	[illegible]	[illegible]
NA2O	[illegible]	.10	[illegible]	.08
F	[illegible]	.12	.23	.15
CL	0.00	[illegible]	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]
-O= F+CL	[illegible]	.05	.10	.06
SUM	[illegible]	[illegible]	[illegible]	87.01

	9		10		11		12	
SI	6.822	*	6.891	*	6.750	*	7.042	*
AL	1.178	8.000	1.109	8.000	1.249	8.000	.758	8.000
AL	3.384	*	3.370	*	3.315	*	3.439	*
TI	.015	*	.016	*	.033	*	-.003	*
CR	0.000	*	0.000	*	0.000	*	0.000	*
FE	.019	*	.038	*	.035	*	-.013	*
MG	.545	*	.535	*	.536	*	.533	*
MN	.002	3.965	.001	3.960	.002	3.965	-.000	3.955
NA	.021	*	.026	*	.031	*	.021	*
CA	0.000	*	.023	*	.075	*	-.034	*
K	1.591	*	1.549	*	1.607	*	1.556	*
BA	.023	1.726	.021	1.654	.025	1.740	.017	1.560
F	.089	*	.082	*	.094	*	.068	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.034		.074		.153		-.026
F/FM		.037		.067		.140		-.027

9 MUSC
10 AVERAGE
11 AVERAGE PLUS SIGMA
12 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	51.65	51.[illegible]9	50.[illegible]3	50.65	53.15	51.17	52.06	51.89
TIO2	.06	.07	.05	.06	.07	.10	.11	.10
AL2O3	31.[illegible]5	30.7[illegible]	32.7[illegible]	30.57	32.34	32.05	30.78	30.69
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.02
MNO	.04	.04	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.26	.1[illegible]	.0[illegible]	0.00	.11	0.00	.41	.45
MGO	3.57	3.04	3.1[illegible]	3.5[illegible]	3.63	3.47	3.63	3.73
CAO	.03	.07	.11	.08	.05	.08	.09	.11
BAO	.31	.24	.[illegible]5	.25	.31	.25	.11	.13
K2O	[illegible].83	9.85	[illegible].04	7.71	8.65	9.73	9.35	9.53
NA2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F	.24	.12	.1[illegible]	.21	.23	.22	.35	.19
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	97.3[illegible]	9[illegible].02	97.07	9[illegible].[illegible]4	98.56	97.10	96.89	96.80
-O= F+CL	.10	.05	.05	.09	.10	.09	.15	.08
SUM	97.2[illegible]	9[illegible].77	97.02	9[illegible].15	98.46	97.01	96.74	96.72

	1		2		3		4		5		6		7		8	
SI	6.641	*	6.673	*	6.5[illegible]	*	6.668	*	6.676	*	6.579	*	6.693	*	6.687	*
AL	1.357	8.000	1.327	8.000	1.4[illegible]	8.000	1.332	8.000	1.324	8.000	1.421	8.000	1.307	8.000	1.313	8.000
AL	3.378	*	3.377	*	3.477	*	3.37[illegible]	*	3.462	*	3.435	*	3.355	*	3.349	*
TI	.005	*	.007	*	.005	*	.006	*	.007	*	.010	*	.011	*	.010	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.002	*
FE	.028	*	.021	*	.002	*	0.000	*	.012	*	0.000	*	.044	*	.049	*
MG	.[illegible]	*	.703	*	.649	*	.69[illegible]	*	.679	*	.669	*	.696	*	.717	*
MN	.004	4.100	.004	4.10[illegible]	0.000	4.1[illegible]	0.000	4.081	0.000	4.160	0.000	4.114	0.000	4.106	0.000	4.125
NA	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CA	.011	*	.009	*	.013	*	.011	*	.007	*	.011	*	.012	*	.015	*
K	1.612	*	1.622	*	1.01[illegible]	*	1.[illegible]24	*	1.387	*	1.596	*	1.533	*	1.567	*
BA	.016	1.639	.012	1.642	.023	1.557	.013	1.649	.015	1.407	.013	1.619	.006	1.551	.005	1.537
F	.098	*	.047	*	.047	*	.087	*	.091	*	.089	*	.142	*	.077	*
CL	0.000	0.000	0.000	0.000	0.000	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.04[illegible]		.030		.003		0.000		.017		0.000		.063		.053
F/FM		.045		.03[illegible]		.003		0.000		.017		0.000		.060		.053

1 ESK-14-53.2: CA12: MUSC
2 MUSC
3 MUSC
4 MUSC
5 MUSC
6 MUSC
7 MUSC;RELICT COARSE DOMAIN
8 MUSC

SUPER PECAL APPENDIX I:MUSCOVITE AND SULOSITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12	13	14	15	16
SIO2	50.92	51.[illegible]	[illegible]	51.0[illegible]	51.46	51.36	51.22	49.43
TIO2	.11	.11	.1[illegible]	.13	.10	.10	.09	.12
AL2O3	[illegible]	31.50	[illegible]	31.17	29.67	30.50	31.28	29.97
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.0[illegible]	.05	.0[illegible]	.04	0.00	0.00	0.00	0.00
FEO	.34	.19	.2[illegible]	[illegible]	.30	.26	.19	.25
MGO	[illegible]	[illegible]	3.67	3.63	3.06	3.66	3.69	3.49
CAO	.11	.10	.07	.06	.08	.11	.10	.10
BAO	.2[illegible]	.2[illegible]	.13	[illegible]	.20	.15	.19	.20
K2O	[illegible]	[illegible]	[illegible]	[illegible]	9.92	9.75	9.79	9.37
NA2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F	.17	.1[illegible]	.24	.20	.27	.23	.23	.25
CL	0.[illegible]	0.0[illegible]	0.00	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	95.16	96.12	96.59	93.17
-O= F+CL	.07	.05	.10	.08	.11	.10	.10	.11
SUM	[illegible]	[illegible]	[illegible]	[illegible]	95.05	96.02	96.59	93.06

	9		10		11		12		13		14		15		16	
SI	6.636	*	6.646	*	[illegible]	*	6.643	*	6.745	*	6.677	*	6.621	*	6.631	*
AL	1.364	8.000	1.354	8.000	1.291	8.000	1.357	8.000	1.255	8.000	1.323	8.000	1.379	8.000	1.369	8.000
AL	3.385	*	[illegible]	*	3.332	*	3.363	*	3.328	*	3.349	*	3.385	*	3.359	*
TI	.011	*	.011	*	.015	*	.013	*	.010	*	.010	*	.009	*	.012	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.037	*	.020	*	.031	*	.038	*	.033	*	.028	*	.021	*	.028	*
MG	.686	*	[illegible]	*	.713	*	[illegible]	*	.715	*	.709	*	.694	*	.696	*
MN	0.000	4.117	.007	4.105	.003	4.043	.004	4.113	0.000	4.086	0.000	4.096	0.000	4.109	0.000	4.105
NA	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CA	.015	*	.014	*	.010	*	.008	*	.011	*	.015	*	.014	*	.014	*
K	1.573	*	[illegible]	*	1.595	*	1.613	*	1.575	*	1.617	*	1.614	*	1.533	*
BA	.010	1.61[illegible]	.011	[illegible]	.007	1.612	.011	1.537	.010	1.596	.008	1.640	.010	1.639	.011	1.529
F	.070	*	.053	*	[illegible]	*	.081	*	.112	*	.095	*	.094	*	.106	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		[illegible]		.040		.04[illegible]		.060		.046		.040		.030		.040
F/FM		.051		.03[illegible]		.045		.057		.044		.038		.029		.039

9 MUSC
10 MUSC
11 MUSC
12 MUSC
13 MUSC
14 MUSC DOMAIN INST TO COARSE QTZ
15 MUSC
16 MUSC

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	17	18	19	20	21
SIO2	50.69	52.79	51.44	52.25	50.62
TIO2	.13	.08	.10	.12	.07
A2O3	30.39	28.69	30.65	31.30	29.91
C2O3	0.00	0.00	.00	.01	-.00
MNO	.03	0.00	.01	.03	-.01
FEO	.29	.13	.22	.35	.09
MGO	3.72	3.32	3.57	3.69	3.46
CAO	.08	.07	.09	.13	.07
BAO	.21	.10	.2[illegible]	.31	.14
K2O	9.65	9.67	9.62	9.90	9.33
NA2O	0.09	.19	.01	.03	-.02
F	.26	.23	.2[illegible]	.27	.15
CL	0.00	0.00	0.00	0.00	0.00
SUM	95.17	95.39	96.35	98.87	93.83
-O= F+CL	.11	.10	.09	.11	.07
SUM	95.06	95.29	96.25	98.75	93.76

	17		18		19		20		21	
SI	6.650	*	6.900	*	6.655	*	6.617	*	6.718	*
AL	1.350	8.000	1.100	8.000	1.345	8.000	1.383	8.000	1.282	8.000
AL	3.333	*	3.318	*	3.377	*	3.361	*	3.395	*
TI	.013	*	.008	*	.009	*	.012	*	.007	*
CR	0.000	*	0.000	*	.000	*	.001	*	-.000	*
FE	.032	*	.014	*	.024	*	.037	*	.010	*
MG	.727	*	.647	*	.690	*	.695	*	.684	*
MN	.003	4.109	0.000	3.987	.001	4.103	.004	4.109	-.001	4.096
NA	0.000	*	.025	*	.001	*	.007	*	-.004	*
CA	.011	*	.010	*	.012	*	.014	*	.010	*
K	1.616	*	1.610	*	1.590	*	1.599	*	1.580	*
BA	.011	1.638	.015	1.565	.011	1.614	.015	1.635	.007	1.592
F	.105	*	.095	*	.08[illegible]	*	.137	*	.068	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.043		.022		.037		.057		.014
F/FM		.040		.021		.03[illegible]		.055		.014

17 MUSC
18 MUSC
19 AVERAGE
20 AVERAGE PLUS SIGMA
21 AVERAGE MINUS SIGMA

SUPER RECAL — APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	51.15	47.72	51.13	55.05	50.65	50.51	50.81	54.97
TIO2	.09	.12	.12	.11	.14	.11	.09	.14
AL2O3	29.74	27.72	27.92	27.24	28.94	29.99	29.69	30.40
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.01
MNO	.03	.04	.04	.04	0.00	.06	.02	0.00
FEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MGO	3.40	3.21	3.2[illegible]	3.19	3.29	3.24	3.22	3.59
CAO	.19	.21	.21	.14	.18	.19	.21	.23
BAO	.12	.17	[illegible]	.11	.22	.17	.13	.15
K2O	9.64	7.02	9.76	6.73	9.61	9.56	9.81	8.17
NA2O	.11	.17	.27	.13	.13	.13	.16	.06
F	.45	.45	[illegible]	.44	.64	.39	.44	.51
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.19	91.47	[illegible]	96.29	94.00	94.35	94.58	98.24
-O= F+CL	.19	.20	.23	.19	.27	.16	.19	.21
SUM	94.00	91.27	[illegible]	96.10	93.73	94.19	94.39	98.03

	1		2		3		4		5		6		7		8	
SI	6.791	*	6.802	*	6.724	*	7.178	*	6.758	*	6.686	*	6.715	*	6.885	*
AL	1.217	8.000	1.198	8.000	1.276	8.000	.822	8.000	1.242	8.000	1.314	8.000	1.285	8.000	1.115	8.000
AL	3.192	*	3.270	*	3.[illegible]	*	3.298	*	3.290	*	3.363	*	3.339	*	3.371	*
TI	.009	*	.012	*	.010	*	.011	*	.014	*	.011	*	.009	*	.013	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.001	*
FE	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
MG	.672	*	.655	*	.641	*	.592	*	.652	*	.639	*	.634	*	.670	*
MN	.003	3.936	.005	3.942	.004	3.939	.004	3.975	0.000	3.955	.007	4.020	.002	3.985	0.000	4.056
NA	.023	*	.046	*	.055	*	.032	*	.033	*	.033	*	.041	*	.015	*
CA	.027	*	.031	*	.032	*	.017	*	.026	*	.027	*	.030	*	.031	*
K	1.630	*	1.679	*	1.671	*	1.459	*	1.629	*	1.614	*	1.654	*	1.305	*
BA	.010	1.695	.004	1.706	.011	1.771	.005	1.516	.011	1.700	.009	1.683	.007	1.731	.008	1.358
F	.197	*	.205	*	.275	*	.175	*	.269	*	.163	*	.184	*	.202	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M	.005		.007		.007		.007		0.000		.011		.004		0.000	
F/FM	.005		.007		.007		.007		0.000		.010		.004		0.000	

1 ESK-15-63.1: RELICT DIZ MUSC ON DIZ GR
2 MUSC
3 MUSC ASSOC W NARROW QTZ VEIN
4 MUSC
5 MUSC
6 IRREG MASS MUSC ASSOC W CARB
7 MUSC
8 MUSC

SUPER RECAL APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13	14	15	16
SIO2	[illegible]	[illegible]	50.[illegible]	[illegible]	51.83	52.58	51.61	53.33
TIO2	.57	.09	.07	.02	.02	.01	.09	.13
AL2O3	28.22	30.15	27.0?	28.66	29.03	28.45	28.91	29.94
CR2O3	0.00	0.01	.01	0.00	0.00	0.00	.00	.00
MNO	.01	0.00	0.00	0.00	.05	0.00	.02	.04
FEO	0.00	0.00	.1?	.10	.05	.04	.02	.05
MGO	3.3?	[illegible]	[illegible]	3.30	3.31	3.41	3.31	3.42
CAO	.22	.24	.2?	.15	.18	.15	.19	.22
BAO	.2?	.29	.2?	.25	.32	.10	.18	.25
K2O	[illegible]	[illegible]	9.07	9.50	9.72	9.39	9.48	9.91
NA2O	.14	.14	.1?	.15	.16	.15	.15	.18
F	.47	.53	.5?	.60	.61	.58	.53	.62
CL	0.00	.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	91.75	96.15	[illegible]	93.59	96.03	94.77	94.49	98.15
-O= F+CL	.20	.27	.22	.25	.25	.24	.22	.25
SUM	91.75	96.08	[illegible]	93.34	95.83	94.53	94.26	97.90

	9		10		11		12		13		14		15		16	
SI	6.764	*	6.727	*	6.870	*	6.788	*	6.743	*	6.894	*	6.809	*	6.793	*
AL	1.236	8.000	1.273	8.000	1.130	8.000	1.212	8.000	1.257	8.000	1.106	8.000	1.191	8.000	1.207	8.000
AL	3.295	*	3.324	*	3.2??	*	3.27?	*	3.316	*	3.289	*	3.304	*	3.282	*
TI	.007	*	.00?	*	.007	*	.002	*	.002	*	.001	*	.008	*	.012	*
CR	0.000	*	0.000	*	.001	*	0.000	*	0.000	*	0.000	*	.000	*	.000	*
FE	0.000	*	0.000	*	.013	*	.011	*	.007	*	.004	*	.002	*	.006	*
MG	.637	*	.649	*	.672	*	.650	*	.642	*	.666	*	.651	*	.649	*
MN	.001	3.?01	0.00?	3.?77	0.000	3.92?	0.000	3.?65	.006	3.972	0.000	3.961	.002	3.968	.005	3.954
NA	.037	*	.035	*	.040	*	.01?	*	.040	*	.038	*	.037	*	.045	*
CA	.032	*	.033	*	.027	*	.021	*	.025	*	.021	*	.027	*	.031	*
K	1.644	*	1.60?	*	1.684	*	1.617	*	1.613	*	1.555	*	1.595	*	1.608	*
BA	.011	1.724	.004	1.677	.013	1.774	.013	1.690	.016	1.675	.005	1.620	.009	1.669	.012	1.675
F	.292	*	.253	*	.27?	*	.2?3	*	.251	*	.241	*	.221	*	.248	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.00?		0.000		.017		.017		.014		.007		.007		.017
F/FM		.00?		0.000		.018		.017		.018		.007		.007		.017

9 MUSC
10 MUSC
11 MUSC
12 MUSC
13 MUSC
14 MUSC
15 AVERAGE
16 AVERAGE PLUS SIGMA

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

SUPER RECAL

	17
SIO2	[illegible]
TIO2	.04
A2O3	27.83
C2O3	-.0?
MNO	-.0?
FEO	-.02
MGO	[illegible]
CAO	.1?
BAO	.12
K2O	[illegible]
NA2O	.11
F	.?4
CL	0.0?
SUM	[illegible]
-O= F+CL	.1?
SUM	[illegible]

SI	6.827	*
AI	1.173	8.000
AL	?.328	*
TI	.004	*
CR	-.000	*
FE	-.002	*
MG	.054	*
MN	-.000	3.?84
NA	.029	*
CA	.024	*
K	1.581	*
BA	.006	1.641
F	.173	*
CL	0.000	0.000
O	22.000	*
F/M		-.003
F/FM		-.003

17 AVERAGE IONS SIGMA

SUPER RECAL

APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	50.76	48.92	51.62	[illegible].91	50.60	50.46	50.27	50.49
TIO2	[illegible]	.11	.09	.13	.07	.13	.08	.08
AL2O3	31.07	[illegible]	30.76	30.54	30.20	30.14	29.22	28.39
CR2O3	0.00	0.00	0.00	0.00	0.00	.01	0.00	0.00
MNO	.06	0.00	[illegible]	.04	.04	0.00	0.00	.07
FEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MGO	[illegible]	2.83	[illegible]	2.63	2.81	2.79	2.88	2.65
CAO	.14	.12	.07	.05	.13	.10	.14	.13
BAO	[illegible]	[illegible]	.17	.43	.06	.38	.14	.19
K2O	9.80	7.54	7.65	[illegible]	9.44	9.97	9.54	9.61
NA2O	.13	.09	.07	.09	.10	.10	.09	.11
F	[illegible]	[illegible]	[illegible]	.35	.32	.20	.36	.36
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	95.74	[illegible]	[illegible]	97.06	93.77	94.29	92.72	92.24
-O= F+CL	[illegible]	.21	.16	.15	.13	.08	.15	.15
SUM	95.53	[illegible]	[illegible]	[illegible]	93.64	94.21	92.57	92.09

	1		2		3		4		5		6		7		8	
SI	6.671	*	6.65[illegible]	*	6.71[illegible]	*	[illegible]	*	6.717	*	6.703	*	6.761	*	6.831	*
AL	1.329	8.000	1.335	8.000	[illegible]	8.000	[illegible]	8.000	1.283	8.000	1.297	8.000	1.239	8.000	1.159	8.000
AL	3.414	*	[illegible]	*	[illegible]	*	[illegible]	*	3.442	*	3.421	*	3.392	*	3.358	*
TI	[illegible]	*	.011	*	[illegible]	*	[illegible]	*	.007	*	.013	*	.008	*	.008	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.001	*	0.000	*	0.000	*
FE	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
MG	.585	*	.575	*	[illegible]	*	[illegible]	*	.556	*	.553	*	.577	*	.575	*
MN	.007	[illegible]	0.000	3.972	[illegible]	[illegible]	[illegible]	4.007	.004	4.009	0.000	3.985	0.000	3.979	.008	[illegible]
NA	.033	*	[illegible]	*	.011	*	[illegible]	*	.026	*	.026	*	.023	*	.029	*
CA	.020	*	[illegible]	*	.010	*	[illegible]	*	.018	*	.014	*	.020	*	.014	*
K	[illegible]	*	1.675	*	[illegible]	*	[illegible]	*	1.598	*	[illegible]	*	1.637	*	1.659	*
BA	.015	1.700	.016	[illegible]	[illegible]	[illegible]	.021	[illegible]	.003	1.646	.020	1.752	.007	1.688	.010	1.712
F	[illegible]	*	[illegible]	*	.155	*	.141	*	.134	*	.084	*	.153	*	.154	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.012		0.000		[illegible]		.006		.008		0.000		0.000		.014
F/FM		.012		0.000		.006		.008		.008		0.000		0.000		.014

1 ESK-15-23.[illegible]:MUSC
2 MUSC
3 F GR MUSC N ARG [illegible]
4 MUSC
5 MUSC
6 IRREG MASS MUSC ALONG QTZ GR
7 MUSC
8 MUSC

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13
SIO2	49.49	54.36	51.14	52.76	49.33
TIO2	.08	.07	.07	.11	.07
AL2O3	27.64	24.26	27.65	30.67	28.63
CR2O3	0.00	0.00	.00	.00	-.00
MNO	0.00	.06	.03	.05	.00
FEO	0.00	.01	.00	.00	-.00
MGO	2.66	3.05	2.65	2.73	2.78
CAO	.10	.03	.13	.13	.08
BAO	.19	2.09	.23	.37	.10
K2O	9.65	7.77	9.40	9.97	8.82
NA2O	.12	.07	.10	.12	.08
F	.27	.56	.38	.49	.29
CL	0.00	0.00	0.00	0.07	0.00
SUM	90.26	96.09	93.79	97.81	90.17
-O= F+CL	.12	.23	.16	.20	.12
SUM	90.14	95.35	93.63	97.61	90.06

	9		10		11		12		13	
SI	6.849	*	7.010	*	6.776	*	6.751	*	6.791	*
AL	1.159	8.000	.990	8.000	1.224	8.000	1.249	8.000	1.209	8.000
AL	3.151	*	3.497	*	3.427	*	3.477	*	3.436	*
TI	.008	*	.007	*	.007	*	.011	*	.007	*
CR	0.000	*	0.000	*	.000	*	.000	*	-.000	*
FE	0.000	*	.001	*	.000	*	.000	*	-.000	*
MG	.578	*	.590	*	.564	*	.550	*	.571	*
MN	0.000	3.937	.006	4.001	.003	3.963	.006	3.955	.000	4.014
NA	.032	*	.017	*	.025	*	.027	*	.021	*
CA	.015	*	.011	*	.015	*	.016	*	.011	*
K	1.704	*	1.297	*	1.593	*	1.525	*	1.547	*
BA	.010	1.761	0.090	1.325	.012	1.640	.019	1.670	.005	1.585
F	.127	*	.226	*	.150	*	.175	*	.121	*
CL	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		0.000		.011		.006		.012		.000
F/FM		0.000		.013		.006		.012		.000

9 MUSC
10 MUSC
11 AVERAGE
12 AVERAGE PLUS SIGMA
13 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	47.03	47.85	[illegible]	47.35	48.62	57.55	50.51	54.62
TIO2	.02	.06	[illegible]	.04	.10	.07	2.10	.16
AL2O3	[illegible]	31.19	31.44	28.25	28.88	25.96	27.80	29.14
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.07	.25	[illegible]	0.00	0.00	.07	.10	.08
MGO	2.15	2.19	[illegible]	2.71	2.79	2.58	2.72	3.37
CAO	0.00	0.00	.01	0.00	.02	.06	.06	.05
BAO	.17	.18	.16	.02	.15	.15	.20	.18
K2O	10.19	10.26	[illegible]	[illegible]	10.13	8.54	9.03	7.69
NA2O	.14	.11	.13	.05	.05	.08	.09	.05
F	0.00	0.00	0.00	.02	.02	0.00	.11	.15
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	90.76	95.06	92.72	95.51
-O= F+CL	0.00	[illegible]	[illegible]	.01	.01	0.00	.05	.07
SUM	[illegible]	[illegible]	[illegible]	[illegible]	90.75	95.06	92.67	95.44

	1		2		3		4		5		6		7		8	
SI	6.587	*	[illegible]	*	[illegible]	*	[illegible]	*	6.717	*	7.419	*	6.791	*	7.009	*
AL	1.413	8.000	1.461	8.000	[illegible]	8.000	[illegible]	8.000	1.283	8.000	.591	8.000	1.209	8.000	.971	8.000
AL	[illegible]	*	[illegible]	*	[illegible]	*	[illegible]	*	3.417	*	3.362	*	3.195	*	3.415	*
TI	[illegible]	*	[illegible]	*	[illegible]	*	[illegible]	*	.010	*	.007	*	.212	*	.015	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	[illegible]	*	.027	*	.033	*	0.000	*	0.000	*	.008	*	.011	*	.009	*
MG	[illegible]	*	[illegible]	*	.441	*	[illegible]	*	.575	*	.496	*	.545	*	.645	*
MN	0.000	[illegible]	0.000	[illegible]	0.000	4.011	0.000	4.007	0.000	4.004	0.000	3.872	0.000	3.963	0.000	[illegible]
NA	[illegible]	*	.029	*	[illegible]	*	.013	*	.013	*	.020	*	.023	*	.015	*
CA	0.000	*	0.000	*	.001	*	0.000	*	.003	*	.008	*	.009	*	.008	*
K	[illegible]	*	[illegible]	*	[illegible]	*	[illegible]	*	1.785	*	1.404	*	1.548	*	1.257	*
BA	.009	[illegible]	.010	[illegible]	.008	[illegible]	[illegible]	[illegible]	.008	1.810	.008	1.440	.011	1.591	.009	[illegible]
F	0.000	*	0.000	*	0.000	*	[illegible]	*	.009	*	0.000	*	.047	*	.055	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.018		[illegible]		[illegible]		0.000		0.000		.015		.021		.013
F/FM		.018		[illegible]		[illegible]		0.000		0.000		.015		.020		.013

1 ESK-15-75.1: CALC [illegible] COARSE MUSC AS MATRIX
2 COARSE MUSC SHEAF [illegible] TO PY SPHAL,GAL
3 MUSC
4 MUSC
5 MUSC
6 COARSE MUSC ASSOC W PY,SHAL,AG-TETR
7 MUSC
8 MUSC GR IN MASSIVE MUSC ALTERATION

SUPER RECAL APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12
SIO2	48.58	50.31	53.60	47.02
TIO2	.02	.30	.46	-.11
A2O3	31.16	29.30	31.02	27.59
C2O3	0.00	0.00	0.00	0.00
MNO	.03	.00	.01	-.01
FEO	.02	.11	.20	.01
MGO	2.14	2.56	2.97	2.15
CAO	.02	.03	.05	.00
BAO	.13	.15	.20	.10
K2O	10.32	9.64	10.57	8.70
NA2O	.12	[illegible]	.12	.05
F	0.00	.03	.02	-.02
CL	0.00	0.00	0.00	0.00
SUM	92.58	92.??	[illegible]	85.28
-O= F+CL	0.00	.01	.04	-.01
SUM	92.61	92.?1	[illegible]	85.2?

	9		10		11		12	
SI	6.529	*	6.783	*	6.731	*	6.844	*
AL	1.421	8.000	1.217	8.000	1.257	8.000	1.156	8.000
AL	3.551	*	3.438	*	3.320	*	3.575	*
TI	.009	*	.031	*	.037	*	-.036	*
CR	0.000	*	0.000	*	0.000	*	0.000	*
FE	.010	*	.012	*	.021	*	.001	*
MG	.432	*	.515	*	.555	*	.460	*
MN	.003	4.006	.000	3.996	.001	3.986	-.001	4.007
NA	.032	*	.024	*	.030	*	.017	*
CA	.003	*	.004	*	.007	*	.000	*
K	1.783	*	1.657	*	1.693	*	1.615	*
BA	.007	1.824	.008	1.593	.010	1.740	.005	1.637
F	0.000	*	.015	*	.035	*	-.013	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.032		.024		.040		.001
F/FM		.031		.023		.033		.001

9 LATE SECOND GENERATION COARSE MUSC
10 AVERAGE
11 AVERAGE PLUS SIGMA
12 AVERAGE MINUS SIGMA

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	51.72	52.49	47.22	51.05	50.69	51.29	51.50	50.76
TIO2	.05	.07	.12	.03	.06	.09	.05	0.00
AL2O3	34.34	31.14	32.75	31.84	31.19	31.13	32.48	31.69
CR2O3	0.00	.02	0.00	0.00	0.00	0.00	0.00	0.00
MNO	.04	0.00	0.00	0.00	0.00	0.00	.02	0.00
FEO	0.00	.13	0.00	.01	.08	0.00	.03	.04
MGO	2.04	1.20	2.41	3.10	3.01	3.14	2.90	3.05
CAO	0.00	.12	.04	0.00	.04	.11	.07	.04
BAO	.37	.10	.15	.20	.25	.11	.32	.20
K2O	[illegible]	[illegible]	10.01	7.60	7.67	8.57	9.59	10.12
NA2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F	0.00	.12	0.00	0.00	.06	.07	.11	0.00
CL	0.00	0.00	0.00	[illegible]	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	95.05	94.81	97.07	95.89
-O= F+CL	0.00	.05	0.00	0.00	.03	.03	.05	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	95.02	94.78	97.02	95.89

	1		2		3		4		5		6		7		8	
SI	6.574	*	6.742	*	[illegible]		[illegible]	*	6.655	*	6.702	*	6.612	*	6.620	*
AL	1.475	8.000	1.258	8.000	[illegible]	8.000	1.357	8.000	1.345	8.000	1.299	8.000	1.388	8.000	1.380	8.000
AL	[illegible]	*	[illegible]	*	[illegible]		[illegible]		3.490	*	3.495	*	3.525	*	3.498	*
TI	.005	*	[illegible]	*	.012		.005	*	.006	*	.009	*	.005	*	0.000	*
CR	0.000	*	.002	*	0.000		0.000		0.000	*	0.000	*	0.000	*	0.000	*
FE	0.000	*	.014	*	0.000		.001	*	.009	*	0.000	*	.003	*	.004	*
MG	[illegible]	*	[illegible]	*	[illegible]		[illegible]	*	.584	*	.612	*	.555	*	.593	*
MN	.004	4.134	0.000	[illegible]	0.000	[illegible]	0.000	4.111	0.000	4.083	0.000	4.115	.002	4.090	0.000	4.095
NA	0.000	*	0.000	*	0.000		0.000		0.000	*	0.000	*	0.000	*	0.000	*
CA	0.000	*	.018	*	[illegible]		0.000	*	.006	*	.015	*	.010	*	.006	*
K	1.527	*	1.507	*	[illegible]		[illegible]	*	1.619	*	1.478	*	1.570	*	1.693	*
BA	[illegible]	1.545	.010	1.535	[illegible]	[illegible]	.010	1.516	.013	1.639	.006	1.499	.016	1.596	.010	1.599
F	0.000	*	[illegible]	*	0.000	*	0.000	*	.025	*	.029	*	.045	*	0.000	*
CL	0.000	0.000	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000		22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/A		[illegible]		.023		0.000		.002		.015		0.000		.010		.037
F/FM		[illegible]		[illegible]		[illegible]		.002		.015		0.000		.010		.037

1 ESK-15-62.4: [illegible]
2 MUSC
3 MUSC
4 MUSC
5 MUSC
6 MUSC
7 MUSC ALONG QTZ GR
8 MUSC; RELICT COARSE ZONE

SUPER RECAL   APPENDIX I: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13	14	15	16
SIO2	[illegible].66	50.[illegible]	[illegible]	[illegible]	49.30	50.83	51.71	49.95
TIO2	.05	.01	.05	.0[illegible]	.05	.05	.08	.02
A2O3	30.01	32.0[illegible]	[illegible]	30.71	33.12	31.95	33.07	30.63
C2O3	0.[illegible]	0.[illegible]	0.00	[illegible]	0.00	.00	.01	-.00
MNO	0.[illegible]	0.0[illegible]	0.0[illegible]	.07	0.00	.01	.03	-.01
FEO	0.0[illegible]	[illegible]	0.0[illegible]	.0[illegible]	0.00	.03	.07	-.01
MGO	3.11	2.[illegible]	[illegible]	[illegible]	2.59	2.93	3.16	2.70
CAO	.0[illegible]	.05	.01	.0[illegible]	.02	.05	.09	.01
BAO	.19	[illegible]	.3[illegible]	.2[illegible]	.38	.25	.33	.15
K2O	[illegible]1	10.1[illegible]	10.0[illegible]	[illegible]	10.24	9.72	10.07	9.34
NA2O	[illegible].00	0.[illegible]	[illegible]	0.00	0.00	0.00	0.00	0.00
F	.05	.06	.09	.15	.01	.05	.10	.01
CL	0.07	0.00	0.0[illegible]	0.07	0.00	0.00	0.07	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	95.70	95.88	98.77	93.00
-O= F+CL	.02	.03	.0[illegible]	.0[illegible]	.00	.02	.04	.00
SUM	[illegible].75	[illegible]	[illegible].87	[illegible]	95.70	95.86	98.73	92.99

	9		10		11		12		13		14		15		16	
SI	6.730	*	[illegible]	*	6.502	*	6.719	*	6.463	*	6.613	*	6.549	*	6.690	*
AL	1.27[illegible]	8.000	1.[illegible]	8.000	1.498	8.000	1.281	8.000	1.537	8.000	1.387	8.000	1.451	8.000	1.320	8.000
AL	3.423	*	3.505	*	3.517	*	[illegible]	*	3.540	*	3.514	*	3.493	*	3.540	*
TI	.025	*	.001	*	.005	*	[illegible]	*	.005	*	.005	*	.008	*	.002	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.000	*	.001	*	-.000	*
FE	0.000	*	0.000	*	0.000	*	.010	*	0.000	*	.003	*	.008	*	-.001	*
MG	.610	*	.530	*	.563	*	[illegible]	*	.504	*	.567	*	.577	*	.538	*
MN	0.000	4.04[illegible]	0.000	4.066	0.000	4.111	.00[illegible]	4.065	0.000	4.087	.001	4.092	.003	4.105	-.001	4.077
NA	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CA	.013	*	.007	*	.021	*	.007	*	.003	*	.007	*	.012	*	.002	*
K	1.652	*	1.672	*	1.547	*	1.5[illegible]7	*	1.712	*	1.612	*	1.631	*	1.593	*
BA	.010	1.665	.011	1.700	.017	1.569	.013	1.607	.020	1.735	.013	1.632	.017	1.659	.009	1.603
F	.021	*	.025	*	.031	*	.052	*	.004	*	.022	*	.042	*	.002	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M	0.000		0.000		0.000		.030		0.000		.008		.018		-.035	
F/FM	0.000		1.000		0.000		.029		0.000		.007		.018		-.035	

9 MUSC
10 MUSC
11 MUSC
12 MUSC IN V F GR [illegible] DOMAIN

13 MUSC
14 AVERAGE
15 AVERAGE PLUS SIGMA
16 AVERAGE MINUS SIGMA

SUPER RECAL   APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	50.33	50.23	50.45	49.35	49.52	49.26	49.12	49.04
TIO2	.01	.05	.05	.01	.07	.03	.05	.05
A2O3	31.67	33.25	33.27	33.24	33.13	33.06	33.35	33.32
C2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	0.00	.35	.07	.02	.06	0.00	.05	0.00
MGO	2.21	2.29	2.05	2.02	2.11	2.13	2.05	2.15
CAO	.12	.07	.06	.08	.12	.14	.09	.10
BAO	.29	.35	.45	.51	.45	.51	.71	.74
K2O	8.71	7.54	9.37	9.43	9.39	9.39	9.88	10.05
NA2O	.13	.27	.26	.27	.22	.25	.27	.25
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	93.55	95.11	96.04	94.75	95.07	94.76	95.58	95.71
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	93.55	[illegible]	96.04	94.75	95.07	94.76	95.58	95.71

	1		2		3		4		5		6		7		8	
SI	6.671	*	6.532	*	6.552	*	6.497	*	6.507	*	6.498	*	6.458	*	6.447	*
AL	1.329	8.000	1.468	8.000	1.448	8.000	1.503	8.000	1.493	8.000	1.502	8.000	1.542	8.000	1.553	8.000
AL	3.620	*	3.629	*	3.643	*	3.654	*	3.636	*	3.637	*	3.626	*	3.609	*
TI	.001	*	.005	*	.006	*	.001	*	.007	*	.003	*	.005	*	.005	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	0.000	*	.005	*	.008	*	.002	*	.007	*	0.000	*	.005	*	0.000	*
MG	.437	*	.426	*	.377	*	.396	*	.413	*	.419	*	.402	*	.421	*
MN	0.000	4.058	0.000	4.060	0.000	4.054	0.000	4.054	0.000	4.063	0.000	4.059	0.000	4.038	0.000	4.035
NA	.049	*	.068	*	.055	*	.074	*	.055	*	.064	*	.069	*	.064	*
CA	.017	*	.010	*	.008	*	.011	*	.017	*	.020	*	.013	*	.014	*
K	1.472	*	1.581	*	1.552	*	1.594	*	1.574	*	1.578	*	1.657	*	1.687	*
BA	.015	1.553	.020	1.679	.022	1.549	.026	1.695	.023	1.670	.026	1.688	.037	1.775	.038	1.803
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		0.000		.013		.019		.006		.016		0.000		.014		0.000
F/FM		0.000		.013		.019		.006		.016		0.000		.014		0.000

1 ESK-16-63.5: MUSC
2 MUSC + SPHERICAL PY + TETRA
3 MUSC
4 MUSC AND TETRA WITHIN PY SPHERES
5 MUSC
6 MUSC
7 MUSC
8 MUSC MATRIX TO SPHAL

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13	14	15	15
SIO2	45.77	46.06	57.63	50.33	47.07	48.09	49.95	52.22
TIO2	.11	.06	.05	.13	.03	.02	.05	.08
AL2O3	33.70	[illegible]	27.36	34.10	33.21	33.58	32.80	34.40
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.03	.02	.12	.05	.02	.09	.04	.08
MGO	2.05	2.01	1.54	1.73	2.12	1.97	2.05	2.19
CAO	.06	.12	.17	.05	.12	.16	.11	.14
BAO	.56	.33	.45	.58	.57	.55	.54	.69
K2O	10.09	9.79	7.77	7.73	9.79	9.52	9.32	10.02
NA2O	.25	.27	.27	.25	.25	.25	.25	.27
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	95.52	94.19	95.47	95.17	95.18	94.25	95.10	100.08
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	95.52	94.19	95.47	95.17	95.18	94.25	95.10	100.08

	9		10		11		12		13		14		15		15	
SI	6.414	*	6.427	*	7.384	*	6.730	*	6.467	*	6.499	*	6.558	*	6.536	*
AL	1.586	8.000	1.573	8.000	.616	8.000	1.270	8.000	1.533	8.000	1.501	8.000	1.442	8.000	1.464	8.000
AL	3.635	*	3.627	*	3.337	*	3.760	*	3.625	*	3.655	*	3.632	*	3.539	*
TI	.011	*	.006	*	.005	*	.010	*	.003	*	.002	*	.005	*	.007	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.003	*	.002	*	.014	*	.007	*	.002	*	.010	*	.005	*	.008	*
MG	.404	*	.391	*	.313	*	.373	*	.416	*	.375	*	.401	*	.407	*
MN	0.000	4.054	0.000	4.036	0.000	3.853	0.000	4.135	0.000	4.047	0.000	4.071	0.000	4.043	0.000	4.032
NA	.064	*	.067	*	.059	*	.065	*	.064	*	.054	*	.063	*	.066	*
CA	.008	*	.017	*	.023	*	.007	*	.017	*	.023	*	.015	*	.019	*
K	1.677	*	1.671	*	1.265	*	1.290	*	1.646	*	1.616	*	1.550	*	1.600	*
BA	.023	1.777	.044	1.799	.023	1.360	.030	1.392	.027	1.755	.029	1.732	.028	1.666	.033	1.719
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.006		.005		.044		.017		.005		.025		.012		.020
F/FM		.006		.005		.043		.017		.005		.025		.012		.020

9 MUSC
10 MUSC
11 SELECT MUSC WITH [illegible]
12 MUSC WITH SIO2 AND [illegible]
13 MUSC
14 MUSC
15 AVERAGE
16 AVERAGE PLUS SIGMA

APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

SUPER RECAL

	17
SIO2	47.68
TIO2	.02
AL2O3	31.21
CR2O3	0.00
MNO	0.00
FEO	.01
MGO	1.91
CAO	.07
BAO	.40
K2O	8.61
NA2O	.23
F	0.00
CL	0.00
SUM	90.13
-O= F+CL	0.00
SUM	90.13

SI	6.592	*
AL	1.413	8.000
AL	3.658	*
TI	.002	*
CR	0.000	*
FE	.001	*
MG	.393	*
MN	0.000	4.055
NA	.060	*
CA	.010	*
K	1.516	*
BA	.022	1.608
F	0.000	*
CL	0.000	0.000
O	22.000	*
F/M		.002
F/FM		.002

17 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	32.52	45.77	32.55	32.52	43.18	33.85	32.65	33.41
TIO2	0.00	.03	0.07	0.00	.65	.01	0.00	.41
A2O3	22.24	30.31	22.17	22.22	27.97	22.68	22.00	22.31
C2O3	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00
MNO	.08	0.00	.05	0.00	.01	0.00	.11	.12
FEO	.12	.02	.24	.07	.16	.24	.14	.13
MGO	32.76	0.53	32.12	32.44	14.45	29.32	32.53	30.87
CAO	.14	.12	.21	.20	.18	.17	.18	.25
BAO	0.00	.21	.11	.08	.23	.06	.07	.11
K2O	.17	7.70	.21	.23	5.73	1.32	.17	.32
NA2O	0.00	.16	.02	0.00	.06	0.00	0.00	0.00
F	.46	0.00	.52	.55	.24	.53	.49	.55
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	88.42	93.60	88.29	88.34	93.36	88.19	88.51	88.55
-O= F+CL	.19	0.00	.22	.24	.10	.22	.21	.23
SUM	88.19	93.60	88.06	88.10	93.26	87.96	88.30	88.32

	1		2		3		4		5		6		7		8	
SI	4.675	*	6.134	*	4.653	*	4.645	*	5.807	*	4.848	*	4.658	*	4.756	*
AL	3.365	8.000	1.866	8.000	3.342	8.000	3.355	8.000	2.193	8.000	3.152	3.000	3.342	8.000	3.244	8.000
AL	.171	*	2.752	*	.325	*	.384	*	2.239	*	.676	*	.356	*	.478	*
TI	0.000	*	.003	*	0.000	*	0.000	*	.066	*	.001	*	0.000	*	.044	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.007	*	0.000	*
FE	.014	*	.008	*	.027	*	.011	*	.018	*	.029	*	.017	*	.023	*
MG	6.760	*	1.769	*	6.669	*	6.706	*	2.997	*	6.257	*	6.937	*	6.550	*
MN	.010	7.355	0.000	4.727	.006	7.214	0.000	7.201	.001	5.320	0.000	6.965	.013	7.330	.014	7.129
NA	0.000	*	.042	*	.006	*	0.000	*	.016	*	0.000	*	0.000	*	0.000	*
CA	.021	*	.017	*	.032	*	.031	*	.026	*	.026	*	.028	*	.040	*
K	.031	*	1.350	*	.035	*	.042	*	.983	*	.241	*	.031	*	.058	*
BA	0.000	.052	.011	1.420	.006	.067	.004	.077	.012	1.037	.003	.271	.004	.062	.006	.134
F	.227	*	0.000	*	.235	*	.253	*	.102	*	.240	*	.221	*	.248	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.003		.004		.005		.002		.006		.005		.004		.005
F/FM		.003		.004		.005		.002		.006		.005		.004		.006

1 ESK-16-85.7: MASS CHL MATRIX
2 CHLORITE AND MUSC MIX
3 CHLORITE
4 MUSC
5 MUSC AND CHL MIXTURE
6 CHLORITE (MUSC MIX)
7 CHLORITE
8 CHLORITE

SUPER FECAL APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13	14	15
SIO2	[illegible]	[illegible]	[illegible]	[illegible]	37.49	46.21	32.75
TIO2	.07	.06	.04	[illegible]	.11	.31	-.08
AL2O3	[illegible]	[illegible]	27.31	31.72	26.17	30.30	22.05
CR2O3	0.00	0.00	[illegible]	.06	.01	.03	-.01
MNO	0.00	.04	[illegible]	0.00	.03	.08	-.01
FEO	.1?	.11	.43	.12	.18	.27	.07
MGO	[illegible]	10.75	11.15	7.06	20.70	31.95	9.45
CAO	.05	.16	.13	.10	.16	.21	.11
BAO	[illegible]	[illegible]	.35	[illegible]	.20	.35	.05
K2O	7.85	7.17	[illegible]	[illegible]	3.84	7.35	.33
NA2O	.13	.12	.14	.12	.07	.15	-.00
F	.05	.12	.23	.12	.32	.53	.12
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	97.16	[illegible]	[illegible]	[illegible]	91.29	117.73	64.85
-O= F+CL	[illegible]	.05	.10	.05	.14	.22	.05
SUM	97.14	[illegible]	[illegible]	[illegible]	91.15	117.51	64.80

	9		10		11		12		13		14		15	
SI	[illegible]	*	[illegible]	*	[illegible]	*	6.166	*	5.436	*	5.072	*	6.052	*
AL	1.608	8.000	[illegible]	8.000	1.811	8.000	1.832	8.000	2.562	8.000	2.928	8.000	1.948	8.000
AL	4.150	*	[illegible]	*	4.021	*	4.117	*	4.085	*	.991	*	2.855	*
TI	.007	*	.006	*	.014	*	[illegible]	*	.012	*	.025	*	-.011	*
CR	[illegible]	*	[illegible]	*	0.000	*	[illegible]	*	.001	*	.002	*	-.002	*
FE	.017	*	[illegible]	*	.049	*	[illegible]	*	.021	*	.025	*	.013	*
MG	1.041	*	2.153	*	[illegible]	*	[illegible]	*	4.249	*	5.227	*	2.604	*
MN	0.000	4.617	.005	4.?01	0.000	[illegible]	0.000	4.54?	.004	5.972	.007	6.277	-.002	5.457
NA	[illegible]	*	[illegible]	*	.037	*	[illegible]	*	.020	*	.032	*	-.001	*
CA	.011	*	.023	*	.019	*	[illegible]	*	.024	*	.025	*	.022	*
K	1.281	*	1.227	*	1.140	*	[illegible]	*	.675	*	1.029	*	.078	*
BA	.023	1.349	.017	1.31?	.017	1.204	.022	1.517	.011	.72?	.015	1.101	.004	.103
F	.020	*	.055	*	[illegible]	*	.050	*	.141	*	.184	*	.059	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
[illegible]		.018		.006		.022		.014		.006		.006		.005
F/FM		.016		.008		.021		.013		.006		.006		.005

9 MUSC
10 MUSC AND CHLORITE MIXTURE
11 MUSC AND CHL MIX [illegible]
12 MUSC AND CHL MIX
13 AVERAGE
14 AVERAGE PLUS SIGMA
15 AVERAGE MINUS SIGMA

SUPER RECAL APPENDIX I: MUSCOVITE AND CELADONITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7
SIO2	[illegible]	[illegible]	[illegible]	50.64	51.15	52.29	50.02
TIO2	.10	.09	.10	[illegible]	.10	.10	.09
A2O3	32.05	31.91	31.55	32.71	32.11	32.47	31.75
C2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MGO	2.30	2.23	[illegible]	2.33	2.30	2.34	2.26
CAO	.27	1.15	.14	[illegible]	.45	.06	.05
BAO	.17	[illegible]	[illegible]	.50	.34	.48	.21
K2O	[illegible]	9.38	10.29	9.83	9.68	10.09	9.31
NA2O	.15	.16	.13	.15	.17	.19	.15
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	97.47	95.91	95.79	[illegible]	96.30	98.76	93.83
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	97.47	[illegible]	95.79	96.51	96.30	98.76	93.83

	1		2		3		4		5		6		7	
SI	6.757	*	6.693	*	6.617	*	6.568	*	6.635	*	6.637	*	6.633	*
AI	1.243	8.000	1.307	8.000	[illegible]	8.000	1.432	8.000	1.365	8.000	1.363	8.000	1.357	8.000
AL	3.563	*	3.510	*	3.530	*	[illegible]	*	3.543	*	3.494	*	3.595	*
TI	.010	*	[illegible]	*	.010	*	[illegible]	*	.009	*	.010	*	.009	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
MG	.436	*	[illegible]	*	.457	*	.450	*	.445	*	.443	*	.445	*
MN	0.000	4.007	0.000	[illegible]	0.000	[illegible]	0.000	4.027	0.000	3.997	0.000	3.945	0.000	4.050
NA	.039	*	.041	*	[illegible]	*	.040	*	.042	*	.044	*	.040	*
CA	.037	*	.161	*	.020	*	.035	*	.053	*	.117	*	.007	*
K	1.597	*	1.566	*	1.725	*	[illegible]	*	1.601	*	1.626	*	1.575	*
BA	.008	[illegible]	.013	1.781	.023	1.796	.025	1.727	.017	1.723	.024	1.810	.011	1.632
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/A	0.000		0.000		0.000		0.000		0.000		0.000		0.000	
F/FM	0.000		0.000		0.000		0.000		0.000		0.000		0.000	

1 ESK-16-8[illegible].1: MUSC (COL MIX)
2 MUSC
3 COARSE MUSC AT CARB MARGIN
4 MUSC
5 AVERAGE
6 AVERAGE PLUS SIGMA
7 AVERAGE MINUS SIGMA

SUPER RECAL APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSIS, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	44.30	[illegible]	57.24	46.96	47.23	51.65	46.60	50.95
TIO2	.15	.07	.11	.12	.07	.07	.07	.10
AL2O3	31.74	26.17	33.14	[illegible]	32.29	34.05	30.82	30.72
CR2O3	.03	0.00	.10	.04	0.00	0.00	0.00	.04
MNO	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.95	.22	.17	.08	.07	0.00	.04	.90
MGO	2.79	2.49	1.72	2.15	1.76	2.02	1.93	3.19
CAO	.12	.21	.05	.14	.04	.04	.03	.30
BAO	.36	.17	.35	.43	.33	.51	.43	.10
K2O	[illegible]	10.2[illegible]	10.37	10.[illegible]	9.60	9.70	9.92	8.77
NA2O	.17	.19	.21	.22	.14	.14	.19	.10
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	94.47	91.96	97.19	90.02	95.35
-O- F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	94.47	91.96	97.19	90.02	95.35

	1		2		3		4		5		6		7		8	
SI	6.514	*	6.733	*	6.990	*	6.510	*	6.447	*	6.585	*	6.513	*	6.659	*
AL	1.486	8.000	1.217	8.000	1.070	8.000	1.490	8.000	1.553	8.000	1.415	8.000	1.487	8.000	1.341	8.000
AL	3.490	*	3.37[illegible]	*	3.613	*	3.567	*	3.638	*	3.701	*	3.588	*	3.422	*
TI	.015	*	.02[illegible]	*	.011	*	.012	*	.009	*	.007	*	.007	*	.010	*
CR	.003	*	0.000	*	.011	*	.004	*	0.000	*	0.000	*	0.000	*	.004	*
FE	.059	*	.025	*	.015	*	.007	*	.010	*	0.000	*	.005	*	.098	*
MG	.550	*	.513	*	[illegible]	*	.428	*	.397	*	.384	*	.402	*	.620	*
MN	0.000	4.105	.007	3.933	0.000	4.04[illegible]	.000	4.022	0.000	4.057	0.000	4.042	0.000	4.002	0.000	4.151
NA	.049	*	.04[illegible]	*	.059	*	.057	*	.037	*	.035	*	.049	*	.025	*
CA	.017	*	[illegible]	*	.007	*	.020	*	.005	*	.005	*	.004	*	.042	*
K	1.523	*	1.61[illegible]	*	1.757	*	1.701	*	1.671	*	1.415	*	1.758	*	1.462	*
BA	.019	1.712	.009	1.705	.017	1.837	.022	1.800	.028	1.743	.025	1.480	.024	1.845	.005	1.535
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.090		.063		.037		.021		.026		0.000		.012		.159
F/FM		.083		.050		.036		.020		.025		0.000		.011		.137

1 ESK-16-75.7:MASS MUSC LAST TI-PY
2 MUSC AND CHL
3 REGION COARSE MUSC MATRIX
4 MUSC
5 MUSC
6 MUSC
7 MUSC
8 MUSC W CIRC PY

SUPER RECAL

APPENDIX I: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13
SIO2	48.76	51.06	47.21	50.67	47.55
TIO2	[illegible]	[illegible]	[illegible]	.12	.07
AL2O3	[illegible]	[illegible]	[illegible]	[illegible]	30.35
CR2O3	.06	0.00	.03	.06	-.01
MNO	[illegible]	[illegible]	.01	.02	-.01
FEO	[illegible]	[illegible]	[illegible]	[illegible]	-.02
MGO	2.30	2.57	2.36	2.73	1.94
CAO	[illegible]	.11	.12	.20	.03
BAO	.11	.19	.16	[illegible]	.20
K2O	[illegible]	[illegible]	[illegible]	10.29	7.15
NA2O	.20	.13	.17	.21	.13
F	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	87.38
-O= F+CL	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	87.38

SI	6.465	*	[illegible]	*	[illegible]	*	[illegible]	*	6.629	*
AL	1.535	8.000	1.371	8.000	1.449	8.000	1.521	8.000	1.371	8.000
AL	3.559	*	[illegible]	*	[illegible]	*	[illegible]	*	3.515	*
TI	.009	*	[illegible]	*	.010	*	.012	*	.007	*
CR	.006	*	0.000	*	[illegible]	*	.006	*	-.001	*
FE	.011	*	.034	*	.026	*	[illegible]	*	-.003	*
MG	.455	*	[illegible]	*	.459	*	.517	*	.404	*
MN	0.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.003	4.004	-.001	4.021
NA	.051	*	[illegible]	*	.044	*	.051	*	.036	*
CA	.013	*	.015	*	.016	*	.027	*	.005	*
K	1.757	*	1.557	*	[illegible]	*	1.672	*	1.626	*
BA	.017	[illegible]	.010	[illegible]	.010	1.728	[illegible]	1.774	.011	1.678
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.024		.073		.057		[illegible]		-.011
F/FM		.024		[illegible]		[illegible]		[illegible]		-.011

9 MUSC
10 MUSC
11 AVERAGE
12 AVERAGE PLUS SIGMA
13 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX I:MUSCOVITE [illegible] ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	[illegible]	[illegible]	[illegible]	50.61	50.44	49.90	50.74	50.75
TIO2	[illegible]	[illegible]	[illegible]	[illegible]	.13	.10	.15	.11
AL2O3	30.[illegible]	[illegible]	31.07	31.52	31.42	31.44	31.37	31.41
CR2O3	[illegible]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	[illegible]	[illegible]	[illegible]	.04	.04	0.00	0.00	.05
FEO	[illegible]	[illegible]	[illegible]	[illegible]	.55	.66	.55	.63
MGO	2.45	[illegible]	2.25	2.24	2.19	2.19	2.22	2.19
CAO	[illegible]	[illegible]	[illegible]	.13	.11	.11	.14	.11
BAO	[illegible]	.15	[illegible]	[illegible]	.19	.17	.14	.15
K2O	[illegible]	[illegible]	[illegible]	9.31	9.24	9.45	9.45	9.21
NA2O	.14	.11	[illegible]	.15	.11	.10	.09	.11
F	[illegible]	[illegible]	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	[illegible]	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	94.41	94.14	94.85	94.73
-O= F+CL	[illegible]	0.00	[illegible]	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	94.41	94.14	94.85	94.73

	1		2		3		4		5		6		7		8	
SI	[illegible]	*	[illegible]	*	[illegible]	*	[illegible]	*	6.662	*	6.626	*	6.674	*	6.679	*
AL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.338	8.000	1.374	8.000	1.326	8.000	1.321	8.000
AL	[illegible]	*	[illegible]	*	[illegible]	*	[illegible]	*	3.552	*	3.545	*	3.536	*	3.549	*
TI	[illegible]	*	[illegible]	*	[illegible]	*	[illegible]	*	.013	*	.010	*	.015	*	.011	*
CR	[illegible]	*	[illegible]	*	[illegible]	*	[illegible]	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	[illegible]	*	[illegible]	*	[illegible]	*	[illegible]	*	.061	*	.073	*	.060	*	.069	*
MG	.491	*	[illegible]	*	[illegible]	*	[illegible]	*	.427	*	.433	*	.435	*	.428	*
MN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.055	.004	4.059	0.000	4.062	0.000	4.046	.006	4.052
NA	.036	*	[illegible]	*	.011	*	[illegible]	*	.028	*	.026	*	.023	*	.028	*
CA	[illegible]	*	[illegible]	*	[illegible]	*	.010	*	.016	*	.016	*	.020	*	.016	*
K	1.613	*	1.541	*	[illegible]	*	1.563	*	1.557	*	1.601	*	1.585	*	1.546	*
BA	.010	[illegible]	[illegible]	[illegible]	.010	1.625	.010	[illegible]	.010	1.610	.010	1.652	.007	1.635	.008	1.597
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	[illegible]	0.000	[illegible]	0.000	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		[illegible]		.13[illegible]		.144		.130		.152		.169		.139		.175
F/FM		[illegible]		[illegible]		.126		.115		.132		.145		.122		.149

1 ESK-1[illegible]-[illegible]: MUSC NEAR [illegible] VEIN
2 MUSC
3 MUSC
4 MUSC
5 MUSC
6 MUSC
7 MUSC
8 MUSC

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12	13	14	15	16
SIO2	50.35	47.5[illegible]	54.[illegible]	47.51	50.35	49.72	50.61	51.82
TIO2	.10	.0[illegible]	.06	.12	0.00	.12	.07	.13
AL2O3	31.59	[illegible].43	32.02	30.75	31.53	32.21	31.24	31.83
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	.01	0.00	.05	.02	.04
FEO	.41	.5[illegible]	.43	.2[illegible]	.29	.26	.47	.57
MGO	2.15	2.2[illegible]	2.79	2.2[illegible]	2.08	2.24	2.29	2.44
CAO	.12	.1[illegible]	.[illegible]5	.16	.16	.12	.15	.17
BAO	.12	.12	.29	.2[illegible]	.25	.27	.20	.25
K2O	9.54	[illegible]	7.53	9.20	9.47	9.55	9.23	9.72
NA2O	.13	.13	.09	.10	.11	.10	.11	.13
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.65	92.[illegible]1	95.1[illegible]	92.71	94.23	94.64	94.39	97.14
-O= F+CL	0.00	0.0[illegible]	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.66	92.[illegible]1	95.14	92.71	94.23	94.64	94.39	97.14

	9		10		11		12		13		14		15		16	
ST	6.644	*	6.733	*	[illegible]	*	6.663	*	6.665	*	6.566	*	6.682	*	6.671	*
AL	1.356	8.000	1.267	8.000	[illegible]	8.000	1.337	8.000	1.335	8.000	1.434	8.000	1.318	8.000	1.329	8.000
AL	3.554	*	[illegible]	*	[illegible]	*	3.5[illegible]9	*	3.583	*	3.578	*	3.543	*	3.499	*
TI	.011	*	.006	*	.006	*	.012	*	0.000	*	.012	*	.009	*	.013	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.045	*	.054	*	.045	*	.032	*	.031	*	.029	*	.051	*	.054	*
MG	.423	*	.45[illegible]	*	.513	*	.45[illegible]	*	.410	*	.441	*	.448	*	.458	*
MN	0.000	4.032	0.000	4.015	0.000	4.131	.001	4.043	0.000	4.024	.006	4.065	.002	4.052	.004	4.047
NA	.033	*	.034	*	.022	*	.025	*	.028	*	.026	*	.029	*	.033	*
CA	.027	*	.025	*	.034	*	.023	*	.023	*	.017	*	.022	*	.026	*
K	1.605	*	1.625	*	1.20[illegible]	*	1.57[illegible]	*	1.599	*	1.609	*	1.554	*	1.595	*
BA	.010	1.675	.006	1.690	.014	1.27[illegible]	.015	1.644	.013	1.663	.014	1.665	.010	1.615	.013	1.557
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
FE/A		.107		.116		.037		.071		.076		.078		.119		.145
FE/FM		.097		.10[illegible]		.0[illegible]0		.066		.070		.072		.106		.127

9 MUSCOVITE
10 MUSC
11 MICA [illegible] BY [illegible]
12 MUSC
13 MUSC BKG OFF
14 MUSC
15 AVERAGE
16 AVERAGE PLUS SIGMA

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

SUPER RECAL

	17
SIO2	[illegible]
TIO2	.04
AL2O3	30.65
CR2O3	0.00
MNO	-.00
FEO	.14
MGO	2.11
CAO	[illegible]
BAO	.15
K2O	[illegible]
NA2O	[illegible]
F	0.00
CL	0.00
SUM	[illegible]
-O= F+CL	0.00
SUM	[illegible]

SI	[illegible]	
AI	1.30[illegible]	8.000
AL	3.59[illegible]	
TI	[illegible]	
CR	0.000	
FE	.03[illegible]	
MG	.427	
MN	-.000	4.0[illegible]
NA	[illegible]	
CA	.017	
K	1.511	
BA	[illegible]	1.5[illegible]1
F	0.000	
CL	0.000	0.000
O	22.000	
F/FM		[illegible]
F/FMX		[illegible]

17 AVERAGE [illegible]

SUPER DECAL APPENDIX I: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1		2		3		4		5		6		7		8	
SIO2	32.54		32.73		32.54		32.31		46.29		48.18		50.95		48.10	
TIO2	[illegible]		0.0[illegible]		0.00		0.00		.03		.11		.06		.11	
A2O3	20.64		21.06		21.[illegible]2		22.07		32.11		32.40		35.35		32.69	
C2O3	0.00		0.0[illegible]		0.0[illegible]		0.00		0.00		0.00		.02		0.00	
MNO	.29		.16		.1[illegible]		.15		.08		0.00		0.00		0.00	
FEO	.07		.12		0.00		0.0[illegible]		0.00		.11		.09		.15	
MGO	3[illegible]		34.32		3[illegible]		33.2[illegible]		1.08		5.32		2.29		4.04	
CAO	.05		.07		.07		.07		.04		.05		.01		.04	
BAO	0.00		0.00		0.0[illegible]		0.00		.12		.20		.27		.25	
K2O	[illegible]		0.0[illegible]		[illegible]		.13		8.15		9.10		9.31		9.45	
NA2O	[illegible]		0.0[illegible]		0.0[illegible]		0.0[illegible]		0.00		.25		.19		.25	
F	[illegible]		.7[illegible]		.7[illegible]		.74		.15		.06		.04		.07	
CL	0.00		0.00		0.0[illegible]		0.00		0.00		0.00		0.00		0.00	
SUM	[illegible]		[illegible]		[illegible]		83.7[illegible]		95.05		95.78		98.58		95.18	
-O= F+CL	.0[illegible]		.33		.3[illegible]		.31		.06		.03		.02		.03	
SUM	87.3[illegible]		[illegible]		[illegible]		83.44		94.99		95.75		98.56		95.15	
SI	4.634	*	4.631	*	4.[illegible]61	*	4.5[illegible]	*	6.097	*	6.305	*	6.430	*	6.342	*
AL	3.3[illegible]	8.000	[illegible]	8.000	3.3[illegible]	8.000	3.405	8.000	1.703	8.000	1.695	8.000	1.570	8.000	1.658	8.000
AL	.235	*	.14[illegible]	*	.21[illegible]	*	.203	*	3.080	*	3.301	*	3.689	*	3.421	*
TI	0.000	*	0.000	*	0.000	*	0.000	*	.003	*	.011	*	.006	*	.011	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.002	*	0.000	*
FE	.008	*	.014	*	0.000	*	0.000	*	0.000	*	.012	*	.009	*	.017	*
MG	7.[illegible]	*	7.2[illegible]	*	7.1[illegible]1	*	7.054	*	1.580	*	1.038	*	.429	*	.734	*
MN	.024	7.478	.017	7.42[illegible]	.015	7.[illegible]	.018	7.305	.009	4.679	0.000	4.362	0.000	4.135	0.000	4.242
NA	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.063	*	.046	*	.056	*
CA	.008	*	.011	*	.011	*	.011	*	.005	*	.007	*	.001	*	.006	*
K	0.000	*	0.000	*	.042	*	.029	*	1.369	*	1.519	*	1.499	*	1.591	*
BA	0.000	.008	0.000	.011	0.000	.05[illegible]	0.000	.034	.006	1.391	.010	1.600	.013	1.560	.013	1.575
F	.026	*	.34[illegible]	*	.3[illegible]3	*	.3[illegible]3	*	.062	*	.025	*	.016	*	.029	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.005		.0[illegible]		.002		.003		.006		.012		.022		.021
F/FM		[illegible]		.025		.00[illegible]		.003		.006		.011		.022		.020

1 ESK-16-99.6 [illegible] CHL
2 MG-CHLORITE
3 CHLORITE
4 CHLORITE
5 MICA AT MARGIN OF CHL DOMAIN
6 MUSC
7 LESS CHL MIX MICA DOMAIN
8 MUSC

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13	14	15	16
SIO2	47.81	51.04	47.05	47.45	33.72	50.35	51.20	48.29
TIO2	.11	[illegible]	.11	.08	0.00	.11	.08	.10
AL2O3	31.37	35.37	[illegible]	31.79	23.76	34.41	33.54	33.04
CR2O3	0.00	.01	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.11	.11	.05	.09	.05	.15	.21	.15
MGO	3.71	2.49	4.34	2.42	29.36	2.22	2.58	3.81
CAO	.05	.06	.10	.06	.02	.05	.13	.05
BAO	.32	.27	.25	.22	0.00	.21	.14	.18
K2O	9.76	[illegible]	9.29	10.03	1.79	10.17	9.45	9.40
NA2O	.27	.17	.23	.25	0.00	.25	.24	.23
F	0.00	0.00	.01	0.00	.52	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.01	[illegible]	[illegible]	94.37	89.22	97.92	97.58	95.76
-O= F+CL	0.00	0.00	.00	0.00	.22	0.00	0.00	0.00
SUM	94.01	[illegible]	[illegible]	94.37	89.00	97.92	97.58	95.75

	9		10		11		12	
SI	6.397	*	6.433	*	6.328	*	6.566	*
AL	1.603	8.000	1.567	8.000	1.672	8.000	1.434	8.000
AL	3.472	*	3.634	*	3.395	*	3.537	*
TI	.011	*	.007	*	.011	*	.008	*
CR	0.000	*	.001	*	0.000	*	0.000	*
FE	.012	*	.012	*	.006	*	.010	*
MG	.740	*	.465	*	.870	*	.477	*
MN	0.000	4.145	0.000	4.173	0.000	4.273	0.000	4.036
NA	.070	*	.042	*	.060	*	.057	*
CA	.007	*	.008	*	.014	*	.009	*
K	1.666	*	1.426	*	1.592	*	1.693	*
BA	.017	1.760	.014	1.482	.013	1.660	.011	1.780
F	0.000	*	0.000	*	.004	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.017		.025		.006		.021
F/FM		.016		.024		.006		.020

	13		14		15		16	
SI	4.779	*	6.440	*	6.537	*	6.338	*
AL	3.221	8.000	1.550	8.000	1.463	8.000	1.652	8.000
AL	.746	*	3.625	*	3.583	*	3.447	*
TI	0.000	*	.011	*	.008	*	.010	*
CR	0.000	*	0.000	*	0.000	*	0.000	*
FE	.006	*	.016	*	.022	*	.016	*
MG	6.202	*	.423	*	.491	*	.745	*
MN	0.000	6.954	0.000	4.076	0.000	4.104	0.000	4.217
NA	0.000	*	.062	*	.059	*	.059	*
CA	.003	*	.007	*	.018	*	.008	*
K	.324	*	1.659	*	1.541	*	1.557	*
BA	0.000	.327	.011	1.738	.007	1.625	.009	1.733
F	.233	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.001		.038		.046		.022
F/FM		.001		.037		.044		.022

9 MUSC
10 MUSC
11 MUSC
12 MUSC

13 CHL
14 MUSC
15 MUSC
16 MUSC

SUPER RECAL

APPENDIX [illegible] MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	17	18	19
SIO2	[illegible]	51.[illegible]	36.[illegible]7
TIO2	.06	.11	.01
A2O3	[illegible]	35.00	[illegible]
C2O3	[illegible]	.01	-.0[illegible]
MNO	.0[illegible]	.11	-.0[illegible]
FEO	.0[illegible]	.1[illegible]	.0[illegible]
MGO	12.83	[illegible]	-.[illegible]
CAO	.0[illegible]	.0[illegible]	.0[illegible]
BAO	.15	.2[illegible]	.0[illegible]
K2O	[illegible]	10.[illegible]0	[illegible]
NA2O	.15	.2[illegible]	.0[illegible]
F	.21	.[illegible]1	-.0[illegible]
CL	0.00	[illegible]	0.00
SUM	[illegible]	[illegible]	[illegible]
-O= F+CL	.0[illegible]	[illegible]	-.[illegible]
SUM	[illegible]	[illegible]	[illegible]

	17		18		19	
SI	5.[illegible]1		[illegible]		[illegible]	
AL	2.11[illegible]	[illegible].00[illegible]	2.[illegible]	[illegible]	[illegible].100	[illegible]
AL	2.[illegible]50		1.[illegible]10		[illegible].31[illegible]	
TI	.00[illegible]		.0[illegible]		.00[illegible]	
CR	.00[illegible]		.0[illegible]1		-.001	
FE	.01[illegible]		.01[illegible]		.00[illegible]	
MG	2.[illegible]51		4.06[illegible]		-.[illegible]10	
MN	.00[illegible]	[illegible].132	.[illegible]10	[illegible]	-.004	[illegible].104
NA	.03[illegible]		.0[illegible]		.011	
CA	.00[illegible]		.0[illegible]		.00[illegible]	
K	1.12[illegible]		1.42[illegible]		.[illegible]	
BA	.00[illegible]	1.18[illegible]	.011	1.[illegible]7	.00[illegible]	.507
F	.0[illegible]		.1[illegible]		-.0[illegible]	
CL	0.000	[illegible].000	0.000	0.0[illegible]	0.000	[illegible].000
O	22.000		22.000		2[illegible].000	
F/M		.0[illegible]		.00[illegible]		.0[illegible]
F/FM		.00[illegible]		.00[illegible]		.0[illegible]

17 AVERAGE
18 AVERAGE PLUS SIGMA
19 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	51.25	51.18	48.53	47.56	51.45	52.97	50.49	52.34
TIO2	.10	.17	.11	.08	.06	.05	.08	.11
AL2O3	30.47	31.35	30.64	32.27	32.84	32.85	31.74	32.72
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.33	.25	.05	.18	0.00	.08	.15	.26
MGO	2.54	2.45	2.08	2.24	2.30	2.43	2.34	2.49
CAO	.17	.19	.12	.19	.19	.20	.15	.19
BAO	.22	.23	.31	.31	.27	.27	.28	.34
K2O	8.46	9.03	8.93	8.88	6.61	8.00	8.32	9.16
NA2O	.08	.16	.24	.23	.12	.17	.17	.22
F	.04	.05	0.00	0.00	0.00	.09	.03	.05
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	93.57	94.33	91.13	91.95	93.84	97.12	93.75	97.41
-O= F+CL	.02	.02	0.00	0.00	0.00	.04	.01	.03
SUM	93.55	94.31	91.10	91.96	93.84	97.08	93.74	97.88

	1		2		3		4		5		6		7		8	
SI	6.777	*	6.701	*	6.641	*	6.657	*	6.693	*	6.715	*	6.666	*	6.651	*
AL	1.221	8.000	1.299	8.000	1.357	8.000	1.343	8.000	1.307	8.000	1.285	8.000	1.334	8.000	1.349	8.000
AL	3.527	*	3.549	*	3.582	*	3.623	*	3.726	*	3.624	*	3.604	*	3.550	*
TI	.010	*	.010	*	.011	*	.008	*	.006	*	.005	*	.008	*	.010	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.037	*	.027	*	.007	*	.020	*	0.000	*	.008	*	.017	*	.028	*
MG	.501	*	.478	*	.424	*	.453	*	.446	*	.459	*	.460	*	.472	*
MN	0.000	4.076	0.000	4.055	0.000	4.024	0.000	4.105	0.000	4.178	0.000	4.096	0.000	4.090	0.000	4.050
NA	.021	*	.041	*	.059	*	.061	*	.030	*	.042	*	.043	*	.055	*
CA	.014	*	.014	*	.013	*	.028	*	.026	*	.027	*	.021	*	.026	*
K	1.427	*	1.510	*	1.557	*	1.530	*	1.097	*	1.294	*	1.401	*	1.485	*
BA	.010	1.472	.012	1.577	.021	1.601	.016	1.642	.014	1.167	.013	1.376	.014	1.479	.017	1.533
F	.017	*	.021	*	0.000	*	0.000	*	0.000	*	.036	*	.013	*	.026	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/A		.023		.057		.016		.045		0.000		.018		.036		.050
F/FM		.063		.054		.016		.043		0.000		.018		.035		.055

1 ESK-16-192.6M MICA MASS/[illegible]
2 MUSC
3 MUSC
4 MUSC
5 MJSC
6 MJSC
7 AVERAGE
8 AVERAGE PLUS SIGMA

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

SUPER RECAL

	0	
SIO2	4[illegible].64	
TIO2	.06	
AL2O3	[illegible]0.77	
CR2O3	0.00	
MNO	0.00	
FEO	.04	
MGO	2.1[illegible]	
CAO	.11	
BAO	.2[illegible]	
K2O	7.49	
NA2O	.11	
F	-.00	
CL	0.00	
SUM	9[illegible].00	
-O= F+CL	-.00	
SUM	9[illegible].[illegible]	

SI	6.692	*
AL	1.318	8.000
AL	3.653	*
TI	.006	*
CR	0.000	*
FE	.004	*
MG	.443	*
MN	0.000	4.121
NA	.029	*
CA	.016	*
K	1.310	*
BA	.012	1.367
F	-.002	*
CL	0.000	0.000
O	22.000	*
F/M		.009
F/FM		.009

0 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	43.83	45.71	50.15	47.73	48.24	48.53	47.96	48.57
TIO2	0.00	.07	.04	.13	.10	.07	.07	.08
A2O3	32.32	29.55	28.57	31.55	32.75	30.57	31.91	31.55
C2O3	0.00	0.00	.07	0.00	0.00	.04	.02	0.00
MNO	0.00	0.00	0.00	.02	0.00	0.00	.05	.04
FEO	.05	.09	.23	.04	.03	0.00	.06	0.00
MGO	2.83	3.45	6.01	2.51	2.40	3.04	3.54	2.55
CAO	.13	1.87	.10	.12	.12	.14	.16	.13
BAO	.23	.37	.24	.36	.30	.26	.24	.33
K2O	9.23	7.16	7.59	9.57	9.64	9.45	9.17	9.54
NA2O	.15	.10	.16	.16	.17	.13	.17	.15
F	0.00	0.00	0.09	0.03	0.00	0.03	0.00	.08
CL	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.03
SUM	94.04	90.33	93.37	92.12	93.75	92.26	93.47	93.04
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.03
SUM	94.04	90.33	93.37	92.12	93.75	92.26	93.49	93.01

	1		2		3		4		5		6		7		8	
ST	6.490	*	6.410	*	6.659	*	6.494	*	6.444	*	6.580	*	6.421	*	6.534	*
AL	1.510	8.000	1.590	8.000	1.335	8.000	1.506	8.000	1.556	3.000	1.420	8.000	1.579	8.000	1.466	8.000
AL	3.554	*	3.229	*	3.057	*	3.545	*	3.578	*	3.469	*	3.456	*	3.537	*
TI	0.000	*	.007	*	.039	*	.010	*	.010	*	.007	*	.009	*	.038	*
CR	0.000	*	0.000	*	.007	*	0.000	*	0.000	*	.004	*	.002	*	0.000	*
FE	.006	*	.011	*	.026	*	.005	*	.003	*	0.000	*	.007	*	0.000	*
MG	.572	*	.720	*	1.147	*	.500	*	.470	*	.014	*	.726	*	.511	*
MN	0.000	4.132	0.000	4.21?	0.000	4.445	.002	4.071	0.000	4.040	0.000	4.095	.006	4.206	.005	4.351
NA	.039	*	.027	*	.031	*	.032	*	.044	*	.034	*	.044	*	.042	*
CA	.026	*	.291	*	.019	*	.017	*	.017	*	.020	*	.023	*	.019	*
K	1.571	*	1.535	*	1.271	*	1.676	*	1.642	*	1.634	*	1.559	*	1.637	*
BA	.012	1.648	.018	1.867?	.012	1.317?	.017	1.755	.016	1.717	.014	1.703	.013	1.649	.017	1.715
F	0.000	*	0.000	*	0.013	*	0.000	*	0.000	*	0.000	*	0.000	*	.034	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.019		.015		.019		.013		.007		0.000		.017		.039
F/FM		.010		.014		.014		.013		.007		0.000		.017		.039

1 ESK-16-195.6M MUSC
2 MUSC
3 MUSC
4 MICA
5 MUSC
6 MUSC
7 MUSC
8 MICA ADJ TO SPHERICAL PY

SUPER RECAL

APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11
SIO2	49.23	4[illegible].49	47.0[illegible]
TIO2	.07	.10	.04
AL2O3	31.05	3[illegible].51	2[illegible].[illegible]8
CR2O3	.0[illegible]	.04	-.01
MNO	.01	.03	-.01
FEO	.06	.13	-.01
MGO	3.41	4.76	2.06
CAO	.35	.[illegible]3	-.22
BAO	.2[illegible]	.33	.2[illegible]
K2O	9.1[illegible]	9.[illegible]4	3.5[illegible]
NA2O	.15	.17	.13
F	.01	.04	-.02
CL	0.00	0.00	0.00
SUM	92.62	98.2[illegible]	97.3[illegible]
-O= F+CL	.00	.0[illegible]	-.01
SUM	9[illegible].[illegible]2	9[illegible].27	97.37

SI	6.509	*	6.343	*	6.683	
AL	1.496	8.000	1.657	8.000	1.317	8.000
AL	3.428	*	3.261	*	3.03[illegible]	*
TI	.007	*	.010	*	.004	*
CR	.002	*	.00[illegible]	*	-.001	*
FE	.007	*	.014	*	-.001	*
MG	.686	*	.711	*	.430	*
MN	.002	4.141	.004	4.204	-.001	4.07[illegible]
NA	.03[illegible]	*	.04[illegible]	*	.03[illegible]	*
CA	.051	*	.127	*	-.034	*
K	1.579	*	1.611	*	1.543	*
BA	.01[illegible]	1.684	.017	1.779	.01[illegible]	1.558
F	.004	*	.01[illegible]	*	-.007	*
CL	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*
F/M		.013		.019		-.003
F/FM		.012		.019		-.003

9 AVERAGE
10 AVERAGE PLUS SIGMA
11 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	54.12	49.48	50.12	49.70	53.64	50.12	51.13	48.46
TIO2	.11	.11	.13	.08	.10	.10	.10	.07
AL2O3	32.37	31.32	30.35	31.15	34.73	32.32	31.82	32.85
CR2O3	0.00	.02	.05	.04	.07	0.00	.03	.05
MNO	0.00	0.00	0.00	.05	0.00	0.00	0.00	.03
FEO	.12	.09	.07	.14	.09	0.00	.17	.06
MGO	2.72	2.42	2.59	2.45	2.34	2.35	2.60	2.11
CAO	.13	.08	.14	.15	.05	.07	.16	.09
BAO	.06	.23	.09	.19	.13	.10	.13	.15
K2O	7.04	7.79	7.93	9.94	8.48	10.33	9.56	10.40
NA2O	.17	.09	.13	.12	.07	.15	.12	.16
F	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	97.40	93.61	93.73	94.17	99.40	95.55	95.92	94.44
-O= F+CL	.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	97.37	93.61	93.73	94.17	99.40	95.55	95.92	94.44

	1		2		3		4	
SI	6.791	*	6.609	*	6.747	*	6.623	*
AL	1.213	8.000	1.391	8.000	1.253	8.000	1.377	8.000
AL	3.634	*	3.537	*	3.515	*	3.507	*
TI	.019	*	.011	*	.013	*	.005	*
CR	0.000	*	.002	*	.005	*	.004	*
FE	.020	*	.004	*	.008	*	.020	*
MG	.593	*	.482	*	.512	*	.495	*
MN	0.000	4.172	0.000	4.042	0.000	4.045	.006	4.030
NA	.024	*	.023	*	.025	*	.031	*
CA	.017	*	.011	*	.020	*	.020	*
K	1.125	*	1.060	*	1.029	*	1.073	*
BA	.003	1.179	.012	1.714	.004	1.554	.004	1.753
F	.024	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M	.039		.017		.015		.053	
F/FM	.036		.016		.015		.050	

	5		6		7		8	
SI	6.614	*	6.567	*	6.647	*	6.448	*
AL	1.386	8.000	1.433	8.000	1.353	8.000	1.552	8.000
AL	3.687	*	3.557	*	3.521	*	3.600	*
TI	.004	*	.010	*	.010	*	.007	*
CR	.007	*	0.000	*	.003	*	.005	*
FE	.009	*	0.000	*	.018	*	.007	*
MG	.430	*	.461	*	.504	*	.418	*
MN	0.000	4.145	0.000	4.028	0.000	4.057	.003	4.040
NA	.017	*	.036	*	.030	*	.041	*
CA	.007	*	.010	*	.022	*	.011	*
K	1.334	*	1.720	*	1.602	*	1.765	*
BA	.006	1.363	.005	1.770	.007	1.661	.008	1.325
F	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M	.022		0.000		.037		.024	
F/FM	.021		0.000		.035		.023	

1 ESK-16-114.39 MUSC
2 MUSC
3 MUSC
4 MUSC
5 MUSC
6 MUSC
7 MUSC
8 MUSC

SUPER RECAL   APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12	13
SIO2	53.85	47.04	51.05	53.05	49.06
TIO2	.07	.09	.1[illegible]	.11	.08
A2O3	35.[illegible]	32.71	32.5[illegible]	34.0[illegible]	31.09
C2O3	.05	.05	.0[illegible]	.06	.01
MNO	0.00	0.00	.01	.02	-.01
FEO	0.00	0.00	.08	.15	.01
MGO	2.[illegible]5	2.21	2.[illegible]1	2.5[illegible]	2.22
CAO	.0[illegible]	.08	.10	.14	.07
BAO	.13	.18	.14	.19	.09
K2O	[illegible].61	10.45	[illegible]	10.45	8.40
NA2O	.11	.14	.12	.14	.07
F	0.00	0.00	.01	.02	-.01
CL	0.00	0.00	0.00	0.00	0.00
SUM	100.24	9[illegible].75	9[illegible].01	100.72	91.10
-O= F+CL	0.00	0.00	.00	.01	-.01
SUM	100.24	9[illegible].75	9[illegible].01	100.71	91.11

	9		10		11		12		13	
SI	6.618	*	[illegible]	*	6.61[illegible]	*	[illegible]	*	6.660	*
AL	1.382	8.000	1.515	8.000	1.3[illegible]	8.000	1.426	8.000	1.340	8.000
AL	3.700	*	3.[illegible]	*	3.384	*	3.539	*	3.632	*
TI	.006	*	.004	*	.007	*	.011	*	.008	*
CR	.005	*	.005	*	.004	*	.006	*	.002	*
FE	0.000	*	0.000	*	.007	*	.016	*	.002	*
MG	.412	*	.430	*	.451	*	.478	*	.450	*
MN	0.000	4.124	0.000	4.03[illegible]	.001	4.071	.003	4.052	-.001	4.092
NA	.026	*	.036	*	.02[illegible]	*	.034	*	.024	*
CA	.011	*	.011	*	.014	*	.018	*	.010	*
K	1.350	*	1.763	*	1.557	*	1.652	*	1.453	*
BA	.00[illegible]	1.373	.00[illegible]	1.917	.007	1.607	.007	1.713	.005	1.491
F	0.000	*	0.000	*	.002	*	.004	*	-.005	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		0.000		0.000		.021		.039		.001
F/FM		0.000		0.000		.021		.037		.001

9 MUSC
10 MUSC
11 AVERAGE
12 AVERAGE PLUS SIGMA
13 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	49.63	50.22	50.36	50.99	49.41	49.87	50.08	50.60
TIO2	.09	.08	.06	.07	.12	.09	.08	.10
A2O3	32.34	32.27	31.35	31.45	32.15	31.60	31.95	32.29
C2O3	0.00	.05	0.00	.05	0.00	0.00	.02	.04
MNO	.01	0.00	.06	0.00	.03	0.00	.02	.04
FEO	.14	.03	.16	.02	.08	0.00	.07	.13
MGO	2.31	2.31	2.46	2.51	2.46	2.51	2.43	2.51
CAO	.07	.08	.07	.14	.08	.07	.09	.11
BAO	.07	.15	.13	.14	.18	.24	.16	.20
K2O	9.65	9.37	9.55	9.14	9.46	9.80	9.58	9.85
NA2O	.11	.12	.15	.15	.15	.10	.13	.15
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.43	94.69	94.36	94.67	94.02	94.27	94.59	96.01
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.43	94.69	94.36	94.67	94.02	94.27	94.59	96.01

SI	6.557	*	6.600	*	6.620	*	6.698	*	6.538	*	6.609	*	6.602	*	6.587	*
AL	1.443	8.000	1.400	8.000	1.380	8.000	1.302	8.000	1.462	8.000	1.391	8.000	1.398	8.000	1.413	8.000
AL	3.593	*	3.598	*	3.555	*	3.551	*	3.551	*	3.545	*	3.565	*	3.539	*
TI	.008	*	.008	*	.006	*	.007	*	.012	*	.008	*	.008	*	.010	*
CR	0.000	*	.005	*	0.000	*	.005	*	0.000	*	0.000	*	.002	*	.004	*
FE	.015	*	.003	*	.018	*	.002	*	.009	*	0.000	*	.008	*	.014	*
MG	.455	*	.453	*	.482	*	.491	*	.485	*	.496	*	.477	*	.487	*
MN	.001	4.072	0.000	4.057	.007	4.067	0.000	4.056	.003	4.060	0.000	4.048	.002	4.062	.004	4.059
NA	.028	*	.031	*	.030	*	.041	*	.038	*	.026	*	.034	*	.039	*
CA	.010	*	.011	*	.010	*	.020	*	.011	*	.010	*	.012	*	.015	*
K	1.620	*	1.571	*	1.601	*	1.529	*	1.681	*	1.657	*	1.611	*	1.635	*
BA	.005	1.663	.008	1.620	.007	1.656	.007	1.597	.009	1.740	.012	1.705	.008	1.664	.010	1.700
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.030		.007		.050		.004		.025		0.000		.020		.038
F/FM		.035		.007		.048		.004		.025		0.000		.020		.037

1 ESK-16-120M MUSC
2 MUSC
3 MUSC
4 MUSC
5 MUSC
6 MUSC
7 AVERAGE
8 AVERAGE PLUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	7
SIO2	47.56
TIO2	.06
AL2O3	31.01
CR2O3	-.01
MNO	-.01
FEO	.01
MGO	2.34
CAO	.06
BAO	.11
K2O	9.31
NA2O	.11
F	0.00
CL	0.00
SUM	93.16
-O= F+CL	0.00
SUM	93.16

SI	6.618	*
AL	1.382	8.000
AL	3.592	*
TI	.006	*
CR	-.001	*
FE	.001	*
MG	.466	*
MN	-.001	4.065
NA	.028	*
CA	.009	*
K	1.585	*
BA	.006	1.628
F	0.000	*
CL	0.000	0.000
O	22.000	*
F/M		.001
F/FM		.001

0 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	48.67	48.61	48.58	61.50	49.62	50.04	49.53	49.13
TIO2	.13	.09	.09	.04	.10	.06	.18	.10
A2O3	32.76	27.17	30.31	19.65	29.27	30.15	31.00	31.54
C2O3	0.00	0.00	0.00	0.00	0.00	0.00	.03	.08
MNO	0.00	0.00	0.00	0.00	0.00	.05	.02	0.00
FEO	.07	.19	.11	0.00	.29	0.00	0.00	.11
MGO	2.59	4.13	5.85	1.71	3.05	3.08	3.49	2.72
CAO	.08	.06	.06	.04	.13	.09	.07	.05
BAO	.15	.22	.17	0.00	.14	.25	.23	.20
K2O	10.54	9.74	9.20	6.11	9.34	9.97	10.06	10.21
NA2O	.16	.14	.12	.11	.08	.06	.10	.12
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	95.15	92.39	95.09	97.16	92.03	93.76	94.71	94.26
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	95.15	92.39	95.09	97.16	92.03	93.76	94.71	94.26

	1		2		3		4		5		6		7		8	
SI	6.435	*	6.611	*	6.410	*	8.475	*	6.731	*	6.683	*	6.561	*	6.543	*
AL	1.565	8.000	1.389	8.000	1.590	8.000	0.000	8.475	1.269	8.000	1.317	8.000	1.439	8.000	1.457	8.000
AL	3.539	*	3.295	*	3.294	*	2.624	*	3.410	*	3.427	*	3.400	*	3.493	*
TI	.013	*	.009	*	.009	*	.004	*	.010	*	.006	*	.018	*	.010	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.003	*	.008	*
FE	.008	*	.022	*	.012	*	0.000	*	.033	*	0.000	*	0.000	*	.012	*
MG	.508	*	.837	*	1.151	*	.311	*	.619	*	.613	*	.689	*	.540	*
MN	0.000	4.069	0.000	4.153	0.000	4.375	0.000	3.138	0.000	4.072	.007	4.053	.002	4.112	0.000	4.054
NA	.041	*	.037	*	.031	*	.026	*	.021	*	.016	*	.026	*	.031	*
CA	.011	*	.009	*	.008	*	.005	*	.019	*	.013	*	.010	*	.007	*
K	1.777	*	1.696	*	1.546	*	.750	*	1.616	*	1.698	*	1.700	*	1.734	*
BA	.008	1.838	.012	1.754	.009	1.596	0.000	.982	.007	1.663	.013	1.740	.012	1.747	.010	1.733
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.015		.026		.011		0.000		.053		.011		.003		.023
F/FM		.015		.025		.010		0.000		.050		.011		.003		.022

1 ESK-16-142.1M MUSC
2 MUSC
3 MUSC
4 MUSC
5 MUSC
6 MUSC
7 MUSC
8 MUSC

SUPER RECAL — APPENDIX 1: MUSCOVITE AND CELADONITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13
SIO2	50.77	47.39	51.40	57.47	45.32
TIO2	.19	.10	.10	.13	.06
A2O3	28.82	27.33	29.30	32.72	25.89
C2O3	.07	.03	.02	.05	-.01
MNO	0.00	0.00	.01	.03	-.01
FEO	.60	.01	.14	.32	-.04
MGO	[illegible].26	2.19	3.29	4.33	2.25
CAO	.12	.09	.08	.11	.05
BAO	.13	.20	.17	.24	.10
K2O	9.42	9.75	9.44	10.62	8.25
NA2O	.13	.05	.11	.14	.08
F	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00
SUM	93.62	92.37	94.04	106.14	81.95
-O= F+CL	0.00	0.00	0.00	0.00	0.00
SUM	93.62	92.37	94.04	106.14	81.95

	9		10		11		12		13	
SI	6.804	*	6.875	*	6.828	*	6.765	*	6.865	*
AL	1.196	8.000	1.125	8.000	1.172	8.000	1.235	8.000	1.135	8.000
AL	3.327	*	3.935	*	3.332	*	3.303	*	3.485	*
TI	.010	*	.010	*	.010	*	.012	*	.007	*
CR	.007	*	.003	*	.002	*	.005	*	-.001	*
FE	.067	*	.001	*	.015	*	.031	*	-.005	*
MG	[illegible]	*	.609	*	.647	*	.757	*	.507	*
MN	0.000	4.070	0.000	4.954	.001	4.060	.003	4.112	-.001	3.992
NA	.034	*	.016	*	.028	*	.032	*	.022	*
CA	.017	*	.013	*	.011	*	.013	*	.008	*
K	1.604	*	1.685	*	1.535	*	1.574	*	1.596	*
BA	.007	1.661	.011	1.725	.009	1.543	.011	1.650	.006	1.633
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.103		.002		.025		.045		-.013
F/FM		.079		.002		.025		.043		-.013

9 MUSC
10 MUSC
11 AVERAGE
12 AVERAGE PLUS SIGMA
13 AVERAGE MINUS SIGMA

SUPER PECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	49.38	52.10	45.89	47.33	51.29	48.60	49.21	58.90
TIO2	.09	.09	.06	.07	.09	.08	.11	.11
A2O3	30.83	31.72	27.11	29.39	28.88	30.79	30.54	24.44
C2O3	0.00	.04	0.00	0.00	0.00	0.00	.03	0.00
MNO	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00
FEO	0.00	.07	.20	.06	.16	.10	.08	.09
MGO	4.31	3.85	8.0[illegible]	3.24	3.73	4.27	3.25	3.53
CAO	.12	.11	.04	.11	.10	.21	.10	.16
BAO	.44	.37	.27	.30	.31	.33	.36	.29
K2O	9.36	7.49	8.43	10.16	7.64	9.18	10.20	7.90
NA2O	.07	.07	.12	.14	.11	.10	.13	.08
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.63	95.97	93.10	92.81	92.30	93.65	94.01	95.49
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.63	95.97	93.10	92.81	92.30	93.65	94.01	95.47

	1		2		3		4		5		6		7		8	
SI	6.536	*	6.684	*	6.399	*	6.679	*	6.851	*	6.500	*	6.585	*	7.537	*
AL	1.464	8.000	1.315	8.000	1.601	8.000	1.321	8.000	1.149	8.000	1.500	8.000	1.415	8.000	.463	8.000
AL	3.345	*	3.497	*	2.652	*	3.357	*	3.398	*	3.350	*	3.400	*	3.223	*
TI	.008	*	.009	*	.006	*	.009	*	.009	*	.008	*	.011	*	.011	*
CR	0.000	*	.004	*	0.000	*	0.000	*	0.000	*	0.000	*	.003	*	0.000	*
FE	0.000	*	.008	*	.023	*	.007	*	.018	*	.011	*	.009	*	.010	*
MG	.854	*	.736	*	1.691	*	.654	*	.743	*	.851	*	.648	*	.673	*
MN	0.000	4.207	0.000	4.246	0.000	4.572	0.000	4.037	0.000	4.168	0.000	4.221	0.000	4.071	0.000	3.315
NA	.023	*	.017	*	.033	*	.037	*	.028	*	.026	*	.034	*	.020	*
CA	.017	*	.015	*	.006	*	.016	*	.014	*	.030	*	.014	*	.022	*
K	1.590	*	1.224	*	1.592	*	1.755	*	1.302	*	1.566	*	1.741	*	1.289	*
BA	.023	1.643	.019	1.275	.015	1.556	.016	1.823	.016	1.361	.017	1.639	.019	1.808	.014	1.345
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M	0.000		.010		.014		.010		.024		.013		.014		.014	
F/FM	0.000		.010		.014		.010		.024		.013		.014		.014	

1 ESK-16-163.2M MICA
2 MUSC
3 HI MG-LIKELY CHL MIXTURE
4 MUSC
5 MUSC
6 MUSC
7 MUSC
8 MUSC

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12
SIO2	45.81	50.05	53.76	46.34
TIO2	.11	.07	.11	.03
A2O3	29.70	29.27	31.41	27.14
C2O3	0.00	.01	.02	-.01
MNO	0.00	0.00	0.00	0.00
FEO	.19	.10	.16	.04
MGO	7.82	4.68	6.46	2.89
CAO	.15	.12	.17	.08
BAO	.37	.34	.39	.29
K2O	8.07	8.71	9.69	7.73
NA2O	.10	.10	.13	.08
F	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00
SUM	92.32	93.48	102.30	84.65
-O= F+CL	0.00	0.00	0.00	0.00
SUM	92.32	93.48	102.30	84.65

	9		10		11		12	
SI	6.234	*	6.674	*	6.583	*	6.782	*
AL	1.766	8.000	1.326	8.000	1.417	8.000	1.218	8.000
AL	2.996	*	3.273	*	3.115	*	3.452	*
TI	.011	*	.009	*	.010	*	.008	*
CR	0.000	*	.001	*	.002	*	-.001	*
FE	.020	*	.012	*	.017	*	.005	*
MG	1.586	*	.930	*	1.179	*	.631	*
MN	0.000	4.614	0.000	4.224	0.000	4.324	0.000	4.106
NA	.026	*	.027	*	.030	*	.023	*
CA	.023	*	.016	*	.022	*	.012	*
K	1.401	*	1.482	*	1.515	*	1.442	*
BA	.020	1.470	.018	1.544	.017	1.586	.016	1.494
F	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.013		.013		.014		.009
F/FM		.013		.012		.014		.008

9 MUSC
10 AVERAGE

11 AVERAGE PLUS SIGMA
12 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	49.81	50.32	50.65	50.26	49.81	49.24	50.24	50.34
TIO2	.06	.12	.03	.05	.10	.11	.08	.09
A2O3	30.32	30.54	30.77	30.34	30.08	29.55	30.37	29.44
C2O3	.02	0.00	0.00	.05	0.00	0.00	.04	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.12	.14	.09	.11	.06	.20	.02	0.00
MGO	4.37	3.55	3.30	3.71	3.40	4.63	3.33	4.08
CAO	.10	.07	.08	.09	.14	.10	.07	.07
BAO	.29	.26	.12	.18	.34	.26	.24	.30
K2O	9.52	10.20	10.07	9.45	10.17	10.11	10.43	10.29
NA2O	.04	.06	.11	.08	.10	.10	.10	.12
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.64	95.46	95.25	94.32	94.20	94.30	94.92	94.71
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.64	95.46	95.26	94.32	94.20	94.30	94.92	94.71

	1		2		3		4		5		6		7		8	
SI	6.590	*	6.617	*	6.654	*	6.653	*	6.644	*	6.576	*	6.648	*	6.679	*
AL	1.410	8.000	1.383	8.000	1.346	8.000	1.347	8.000	1.356	8.000	1.424	8.000	1.352	8.000	1.321	8.000
AL	3.317	*	3.365	*	3.415	*	3.386	*	3.371	*	3.227	*	3.384	*	3.282	*
TI	.006	*	.012	*	.003	*	.005	*	.010	*	.011	*	.008	*	.008	*
CR	.002	*	0.000	*	0.000	*	.005	*	0.000	*	0.000	*	.004	*	0.000	*
FE	.013	*	.015	*	.010	*	.012	*	.007	*	.022	*	.002	*	0.000	*
MG	.862	*	.715	*	.645	*	.732	*	.676	*	.922	*	.657	*	.807	*
MN	0.000	4.200	0.000	4.109	0.000	4.073	0.000	4.140	0.000	4.064	0.000	4.182	0.000	4.055	0.000	4.097
NA	.010	*	.015	*	.028	*	.021	*	.026	*	.026	*	.026	*	.031	*
CA	.014	*	.010	*	.011	*	.013	*	.020	*	.014	*	.010	*	.010	*
K	1.606	*	1.711	*	1.687	*	1.596	*	1.730	*	1.722	*	1.760	*	1.740	*
BA	.015	1.645	.013	1.749	.005	1.731	.009	1.638	.018	1.794	.014	1.776	.012	1.808	.016	1.795
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.015		.022		.015		.017		.010		.024		.003		0.000
F/FM		.015		.021		.015		.016		.010		.024		.003		0.000

1 ESK-16-195.8M MUSC
2 MUSC
3 MUSC
4 MUSC
5 2 MICA
6 MASS MICA
7 MATTE F GR MICA
8 MUSC PER. TO KSPAR

UPPER PECAL   APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12
SIO2	51.65	50.26	50.67	47.63
TIO2	.12	.09	.11	.07
A2O3	27.07	29.33	30.72	28.75
C2O3	.05	.02	.04	-.00
MNO	0.00	0.00	0.00	0.00
FEO	.07	.09	.15	.03
MGO	3.62	3.30	4.24	3.35
CAO	.03	.09	.11	.07
BAO	.40	.26	.34	.19
K2O	10.79	10.11	10.36	9.72
NA2O	.13	.09	.12	.07
F	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00
SUM	93.99	94.06	97.43	91.86
-O= F+CL	0.00	0.00	0.00	0.00
SUM	93.99	94.06	97.43	91.86

SI	6.724	*	6.665	*	6.578	*	6.750	*
AL	1.276	8.000	1.335	8.000	1.422	8.000	1.249	8.000
AL	3.190	*	3.327	*	3.214	*	3.367	*
TI	.012	*	.009	*	.011	*	.007	*
CR	.005	*	.002	*	.004	*	-.000	*
FE	.010	*	.010	*	.016	*	.004	*
MG	.737	*	.750	*	.817	*	.680	*
MN	0.000	3.954	0.000	4.098	0.000	4.137	0.000	4.057
NA	.034	*	.024	*	.030	*	.017	*
CA	.011	*	.013	*	.015	*	.010	*
K	1.843	*	1.710	*	1.732	*	1.688	*
BA	.021	1.910	.019	1.761	.017	1.795	.010	1.725
F	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000		22.000	*
F/M		.014		.014		.020		.006
F/FM		.014		.013		.017		.006

9 MUSC
10 AVERAGE
11 AVERAGE PLUS SIGMA
12 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	46.93	47.29	46.84	47.23	46.07	48.88	52.83	47.69
TIO2	.07	0.00	.05	.05	.05	.11	.06	.11
A2O3	34.31	34.15	34.17	33.69	33.38	32.85	33.28	33.73
C2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	0.00	0.00	.02	0.00	.05	.14	.07	.03
MGO	1.89	1.83	1.67	1.90	1.85	1.79	2.41	1.99
CAO	0.00	.01	.05	.01	.04	.10	.04	.07
BAO	.09	.66	.77	.61	.65	.80	.50	.76
K2O	10.03	10.39	10.07	9.78	10.06	9.32	8.19	9.77
NA2O	.25	.29	.35	.32	.27	.28	.18	.22
F	.22	.13	.14	.17	.25	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.30	94.75	94.15	93.95	92.68	94.27	97.56	94.27
-O= F+CL	.09	.05	.06	.07	.11	0.00	0.00	0.00
SUM	94.21	94.70	94.09	93.89	92.57	94.27	97.56	94.27

	1		2		3		4	
SI	6.273	*	6.302	*	6.282	*	6.331	*
AL	1.727	8.000	1.698	8.000	1.718	8.000	1.669	8.000
AL	3.673	*	3.665	*	3.683	*	3.651	*
TI	.007	*	0.000	*	.005	*	.005	*
CR	0.000	*	0.000	*	0.000	*	0.000	*
FE	0.000	*	0.000	*	.002	*	0.000	*
MG	.357	*	.363	*	.334	*	.380	*
MN	0.000	4.044	0.000	4.030	0.000	4.024	0.000	4.036
NA	.065	*	.072	*	.091	*	.083	*
CA	0.000	*	.001	*	.007	*	.001	*
K	1.710	*	1.766	*	1.773	*	1.706	*
BA	.036	1.811	.034	1.874	.042	1.862	.032	1.823
F	.093	*	.055	*	.057	*	.072	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		0.000		0.000		.007		0.000
F/FM		0.000		0.000		.007		0.000

	5		6		7		8	
SI	6.279	*	6.500	*	6.684	*	6.363	*
AL	1.721	8.000	1.500	8.000	1.316	8.000	1.637	8.000
AL	3.639	*	3.648	*	3.646	*	3.668	*
TI	.005	*	.011	*	.006	*	.011	*
CR	0.000	*	0.000	*	0.000	*	0.000	*
FE	.006	*	.016	*	.007	*	.003	*
MG	.378	*	.355	*	.454	*	.378	*
MN	0.000	4.028	0.000	4.029	0.000	4.113	0.000	4.059
NA	.071	*	.072	*	.044	*	.057	*
CA	.006	*	.014	*	.005	*	.010	*
K	1.749	*	1.581	*	1.322	*	1.653	*
BA	.035	1.861	.042	1.709	.025	1.395	.040	1.779
F	.108	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.015		.044		.016		.009
F/FM		.015		.042		.016		.009

1 ESK-18-66.5M MICA SHEARS
2 CSE MICA
3 CSE MICA W STIB
4 MUSC
5 CSE MICA W STIB
6 CSE MICA AT STIB MARGIN
7 MUSC
8 MUSC

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11
SIO2	47.87	49.95	45.98
TIO2	.06	.12	.03
A2O3	33.70	34.17	33.22
C2O3	0.00	0.00	0.00
MNO	0.00	0.00	0.00
FEO	.04	.09	-.01
MGO	1.99	2.10	1.69
CAO	.04	.07	.01
BAO	.69	.79	.59
K2O	9.73	10.37	9.08
NA2O	.27	.32	.22
F	.11	.21	.02
CL	0.00	0.00	0.00
SUM	94.49	98.16	90.83
-O= F+CL	.05	.09	.01
SUM	94.44	98.07	90.82

	9		10		11	
SI	6.379	*	6.415	*	6.341	*
AL	1.621	8.000	1.595	8.000	1.659	8.000
AL	3.660	*	3.546	*	3.739	*
TI	.006	*	.009	*	.003	*
CR	0.000	*	0.000	*	0.000	*
FE	.004	*	.009	*	-.001	*
MG	.376	*	.402	*	.347	*
MN	0.000	4.046	0.000	4.006	0.000	4.087
NA	.069	*	.074	*	.058	*
CA	.006	*	.010	*	.001	*
K	1.650	*	1.679	*	1.597	*
BA	.036	1.760	.039	1.828	.032	1.688
F	.048	*	.095	*	.009	*
CL	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*
F/M		.011		.022		-.002
F/FM		.011		.022		-.002

9 AVERAGE
10 AVERAGE PLUS SIGMA
11 AVERAGE MINUS SIGMA

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	47.94	47.34	47.56	50.09	50.04	46.86	48.33	49.76
TIO2	.05	.04	.02	.07	.22	.07	.06	.07
A2O3	31.64	32.65	34.34	32.91	29.98	33.89	33.22	32.69
C2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	0.00	0.00	.02	0.00	.37	.06	.02	.11
MGO	1.81	1.76	1.71	2.14	2.35	1.72	2.01	2.39
CAO	.05	.05	.07	.09	.09	.07	.07	.03
BAO	.56	.44	.42	.37	.39	.54	.34	.37
K2O	9.74	9.71	9.84	9.74	9.20	10.07	9.62	9.55
NA2O	.27	.27	.31	.25	.19	.27	.27	.16
F	.19	.25	.11	.25	.32	.14	.21	.27
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	92.29	92.52	94.40	95.90	93.15	93.69	94.15	95.39
-O= F+CL	.08	.11	.05	.11	.13	.06	.09	.11
SUM	92.21	92.41	94.35	95.79	93.02	93.63	94.06	95.28

	1		2		3		4	
SI	6.522	*	6.421	*	6.325	*	6.529	*
AL	1.478	8.000	1.579	8.000	1.675	8.000	1.471	8.000
AL	3.595	*	3.642	*	3.706	*	3.585	*
TI	.006	*	.004	*	.002	*	.007	*
CR	0.000	*	0.000	*	0.000	*	0.000	*
FE	0.000	*	0.000	*	.002	*	0.000	*
MG	.367	*	.356	*	.339	*	.416	*
MN	0.000	3.969	0.000	4.001	0.000	4.049	0.000	4.008
NA	.070	*	.071	*	.080	*	.063	*
CA	.007	*	.007	*	.010	*	.013	*
K	1.690	*	1.680	*	1.669	*	1.620	*
BA	.030	1.804	.023	1.757	.022	1.781	.019	1.714
F	.086	*	.107	*	.046	*	.103	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		0.000		0.000		.007		0.000
F/FM		0.000		0.000		.007		0.000

	5		6		7		8	
SI	6.711	*	6.303	*	6.427	*	6.519	*
AL	1.289	8.000	1.697	8.000	1.573	8.000	1.481	8.000
AL	3.449	*	3.675	*	3.632	*	3.565	*
TI	.022	*	.007	*	.006	*	.007	*
CR	0.000	*	0.000	*	0.000	*	0.000	*
FE	.041	*	.007	*	.002	*	.012	*
MG	.470	*	.345	*	.398	*	.467	*
MN	0.000	3.982	0.000	4.033	0.000	4.039	0.000	4.050
NA	.049	*	.070	*	.070	*	.041	*
CA	.013	*	.010	*	.010	*	.004	*
K	1.574	*	1.728	*	1.632	*	1.596	*
BA	.020	1.657	.028	1.837	.018	1.729	.019	1.553
F	.136	*	.050	*	.088	*	.112	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.088		.020		.006		.025
F/FM		.081		.019		.006		.025

1 ESK-18-77.34 SHEAF MICA
2 MUSC
3 MUSC
4 MASS. F GR MICA
5 MICA IN P. SHADOWS
6 MICA IN P.SHADOWS
7 MUSC
8 MASS F GR MICA

SUPER RECAL — APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12
SIO2	49.67	48.62	49.82	47.42
TIO2	.12	.09	.14	.03
AL2O3	31.67	32.55	33.72	31.32
CR2O3	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00
FEO	.12	.07	.19	-.04
MGO	2.35	2.03	2.30	1.75
CAO	.06	.06	.08	.05
BAO	.41	.41	.50	.35
K2O	9.75	9.69	9.41	9.47
NA2O	.18	.24	.27	.19
F	.26	.22	.29	.16
CL	0.00	0.00	0.00	0.00
SUM	94.59	94.01	97.31	90.71
-O= F+CL	.11	.09	.12	.07
SUM	94.48	93.91	97.19	90.64

	9		10		11		12	
SI	6.578	*	6.482	*	6.428	*	6.540	*
AL	1.422	8.000	1.518	8.000	1.572	8.000	1.460	8.000
AL	3.514	*	3.595	*	3.565	*	3.630	*
TI	.012	*	.008	*	.013	*	.003	*
CR	0.000	*	0.000	*	0.000	*	0.000	*
FE	.011	*	.008	*	.020	*	-.004	*
MG	.464	*	.403	*	.442	*	.351	*
MN	0.000	4.006	0.000	4.015	0.000	4.040	0.000	3.989
NA	.045	*	.063	*	.073	*	.052	*
CA	.009	*	.007	*	.011	*	.007	*
K	1.646	*	1.648	*	1.631	*	1.666	*
BA	.021	1.722	.022	1.742	.025	1.741	.019	1.744
F	.109	*	.094	*	.116	*	.070	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.024		.021		.046		-.012
F/FM		.023		.020		.044		-.012

9 F GR MICA W FABRIC
10 AVERAGE
11 AVERAGE PLUS SIGMA
12 AVERAGE MINUS SIGMA

SUPER RECAL APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	30.73	31.01	31.09	[illegible]	30.82	31.41	30.97	31.19
TIO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AL2O3	22.00	21.57	20.40	21.04	21.42	20.46	21.17	21.75
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	.02	0.00	.03	0.00	.01	.02
FEO	.60	.75	1.09	.62	.93	.82	.84	1.01
MGO	31.07	32.24	32.42	31.39	31.63	32.60	31.89	32.45
CAO	.02	0.00	.05	.02	.03	0.00	.02	.04
BAO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NA2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F	.05	0.00	.09	.05	0.00	.03	.04	.07
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	84.52	85.57	85.07	83.91	84.86	85.32	84.92	86.54
-O= F+CL	.02	0.00	.04	.02	0.00	.01	.02	.03
SUM	84.50	85.57	85.03	83.89	84.86	85.31	84.91	86.51

	1		2		3		4		5		6		7		8	
SI	4.596	*	4.573	*	4.623	*	4.639	*	4.597	*	4.659	*	4.613	*	4.567	*
AL	3.405	8.000	3.427	8.000	3.377	8.000	3.360	8.000	3.403	8.000	3.341	8.000	3.397	8.000	3.433	8.000
AL	.465	*	.337	*	.203	*	.365	*	.362	*	.235	*	.329	*	.322	*
TI	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.075	*	.117	*	.136	*	.078	*	.116	*	.102	*	.104	*	.124	*
MG	6.913	*	7.086	*	7.207	*	7.041	*	7.032	*	7.207	*	7.081	*	7.084	*
MN	0.000	7.453	0.000	7.542	.003	7.553	0.000	7.484	.004	7.514	0.000	7.544	.001	7.515	.003	7.532
NA	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CA	.003	*	0.000	*	.008	*	.003	*	.005	*	0.000	*	.003	*	.006	*
K	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
BA	0.000	.003	0.000	0.000	0.000	.008	0.000	.003	0.000	.005	0.000	0.000	0.000	.003	0.000	.005
F	.024	*	0.000	*	.042	*	.024	*	0.000	*	.014	*	.017	*	.032	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.011		.017		.019		.011		.017		.014		.015		.013
F/FM		.011		.016		.019		.011		.017		.014		.015		.013

1 ESK-18-108.34;MG-CHL
2 CHL
3 CHL
4 CHL
5 CHL
6 CHL
7 AVERAGE
8 AVERAGE PLUS SIGMA

APPENDIX I: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

SUPER RECAL

	0
SIO2	30.75
TIO2	0.00
A2O3	20.57
C2O3	0.00
MNO	-.00
FEO	.66
MGO	31.33
CAO	.00
BAO	0.00
K2O	0.00
NA2O	0.00
F	.01
CL	0.00
SUM	83.31
-O= F+CL	.00
SUM	83.31

SI	4.661	*
AL	3.339	8.000
AL	.336	*
TI	0.000	*
CR	0.000	*
FE	.083	*
MG	7.073	*
MN	-.000	7.498
NA	0.000	*
CA	.000	*
K	0.000	*
BA	0.000	.000
F	.003	*
CL	0.000	0.000
O	22.000	*
F/M		.012
F/FM		.012

0 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	30.15	29.55	30.40	30.70	31.59	30.58	30.50	31.11
TIO2	0.00	0.00	0.00	0.00	0.00	.04	.01	.02
AL2O3	22.76	23.07	22.33	22.31	22.31	21.98	22.46	22.81
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	.23	.20	.15	.17	.02	0.00	.13	.22
FEO	.67	.59	.47	.55	.46	.91	.71	.88
MGO	30.88	31.19	31.39	32.17	31.68	30.95	31.38	31.79
CAO	.05	.03	.05	.09	.10	.07	.07	.09
BAO	.02	0.00	0.00	0.00	.02	0.00	.01	.02
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NA2O	.01	.03	.05	.05	.02	0.00	.03	.05
F	.14	.15	.27	.31	.01	.05	.16	.27
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	84.71	85.05	85.05	86.36	86.71	84.59	85.44	87.25
-O= F+CL	.06	.06	.11	.13	.00	.02	.07	.11
SUM	84.65	84.99	84.94	86.23	86.71	84.57	85.38	87.14

	1		2		3		4		5		6		7		8	
SI	4.493	*	4.493	*	4.517	*	4.503	*	4.608	*	4.572	*	4.517	*	4.518	*
AL	3.507	8.000	3.507	8.000	3.483	8.000	3.497	8.000	3.392	8.000	3.428	8.000	3.483	8.000	3.482	9.000
AL	.470	*	.451	*	.430	*	.350	*	.443	*	.444	*	.436	*	.423	*
TI	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.004	*	.001	*	.002	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.084	*	.072	*	.051	*	.070	*	.117	*	.114	*	.088	*	.107	*
MG	6.850	*	6.760	*	6.934	*	7.012	*	6.888	*	6.899	*	6.927	*	6.892	*
MN	.027	7.462	.025	7.517	.017	7.444	.021	7.472	.002	7.451	0.000	7.462	.016	7.469	.027	7.441
NA	.003	*	.007	*	.014	*	.017	*	.006	*	0.000	*	.008	*	.014	*
CA	.008	*	.005	*	.010	*	.014	*	.016	*	.011	*	.011	*	.014	*
K	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
BA	.001	.012	0.000	.013	0.000	.024	0.000	.031	.001	.022	0.000	.011	.000	.019	.001	.029
F	.066	*	.083	*	.127	*	.144	*	.005	*	.024	*	.076	*	.124	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.016		.014		.012		.014		.017		.016		.015		.019
F/FM		.016		.014		.011		.014		.017		.016		.015		.014

1 ESK-16-100.6M MG-CHL
2 CHL
3 CHL
4 CHL
5 MASS CHL
6 CHL
7 AVERAGE
8 AVERAGE PLUS SIGMA

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

SUPER RECAL

	0
SIO2	29.84
TIO2	-.01
AL2O3	22.11
CR2O3	0.00
MNO	.04
FEO	.54
MGO	30.97
CAO	.06
BAO	-.00
K2O	0.00
NA2O	.01
F	.05
CL	0.00
SUM	83.64
-O= F+CL	.02
SUM	83.61

SI	4.515	*
AL	3.485	8.000
AL	.450	*
TI	-.001	*
CR	0.000	*
FE	.063	*
MG	6.874	*
MN	.005	7.416
NA	.002	*
CA	.007	*
K	0.000	*
BA	-.000	.009
F	.025	*
CL	0.000	0.000
O	22.000	*
F/M		.011
F/FM		.010

0 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	50.27	47.57	50.43	50.12	47.54	48.95	47.93	50.39
TIO2	.06	.19	.12	.14	.13	.04	.14	.17
AL2O3	27.53	25.17	28.46	30.04	29.98	29.84	28.55	29.88
CR2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	.04	.02	.05	0.00	0.00	0.00	0.00
FEO	.72	.53	.53	.60	.47	.45	.62	.54
MGO	3.40	2.97	3.17	2.34	2.65	2.89	2.66	2.79
CAO	.07	.21	.12	0.07	.09	0.00	.10	.05
BAO	.03	.23	[illegible]	.42	.53	.25	.54	.45
K2O	10.17	9.74	9.09	9.79	9.65	10.09	9.54	8.34
NA2O	.07	.10	.09	.11	.13	.13	.14	.10
F	.13	.25	.12	.02	0.00	.05	.09	.04
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	92.99	90.36	92.99	94.13	93.19	92.69	90.31	92.76
-O= F+CL	.05	.11	.05	.01	0.00	.02	.04	.02
SUM	92.94	90.75	92.94	94.12	93.19	92.66	90.27	92.74

	1		2		3		4		5		6		7		8	
SI	6.632	*	6.723	*	6.610	*	6.517	*	6.677	*	6.642	*	6.685	*	6.751	*
AI	1.167	8.000	1.277	8.000	1.134	8.000	1.311	8.000	1.323	8.000	1.358	8.000	1.314	8.000	1.249	8.000
AL	3.243	*	3.316	*	3.313	*	3.410	*	3.438	*	3.413	*	3.378	*	3.469	*
TI	.006	*	.010	*	.017	*	.014	*	.013	*	.004	*	.015	*	.017	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.082	*	.061	*	.071	*	.067	*	.055	*	.051	*	.072	*	.061	*
MG	.673	*	.617	*	.615	*	.565	*	.532	*	.584	*	.553	*	.557	*
MN	0.000	4.024	.005	4.007	.002	4.061	.006	4.061	0.000	4.039	0.000	4.052	0.000	4.018	0.000	4.103
NA	.018	*	.027	*	.021	*	.028	*	.034	*	.034	*	.038	*	.026	*
CA	.010	*	.016	*	.014	*	0.000	*	.013	*	0.000	*	.015	*	.009	*
K	1.751	*	1.717	*	1.553	*	1.660	*	1.659	*	1.744	*	1.697	*	1.425	*
BA	.005	1.784	.012	1.774	.011	1.607	.022	1.716	.028	1.734	.013	1.792	.030	1.780	.024	1.433
F	.056	*	.114	*	.055	*	.008	*	0.000	*	.021	*	.040	*	.017	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.119		.107		.115		.127		.104		.087		.131		.109
F/FM		.105		.097		.113		.114		.094		.080		.116		.093

1 ESK-18-200.4M MICA IN P SHAD
2 MICA WITH AL LOW
3 MUSC
4 MICA IMP. SHADOW
5 MUSC
6 CSE MICA IN QTZ
7 MICA
8 CSE GR IN F GR MASS

SUPER RECAL

APPENDIX [illegible] MUSCOVITE AND [illegible] ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13	14	15
SIO2	[illegible]	[illegible]	47.71	50.60	[illegible]	50.35	48.67
TIO2	.17	.15	.15	.07	.13	.17	.08
AL2O3	[illegible]	[illegible]	[illegible]	[illegible]	29.13	29.95	28.30
CR2O3	0.00	0.00	[illegible]	0.00	0.00	0.00	0.00
MNO	.03	[illegible]	.05	[illegible]	.02	.04	-.00
FEO	[illegible]	.56	[illegible]	.53	.59	.71	.47
MGO	[illegible]	2.77	3.05	2.77	2.90	3.11	2.59
CAO	.12	.03	[illegible]	[illegible]	.07	.10	.03
BAO	.45	[illegible]	.38	[illegible]	.36	.50	.23
K2O	9.65	[illegible]	[illegible]	10.3[illegible]	9.67	10.18	9.17
NA2O	[illegible]	.12	[illegible]	.12	.11	.14	.09
F	.16	0.00	0.00	0.00	.07	.15	-.01
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	93.01	[illegible]	[illegible]	92.56	95.41	89.71
-O= F+CL	[illegible]	0.00	0.00	0.00	.03	.06	-.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	92.53	95.35	89.72

	9		10		11		12		13		14		15	
SI	[illegible]	*	[illegible]	*	[illegible]	*	[illegible]	*	6.717	*	6.659	*	6.779	*
AL	[illegible]	[illegible]	[illegible]	8.000	[illegible]	[illegible]	[illegible]	[illegible]	1.283	8.000	1.341	8.000	1.221	8.000
AL	[illegible]	*	[illegible]	*	3.314	*	[illegible]	*	3.374	*	3.326	*	3.424	*
TI	.017	*	[illegible]	*	.016	*	.007	*	.013	*	.017	*	.008	*
CR	[illegible]	*	[illegible]	*	[illegible]	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	[illegible]	*	.063	*	[illegible]	*	.060	*	.066	*	.078	*	.054	*
MG	[illegible]	*	[illegible]	*	.617	*	[illegible]	*	.587	*	.613	*	.559	*
MN	[illegible]	[illegible]	0.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.002	4.042	.004	4.039	-.001	4.045
NA	.034	*	[illegible]	*	[illegible]	*	.031	*	.030	*	.036	*	.024	*
CA	[illegible]	*	[illegible]	*	.013	*	[illegible]	*	.010	*	.015	*	.004	*
K	[illegible]	*	1.727	*	[illegible]	*	1.771	*	1.674	*	1.717	*	1.629	*
BA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.82[illegible]	.017	1.733	.026	1.794	.012	1.669
F	.069	*	[illegible]	*	[illegible]	*	0.000	*	.031	*	.064	*	-.003	*
CL	[illegible]	[illegible]	[illegible]	0.000	[illegible]	[illegible]	[illegible]	[illegible]	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	[illegible]	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		[illegible]		.113		[illegible]		.107		.116		.134		.096
[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		.104		.118		.098

9 MICA
10 MUSC
11 MUSC
12 MUSC

13 AVERAGE
14 AVERAGE PLUS SIGMA
15 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX I: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	30.71	32.04	[illegible]	31.01	29.62	30.24	51.79	49.14
TIO2	.02	0.00	.04	0.00	0.00	.01	.08	.11
AL2O3	[illegible]	[illegible]	[illegible]	20.63	20.20	20.53	32.19	32.05
CR2O3	.02	.05	.07	0.00	.05	.13	.10	.10
MNO	.25	.21	.25	.32	.30	.36	0.00	0.00
FEO	[illegible]	[illegible]	[illegible]	[illegible]	9.61	8.53	.35	.42
MGO	[illegible]	[illegible]	[illegible]	[illegible]	26.06	26.38	2.71	2.57
CAO	.11	.10	.03	.05	.14	.16	.09	.13
BAO	0.00	0.00	0.00	0.00	0.00	0.00	1.13	1.00
K2O	.01	.15	0.00	0.00	.02	.02	9.24	10.29
NA2O	0.00	.02	.01	0.00	.01	.01	.10	.15
F	.07	.12	.06	.10	.07	.14	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	86.10	86.51	97.78	95.95
-O= F+CL	.03	.05	.01	.04	.04	.06	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	86.06	86.45	97.78	95.96

	1		2		3		4		5		6		7		8	
SI	4.701	*	4.849	*	5.729	*	4.625	*	4.574	*	4.616	*	6.640	*	6.487	*
AL	3.299	8.000	3.151	8.000	2.271	8.000	3.375	8.000	3.426	8.000	3.384	8.000	1.360	8.000	1.513	8.000
AL	.233	*	.324	*	.310	*	.250	*	.250	*	.309	*	3.503	*	3.472	*
TI	.002	*	0.000	*	.004	*	0.000	*	0.000	*	.001	*	.008	*	.011	*
CR	.002	*	.006	*	.005	*	0.000	*	.006	*	.016	*	.010	*	.010	*
FE	1.095	*	.093	*	.575	*	.674	*	1.241	*	1.089	*	.038	*	.046	*
MG	6.046	*	6.305	*	5.271	*	6.564	*	5.998	*	6.002	*	.518	*	.506	*
MN	.032	7.462	.027	7.345	.030	6.696	.040	7.529	.039	7.534	.047	7.463	0.000	4.076	0.000	4.045
NA	0.000	*	.006	*	.003	*	0.000	*	.003	*	.003	*	.025	*	.038	*
CA	.018	*	.015	*	.012	*	.008	*	.023	*	.026	*	.012	*	.018	*
K	.002	*	.031	*	0.070	*	0.000	*	.004	*	.004	*	1.511	*	1.733	*
BA	0.000	.020	0.000	.053	0.000	.015	0.000	.004	0.000	.030	0.000	.033	.057	1.605	.052	1.341
F	.034	*	.057	*	.027	*	.047	*	.044	*	.058	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.185		.113		.115		.109		.213		.189		.072		.092
F/FM		.156		.101		.103		.096		.176		.159		.068		.084

1 ESK-21-54.25 MG CHL IN VEIN
2 MG CHL
3 MG CHL
4 MG CHL ZONE
5 MORE FE RICH AREA
6 MG CHL
7 MICA INT TO PY
8 MISC

SUPER PECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12	13	14	15	16
SIO2	[illegible]	51.84	[illegible]	31.54	30.35	38.97	48.19	29.74
TIO2	.19	.07	0.00	.02	0.00	.03	.07	-.00
AL2O3	[illegible]	33.17	31.01	20.54	21.11	24.66	30.47	18.84
CR2O3	0.00	.07	.04	.15	.18	.07	.13	.02
MNO	0.00	0.00	0.00	.22	.14	.16	.29	.02
FEO	0.00	.19	[illegible]	7.95	8.51	4.63	8.32	.94
MGO	[illegible]	2.32	2.44	26.07	26.02	17.55	29.56	5.57
CAO	.04	.03	.15	.06	.10	.10	.14	.05
BAO	1.22	1.21	.74	0.00	0.00	.41	.94	-.12
K2O	10.22	7.36	10.34	.02	.01	3.82	8.63	-.39
NA2O	.13	.10	.31	0.00	0.00	.06	.15	-.02
F	0.00	0.00	0.00	.12	.21	.07	.14	.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	87.23	90.54	127.02	54.06
-O- F+CL	0.00	0.00	0.00	.05	.09	.03	.06	.00
SUM	[illegible]	[illegible]	[illegible]	[illegible]	87.14	90.51	126.96	54.06

	9		10		11		12		13		14		15		16	
SI	[illegible]	*	6.904	*	6.523	*	[illegible]	*	4.586	*	5.541	*	5.094	*	6.459	*
AL	[illegible]	8.000	1.096	8.000	1.477	8.000	3.329	8.000	3.414	8.000	2.459	8.000	2.906	8.000	1.541	8.000
AL	[illegible]	*	[illegible]	*	[illegible]	*	.256	*	.345	*	1.672	*	.888	*	3.282	*
TI	.019	*	.007	*	0.000	*	.002	*	0.000	*	.004	*	.006	*	-.001	*
CR	0.000	*	.007	*	.004	*	.010	*	.022	*	.008	*	.011	*	.003	*
FE	0.000	*	.019	*	[illegible]	*	[illegible]	*	1.075	*	.550	*	.735	*	.170	*
MG	.459	*	.450	*	[illegible]	*	[illegible]	*	5.995	*	3.772	*	4.656	*	1.334	*
MN	0.000	[illegible]	0.000	[illegible]	0.000	[illegible]	.028	7.484	.018	7.455	.019	5.975	.026	6.322	.004	5.253
NA	.034	*	.025	*	.080	*	0.010	*	0.000	*	.018	*	.031	*	-.010	*
CA	.005	*	.004	*	.021	*	.010	*	.015	*	.015	*	.015	*	.013	*
K	1.766	*	1.221	*	[illegible]	*	.004	*	.002	*	.693	*	1.163	*	-.273	*
BA	.065	[illegible]	.060	1.310	.037	[illegible]	0.000	.013	0.000	.018	.023	.749	.039	1.249	-.010	-.250
F	0.000	*	0.000	*	0.000	*	.050	*	.100	*	.031	*	.045	*	.003	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/A		0.000		.044		[illegible]		.163		.182		.153		.163		.077
F/FM		0.000		[illegible]		[illegible]		.140		.154		.133		.141		.033

9 MUSC
10 CSE MICA SHEARS
11 CSE MICA [illegible]
12 MG CHL [illegible]
13 CHL INTER TO PLAG
14 AVERAGE
15 AVERAGE PLUS SIGMA
16 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	47.00	47.11	44.54	27.35	27.12	51.60	46.65	49.80
TIO2	.08	.36	.09	.04	0.00	.21	.07	.12
AL2O3	30.40	26.75	28.44	16.17	16.31	23.23	28.53	28.52
CR2O3	0.00	.04	.07	.05	.11	.29	0.00	0.00
MNO	.01	.23	.04	.31	.21	0.00	0.00	0.00
FEO	.76	.57	1.35	10.71	9.73	1.11	.39	.23
MGO	2.38	3.23	5.51	26.00	24.96	2.23	2.56	3.21
CAO	.03	.03	.07	0.00	1.75	1.07	.12	.12
BAO	.87	1.04	.97	0.00	0.00	.69	.54	.32
K2O	10.01	9.36	8.25	.03	.04	7.39	9.45	9.57
NA2O	.14	.15	.12	0.00	0.00	.81	.20	.24
F	0.00	0.00	0.00	.35	.34	0.00	0.00	.13
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	91.76	90.71	89.48	85.02	80.77	88.62	88.51	92.25
-O= F+CL	0.00	0.00	0.00	.15	.14	0.00	0.00	.05
SUM	91.76	90.71	89.48	84.87	90.63	88.62	88.51	92.21

	1		2		3		4		5		6		7		8	
SI	6.592	*	6.578	*	6.330	*	4.029	*	4.541	*	7.272	*	6.640	*	6.764	*
AL	1.498	8.000	1.422	8.000	1.670	8.000	3.971	8.000	3.218	7.760	.728	8.000	1.360	8.000	1.236	8.000
AL	3.457	*	3.308	*	3.032	*	.005	*	0.000	*	3.130	*	3.426	*	3.328	*
TI	.009	*	.036	*	.009	*	.005	*	0.000	*	.022	*	.007	*	.012	*
CR	0.000	*	.004	*	.008	*	.007	*	.015	*	.032	*	0.000	*	0.000	*
FE	.088	*	.062	*	.162	*	1.412	*	1.353	*	.131	*	.046	*	.026	*
MG	.491	*	.672	*	1.167	*	6.111	*	6.230	*	.468	*	.543	*	.650	*
MN	.001	4.045	.004	4.088	.005	4.442	.041	7.581	.030	7.637	0.000	3.784	0.000	4.023	0.000	4.016
NA	.036	*	.041	*	.025	*	0.000	*	0.000	*	.221	*	.055	*	.063	*
CA	.013	*	.013	*	.014	*	0.000	*	.350	*	.162	*	.018	*	.017	*
K	1.766	*	1.667	*	1.497	*	.006	*	.009	*	1.327	*	1.716	*	1.658	*
BA	.040	1.805	.058	1.779	.055	1.574	0.000	.005	0.000	.358	.038	1.749	.030	1.819	.017	1.755
F	0.000	*	0.000	*	0.000	*	.175	*	.190	*	0.000	*	0.000	*	.056	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.182		.097		.143		.238		.224		.279		.085		.040
F/FM		.154		.087		.125		.192		.183		.218		.079		.039

1 ESK-21-54.44 MICA
2 MUSC
3 MICA VEINLET IN FELD
4 MG-FE CHL
5 MG-FE CHL
6 MICA INST TO PY MARG.
7 USE MICA INST TO PY
8 MICA

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12	13	14
SIO2	50.60	47.09	46.05	44.21	51.99	36.43
TIO2	.07	.05	.14	.11	.21	.02
AL2O3	31.12	26.94	27.54	26.55	31.35	21.75
CR2O3	.36	.04	.14	.10	.22	-.01
MNO	.02	.02	0.00	.06	.16	-.04
FEO	.45	.32	.41	2.36	6.09	-1.36
MGO	2.49	2.45	2.25	7.03	15.77	-1.72
CAO	.03	.17	.17	.35	.73	-.23
BAO	.72	.03	1.15	.65	1.03	.27
K2O	7.09	9.50	7.63	7.48	11.06	3.90
NA2O	0.00	.24	.22	.19	.41	-.02
F	0.00	0.00	0.00	.07	.21	-.06
CL	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.42	87.56	87.67	87.17	119.42	58.92
-O= F+CL	0.00	0.00	0.00	.03	.09	-.02
SUM	94.42	87.06	87.67	87.14	119.33	58.95

	9		10		11		12		13		14	
SI	6.630	*	6.631	*	6.521	*	6.322	*	5.780	*	7.298	*
AL	1.370	8.000	1.369	8.000	1.479	8.000	1.675	8.000	2.220	8.000	.702	8.000
AL	3.504	*	3.433	*	3.450	*	2.795	*	1.086	*	4.432	*
TI	.007	*	.005	*	.015	*	.012	*	.017	*	.002	*
CR	.038	*	.004	*	.016	*	.011	*	.019	*	-.002	*
FE	.050	*	.038	*	.049	*	.283	*	.556	*	-.228	*
MG	.492	*	.510	*	.475	*	1.477	*	2.614	*	-.514	*
MN	.002	4.093	.002	4.000	0.000	4.004	.007	4.605	.015	5.117	-.037	3.583
NA	0.000	*	.055	*	.060	*	.051	*	.098	*	-.013	*
CA	.004	*	.025	*	.021	*	.054	*	.111	*	-.049	*
K	1.537	*	1.706	*	1.737	*	1.365	*	1.559	*	.498	*
BA	.037	1.579	.045	1.443	.064	1.805	.037	1.509	.045	1.812	.021	.951
F	0.000	*	0.000	*	0.000	*	.034	*	.073	*	-.037	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.105		.078		.102		.193		.222		.279
F/FM		.096		.072		.093		.162		.182		.218

9 MICA
10 MICA
11 MICA

12 AVERAGE
13 AVERAGE PLUS SIGMA
14 AVERAGE MINUS SIGMA

SUPER RECAL APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

SUB GROUP SI AL / AL TI CR FE MG MN / NA CA BA K / O F CL /

	1	2	3	4	5	6	7	8
SIO2	49.06	47.83	48.54	30.05	29.96	48.60	29.77	45.87
TIO2	.14	.16	.15	0.00	0.00	.15	0.00	.08
A2O3	32.14	31.97	32.18	20.29	20.94	33.11	22.29	30.63
C2O3	.02	0.00	.07	0.00	0.00	.03	0.00	.01
MNO	0.00	.03	.03	.09	.11	0.00	.11	0.00
FEO	.06	.10	.03	.09	.07	.12	.08	.10
MGO	2.63	2.92	2.79	34.41	33.75	2.59	33.89	7.97
CAO	.03	.13	.09	.08	.14	.17	0.00	.12
BAO	.93	1.34	1.25	0.00	0.00	1.32	0.00	1.03
K2O	10.03	9.98	9.87	.02	.04	9.97	.01	8.43
NA2O	.16	.27	.23	0.00	.02	.24	0.00	.19
F	.22	.33	.14	1.33	1.36	.41	.92	.42
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	95.42	95.06	95.38	85.36	86.39	96.70	87.07	94.85
-O= F+CL	.09	.14	.06	.56	.57	.17	.39	.18
SUM	95.33	94.92	95.32	84.80	85.82	96.53	86.68	94.67

	1		2		3		4		5		6		7		8	
SI	6.484	*	6.389	*	6.440	*	4.420	*	4.402	*	6.368	*	4.335	*	6.125	*
AL	1.516	8.000	1.611	8.000	1.560	8.000	3.515	7.935	3.598	8.000	1.632	8.000	3.665	8.000	1.875	8.000
AL	3.490	*	3.471	*	3.470	*	0.000	*	.027	*	3.481	*	.159	*	2.945	*
TI	.014	*	.016	*	.016	*	0.000	*	0.000	*	.015	*	0.000	*	.008	*
CR	.002	*	0.000	*	.007	*	0.000	*	0.000	*	.003	*	0.000	*	.001	*
FE	.007	*	.011	*	.003	*	.011	*	.009	*	.013	*	.010	*	.011	*
MG	.518	*	.581	*	.550	*	7.541	*	7.390	*	.504	*	7.355	*	1.596	*
MN	0.000	4.031	.003	4.033	.003	4.050	.010	7.562	.014	7.439	0.000	4.016	.014	7.538	0.000	4.351
NA	.041	*	.070	*	.059	*	0.000	*	.006	*	.061	*	0.000	*	.049	*
CA	.004	*	.019	*	.013	*	.013	*	.022	*	.024	*	0.000	*	.017	*
BA	.048	*	.070	*	.065	*	0.000	*	0.000	*	.068	*	0.000	*	.054	*
K	1.691	1.784	1.700	1.859	1.670	1.808	.004	.016	.007	.035	1.666	1.819	.002	.002	1.436	1.555
F	.092	*	.137	*	.059	*	.618	*	.632	*	.170	*	.424	*	.177	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.013		.025		.012		.003		.003		.026		.003		.037
F/FM		.013		.024		.012		.003		.003		.025		.003		.037

1 ESK-21-58.1M CSE MICA
2 MUSC
3 MUSC
4 MG CHL
5 MG CHL
6 MICA SHEAF IN EQUIL W CHL
7 CHL SHEAF
8 F GR MATRIX OF MICA

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12	13	14	15	16
SIO2	50.27	52.54	53.59	55.35	51.96	49.47	48.07	49.01
TIO2	.07	.06	.08	.08	.07	.08	.16	.05
A2O3	32.14	30.32	31.84	29.61	29.99	27.85	31.97	30.52
C2O3	0.00	.01	0.00	.05	.03	0.00	0.00	0.00
MNO	.07	0.00	0.00	.02	.01	.01	0.00	0.00
FEO	.09	.20	0.07	.04	.08	.07	.08	.10
MGO	3.03	5.37	3.32	3.35	3.74	3.58	2.52	9.00
CAO	.18	.21	.14	.22	.27	.27	.05	.24
BAO	1.05	.53	.40	.64	.57	.64	1.38	.68
K2O	9.42	6.03	6.65	7.12	8.47	8.07	10.18	5.56
NA2O	.23	.13	.08	.14	.23	.24	.25	.13
F	.35	.67	.33	.47	.30	.49	.56	.81
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	96.92	96.07	97.13	97.10	95.72	90.77	95.22	96.11
-O= F+CL	.15	.28	.14	.20	.13	.21	.24	.34
SUM	96.77	95.79	96.99	96.90	95.59	90.56	94.98	95.77

	9		10		11		12	
SI	6.525	*	6.703	*	6.775	*	6.991	*
AL	1.475	8.000	1.297	8.000	1.225	8.000	1.009	8.000
AL	3.439	*	3.252	*	3.513	*	3.397	*
TI	.007	*	.006	*	.008	*	.008	*
CR	0.000	*	.001	*	0.000	*	.005	*
FE	.010	*	.021	*	0.000	*	.004	*
MG	.596	*	1.021	*	.625	*	.631	*
MN	.008	4.049	0.000	4.311	0.000	4.151	.002	4.047
NA	.058	*	.032	*	.020	*	.034	*
CA	.025	*	.029	*	.019	*	.030	*
BA	.053	*	.026	*	.045	*	.032	*
K	1.554	1.695	.981	1.069	1.105	1.188	1.147	1.243
F	.144	*	.270	*	.132	*	.188	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.030		.021		0.000		.010
F/FM		.029		.020		0.000		.010

	13		14		15		16	
SI	6.750	*	6.785	*	6.411	*	6.303	*
AL	1.250	8.000	1.215	8.000	1.589	8.000	1.697	8.000
AL	3.341	*	3.285	*	3.436	*	2.929	*
TI	.007	*	.008	*	.016	*	.006	*
CR	.003	*	0.000	*	0.000	*	0.000	*
FE	.009	*	.008	*	.009	*	.011	*
MG	.724	*	.732	*	.501	*	1.725	*
MN	.001	4.085	.001	4.035	0.000	3.962	0.000	4.571
NA	.058	*	.064	*	.065	*	.032	*
CA	.038	*	.040	*	.007	*	.033	*
BA	.029	*	.034	*	.072	*	.034	*
K	1.403	1.528	1.412	1.550	1.732	1.876	.912	1.012
F	.123	*	.213	*	.236	*	.329	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.014		.013		.018		.006
F/FM		.013		.012		.018		.006

9 MUSC
10 MUSC
11 F GR MATRIX OF MICA/CHL
12 F GR FOL MICA
13 MUSC
14 MUSC
15 MUSC
16 F GR MATRIX OF MICA

SUPER RECAL APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	17		18		19		20	
SIO2	37.92		45.76		53.92		37.60	
TIO2	0.00		.08		.14		.02	
A2O3	24.96		28.99		33.07		24.90	
C2O3	0.00		.01		.03		-.01	
MNO	.06		.03		.07		-.01	
FEO	.13		.08		.13		.04	
MGO	23.54		10.49		22.43		-1.44	
CAO	.12		.14		.22		.07	
BAO	.29		.74		1.20		.28	
K2O	2.81		6.64		10.24		3.03	
NA2O	.07		.15		.24		.07	
F	.80		.58		.93		.24	
CL	0.00		0.00		0.00		0.00	
SUM	90.72		93.71		122.62		64.77	
-O= F+CL	.34		.25		.39		.10	
SUM	90.38		93.46		122.23		64.67	
SI	5.260	*	6.124	*	5.673	*	6.911	*
AL	2.740	8.000	1.876	8.000	2.327	8.000	1.089	8.000
AL	1.339	*	2.695	*	1.773	*	4.305	*
TI	0.000	*	.008	*	.011	*	.003	*
CR	0.000	*	.001	*	.003	*	-.001	*
FE	.015	*	.009	*	.011	*	.006	*
MG	4.867	*	2.093	*	3.517	*	-.395	*
MN	.007	6.228	.004	4.810	.006	5.321	-.001	3.917
NA	.024	*	.040	*	.050	*	.024	*
CA	.018	*	.021	*	.025	*	.013	*
BA	.016	*	.039	*	.049	*	.020	*
K	.497	.555	1.133	1.233	1.375	1.499	.711	.769
F	.351	*	.247	*	.310	*	.137	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.005		.006		.005		.010
F/FM		.005		.006		.005		.010

17 MUSC
18 AVERAGE
19 AVERAGE PLUS SIGMA
20 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	50.73	47.67	46.67	48.95	48.64	48.17	47.37	50.36
TIO2	.18	.18	.16	.17	.10	.13	.15	.17
AL2O3	32.73	31.54	31.08	31.54	31.07	30.99	31.69	32.17
CR2O3	0.00	.04	.05	.02	.06	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	.01	0.00	0.00
FEO	0.00	.02	.08	.01	.04	.02	.04	0.00
MGO	2.89	2.44	2.45	2.56	2.68	2.74	2.20	2.46
CAO	.04	.19	.14	.08	.08	.13	.12	.10
BAO	3.59	2.13	2.83	2.74	1.75	2.26	2.14	1.87
K2O	8.04	9.12	9.49	9.05	9.24	9.06	8.89	6.96
NA2O	.21	.23	.21	.24	.25	.26	.31	.13
F	.24	.50	.50	.30	.51	.74	.69	.64
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	98.65	94.06	93.66	95.66	94.42	94.51	93.60	94.86
-O= F+CL	.10	.21	.21	.13	.21	.31	.29	.27
SUM	98.55	93.85	93.45	95.53	94.21	94.20	93.31	94.59

	1		2		3		4		5		6		7		8	
SI	6.524	*	6.436	*	6.375	*	6.510	*	6.518	*	6.475	*	6.419	*	6.597	*
AL	1.476	8.000	1.564	8.000	1.625	8.000	1.490	8.000	1.482	8.000	1.525	8.000	1.581	8.000	1.403	8.000
AL	3.484	*	3.454	*	3.378	*	3.453	*	3.423	*	3.383	*	3.480	*	3.563	*
TI	.017	*	.016	*	.016	*	.017	*	.010	*	.013	*	.015	*	.017	*
CR	0.000	*	.004	*	.005	*	.002	*	.006	*	0.000	*	0.000	*	0.000	*
FE	0.000	*	.002	*	.009	*	.001	*	.004	*	.002	*	.005	*	0.000	*
MG	.554	*	.491	*	.501	*	.507	*	.535	*	.549	*	.444	*	.480	*
MN	0.000	4.055	0.000	3.967	0.000	4.010	0.000	3.981	0.000	3.980	.001	3.949	0.000	3.944	0.000	4.050
NA	.052	*	.060	*	.050	*	.062	*	.065	*	.068	*	.081	*	.033	*
CA	.006	*	.027	*	.020	*	.011	*	.011	*	.019	*	.017	*	.014	*
BA	.181	*	.113	*	.151	*	.143	*	.092	*	.119	*	.114	*	.096	*
K	1.319	1.558	1.570	1.771	1.556	1.794	1.535	1.751	1.579	1.748	1.553	1.759	1.537	1.749	1.153	1.305
F	.098	*	.213	*	.210	*	.126	*	.216	*	.315	*	.296	*	.265	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		0.000		.005		.015		.002		.008		.006		.010		0.000
F/FM		0.000		.005		.015		.002		.008		.006		.010		0.000

1 ESK-21-59.1M MICA
2 MUSC
3 MUSC
4 MUSC
5 MUSC
6 MUSC
7 MUSC
8 MICA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9	10	11	12	13	14	15	16
SIO2	30.81	30.45	33.74	31.05	30.18	52.82	49.60	43.15
TIO2	0.00	0.00	.02	.03	0.00	.13	.12	.13
A2O3	22.36	23.54	26.85	22.49	22.17	31.62	31.80	28.91
C2O3	.02	0.00	.01	.02	0.00	0.00	0.00	.01
MNO	.14	.05	.16	.15	.09	.06	.05	.05
FEO	.01	.02	.15	.08	.05	.05	.09	.04
MGO	32.85	29.30	24.27	30.72	31.14	2.93	2.58	11.69
CAO	.02	.05	.13	.13	.09	.08	.07	.10
BAO	0.00	0.00	.06	0.00	.05	.76	.87	1.40
K2O	.01	0.00	.16	.12	.14	8.14	10.36	5.87
NA2O	0.00	0.00	0.00	.10	.07	.18	.17	.15
F	.87	.74	.52	.83	.85	.52	.16	.58
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	87.09	84.75	85.09	85.79	84.84	97.29	95.87	92.08
-O= F+CL	.37	.31	.22	.37	.36	.22	.07	.24
SUM	86.72	84.44	85.05	85.42	84.48	97.07	95.80	91.83

	9		10		11		12	
SI	4.457	*	4.515	*	4.850	*	4.560	*
AL	3.531	8.000	3.495	8.000	3.134	8.000	3.434	8.000
AL	.271	*	.628	*	1.430	*	.460	*
TI	0.000	*	0.000	*	.002	*	.003	*
CR	.002	*	0.000	*	.001	*	.002	*
FE	.001	*	.002	*	.019	*	.010	*
MG	7.102	*	6.698	*	5.218	*	6.731	*
MN	.017	7.413	.096	7.245	.020	5.540	.020	7.227
NA	0.000	*	0.000	*	0.000	*	.029	*
CA	.003	*	.008	*	.020	*	.020	*
BA	0.000	*	0.000	*	.005	*	0.000	*
K	.002	.005	0.000	.008	.027	.053	.023	.071
F	.399	*	.347	*	.237	*	.414	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.003		.001		.007		.004
F/FM		.003		.001		.007		.004

	13		14		15		16	
SI	4.495	*	6.726	*	6.533	*	5.912	*
AL	3.505	8.000	1.274	8.000	1.467	8.000	2.088	8.000
AL	.385	*	3.470	*	3.469	*	2.580	*
TI	0.000	*	.012	*	.012	*	.011	*
CR	0.000	*	0.000	*	0.000	*	.002	*
FE	.006	*	.005	*	.010	*	.005	*
MG	6.912	*	.556	*	.507	*	2.387	*
MN	.011	7.315	.006	4.050	.006	4.003	.006	4.000
NA	.020	*	.044	*	.043	*	.042	*
CA	.014	*	.011	*	.010	*	.014	*
BA	.003	*	.038	*	.045	*	.075	*
K	.027	.064	1.322	1.415	1.741	1.839	1.029	1.150
F	.405	*	.209	*	.067	*	.251	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.003		.021		.031		.034
F/FM		.003		.021		.030		.034

9 MG CHL
10 MG CHL MIXED W STIB
11 MG CHL BKG OFF
12 CSE MG CHL
13 MG CHL
14 MICA
15 MUSC
16 AVERAGE

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	17	18
SIO2	51.71	34.58
TIO2	.17	.03
A2O3	32.70	24.92
C2O3	.03	-.00
MNO	.11	-.01
FEO	.07	.00
MGO	24.59	-1.22
CAO	.14	.05
BAO	2.59	.22
K2O	10.05	1.73
NA2O	.26	.06
F	.60	.36
CL	0.00	0.00
SUM	123.43	60.72
-O= F+CL	.34	.15
SUM	123.09	60.57

	17		18	
SI	5.475	+	6.714	+
AL	2.525	8.000	1.285	8.000
AL	1.580	+	4.414	+
TI	.014	+	.005	+
CR	.003	+	-.001	+
FE	.008	+	.000	+
MG	3.890	+	-.352	+
MN	.010	5.494	-.002	4.065
NA	.053	+	.022	+
CA	.016	+	.011	+
BA	.107	+	.017	+
K	1.356	1.532	.427	.477
F	.267	+	.221	+
CL	0.000	0.000	0.000	0.000
O	22.000	+	22.000	+
F/M		.004		.001
F/FM		.004		.001

17 AVERAGE PLUS SIGMA

18 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	49.13	32.09	49.92	49.02	50.79	48.63	60.12	48.84
TIO2	.11	0.00	.10	.10	.05	.11	.07	.11
A2O3	33.04	20.87	31.79	33.02	30.38	31.11	25.74	30.64
C2O3	.02	0.00	0.00	.04	.03	0.00	0.00	0.00
MNO	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.07	.14	.14	.10	.25	.44	.08	.19
MGO	2.39	32.88	2.45	2.42	2.37	2.41	2.31	2.53
CAO	.03	.03	.02	.01	.14	.13	.08	.11
BAO	.90	0.00	.91	1.08	.67	1.06	.73	.79
K2O	9.81	.49	10.13	10.48	9.25	9.64	8.32	9.53
NA2O	.24	0.00	.17	.20	.24	.26	.16	.23
F	.27	1.51	.32	.19	.32	.24	.25	.32
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	96.00	88.07	95.97	96.66	94.49	94.03	97.86	93.29
-O= F+CL	.11	.64	.13	.08	.13	.10	.11	.13
SUM	95.89	87.43	95.84	96.58	94.36	93.93	97.75	93.16

	1		2		3		4		5		6		7		8	
SI	6.449	*	4.615	*	6.557	*	6.422	*	6.723	*	6.534	*	7.532	*	6.584	*
AL	1.551	8.000	3.385	8.000	1.443	8.000	1.578	8.000	1.277	8.000	1.466	8.000	.468	8.000	1.416	8.000
AL	3.554	*	.151	*	3.477	*	3.519	*	3.462	*	3.460	*	3.332	*	3.452	*
TI	.011	*	0.000	*	.010	*	.010	*	.005	*	.011	*	.007	*	.011	*
CR	.002	*	0.000	*	0.000	*	.004	*	.003	*	0.000	*	0.000	*	0.000	*
FE	.010	*	.017	*	.015	*	.011	*	.028	*	.049	*	.008	*	.021	*
MG	.449	*	7.047	*	.480	*	.473	*	.468	*	.483	*	.431	*	.508	*
MN	0.000	4.026	.007	7.222	0.000	3.982	0.000	4.017	0.000	3.965	0.000	4.003	0.000	3.778	0.000	3.993
NA	.061	*	0.000	*	.043	*	.051	*	.062	*	.068	*	.039	*	.060	*
CA	.004	*	.005	*	.003	*	.001	*	.020	*	.019	*	.011	*	.016	*
BA	.046	*	0.000	*	.047	*	.055	*	.035	*	.056	*	.036	*	.042	*
K	1.641	1.752	.090	.094	1.677	1.795	1.751	1.859	1.562	1.678	1.652	1.794	1.330	1.415	1.639	1.755
F	.112	*	.687	*	.133	*	.079	*	.134	*	.102	*	.099	*	.136	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.022		.003		.032		.023		.059		.102		.019		.042
F/FM		.021		.003		.031		.023		.056		.093		.019		.040

1 ESK-21-68.9M CSE MICA
2 INT ASSOC SCE MG CHL
3 MUSC CSE SHEAF
4 MUSC
5 REL F GR MICA
6 MUSC
7 MASS MICA IN QTZ RICH AREA
8 MICA

SUPER PECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12	13	14	15	16
SIO2	49.49	49.02	52.90	48.89	52.53	47.34	51.19	51.28
TIO2	.09	.07	.19	.11	.08	0.00	.06	.05
A2O3	28.48	32.16	30.27	31.79	30.91	30.75	32.00	30.92
C2O3	0.00	.06	.07	0.00	.01	.02	0.00	0.00
MNO	0.09	0.00	0.09	0.03	.02	0.00	.06	0.00
FEO	.17	.07	0.00	.05	0.00	.10	.19	.12
MGO	2.84	2.47	2.76	2.42	2.66	2.65	2.69	2.54
CAO	.13	.08	.10	.03	.17	.14	.11	.14
BAO	.72	.37	.92	1.03	.72	.83	.78	.84
K2O	9.59	9.37	8.91	9.77	7.41	9.48	8.04	8.92
NA2O	.21	.11	.20	.17	.10	.19	.11	.23
F	.43	.23	1.51	.49	.45	.30	.79	.33
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	92.06	95.11	103.74	94.79	95.06	91.81	96.02	95.37
-O= F+CL	.19	.10	.64	.21	.19	.13	.33	.14
SUM	91.89	95.01	103.10	94.57	94.87	91.68	95.69	95.23

	9		10		11		12		13		14		15		16	
SI	6.754	*	6.494	*	6.357	*	6.497	*	6.805	*	6.497	*	6.618	*	6.711	*
AL	1.246	8.000	1.506	8.000	1.641	8.000	1.501	8.000	1.195	8.000	1.503	8.000	1.382	8.000	1.289	8.000
AL	3.333	*	3.515	*	3.497	*	3.480	*	3.523	*	3.470	*	3.492	*	3.479	*
TI	.009	*	.007	*	.009	*	.011	*	.008	*	0.000	*	.006	*	.005	*
CR	0.090	*	.006	*	.007	*	0.000	*	.001	*	.002	*	0.000	*	0.000	*
FE	.019	*	.008	*	0.000	*	.007	*	0.000	*	.011	*	.021	*	.013	*
MG	.579	*	.488	*	.495	*	.480	*	.514	*	.544	*	.518	*	.495	*
MN	0.090	3.940	0.000	4.024	0.000	4.007	0.000	3.978	.002	4.048	0.000	4.027	.007	4.043	0.000	3.992
NA	.056	*	.028	*	.047	*	.044	*	.025	*	.051	*	.028	*	.058	*
CA	.019	*	.011	*	.013	*	.013	*	.024	*	.021	*	.015	*	.020	*
BA	.038	*	.050	*	.043	*	.052	*	.037	*	.045	*	.040	*	.043	*
K	1.654	1.767	1.650	1.758	1.356	1.469	1.657	1.766	1.224	1.310	1.659	1.775	1.326	1.408	1.499	1.510
F	.186	*	.096	*	.574	*	.206	*	.184	*	.130	*	.323	*	.137	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.034		.016		0.000		.014		.004		.021		.052		.027
F/FM		.032		.016		0.000		.014		.004		.021		.050		.026

9 MASS UNFOL MICA
10 MICA :DARKER CENTRE
11 MICA HIGER BA ZONE
12 MUSC
13 DARK CENTRE DOMAIN:MUSC
14 ADJ BR ZONE:MICA
15 MUSC
16 FOL MICA WITH CONC PY

SUPER PECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	17	18	19	20	21	22	23	24
SIO2	46.65	50.03	37.09	32.15	55.60	50.57	49.87	52.31
TIO2	.05	.09	0.00	0.00	.08	.10	.05	.08
A2O3	29.75	31.72	23.34	21.03	32.78	32.03	32.60	34.34
C2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEO	.19	.18	.15	0.00	.01	.11	.18	.34
MGO	2.84	2.65	24.53	33.85	3.17	3.05	2.30	2.20
CAO	.20	.05	.03	0.03	.04	.02	.02	.02
BAO	.45	.84	0.09	0.00	.50	.85	.92	1.03
K2O	8.42	10.14	1.72	.09	7.58	9.91	10.01	7.45
NA2O	.15	.27	.07	0.00	.23	.22	.29	.13
F	.43	.20	1.04	1.25	.55	.50	.14	.27
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	89.13	96.18	88.09	88.37	100.55	97.36	96.38	98.19
-O= F+CL	.19	.08	.44	.53	.24	.21	.06	.11
SUM	88.95	96.10	87.65	87.84	100.31	97.15	96.32	98.07

	17		18		19		20		21		22		23		24	
SI	6.538	*	6.558	*	5.254	*	4.574	*	6.788	*	6.535	*	6.519	*	6.585	*
AL	1.462	8.000	1.442	8.000	2.746	8.000	3.406	8.000	1.212	8.000	1.465	8.000	1.481	8.000	1.415	8.000
AL	3.452	*	3.458	*	1.159	*	.134	*	3.504	*	3.412	*	3.540	*	3.679	*
TI	.006	*	.009	*	0.000	*	0.000	*	.007	*	.010	*	.005	*	.008	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.021	*	.020	*	.017	*	0.000	*	.001	*	.012	*	.020	*	.036	*
MG	.593	*	.518	*	5.192	*	7.203	*	.577	*	.587	*	.448	*	.413	*
MN	0.000	4.072	0.000	4.005	0.000	5.370	0.000	7.343	0.000	4.089	0.000	4.021	0.000	4.013	0.000	4.135
NA	.041	*	.069	*	.017	*	0.000	*	.054	*	.055	*	.073	*	.032	*
CA	.030	*	.008	*	.005	*	0.000	*	.005	*	.003	*	.003	*	.003	*
BA	.025	*	.043	*	0.000	*	0.000	*	.024	*	.043	*	.047	*	.051	*
K	1.505	1.601	1.695	1.816	.344	.372	.016	.016	1.180	1.264	1.633	1.734	1.669	1.792	1.198	1.283
F	.191	*	.093	*	.467	*	.565	*	.210	*	.204	*	.058	*	.107	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.036		.038		.034		0.000		.002		.020		.044		.037
F/FM		.034		.037		.034		0.000		.002		.020		.042		.033

17 MUSC
18 MUSC
19 MG CHL
20 MG CHL

21 MUSC
22 MUSC
23 MUSC
24 MICA

SUPER PECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	25	26	27	28	29	30
SIO2	50.75	55.20	31.89	48.27	55.12	41.42
TIO2	.05	.03	0.00	.06	.10	.03
A2O3	30.77	32.61	19.95	30.03	34.13	25.93
C2O3	0.00	0.00	0.00	.01	.03	-.01
MNO	0.00	0.00	0.00	.01	.02	-.01
FEO	.52	.69	.01	.17	.33	.01
MGO	2.79	2.63	33.22	6.81	17.06	-3.43
CAO	.39	.09	0.00	.09	.17	.01
BAO	.85	.53	0.00	.70	1.03	.37
K2O	9.68	5.84	.15	7.81	10.97	4.64
NA2O	.22	.09	0.00	.17	.25	.09
F	.29	.33	1.37	.53	.94	.12
CL	0.00	0.00	0.00	0.00	0.00	0.00
SUM	96.32	98.03	86.59	94.65	120.15	69.15
-O= F+CL	.12	.14	.58	.22	.40	.05
SUM	96.20	97.89	86.01	94.42	119.75	69.10

	25		26		27		28		29		30	
SI	6.639	*	6.852	*	4.051	*	6.382	*	5.892	*	7.176	*
AL	1.361	8.000	1.148	8.000	3.349	8.000	1.618	8.000	2.108	8.000	.824	8.000
AL	3.375	*	3.622	*	.030	*	3.061	*	2.191	*	4.470	*
TI	.005	*	.003	*	0.000	*	.006	*	.008	*	.004	*
CR	0.000	*	0.000	*	0.000	*	.001	*	.002	*	-.001	*
FE	.057	*	.072	*	.001	*	.019	*	.029	*	.001	*
MG	.542	*	.487	*	7.222	*	1.342	*	2.718	*	-.887	*
MN	0.000	3.969	0.000	4.193	0.000	7.303	.001	4.430	.002	4.951	-.032	3.585
NA	.056	*	.022	*	0.000	*	.043	*	.052	*	.029	*
CA	.055	*	.011	*	0.000	*	.012	*	.019	*	.001	*
BA	.044	*	.026	*	0.000	*	.036	*	.043	*	.025	*
K	1.615	1.770	.925	.963	.026	.028	1.316	1.408	1.496	1.610	1.025	1.080
F	.116	*	.130	*	.632	*	.222	*	.319	*	.065	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.135		.147		.000		.014		.011		.020
F/FM		.095		.126		.000		.014		.011		.020

25 MICA INTER PY NODULES
26 MICA
27 MG CHL

28 AVERAGE
29 AVERAGE PLUS SIGMA
30 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	32.06	49.00	34.07	48.77	51.69	51.88	44.58	52.83
TIO2	.01	.09	.04	.11	.14	.13	.09	.13
A2O3	22.51	31.03	23.54	31.83	32.92	34.11	29.32	33.89
C2O3	0.00	.03	0.00	0.00	0.00	0.00	.01	.02
MNO	0.00	0.00	.04	0.00	0.00	0.00	.01	.02
FEO	0.00	0.00	.18	.06	.02	0.00	.04	.11
MGO	31.94	2.01	24.40	2.19	2.19	2.08	10.80	23.27
CAO	.14	.30	2.01	.29	.14	.15	.51	1.18
BAO	0.00	1.06	.24	1.43	1.49	1.83	1.01	1.68
K2O	.05	9.24	1.79	8.72	7.19	6.45	5.07	8.15
NA2O	0.00	.11	.06	.20	.17	.14	.11	.18
F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	86.71	94.87	86.37	93.60	95.95	96.77	91.54	121.45
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	86.71	92.87	86.37	93.60	95.95	95.77	91.54	121.46

	1		2		3		4		5		6		7		8	
SI	4.649	*	6.772	*	5.003	*	6.545	*	6.667	*	6.617	*	6.070	*	5.590	*
AL	3.351	8.000	1.228	8.000	2.997	8.000	1.455	8.000	1.333	8.000	1.383	8.000	1.930	8.000	2.410	8.000
AL	.475	*	3.702	*	1.070	*	3.574	*	3.670	*	3.743	*	2.775	*	1.816	*
TI	.001	*	.009	*	.034	*	.011	*	.014	*	.012	*	.009	*	.011	*
CR	0.000	*	.003	*	0.000	*	0.000	*	0.000	*	0.000	*	.001	*	.001	*
FE	0.000	*	0.000	*	.022	*	.007	*	.002	*	0.000	*	.005	*	.010	*
MG	5.903	*	.410	*	5.340	*	.436	*	.421	*	.395	*	2.192	*	3.671	*
MN	0.000	7.399	0.000	4.125	.005	6.449	0.000	4.035	0.000	4.107	0.000	4.151	.001	4.982	.002	5.510
NA	0.000	*	.029	*	.017	*	.052	*	.043	*	.035	*	.030	*	.037	*
CA	.022	*	.044	*	.316	*	.042	*	.019	*	.020	*	.074	*	.134	*
BA	0.000	*	.057	*	.014	*	.075	*	.075	*	.091	*	.054	*	.070	*
K	.009	.031	1.089	1.218	.335	.582	1.493	1.662	1.183	1.320	1.049	1.196	.881	1.039	1.101	1.342
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M	0.000		0.000		.005		.015		.005		0.000		.003		.003	
F/FM	0.000		0.000		.005		.015		.005		0.000		.003		.003	

1 ESK-23-44.2M:CHLORITE
2 MUSCOVITE
3 CHLORITE
4 MUSCOVITE
5 MUSC
6 MUSCOVITE
7 AVERAGE
8 AVERAGE PLUS SIGMA

SUPER RECAL

APPENDIX I: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	9
SIO2	36.33
TIO2	.04
A2O3	24.75
C2O3	-.01
MNO	-.01
FEO	-.02
MGO	-1.67
CAO	-.17
BAO	.34
K2O	1.90
NA2O	.05
F	0.00
CL	0.00
SUM	61.53
-O= F+CL	0.00
SUM	61.53

SI	6.936	*
AL	1.064	8.000
AL	4.506	*
TI	.006	*
CR	-.001	*
FE	-.003	*
MG	-.476	*
MN	-.001	4.030
NA	.017	*
CA	-.035	*
BA	.025	*
K	.485	.492
F	0.000	*
CL	0.000	0.000
O	22.000	*
F/M		0.000
F/FM		0.000

9 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1: MUSCOVITE AND CHLORITE ANALYSES, ESKAY CREEK, B.C.

	1	2	3	4	5	6	7	8
SIO2	33.67	33.37	54.37	33.29	35.10	47.42	33.09	48.19
TIO2	0.00	0.00	.05	0.00	0.00	.06	.54	.08
A2O3	26.84	25.56	31.92	25.62	28.62	34.71	26.04	33.91
C2O3	0.00	.06	0.00	0.00	0.00	.02	0.00	0.00
MNO	.04	.10	.02	.10	.03	0.00	.06	.03
FEO	.13	.07	.14	.13	.15	.06	.07	0.00
MGO	26.89	25.79	2.96	26.67	22.26	1.71	26.22	2.11
CAO	.21	.19	.34	.19	.15	.08	.27	.10
BAO	0.00	0.00	.19	.03	0.00	.53	0.00	.69
K2O	.09	.07	8.37	.09	.11	10.13	.26	10.41
NA2O	0.00	.04	.06	.01	.04	.27	.04	.22
F	.17	.15	.13	.15	.05	0.00	.14	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	88.03	85.55	98.57	86.29	86.51	94.99	86.73	95.74
-O= F+CL	.07	.06	.05	.06	.02	0.00	.06	0.00
SUM	87.96	85.50	98.52	86.22	86.49	94.99	86.67	95.74

	1		2		3		4		5		6		7		8	
ST	4.752	*	4.845	*	6.853	*	4.807	*	4.999	*	6.287	*	4.750	*	6.354	*
AL	3.238	8.000	3.155	8.000	1.147	8.000	3.193	8.000	3.001	8.000	1.713	8.000	3.240	8.000	1.646	8.000
AL	1.234	*	1.224	*	3.592	*	1.167	*	1.801	*	3.709	*	1.174	*	3.522	*
TI	0.000	*	0.000	*	.005	*	0.000	*	0.000	*	.006	*	.058	*	.008	*
CR	0.000	*	.007	*	0.000	*	0.000	*	0.000	*	.002	*	0.000	*	0.000	*
FE	.015	*	.009	*	.015	*	.016	*	.018	*	.007	*	.008	*	0.000	*
MG	5.668	*	5.032	*	.556	*	5.741	*	4.725	*	.338	*	5.622	*	.415	*
MN	.005	6.923	.012	6.883	.002	4.170	.012	6.935	.004	6.548	0.000	4.062	.007	6.870	.003	4.048
NA	0.000	*	.011	*	.015	*	.003	*	.011	*	.069	*	.011	*	.056	*
CA	.032	*	.030	*	.046	*	.029	*	.023	*	.011	*	.042	*	.014	*
BA	0.000	*	0.000	*	.009	*	.002	*	0.000	*	.028	*	0.000	*	.036	*
K	.014	.046	.013	.054	1.024	1.044	.017	.050	.020	.054	1.713	1.821	.048	.100	1.751	1.857
F	.076	*	.069	*	.052	*	.064	*	.023	*	0.000	*	.064	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.004		.004		.030		.005		.005		.020		.003		.038
F/FM		.004		.004		.027		.005		.005		.019		.003		.038

1 ESK-23-86.0M MASS CHL
2 CHLORITE
3 MICA
4 CHLORITE
5 CHLORITE NEAR PY
6 CSE MICA MARGINAL TO CARB VEIN
7 CHLORITE
8 MUSCOVITE

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12	13	14	15	16
SIO2	48.82	46.37	50.79	50.72	52.76	52.75	32.54	35.94
TIO2	.12	.24	.08	.14	0.00	.02	0.00	.02
AL2O3	35.17	35.21	35.88	36.26	33.02	31.15	26.76	28.54
CR2O3	0.00	0.00	.01	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	.02	0.00	0.00	0.00	.10	.09
FEO	.04	.07	.05	.03	.10	.02	.13	.19
MGO	1.86	1.58	1.70	1.74	2.64	3.03	26.37	24.17
CAO	.09	.09	.04	.02	.15	.19	.19	.21
BAO	.94	3.71	1.19	1.20	.33	.24	0.00	.06
K2O	7.39	7.03	9.04	8.47	7.75	9.39	.10	.10
NA2O	.13	.33	.21	.19	.10	.18	.03	.01
F	0.00	0.00	0.00	0.00	0.00	.07	.11	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	94.55	95.53	98.91	98.79	97.05	97.04	86.33	89.33
-O= F+CL	0.00	0.00	0.00	0.00	0.00	.03	.05	0.00
SUM	94.56	95.53	98.91	98.73	97.05	97.01	86.28	89.33

	9		10		11		12		13		14		15		16	
SI	6.389	*	6.242	*	6.409	*	6.395	*	6.694	*	6.758	*	4.698	*	4.974	*
AL	1.611	8.000	1.758	8.000	1.591	8.000	1.605	8.000	1.306	8.000	1.242	8.000	3.302	8.000	3.026	8.000
AL	3.812	*	3.755	*	3.753	*	3.783	*	3.632	*	3.461	*	1.252	*	1.629	*
TI	.012	*	.024	*	.008	*	.013	*	0.000	*	.002	*	0.000	*	.002	*
CR	0.000	*	0.000	*	.001	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.004	*	.006	*	.005	*	.003	*	.011	*	.002	*	.016	*	.022	*
MG	.363	*	.333	*	.320	*	.327	*	.499	*	.579	*	5.675	*	4.986	*
MN	0.000	4.191	0.000	4.120	.002	4.089	0.000	4.126	0.000	4.141	0.000	4.044	.012	6.955	.011	5.643
NA	.033	*	.085	*	.051	*	.040	*	.025	*	.045	*	.008	*	.003	*
CA	.013	*	.013	*	.005	*	.003	*	.020	*	.026	*	.029	*	.031	*
BA	.048	*	.204	*	.050	*	.057	*	.016	*	.012	*	0.000	*	.003	*
K	1.233	1.327	1.192	1.493	1.457	1.573	1.365	1.474	1.287	1.348	1.534	1.617	.018	.055	.018	.053
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	.028	*	.050	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.012		.023		.023		.010		.021		.004		.005		.007
F/FM		.012		.023		.023		.010		.021		.004		.005		.006

9 CSE MICA SHEAFS
10 HIGH BA MICA
11 MICA
12 MUSCOVITE
13 F GR MICA ST CC VEIN
14 MICA
15 CHLORITE
16 CHL WITH ANGULAR PY

SUPER RECAL APPENDIX I:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	17	18	19	20
SIO2	51.91	43.62	52.03	35.21
TIO2	.14	.09	.22	-.04
A2O3	34.95	31.17	35.07	27.29
C2O3	0.00	.01	.02	-.01
MNO	.01	.04	.07	-.00
FEO	.10	.09	.14	.04
MGO	1.67	11.75	23.31	.19
CAO	.15	.15	.24	.04
BAO	.72	.59	1.52	-.34
K2O	8.22	5.01	9.22	.80
NA2O	.12	.12	.21	.02
F	0.00	.05	.12	-.01
CL	0.00	0.00	0.00	0.00
SUM	98.00	92.70	122.20	63.21
-O= F+CL	0.00	.02	.05	-.00
SUM	98.00	92.68	122.14	63.21

SI	6.555	*	5.654	*	5.490	*	6.491	*
AL	1.445	8.000	2.146	8.000	2.510	8.000	1.509	8.000
AL	3.755	*	2.786	*	1.852	*	4.417	*
TI	.013	*	.007	*	.017	*	-.006	*
CR	0.000	*	.001	*	.002	*	-.001	*
FE	.011	*	.010	*	.012	*	.006	*
MG	.314	*	2.344	*	3.065	*	.043	*
MN	.001	4.095	.004	5.159	.007	5.556	-.003	4.464
NA	.027	*	.030	*	.044	*	.037	*
CA	.022	*	.023	*	.027	*	.015	*
BA	.036	*	.031	*	.053	*	-.024	*
K	1.324	1.411	.858	.942	1.241	1.374	.133	.187
F	0.000	*	.024	*	.041	*	-.005	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.037		.006		.005		.105
F/FM		.036		.006		.005		.095

17 MICA
18 AVERAGE
19 AVERAGE PLUS SIGMA
20 AVERAGE MINUS SIGMA

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6	7	8
SIO2	49.58	49.92	47.96	48.04	30.14	29.73	30.31	29.41
TIO2	0.00	.02	.04	0.00	0.00	0.00	0.00	0.00
A2O3	28.99	30.15	29.75	30.17	19.35	20.29	16.94	19.75
C2O3	.01	.07	.06	.11	.10	.05	.01	.05
MNO	0.00	0.00	.02	.02	0.00	.03	0.00	.04
FEO	.14	.14	.16	.13	4.60	4.34	9.69	4.38
MGO	3.71	3.41	3.59	2.72	28.75	29.17	26.77	29.10
CAO	.14	.09	.15	.15	.24	.14	.09	.15
BAO	.33	.49	.27	.38	0.00	0.00	.02	0.00
K2O	9.47	9.71	9.66	9.50	.04	.07	.02	.05
NA2O	.13	.12	.09	.38	0.00	.03	.06	0.00
F	0.00	0.00	0.00	0.00	.02	0.00	.13	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUM	92.50	94.12	94.12	91.82	83.24	83.91	84.04	82.94
-O= F+CL	0.00	0.00	0.00	0.00	.01	0.00	.05	0.00
SUM	92.50	94.12	94.12	91.82	83.23	83.91	83.99	82.94

	1		2		3		4		5		6		7		8	
SI	6.711	*	6.653	*	6.661	*	6.572	*	4.682	*	4.587	*	4.798	*	4.586	*
AL	1.289	8.000	1.347	8.000	1.339	8.000	1.428	8.000	3.318	8.000	3.413	8.000	3.160	7.958	3.414	8.000
AL	3.335	*	3.389	*	3.356	*	3.434	*	.224	*	.269	*	0.000	*	.216	*
TI	0.000	*	.002	*	.004	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CR	.001	*	.007	*	.006	*	.012	*	.012	*	.006	*	.001	*	.006	*
FE	.016	*	.015	*	.018	*	.015	*	.598	*	.559	*	1.283	*	.571	*
MG	.749	*	.677	*	.096	*	.575	*	6.657	*	6.695	*	6.317	*	6.754	*
MN	0.000	4.101	0.000	4.092	.002	4.094	.002	4.064	0.000	7.490	.004	7.533	0.000	7.601	.005	7.562
NA	.034	*	.031	*	.023	*	.101	*	0.000	*	.009	*	.018	*	0.000	*
CA	.020	*	.013	*	.021	*	.022	*	.040	*	.023	*	.015	*	.027	*
BA	.018	*	.025	*	.027	*	.020	*	0.000	*	0.000	*	.001	*	0.000	*
K	1.635	1.707	1.651	1.719	1.643	1.715	1.658	1.801	.008	.048	.014	.046	.004	.039	.010	.037
F	0.000	*	0.000	*	0.000	*	0.000	*	.010	*	0.000	*	.065	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.021		.023		.029		.029		.090		.084		.203		.095
F/FM		.021		.023		.028		.028		.082		.078		.169		.077

1 ESK-28-63.0: MUSC MIXED W CC ASP OVER PY
2 MUSC
3 MUSC
4 MUSC ALT ZONE,ASP AFTER PY
5 CHL IN CC LINED VESC
6 CHL INST TO PY
7 CHLORITE
8 CHLORITE

SUPER RECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	9	10	11	12	13	14
SIO2	48.02	44.45	31.15	40.07	49.23	30.91
TIO2	0.00	.03	0.00	.01	.02	-.01
A2O3	29.23	27.12	19.05	24.83	30.15	19.51
C2O3	.09	.12	.06	.07	.10	.03
MNO	.03	.03	.03	.02	.05	-.00
FEO	.54	.71	6.72	2.09	6.03	-.25
MGO	5.24	8.44	27.82	15.51	27.67	3.39
CAO	.19	.20	.12	.14	.19	.10
BAO	.34	.43	0.02	.23	.44	.02
K2O	8.93	7.76	.01	5.02	7.60	.44
NA2O	.14	.09	.05	.10	.20	-.00
F	0.00	0.00	0.00	.01	.05	-.02
CL	0.00	0.00	0.00	0.00	0.00	0.00
SUM	92.72	91.59	87.13	88.92	123.72	54.12
-O= F+CL	0.00	0.00	0.00	.01	.02	-.01
SUM	92.72	91.59	87.13	88.91	123.70	54.13

	9		10		11		12		13		14	
SI	6.599	*	6.130	*	4.681	*	5.751	*	5.283	*	6.697	*
AL	1.491	8.000	1.864	8.000	3.317	8.000	2.249	8.000	2.717	8.000	1.303	8.000
AL	3.198	*	2.673	*	.052	*	1.750	*	1.095	*	3.677	*
TI	0.000	*	.003	*	0.003	*	.001	*	.002	*	-.001	*
CR	.010	*	.013	*	.007	*	.035	*	.009	*	.005	*
FE	.051	*	.105	*	.553	*	.347	*	.541	*	-.044	*
MG	1.057	*	1.737	*	6.678	*	3.322	*	4.426	*	1.094	*
MN	.003	4.321	.004	4.735	.010	7.500	.033	5.631	.004	6.077	-.000	4.731
NA	.037	*	.024	*	.015	*	.028	*	.041	*	-.003	*
CA	.015	*	.030	*	.019	*	.022	*	.022	*	.023	*
BA	.018	*	.023	*	0.000	*	.013	*	.018	*	.001	*
K	1.544	1.513	1.356	1.443	.002	.036	.919	.981	1.313	1.395	.123	.147
F	0.000	*	0.000	*	0.000	*	.036	*	.017	*	-.016	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.051		.053		.124		.105		.123		-.041
F/FM		.058		.057		.114		.095		.110		-.042

9 MUSC WITH CHL REPLACING GLASS SHARDS
10 MUSC AND CHL MIX
11 ASSOCIATED CHLORITE

12 AVERAGE
13 AVERAGE PLUS SIGMA
14 AVERAGE MINUS SIGMA

SUPER PECAL

APPENDIX 1:MUSCOVITE AND CHLORITE ANALYSES,ESKAY CREEK,B.C.

	1	2	3	4	5	6
SIO2	53.20	50.09	50.19	51.36	52.68	50.04
TIO2	.09	.07	.19	.07	.10	.09
A2O3	27.66	29.68	30.11	29.22	30.32	28.11
C2O3	0.00	0.00	0.00	0.00	0.00	0.00
MNO	0.00	0.00	0.00	0.00	0.00	0.00
FEO	1.31	.49	.18	.66	1.14	.18
MGO	3.20	3.20	3.10	3.17	3.21	3.12
CAO	.11	.04	0.00	.05	.10	.00
BAO	.40	1.38	1.17	1.02	1.40	.64
K2O	7.10	8.28	8.70	8.03	8.70	7.35
NA2O	.04	.13	0.00	.06	.11	.00
F	0.00	0.00	0.00	0.00	0.00	0.00
CL	0.00	0.00	0.00	0.00	0.00	0.00
SUM	93.20	94.17	93.57	93.65	97.76	89.53
-O= F+CL	0.00	0.00	0.00	0.00	0.00	0.00
SUM	93.20	94.17	93.57	93.65	97.76	89.53

	1		2		3		4		5		6	
SI	7.043	*	6.737	*	6.710	*	6.830	*	6.770	*	6.895	*
AL	.957	8.000	1.263	8.000	1.290	8.000	1.170	8.000	1.230	8.000	1.105	8.000
AL	3.357	*	3.417	*	3.453	*	3.404	*	3.363	*	3.459	*
TI	.009	*	.007	*	.010	*	.004	*	.009	*	.009	*
CR	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
FE	.145	*	.054	*	.020	*	.073	*	.122	*	.021	*
MG	.631	*	.634	*	.618	*	.628	*	.616	*	.641	*
MN	0.000	4.143	0.000	4.115	0.000	4.101	0.000	4.120	0.000	4.110	0.000	4.130
NA	.010	*	.034	*	0.000	*	.015	*	.028	*	.001	*
CA	.016	*	.006	*	0.000	*	.007	*	.013	*	.001	*
BA	.025	*	.072	*	.062	*	.053	*	.071	*	.034	*
K	1.199	1.250	1.404	1.515	1.484	1.546	1.362	1.436	1.427	1.538	1.292	1.327
F	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*	0.000	*
CL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
F/M		.230		.086		.033		.117		.198		.033
F/FM		.187		.079		.032		.105		.166		.032

1 ESK-55-100.6: MUSC (CHL MIX)
2 MUSC (CHL MIX)
3 MUSC (CHL MIX)

4 AVERAGE
5 AVERAGE PLUS SIGMA
6 AVERAGE MINUS SIGMA

SUPER RECAL   APPENDIX 2, CARBONATE ANALYSES ESKAY CREEK, B.C.
SUB GROUP CA MG MN FE / O /
SUB GROUP CA / MG / MN FE /

	1	2	3	4	5	6	7	8
MGO	.13	.17	.12	.21	.09	.13	22.89	20.49
CAO	55.12	55.65	55.23	55.33	51.08	52.24	32.45	34.49
MNO	0.00	.11	.19	.35	.08	.12	.39	.37
FEO	0.00	0.00	0.00	.02	.02	0.00	0.00	0.00
SUM	55.25	55.96	55.54	55.92	52.07	52.49	55.73	55.35

	1		2		3		4		5		6		7		8	
CA	.997	*	.994	*	.994	*	.989	*	.996	*	.995	*	.502	*	.545	*
MG	.003	*	.005	*	.003	*	.005	*	.002	*	.003	*	.493	*	.450	*
MN	0.000	*	.002	*	.003	*	.005	*	.001	*	.002	*	.005	*	.005	*
FE	0.000	1.000	0.000	1.000	0.000	1.000	.000	1.000	.000	1.000	0.000	1.000	0.000	1.000	0.000	1.000
O	1.000	*	1.000	*	1.000	*	1.000	*	1.000	*	1.000	*	1.000	*	1.000	*

	1	2	3	4	5	6	7	8
CA	99.67	99.37	99.43	98.94	99.61	99.47	50.23	54.49
MG	.33	.47	.30	.52	.24	.34	49.29	45.04
MNFE	0.00	.16	.27	.54	.15	.18	.48	.47
F/M	0.000	.329	.900	1.028	.630	.525	.010	.011
F/FM	0.000	.248	.474	.507	.386	.344	.010	.011

1 ESK-6-97.5: INST CARB
2 CARB
3 ASSOC INST CARB
4 CARB VEIN INCLUDES STIBNITE LATHS
5 ESK-7-111.7: CC WITH STIB IN REGION OF C
6 FRINGE OF CC ALONG LATE URP-NATIVE AS VE
7 ESK-9-64.4: CARB
8 CARB

	9	10	11	12	13	14	15	16
MGO	.11	.22	21.77	21.72	22.23	22.86	20.24	19.31
CAO	53.18	52.94	29.32	24.22	29.54	30.54	33.79	30.38
MNO	.17	.14	.83	.53	.57	.57	4.39	3.99
FEO	.04	0.00	.01	1.77	.10	.03	.02	0.00
SUM	53.52	53.30	51.93	48.24	52.44	54.00	58.43	53.69

	9		10		11		12		13		14		15		16	
CA	.994	*	.992	*	.495	*	.431	*	.484	*	.486	*	.516	*	.503	*
MG	.003	*	.006	*	.503	*	.537	*	.507	*	.506	*	.430	*	.445	*
MN	.003	*	.002	*	.011	*	.007	*	.007	*	.007	*	.053	*	.052	*
FE	.001	1.000	0.000	1.000	.000	1.000	.025	1.000	.001	1.000	.000	1.000	.000	1.000	0.000	1.000
O	1.000	*	1.000	*	1.000	*	1.000	*	1.000	*	1.000	*	1.000	*	1.000	*

	9	10	11	12	13	14	15	16
CA	99.38	99.22	48.53	43.07	49.43	48.52	51.65	50.33
MG	.29	.57	50.27	53.73	50.70	50.63	43.04	44.43
MNFE	.34	.21	1.10	3.20	.87	.75	5.32	5.22
F/M	1.186	.362	.022	.060	.017	.015	.124	.117
F/FM	.542	.266	.021	.056	.017	.015	.110	.105

9 GOOD CC CRYSTAL CENTRAL ALT VEIN W ASP
10 CARB
11 CARB IN C WITH BARITE AND AS..
12 ESK-7-74.9-CAS:CARB
13 CARB
14 CARB
15 CARB FACE AGAINST STIB
16 CARB

SUPER RECAL

APPENDIX 2. CARBONATE ANALYSES ESKAY CREEK, B.C.

	17	18	19	20	21	22	23	24
MGO	18.86	.14	17.05	18.15	18.21	18.81	.12	.17
CAO	28.47	57.32	29.44	30.40	28.49	29.83	55.50	54.41
MNO	2.94	.24	3.12	2.80	3.26	3.11	.14	.16
FEO	0.00	.02	0.00	.04	0.00	.02	.02	0.00
SUM	50.27	57.73	51.62	51.49	49.96	51.77	55.79	54.74
CA	.499 *	.993 *	.503 *	.524 *	.505 *	.510 *	.995 *	.993 *
MG	.460 *	.003 *	.453 *	.436 *	.449 *	.448 *	.003 *	.004 *
MN	.041 *	.003 *	.043 *	.039 *	.046 *	.042 *	.002 *	.002 *
FE	0.000 1.000	.000 1.000	0.003 1.000	.001 1.000	0.000 1.000	.000 1.000	.000 1.000	0.000 1.000
O	1.000 *	1.000 *	1.000 *	1.000 *	1.000 *	1.000 *	1.000 *	1.000 *
CA	49.92	99.31	50.34	52.45	50.51	51.02	99.47	99.34
MG	46.00	.34	45.34	43.56	44.92	44.75	.30	.43
MNFE	4.08	.35	4.31	4.00	4.57	4.23	.23	.23
F/M	.089	1.051	.095	.092	.102	.095	.756	.535
F/FM	.081	.513	.087	.084	.092	.086	.431	.343

17 CARB
18 POSS ZONED CARB
19 CARB
20 CARB
21 ZONED CARB ADJ TO STIB INDTZ GASH
22 ADJ BRIGHT CARB DOMAIN
23 CC W LARGE GR BARITE AND STIB
24 ? BARITE

	25	26	27	28	29	30	31	32
MGO	.17	.20	.24	.20	.20	.14	.32	.17
CAO	56.00	56.79	54.86	56.26	56.78	54.87	54.36	54.61
MNO	.09	.16	.24	.11	.23	.18	.15	.16
FEO	0.00	.03	.05	.04	0.00	0.00	0.00	0.00
SUM	56.26	57.19	55.39	56.61	57.21	55.19	54.83	54.94
CA	.995 *	.993 *	.990 *	.993 *	.992 *	.994 *	.990 *	.993 *
MG	.004 *	.005 *	.006 *	.005 *	.005 *	.004 *	.008 *	.004 *
MN	.001 *	.002 *	.003 *	.002 *	.003 *	.003 *	.002 *	.002 *
FE	0.000 1.000	.000 1.000	.001 1.000	.001 1.000	0.000 1.000	0.000 1.000	0.000 1.000	0.000 1.000
O	1.000 *	1.000 *	1.000 *	1.000 *	1.000 *	1.000 *	1.000 *	1.000 *
CA	99.45	99.25	98.78	99.30	99.20	99.39	98.97	99.34
MG	.42	.46	.60	.45	.47	.35	.81	.43
MNFE	.13	.26	.41	.21	.32	.26	.22	.23
F/M	.301	.534	.685	.425	.654	.731	.266	.535
F/FM	.231	.350	.407	.296	.395	.422	.210	.348

25 CARB
26 CARB
27 CARB
28 LARGE REGION CC [illegible] STIB
29 CC WITH GRANULAR STIB REGION
30 CARB
31 CARB
32 CARB

SUPER DECAL

APPENDIX 2. CARBONATE ANALYSES ESKAY CREEK, B.C.

	33	34	35	36	37	38	39	40
MGO	1.25	.18	2.00	.09	.10	.10	.18	18.11
CAO	56.29	55.96	54.29	56.03	54.21	53.49	54.87	28.20
MNO	.10	0.00	.35	.08	.21	.18	.31	.33
FEO	.03	.02	0.00	0.00	0.00	0.00	.02	0.00
SUM	57.67	56.16	56.64	56.20	54.52	53.77	55.39	46.64
CA	.968	.995	.940	.997	.994	.995	.991	.526
MG	.030	.004	.049	.002	.003	.003	.005	.470
MN	.001	0.000	.003	.001	.003	.003	.004	.005
FE	.000 1.000	.000 1.000	0.000 1.000	0.000 1.000	0.000 1.000	0.000 1.000	.000 1.000	0.000 1.000
U	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
CA	96.83	99.53	94.64	99.66	99.44	99.48	99.08	52.55
MG	2.99	.45	4.86	.22	.26	.26	.45	45.36
MNFE	.16	.03	.50	.11	.30	.26	.47	.49
F/M	.057	.042	.102	.505	1.193	1.023	1.041	.013
F/FM	.056	.057	.075	.336	.544	.506	.510	.013

33 ESK-9-75.2: CARB
34 CARB
35 CARB
36 CARB IN CAVITIES IN A...
37 ESK-9-76.4-CA6: CA GANGUE IN PLACES
38 CARB
39 CARB TEN VEIN CUTTING CHL
40 NARROW DOL MARGINAL ZONE ASSOC W MICA AN

	41	42	43	44	45	45	47	48
MGO	19.67	.13	.15	20.67	19.67	21.19	18.80	17.33
CAO	29.35	53.35	53.79	28.48	27.20	29.95	24.59	25.13
MNO	.52	.14	.55	.79	.06	.50	.75	.55
FEO	0.00	.23	.13	.05	.25	.04	.25	.19
SUM	49.53	53.85	54.67	50.19	47.18	51.68	44.39	43.20
CA	.514	.991	.983	.491	.500	.500	.477	.504
MG	.479	.003	.004	.495	.487	.492	.508	.484
MN	.007	.002	.010	.013	.010	.007	.012	.009
FE	0.000 1.000	.003 1.000	.003 1.000	.001 1.000	.004 1.000	.001 1.000	.004 1.000	.003 1.000
U	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
CA	51.39	99.12	98.35	49.06	49.96	50.04	47.72	50.44
MG	47.91	.34	.38	49.53	48.73	49.25	50.75	48.39
MNFE	.71	.54	1.27	1.42	1.32	.71	1.53	1.17
F/M	.015	1.605	2.794	.029	.027	.014	.030	.024
F/FM	.015	.010	.736	.028	.026	.014	.029	.024

41 CARB
42 ESK-12-75.6: CARB
43 CARB VEIN
44 ESK-12-89.2: INST CAR.
45 DOLOMITE
46 CARB
47 CARB
48 CARB

SUPER DECAL

APPENDIX 2, CARBONATE ANALYSES ESKAY CREEK, B.C.

	49	50	51	52	53	54	55	56
MGO	20.55	20.72	21.07	22.22	15.73	20.49	21.53	21.58
CAO	28.51	29.67	31.77	32.18	30.48	28.23	27.85	31.88
MNO	.46	.45	.73	.05	.53	.84	.85	1.01
FEO	1.06	.70	1.25	1.81	.75	1.36	1.75	1.29
SUM	50.59	51.34	54.78	56.66	47.49	50.92	51.99	55.76
CA	.489	.495	.517	.495	.571	.483	.465	.500
MG	.490	.487	.465	.475	.410	.488	.501	.471
MN	.006	.005	.012	.008	.008	.011	.011	.013
FE	.014	.012	.010	.022	.011	.018	.023	.016
	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
O	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
CA	48.91	49.40	50.60	49.49	57.11	48.29	46.54	50.04
MG	49.05	48.73	46.61	47.54	41.00	48.76	50.05	47.12
MNFE	2.04	1.77	2.73	2.95	1.88	2.95	3.41	2.33
F/M	.042	.037	.059	.062	.046	.061	.068	.053
F/FM	.040	.035	.055	.059	.044	.057	.064	.057

49 ESK--15-6[illegible].1M CARB [illegible]
50 DOLOMITE
51 DOLOMITE
52 DOL.
53 DOLOMITE
54 DOLOMITE
55 DOLOMITE
56 DOLOMITE

	57	58	59	60	61	62	63	64
MGO	20.03	19.90	20.75	1.57	1.78	.32	.26	.20
CAO	26.06	27.55	31.13	51.70	52.65	54.36	55.72	54.62
MNO	.65	.67	.75	.85	.02	.24	.27	.23
FEO	1.11	1.22	1.30	.22	.33	.10	.05	.02
SUM	48.79	49.93	54.75	54.34	55.53	55.02	56.30	55.07
CA	.478	.485	.505	.945	.940	.987	.989	.991
MG	.497	.484	.467	.040	.044	.008	.006	.005
MN	.009	.007	.012	.012	.012	.003	.004	.003
FE	.015	.017	.016	.003	.005	.001	.001	.000
	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
O	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
CA	47.82	48.49	50.48	94.47	93.96	98.71	98.91	99.14
MG	49.73	48.40	46.58	3.99	4.42	.81	.64	.30
MNFE	2.46	2.51	2.34	1.54	1.62	.49	.45	.35
F/M	.049	.053	.061	.385	.366	.602	.698	.710
F/FM	.047	.051	.057	.279	.268	.376	.411	.415

57 DOLOMITE
58 DOLOMITE
59 DOL.
60 ESK-21-54.4M CARB
61 CARB
62 ESK-21-58.1M CSF CC
63 CARB W STIB.
64 CARBONATE

SUPER RECAL

APPENDIX 2, CARBONATE ANALYSES ESKAY CREEK, B.C.

	65	66	67	68	69	70	71	72
MGO	.21	1.24	.73	.99	.86	.39	.19	.95
CAO	55.71	51.55	52.42	47.81	51.28	54.46	54.82	53.67
MNO	.35	.11	1.01	.77	.83	.09	.12	.81
FEO	.09	.14	.03	.09	.12	.04	.05	.04
SUM	56.35	53.05	54.19	49.65	53.09	54.98	55.18	55.47

	65	66	67	68	69	70	71	72
CA	.989	.968	.964	.959	.963	.988	.993	.964
MG	.005	.029	.020	.026	.022	.010	.005	.024
MN	.005	.001	.015	.012	.012	.001	.002	.012
FE	.001 1.000	.002 1.000	.001 1.000	.001 1.000	.002 1.000	.001 1.000	.001 1.000	.001 1.000
U	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
CA	98.88	96.77	96.40	95.89	96.34	98.83	99.28	96.42
MG	.52	2.90	2.00	2.76	2.25	.98	.48	2.37
MNFE	.60	.33	1.60	1.35	1.41	.19	.24	1.21
F/M	1.161	.114	.331	.487	.627	.189	.507	.509
F/FM	.537	.102	.245	.326	.385	.159	.336	.337

65 CARBONATE
66 ESK-22-44.34:CARB
67 ESK-23-86.94 CARB
68 CARB

69 CARB VEIN
70 CARB
71 CSL CC IN VEIN
72 NARROWER CC VEIN

	73
MGO	2.23
CAO	35.25
MNO	.53
FEO	.10
SUM	38.19
CA	.906
MG	.080
MN	.012
FE	.002 1.000
U	1.000
CA	90.63
MG	7.97
MNFE	1.40
F/M	.176
F/FM	.149

73 CALCITE