Assessment Report

Covering Preliminary Geological Investigations on Altered Ultramafic and Volcanic Rocks on the Imperial Mineral Claim, (12 Units), Tenure Number 379554, Monroe Mountain in the Atlin Mining Division, British Columbia, Canada.

NTS Series 104N,

Mineral Claim Map sheet 104N/12E;

Mineral Claim Tag#209661;

LCP located at: North 59 degrees, 36 minutes and 24 seconds;
West 133 degrees, 35 minutes and 37.1 seconds;
Elevation LCP: 921.87 metres:

Work Approval Number SMI-2004-0101683-0629

National Mineral Inventory 104N12 Au3;

Minfile No. 104N 008

by

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Field work Dates, 12 November 2003- 15th June 2004
Report Dated: 7th September 2004

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Notes on Carbonates, (after Payne, J.G)

Carbonates were distinguished on the following optical and chemical properties, some of which are not definitive.

Calcite effervesces quickly with cold, dilute HCl, whereas other carbonates react very slowly (Sample 3A).

Ankerite more commonly that other carbonates form disseminated euhedral rhombic grains in cherty quartz (Sample 3A). Also, ankerite may weather to produce limonite (Sample 1).

In samples where optical and chemical properties are not definitive, carbonate was interpreted as magnesite from the probable petrogenesis of the rocks, magnesite being the common, anhedral, massive carbonate formed, in part with talc, quartz, and fuchsite in altered ultramafic rocks (Samples 1, 2, 3A).

Notes on Listwanites:

Are carbonatized ultramafic rocks, (after Ash and Arksey, 1990?)
The Glossary of Geology, (AGI, 1972) describes listwanites a schistose rock of yellowish green colour composed of various combinations of the minerals of quartz, dolomite, magnesite, talc, and limonite, (Holmes, 1928, P. 143). It is found in Beresowsk, Ural Mountains

1.0 Summary

Since 1898, the Atlin mining camp in NW British Columbia has been known as an alluvial gold camp. However the source of placer gold has never been established.

There have been several possibilities proposed by Atlin workers. Since the source of placer gold is spatially related to Atlin Ultramafics the there has been a long term rationale that the Atlin placer gold is sourced to these rocks, albeit namely the carbonatized ultramafics, (listwanites), the carbonate altered rocks and the diabase rocks.

This study, although limited, shows that gold can be associated with the proximal Permian metamorphosed andesites and basalt in quartz veinlets and quartz veins as electrum, and that this electrum is in quartz, but associated with proximal chalcopyrite and pyrite.

Introduction

2.1 Scope of Report

This report is to document the assessment work carried-out on the Imperial mineral claim, tenure #379, 554 carried out by Nicholas Clive Aspinall, (FMC#101024) of Atlin BC, over four days during May 2004.

2.2 Location and Access

The Imperial mineral claim of 12 units, tenure # 379,554 is located on the south-facing slope of Monroe Mountain, near Atlin BC, see figure 1, 2. The claim falls on NTS (National Topographic System)104N and on BC Mineral claim map 104n/12E. The LCP, (Legal Corner Post) and claim boundaries are marked by claim posts as regulated by the mineral act, extending four units to the west and three units to the north. The LCP is located in the SE corner of the claim.

The LCP is located in a wooded area. Geographic Positioning System (GPS) Co-ordinates are: North 59 degrees, 36 minutes and 24 seconds,
West 133 degrees, 35 minutes and 37.1 seconds,
Elevation 921.8 feet.

The Imperial claim is located 7 km northeast of the community of Atlin. A bush road leads from Surprise lake road to the base of Monroe Mountain, where the claim is situated.

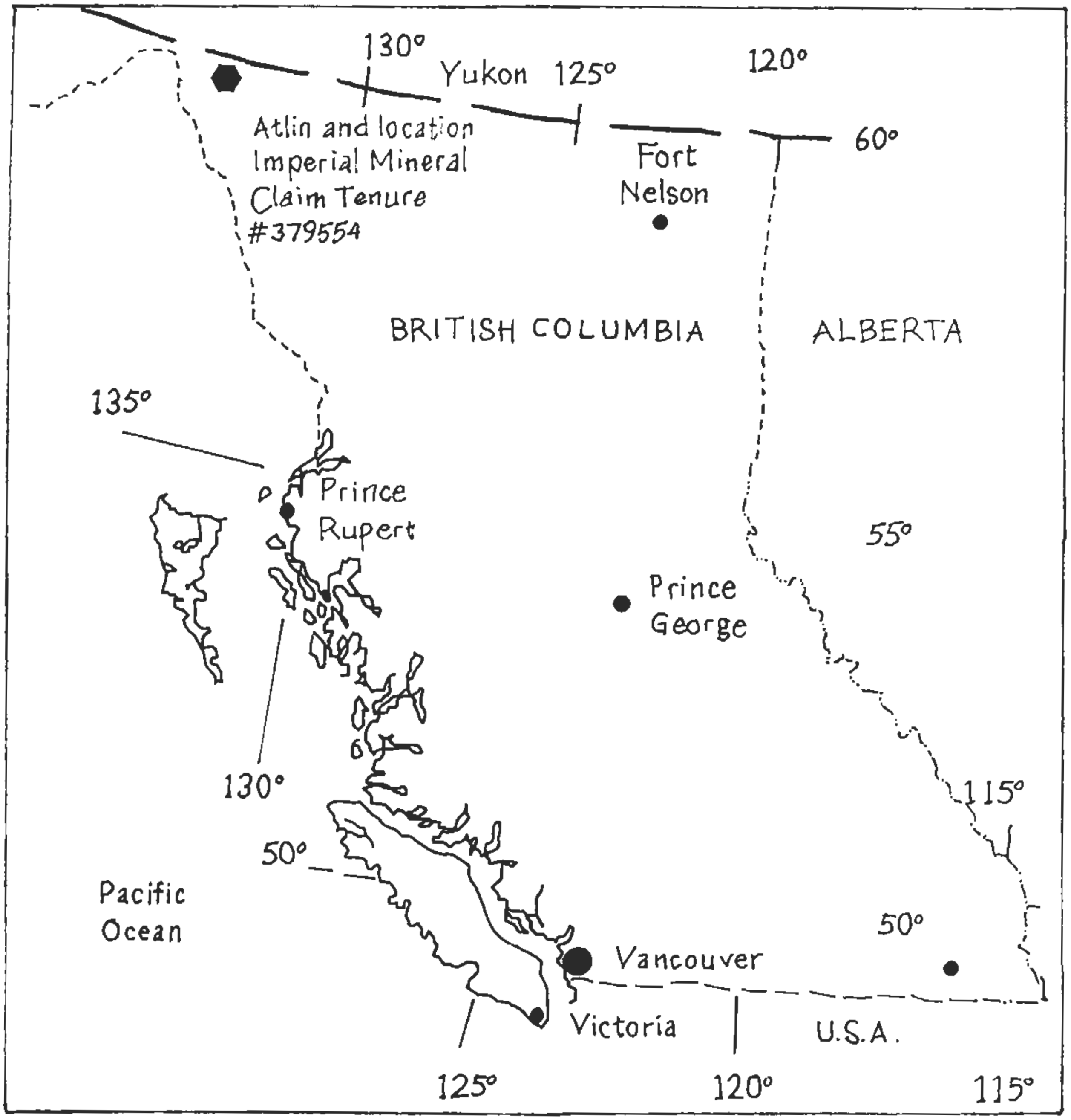
2.3 Physiography and Climate

The south facing slopes of Monroe Mountain, (est: 950 m asl) are relatively steep, with slopes being up to 45° in steepness. These slopes ascend for approximately 250 metres above the Pine Creek valley.

The climate of the Atlin area has witnessed some changes over the past ten years. Falls are mild, extending from September to December, with some –40° F below days during January. Snows usually have been coming late, arriving to stay in December and last until April. Atlin Lake freezes over for shorter periods than previously, staring from early January and breaks up in early May. The lake has open areas in some locations, and can be thin where major creeks flow in to the lake, such as in Pine Creek Bay. Spring and summer weather is variable from year to year, and influenced by Pacific Ocean coastal patterns.

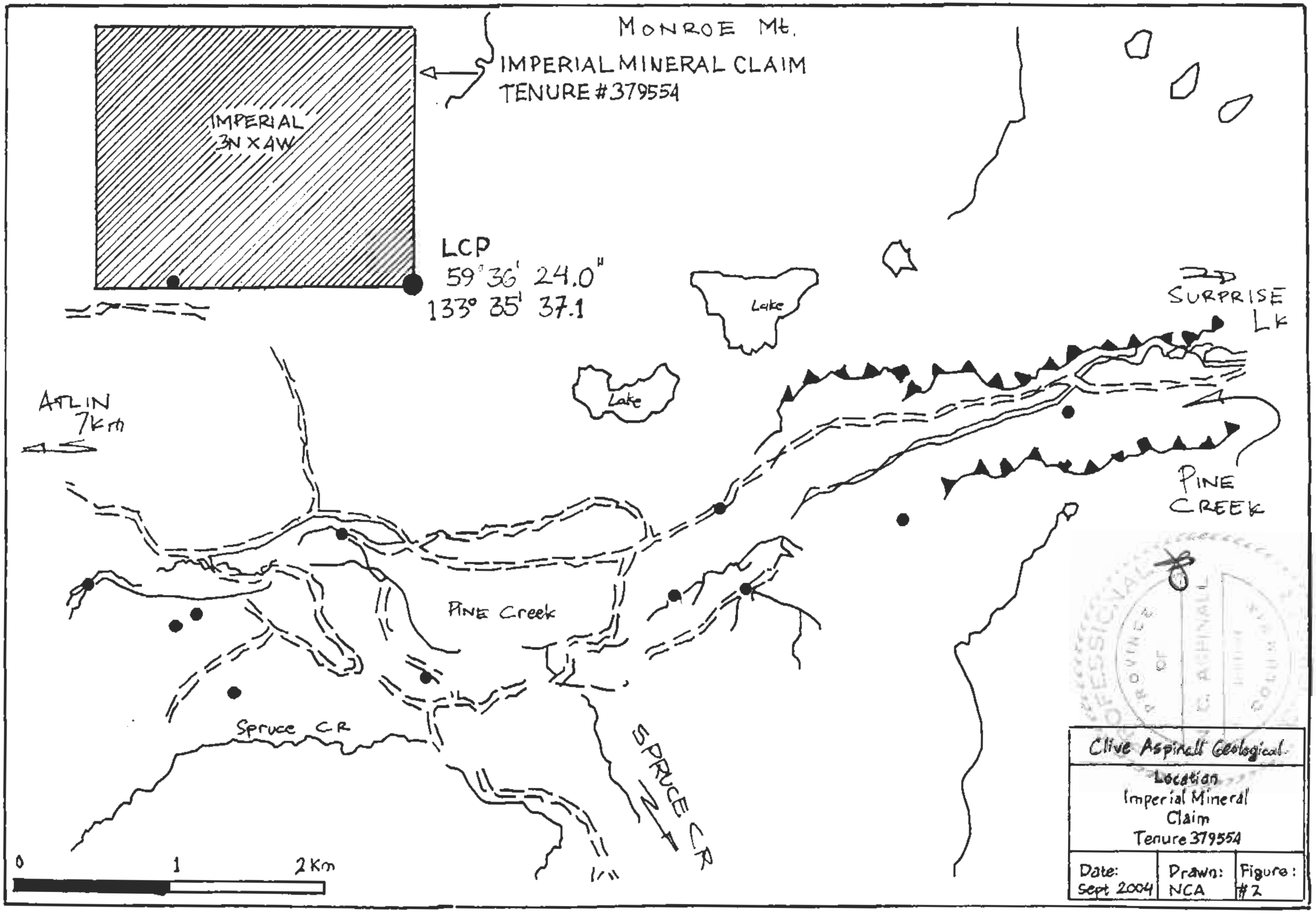
2.4 Claim Status and Ownership

The Imperial mineral claim, tenure 397554, claim tag 209661, consists of 12 units. The claim was staked between the 6th and 9th August 2000, by and for the writer, Nicholas Clive Aspinall, FMC#101024, address: Pillman Hill, Box 22, Atlin BC. V0W 1A0. See figure 2.



Imperial Mineral Claim is located 7 Km NE of community of Atlin B.C

Clive Aspinall Geological		
Imperial Mineral Claim Location Map		
Date: Sept 2004	Drawn: NCA	Figure: #1



MONROE Mt.
IMPERIAL MINERAL CLAIM
TENURE #379554
IMPERIAL
3N X 4W
LCP
59° 36' 24.0"
133° 35' 37.1
Lake
Lake
SURPRISE LK
ATLIN 7Km
PINE CREEK
Pine Creek
Spruce CR
SPRUCE CR
0
1
2 Km
Clive Aspinall Geological
Location
Imperial Mineral
Claim
Tenure 379554
Date:
Sept 2004
Drawn:
NCA
Figure:
#2

Assessment work carried out as described in this report amounts to $4,376.18 of which $4,000.00 was filed prior to the anniversary date of 9th August 2004. By including $800.00 from the writer's PAC account, bringing the total amount to $4800.00 the writer is applying to keep the Imperial claim to 9th August 2006. The following table summarises the current status of the Imperial claim.

Table 1.

Claim/units	Tenure No	Owner/FMC	Value work applied in 2004.	Applied claim standing to:
Imperial/12 units	379554	Nicholas Clive Aspinall	$4,800, ($800 from PAC)	9th August 2006

2.5 History of Gold Mining and Exploration on the Imperial Claim

Much of the history of mineral exploration and gold mining on the Imperial Claim has been taken from the 1988 Homestake Mineral Development Ltd assessment report on Imperial Property, (A/R 17,495).

According to this report the original property was first staked in 1899. Gold had been discovered in a 150 metre long quartz vein. Two cross cut tunnels, and upper and a lower, were driven to intersect the discovered quartz vein. This quartz vein reportedly trends 295°-310° dipping Southwest at 50°-60°. The veins width varies reportedly from 0.12 metres to 2.6 metres. A bunk-house and a small stamp mill were built by the funding Nimrod Syndicate.

This quartz vein, as far as this writer can tell, follows the Imperial Fault. On surface it approximates a 1 m wide fault alteration zone rather than a quartz vein. Quartz is present within the fault zone but horsetails, and widths of quartz are observed up to 0.15m.

According to the Homestake report, (circa 1898-1900) two cross cuts of 8.2 metres and 37 metres in length, intersected the gold bearing quartz vein. Within the upper tunnel 55 metres of drifting was completed and in the lower tunnel 45 metres of drifting completed completed.

According to BC Minfiles and other reports, in 1900 the Nimrod Syndicate miners milled 245 tonnes from the upper level, which yielded 13.7 grams per tonne gold while the lower tunnel produced 23 tonnes ore, which yielded 5.1 grams per tonne gold. These records testify the Imperial claim is the only "past producer" of hard rock gold in the Atlin mining camp. Yet all records continue to show the property has never been drilled.

The following is reported in the Homestake assessment report.

In 1902, a 1485.00-kilogram (3267 lbs) test sample from the upper tunnel was collected and treated in Vancouver. This sample analyzed 1.2 oz/t Au and 1.26 oz/t Ag.

The Homestake report continues to state that in 1933 a geologist from BCMM took 14 samples from a 0.5 metre section of the upper tunnel vein over a length of 10.9 metres (35 feet). These samples averaged 0.8 oz/t Au and 1.0 oz/t Ag.

According to the records, this BCMM geologist felt the lower tunnel was drifted too far to the east. Consequently the Nimrod miners were believed by him to have missed the possible downward continuation of the upper ore shoot by some 39 metres.

No information is available on the Imperial property from 1902 until 1984, when the Imperial and adjacent properties, were acquired by Lear Oil and Gas. This company contracted out a program of geological mapping, soil sampling, and VLF-EM and magnetometer surveys. Subsequently, the imperial claim and surrounding areas were collectively known as the Lear property. Under reverted crown grants, the Lear property was optioned by Homestake Mineral Development Company Ltd during the 1980s.

In 1987, Homestake carried out the following work on the Lear property:

- 19 Km of grid line surveys
- Detailed geological mapping at 1:1000
- Collection of 245 rock and 26 soil samples for multi-element analysis

There are no records which show the Imperial claim has ever been drilled.

In September 2000, the writer carried out five days work to evaluate serpentine and any jade occurrences on the property for potential hand carvings. No such industrial and semi-precious stone were encountered.

2.6 Geology

According to Minfile 104N 008, the Imperial claim is underlain by a body of ultramafics of the Pennsylvanian to Permian age. These rocks are composed largely of peridotites, diorites and gabbros under variable degrees of shearing and alteration. These peridotites are often highly serpentinized, especially in the vicinity of faults. These rocks have intruded into a volcanic package of Lower Mississippian to Triassic Cache Creek Group (Complex?). The package, as reported in Minfiles, is largely composed of greenstone and volcanic greywacke. Porphyritic felsic dykes, according to Minfiles, are often associated with veins and carry a significant amount of gold, but this has yet to be verified by this writer. A gabbro plug also intrudes the property

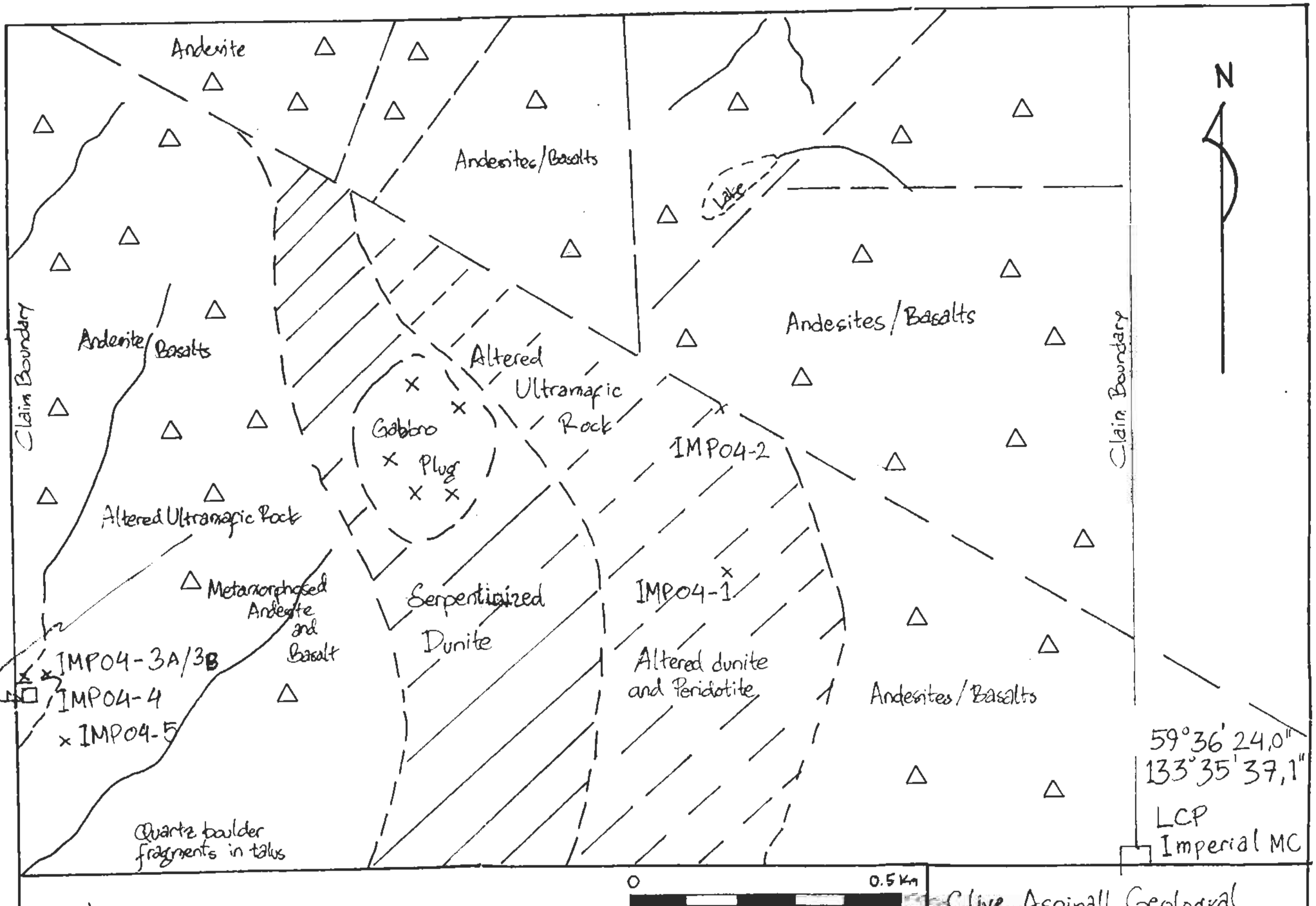
Predominant alteration is silica-carbonate, (or listwanite?) type rocks. These tan coloured weathered rocks are composed of magnesite/angkerite, quartz; calcite, talc, fuchsite and minor tremolite, and according the Minfile were originally serpentinite.

2.7 Objectives of year 2004 Field work

Work during the 2004 season concentrated on the collection and study of so called altered carbonate ultramafic quartz vein bearing rocks, (listwanites?) within the Imperial claim. This included analyses of associated quartz veins and veinlets, and petrological studies of five selected similar rocks from the same site.

3.0 Rocks Collected for Petrologic study and elemental Analysis.

Four samples were collected for just thin section study; these are samples **are IMP04-1, IMP04-2, IMP04-3A and IMP04-3B.** The remaining sample, **IMP04-5** was collected for thin section and polished section study, figure 3. No petrological sample **IMP04-4** was collected.



Legend

Approximate Geological Contact

Assumed Fault

× IMP04-4 Sample No, and Location

Clive Aspinall Geological

Location Petrology and Analytical Samples Collected from Imperial Claim, Tenure 379554

Drawn by: MRF	Sept 2004	Fig # 3

Sample **IMP04-1** is a silica-carbonated dunite, highly altered boulder fragment with fuchsite alteration, and surface manganese staining.

Sample **IMP04-2** was taken from the Imperial Vein itself, within the Imperial Fault. The vein approximates 1 m wide and 150 m long, striking NW-SE, and dipping steeply to the SW. Quartz horsetails in the vein and is up to 0,15m wide, occasionally with trace sulphides.

Sample IMP04-2 is an altered ultramafic rock that contains scattered clusters of chromite (altered to pyrite and locally magnetite) enclosed in an intergrowth of magnesite and quartz that in places shows a strongly elongated texture. Minor patches of fuchsite are in part associated with chromite and in part associated with quartz. A few discontinuous, coarser grained veinlets are of quartz and magnesite. A late veinlet of magnesite cuts some of the quartz-magnesite veinlets.

Sample **IMP04-3A was** taken on the extreme western side of the claim, but also on the southern slopes of Monroe Mountain, close to an N-S trending ravine. Specifically, the sample is from a silica carbonate outcrop exhibiting a narrow 50m long and up to a 0.30m horsetailing quartz vein. This vein strikes 280 degrees with a dip of 88 degrees north. It is closely associated with andesite/basalt and silica-carbonate altered ultramafic rocks, and marks an east-west fault contact zone. Sample **IMP04-3A** contains relic patches of ultramafic rock (altered to magnetite-[talc-semi-opaque]) that are enclosed in replacement patches of quartz and anchorite. A late vein is of cherty quartz-ankerite with seams and patches of calcite.

Sample **IMP04-3B** is a metamorphosed andesine/basalt that is dominated by an intimate intergrowth of plagioclase and catenulate in moderately to strongly varying proportions, and is adjacent to **IMP04-3A**. Disseminated opaque is concentrated in patches and seams, mainly in catenulate-rich zones. Numerous veinlets are of quartz, in part with minor catenulate and/or plagioclase; there are some evidence of strong deformation and recrystallization. A few veinlets are of actinolite.

Sample **IMP04-5** is a sample of talus on the extreme western side of the claim, just below **IMP04-3A/3B.** . **Sample IMP04-5** is a quartz vein that contains seams of sericite-ankerite and disseminated grains and clusters of sulphides. One sulphide patch consists of chalcopyrite and pyrite with minor electrum. Another smaller sulphide patch consists of galena and chalcopyrite. Sulphides and ankerite are altered moderately to strongly to limonite, hematite, and malachite.

Sample **IMP04-5** was collected for thin section and ore-microscopy study, with visible chalcopyrite and copper carbonates in composite quartz vein material. This sample consisted almost entirely of quartz vein material.

Samples **IMP04-1, IMP04-2, IMP04-3 and IMP04-4** hosted both quartz vein and rock material, and fragments samples which combined both were sent for analysis along with the quartz sample, **IMP04-5.**

4.0 Geochemical Analyses

Five different samples from the same sites, all quartz material with traces of sulphides were collected from associated quartz veins and veinlets for geochemical analysis for 28 elements. The results of seven analyses are shown in Table II with field descriptions; results of the twenty-one other elements are shown in the appendices.

Table II

Sample No.	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Cr ppm	Field Relationships
IMP04-1	20	0.4	7	<2	13	962	163	Talus boulder fragments of altered ultramafics and quartz vein material, 50 m below Imperial quartz vein
IMP04-2	120	0.4	32	<2	13	763	286	Outcrop of altered ultramafic on hanging wall to Imperial fault and associated Imperial quartz Vein.
IMP04-3	205	6.2	411	154	640	6	138	Quartz vienlets in ultramafics -contact zone – trace chalcopyrite and galena.
IMP04-4	715	24.5	153	50	206	4	153	Quartz vieulets In basalts-contact zone-trace chalcopyrite, pyrite, and galena.
IMP04-5	355	7.9	157	150	236	2	157	Quartz boulder fragments with sulphides

5.0 Petrography Details.

Sample IMP04-1 **Altered Dunite/Peridotite**
Alteration: Magnesite-Ankerite-Quartz-Fuchsite
Veinlets: Dolomite/Magnesite

The sample is an altered dunite containing minor relic grains of chromite in a replaced and recrystallized intergrowth of extremely fine grained magnesite and coarser grained ankerite, with much less abundant quartz and minor fuchsite and opaque. Several subparallel, fracture-filling veinlets are of coarser grained dolomite/magnesite.

Mineral	percentage	main grain size range (mm)	
primary			
chromite	1.5%	0.2-0.5	
secondary			
magnesite	45-50	0.002-0.02	
ankerite	35-40	0.01-0.03	
quartz	4- 5	0.02-0.07	
fuchsite	0.3	0.02-0.03	
opaque	0.1	0.02-0.05	(magnetite/pyrite)
veinlets, lenses			
dolomite/magnesite	5- 7	0.05-0.2	

Chromite forms anhedral grains and clusters of grains, many of which were formed by fragmentation of larger chromite grains. Grains are deep brown in colour and some have opaque rims, suggesting alteration to magnetite. Bordering some large grains are patches of fuchsite.

Early-formed carbonate consists of cryptocrystalline (<0.005 mm) to extremely fine grained magnesite. This is intergrown in irregular patches with coarser grained carbonate (probably ankerite) that commonly was stained pale orange by limonite. Intergrown with ankerite are patches of quartz and minor lenses and patches of fuchsite.

Opaque (possibly pyrite or magnetite) forms disseminated grains and a few clusters of grains, many of which have subhedral outlines.

Several, mainly subparallel, late fracture-filling veinlets from 0.05-0.5 mm wide are of coarser grained dolomite/magnesite.

Site location IMP04-2, with horsetailing quartz vein zone up to 1 m wide, along 150 m and NW-SE Imperial Fault

Sample IMP04-2 Altered Ultramafic Rock
Magnesite-Quartz-(Opaque-Fuchsite)
Veinlets: Quartz-Magnesite

The sample contains scattered clusters of chromite (altered to pyrite and locally magnetite) enclosed in an intergrowth of magnesite and quartz that in places shows a strongly elongated texture. Minor patches of fuchsite are in part associated with chromite and in part associated with quartz. A few discontinuous, coarser grained veinlets are of quartz and magnesite. A late veinlet of magnesite cuts some of the quartz-magnesite veinlets.

mineral	percentage	main grain size range (mm)	
primary			
chromite	3- 4%	0.05-0.5	(altered to pyrite and lesser magnetite)
secondary			
magnesite	75-80	0.05-0.5	(a few up to 0.8 mm)
quartz	12-15	0.03-0.07	
fuchsite	0.5	0.02-0.04	
veinlets			
quartz-magnesite	4- 5	0.2-0.7	
magnesite	0.5	0.05-0.1	

Opaque forms disseminated grains and clusters of grains whose textures resemble those of chromite in Sample **IMP04-1.** Textures suggest that the opaque is chromite that was replaced in many lenses by pyrite and much less commonly by an oxide mineral, probably magnetite).

Magnesite forms anhedral, interlocking grains that in places are intergrown intimately to finely with patches of equant to elongate, interlocking grains of quartz with a cherty appearance. Some quartz-rich zones have a strongly elongated texture, suggesting that they were formed by replacement of pyroxene along the c-axis.

Fuchsite commonly is concentrated in wispy patches and seams, many of which are associated with lenses of opaque or lenses of quartz.

A few cubic grains of pyrite have partial overgrowths of comb-textured quartz up to 0.03 mm thick. A few vein lets up to 2 mm wide are dominated by quartz with minor to moderately abundant magnesite.

A later veinlet averaging 0.05 mm wide of magnesite/dolomite cuts some of the quartz-magnesite vein lets.

Site Location IMP04-3A, Altered ultramafic rock with horsetailing quartz vein up to 30 cm wide. This is vein is a western extension of from sample site IMP04-3B, some 50 metres to the East which is in andesite/basalt, see below.

Sample IMP04-3A **Altered Ultramafic Rock**
Magnesite-(Talc-Semi-opaque)
Replacement: Quartz-Ankerite
Vein: Cherty Quartz-Ankerite-Calcite

The sample contains relic patches of ultramafic rock (altered to magnesite-[talc-semi-opaque]) that are enclosed in replacement patches of quartz and ankerite. A late vein is of cherty quartz-ankerite with a seam and patches of calcite.

mineral	percentage	main grain size range (mm)
host rock		
magnesite	12-15%	0.02-0.1
talc	2- 3	0.02-0.3
semi-opaque	0.3	0.01-0.02
cherty quartz	1	0.005-0.01

replacement			
quartz	50-55	0.3-1.5	(a few grains up to 2 mm long)
ankerite	17-20	0.002-0.2	
vein			
1) cherty quartz	4- 5	0.01-0.03	
calcite	2- 3	0.03-0.07	
ankerite	1- 2	0.05-0.1	

Patches of host rock up to 1 cm in size are dominated by magnesite with interstitial patches and veinlets of talc and disseminated grains of semi-opaque. A few dense patches of semi-opaque are up to 0.1 mm across.

One patch of altered host rock a few mm across consists of cherty quartz with minor disseminated carbonate.

Replacement patches dominated the rock and consist of subhedral to locally euhedral quartz aggregates with interstitial patches of much finer grained, anhedral quartz and of ankerite. Ankerite occurs as patches of granular aggregates less than 0.01 mm in grain size and less abundant patches of subhedral aggregates of grains from 0.1-0.4 mm long. Locally, subhedral ankerite grains form subparallel, crustiform aggregates 0.2-0.5 mm thick on fragments of host rock. In a few places, quartz grains were shattered and recrystallized to much finer subgrain aggregates.

Along one side of the sample is a zoned vein with a border zone of limonite (strongly removed during sample preparation) and a core of subhedral to euhedral quartz.

The late vein is 5 mm wide and has a banded border zone consisting of a crustiform zone of subhedral to locally euhedral calcite grains up to 0.3 mm long that was overgrown by a layer of cryptocrystalline limonite up to 0.05 mm wide. The core is dominated by anhedral to euhedral, rhombic grains of ankerite in a matrix of cherty quartz. The core also contains patches and bands of anhedral calcite.

Site Location IMP04-3B, horse-tailing quartz vein up to 0.15m in andesite/basalt, with traces of chalcopyrite, galena and pyrite. This vein or proximal area is believed to be the source of talus vein sample IMP04-5

Sample IMP04-3B **Metamorphosed Andesite/Basalt: Plagioclase-Actinolite-Opaque Veinlets: Quartz-(Actinolite-Plagioclase), Actinolite**

The sample is dominated by an intimate intergrowth of plagioclase and actinolite in moderately to strongly varying proportions. Disseminated opaque is concentrated in patches and seams, mainly in actinolite-rich zones. Numerous veinlets are of quartz, in part with minor actinolite and/or plagioclase; some show evidence of strong deformation and recrystallization. A few veinlets are of actinolite.

Mineral	percentage	main grain size range (mm)	
phenocrysts			
plagioclase	1-2%	0.2-0.5	
groundmass			
plagioclase	65-70%	0.01-0.05	
actinolite	17-20	0.02-0.07	(a few grains up to 0.1 mm long)
opaque	2-3	0.005-0.02	
semi-opaque	0.3	0.005-0.01	

veinlets

quartz-(actinolite-plagioclase) 7- 8 0.05-0.2 (a few act grains up to 0.5 mm long)

actinolite-rich	1- 2	0.07-0.2	
limonite	minor	cryptocrystalline	

Plagioclase forms scattered anhedral to subhedral, prismatic phenocrysts and clusters of a few phenocrysts; grain borders are diffuse against the groundmass.

The groundmass is dominated by an intimate intergrowth of unoriented plagioclase and actinolite in moderately to strongly varying proportions.

Opaque forms disseminated, equant grains and is concentrated moderately to strongly in some actinolite-rich patches. A few opaque-rich clusters are up to 0.15 mm across.

Semi-opaque (possibly rutile) is intergrown finely with opaque.

Quartz, in part with minor to moderately abundant actinolite and/or plagioclase, forms irregular veinlets up to 1 mm wide and replacement patches up to 1 mm across. Many veinlets are contorted and some were partly recrystallized to much finer aggregates, indicating that they were formed prior to the metamorphism and associated deformation of the rock. Some veinlets and patches contain minor disseminated opaque grains (0.02-0.05 mm). One quartz-plagioclase vein contains an equant grain of apatite (0.05 mm). Much of the plagioclase in several patches was altered moderately to strongly to sericite.

A few veinlets up to 0.2 mm wide are dominated by actinolite with minor interstitial plagioclase/ quartz.

A few late, wispy veinlets up to 0.01 mm wide are of orange limonite.

Talus site location IMP04-5, with visible of chalcopyrite, galena, pyrite, malachite, (and electrum)

Sample IMP04-5 Quartz-(Sericite-Ankerite-Sulphide) Vein
Chalcopyrite-Pyrite-Galena-Electrum

The sample is a quartz vein that contains seams of sericite-ankerite and disseminated grains and clusters of sulphides. One sulphide patch consists of chalcopyrite and pyrite with minor electrum. Another smaller sulphide patch consists of galena and chalcopyrite. Sulphides and ankerite are altered moderately to strongly to limonite, hematite, and malachite.

mineral	percentage	main grain size range (mm)	
quartz	93-95%	0.7-3	(recrystallized zones 0.02-0.1)
sericite	3- 4	0.02-0.05	
ankerite	1- 2	0.02-0.05	
chalcopyrite	0.3	0.05-0.5	
pyrite	0.3	0.1-0.3	
calcite	0.2	0.2-0.5	(one grain 1.5 mm)
galena	0.1	0.05-0.2	
malachite	0.1	0.05-0.07	
muscovite	minor	0.05-0.1	
electrum	trace	0.02-0.05	

Quartz forms unoriented, anhedral to subhedral grains that contain abundant dusty fluid and semi-opaque inclusions. Interstitial grains and patches and a few seams up to 0.2 mm wide contain much finer grained quartz. The seams may represent zones of weak to moderate cataclastic deformation and recrystallization.

Ankerite forms interstitial patches up to 2 mm in size; most of these were altered moderately to completely to limonite.

Calcite forms a few grains interstitial to euhedrally terminated quartz grains.

Sericite and lesser ankerite are concentrated in a few wispy, subparallel seams that define the banding in the rock. Sericite also forms small, irregular patches intergrown with quartz.

Muscovite forms a few interstitial patches up to 0.2 mm in size of radiating crystals.

Sulphides are concentrated in a few patches up to 2.5 mm in size that contain coarse intergrowths of chalcopyrite and pyrite. Both minerals were fractured moderately and altered to hematite along grain borders and fractures, with pyrite alteration more intense than that of chalcopyrite. Pyrite also forms subhedral to euhedral grains that were altered moderately along grain borders and a few fractures to hematite; some of these are near or in seams of sericite-ankerite.

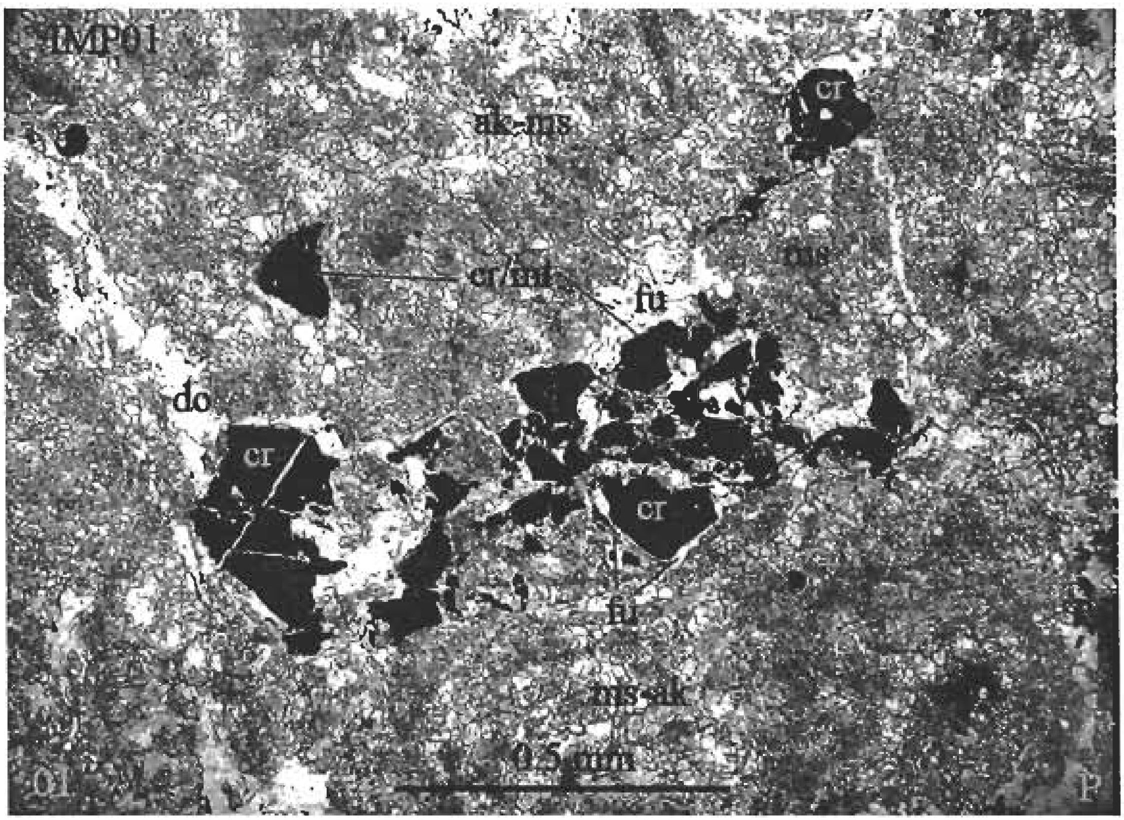
Galena forms anhedral grains that were altered strongly along their margins to cryptocrystalline, secondary, light to medium brown minerals.

Electrum (pale yellow, in part tarnished to brassy red) forms a few anhedral grains in altered pyrite in the large sulphide patch.

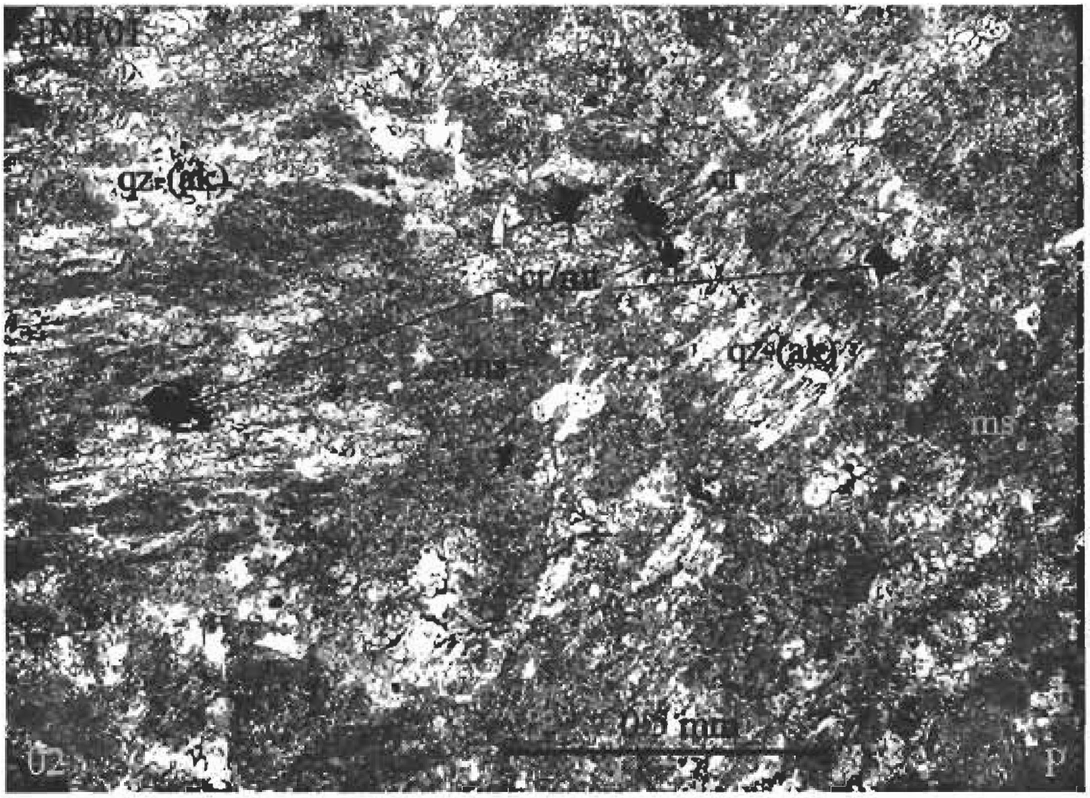
Malachite forms a few interstitial patches up to 0.3 mm in size of radiating fibrous crystals. A few patches up to 0.2 mm across contain concentric alteration rims of limonite about a core of malachite. Some of these patches are adjacent to a patch of chalcopyrite. Some radiating malachite patches are adjacent to and intergrown slightly with radiating patches of muscovite up to 0.15 mm in size.

6.0 Photographs of Thin and Polished Sections

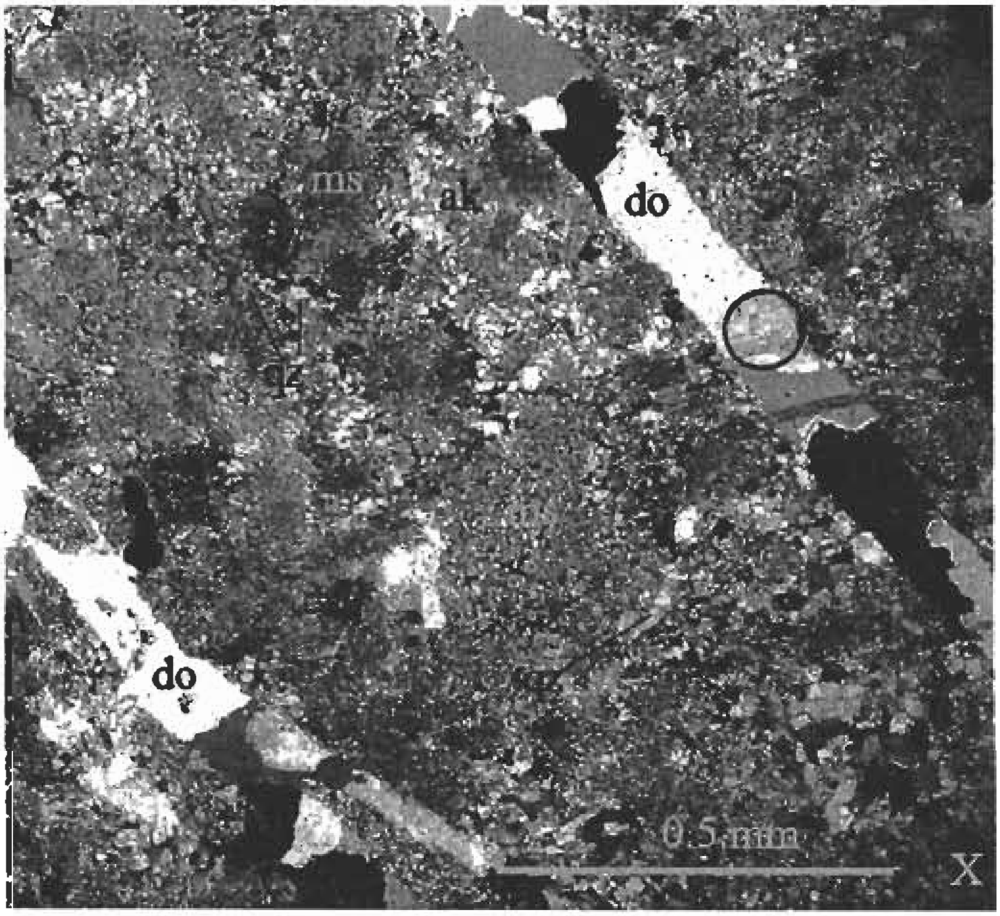
Photographs of **IMP04-1 to IMP04-4** include thin sections, while photographs of **IMP04-5** include those of thin sections and polished sections, (See Below)



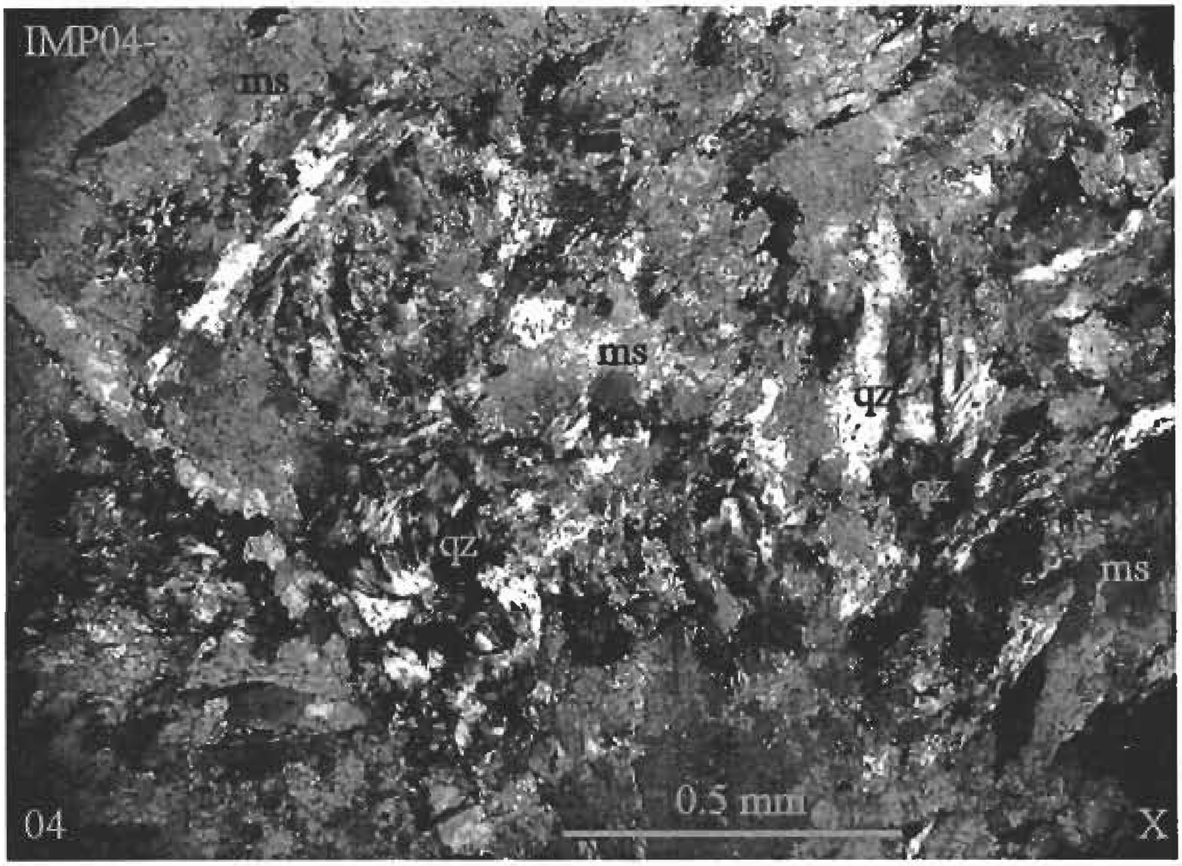
01 IMP04-1 Fragmented chromite grain (in part altered to magnetite) surrounded by minor patches of fuchsite, enclosed in patchy intergrowth of finer grained magnesite and slightly coarser grained ankerite; late veinlet of dolomite/magnesite.



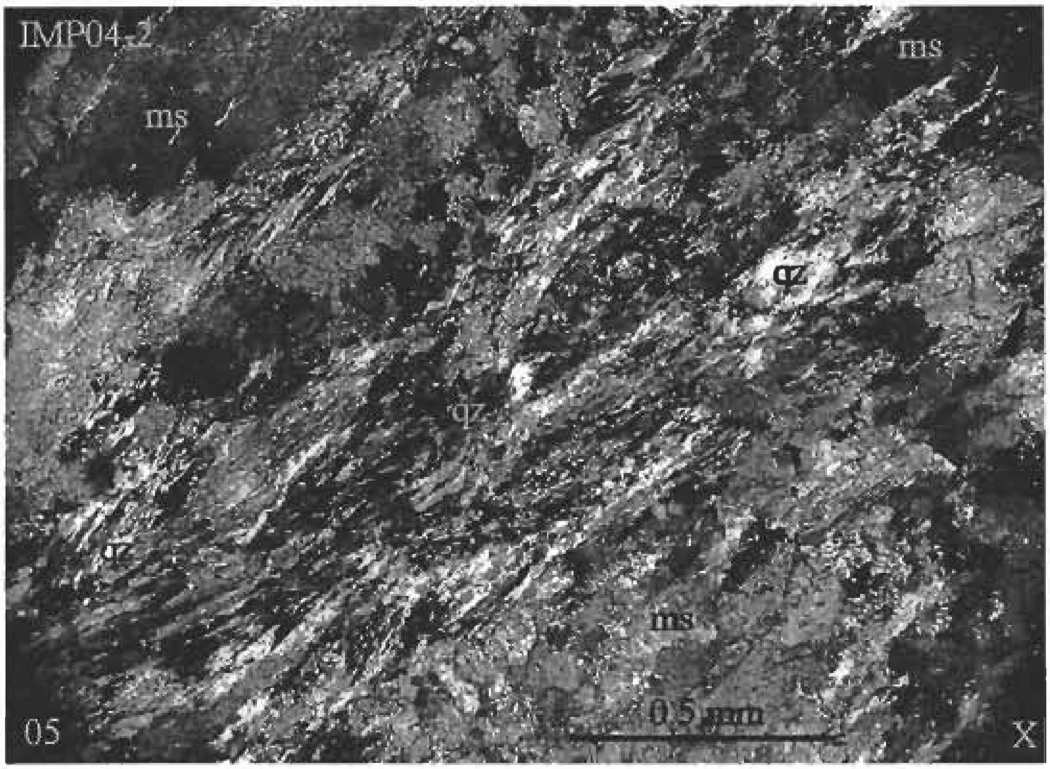
02 IMP04-1 Patchy intergrowths of magnesite and quartz-ankerite (whose texture vaguely indicates original grains of olivine or pyroxene, disseminated chromite (replaced in part by magnetite).



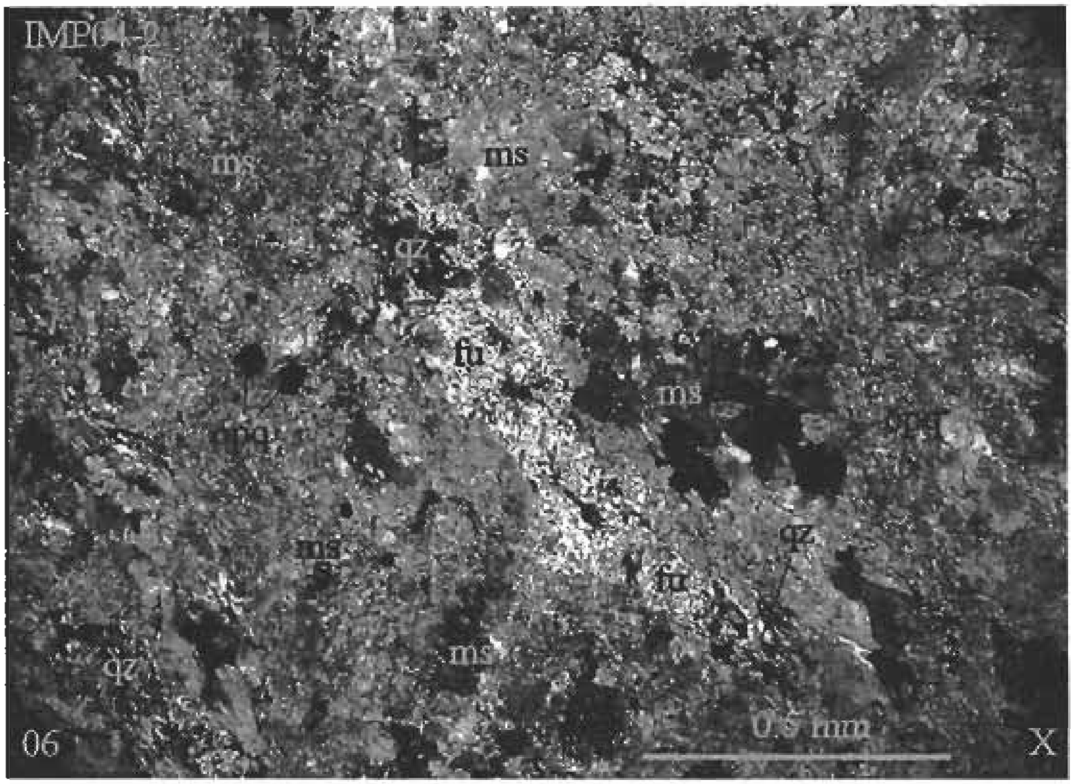
03 IMP04-1 Cryptocrystalline magnesite replaced by slightly coarser grained ankerite and minor patches of quartz; late veinlets of dolomite/magnesite.



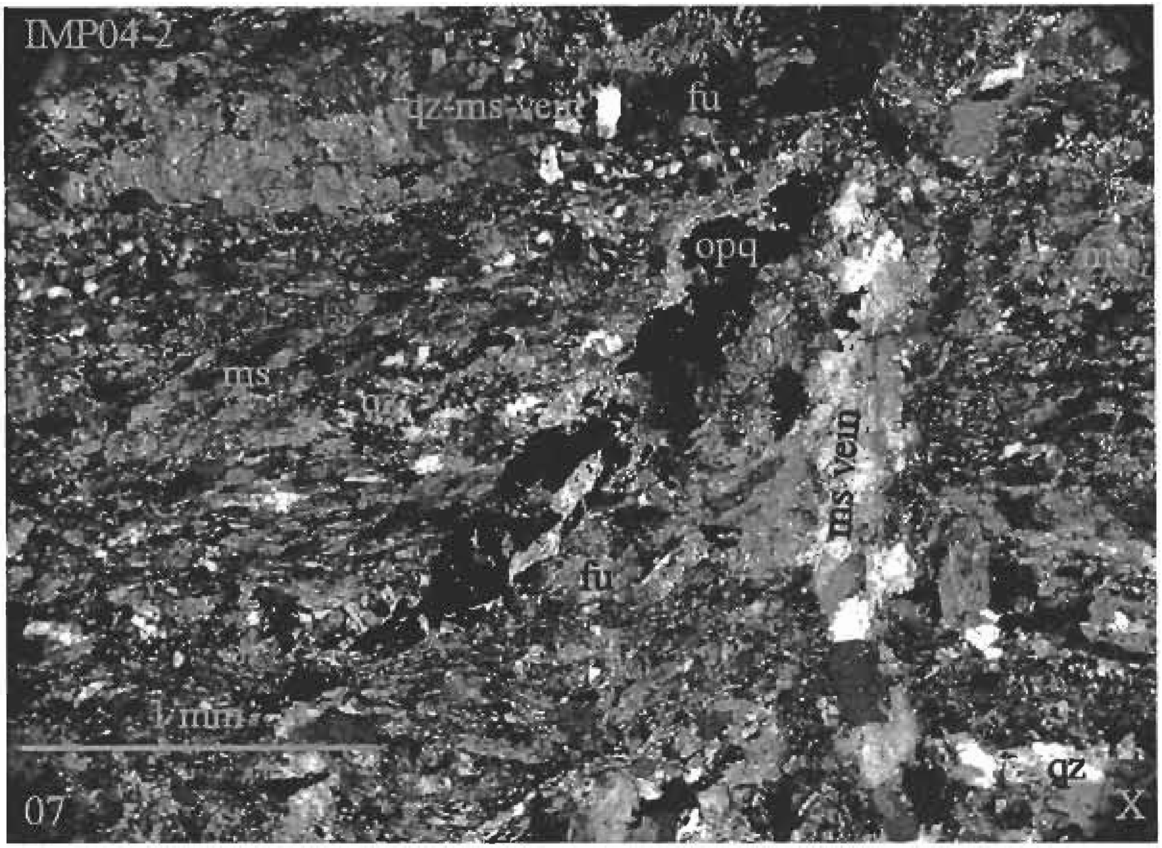
04 IMP04-2 Irregular concentration of elongate quartz grains intergrown coarsely with magnesite.



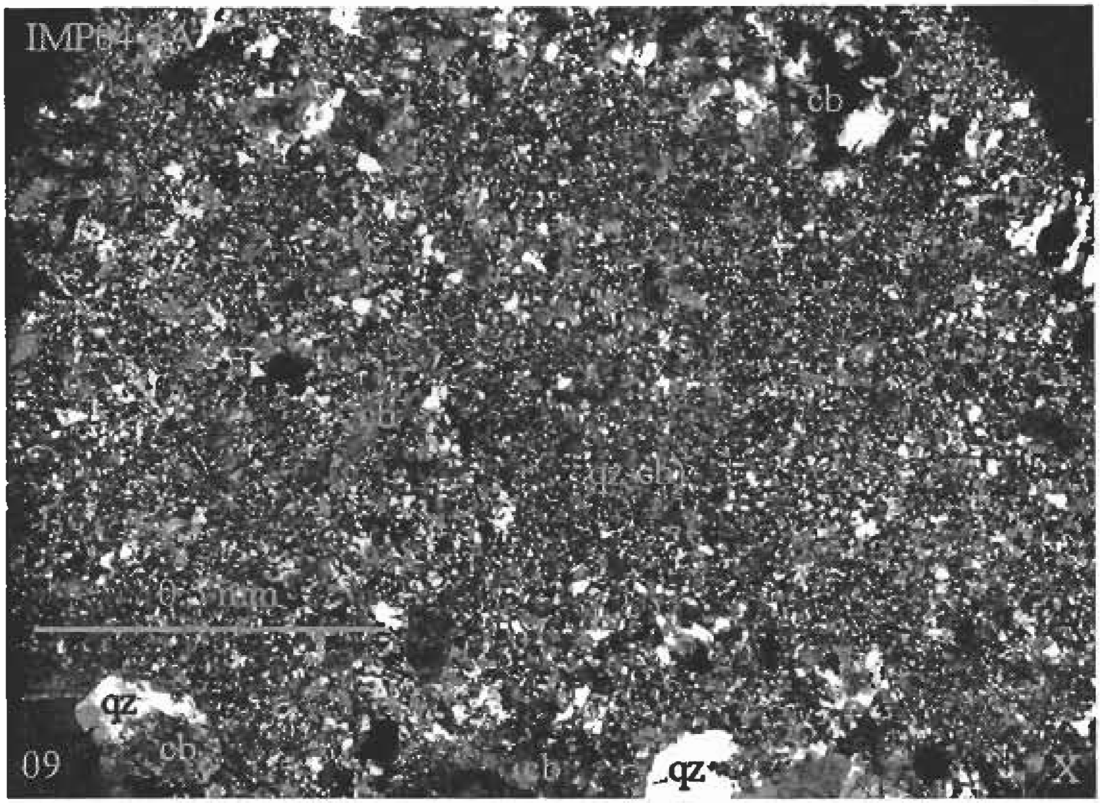
05	IMP04-2	Lensy zone of elongated quartz grains with minor magnesite intergrown with much less oriented, coarser grained patches of magnesite.



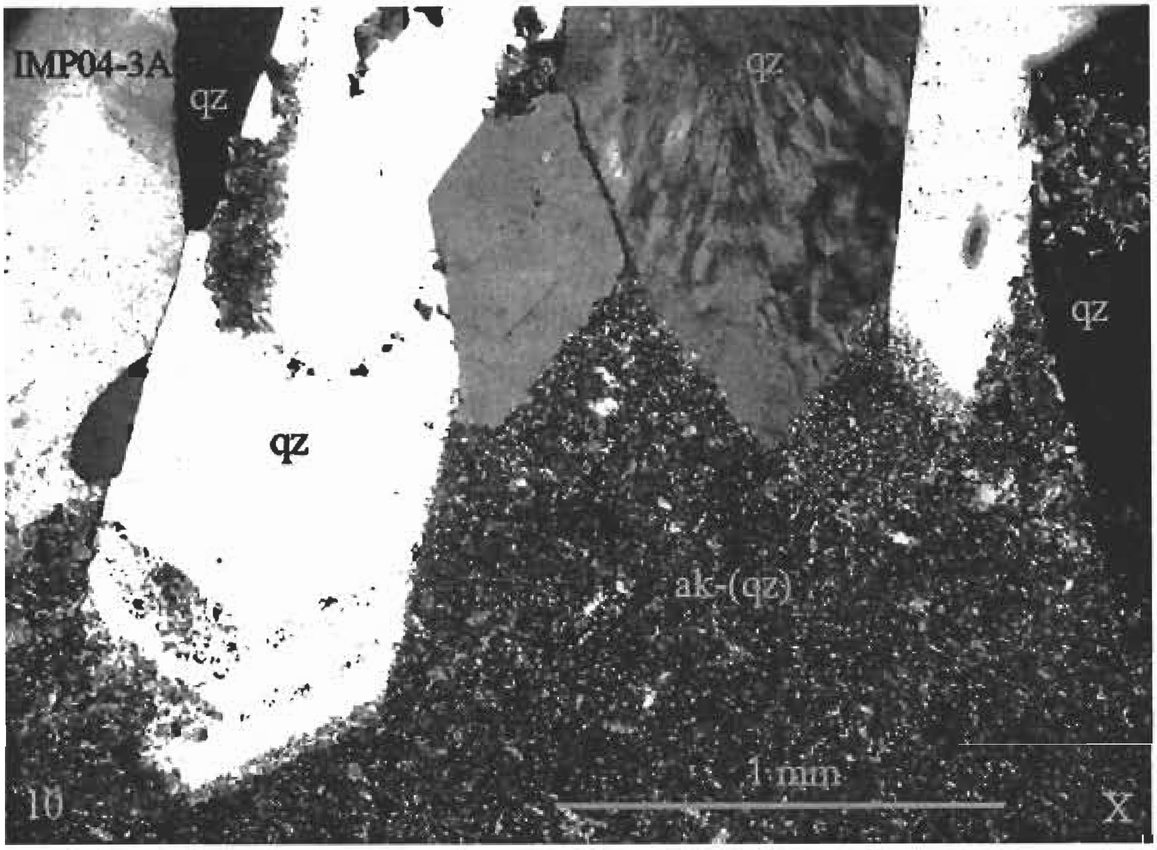
06 IMP04-2 Lens of fuschite and minor quartz (near its ends) in intergrowth of magnesite and minor quartz, with scattered grains of pyrite.



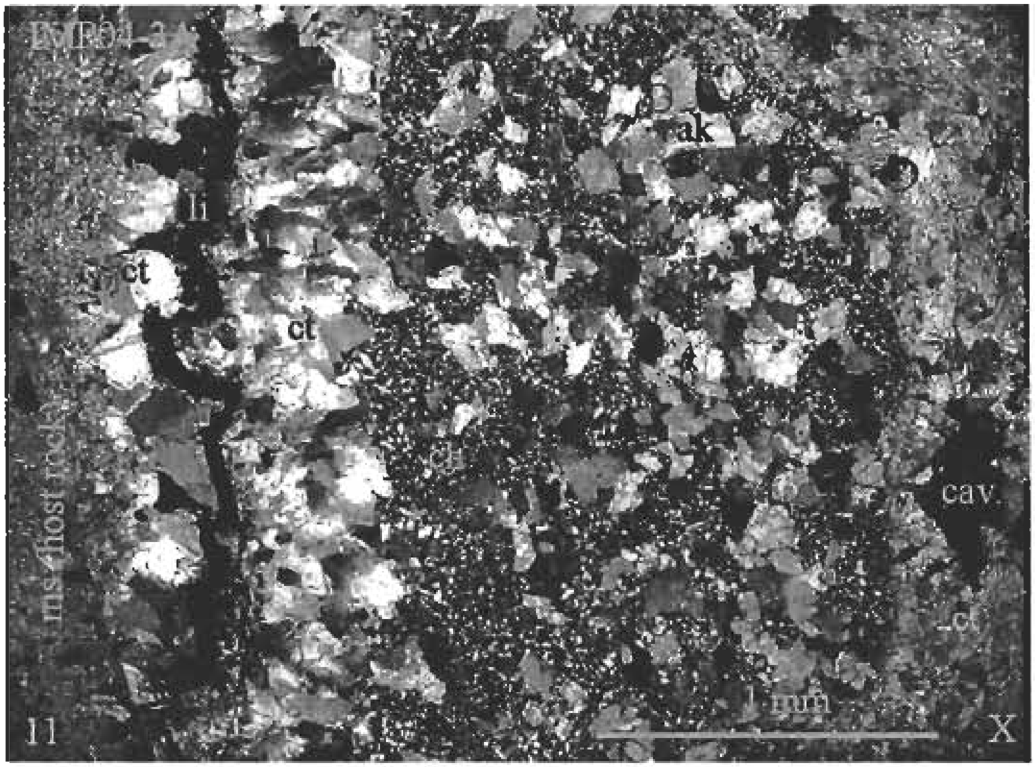
07 IMP04-2 Lens of opaque (possibly magnetite after chromite) with patches and partial rim of fuschite in lensy intergrowth of quartz and magnesite; early quartz-magnesite veinlet and later magnesite veinlet.



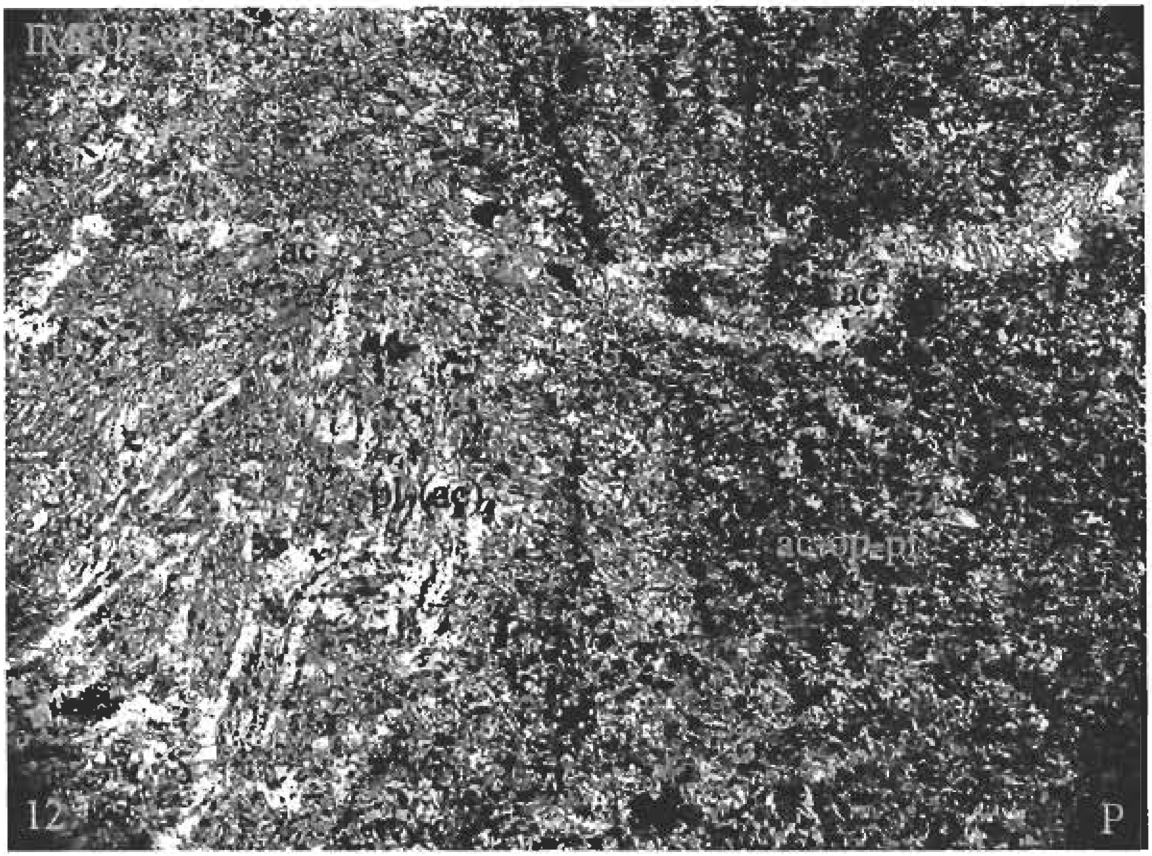
09 IMP04-3A Patch (fragment) of cherty quartz with lesser disseminated carbonate; replacement patches/veinlets of coarser grained quartz-carbonate..



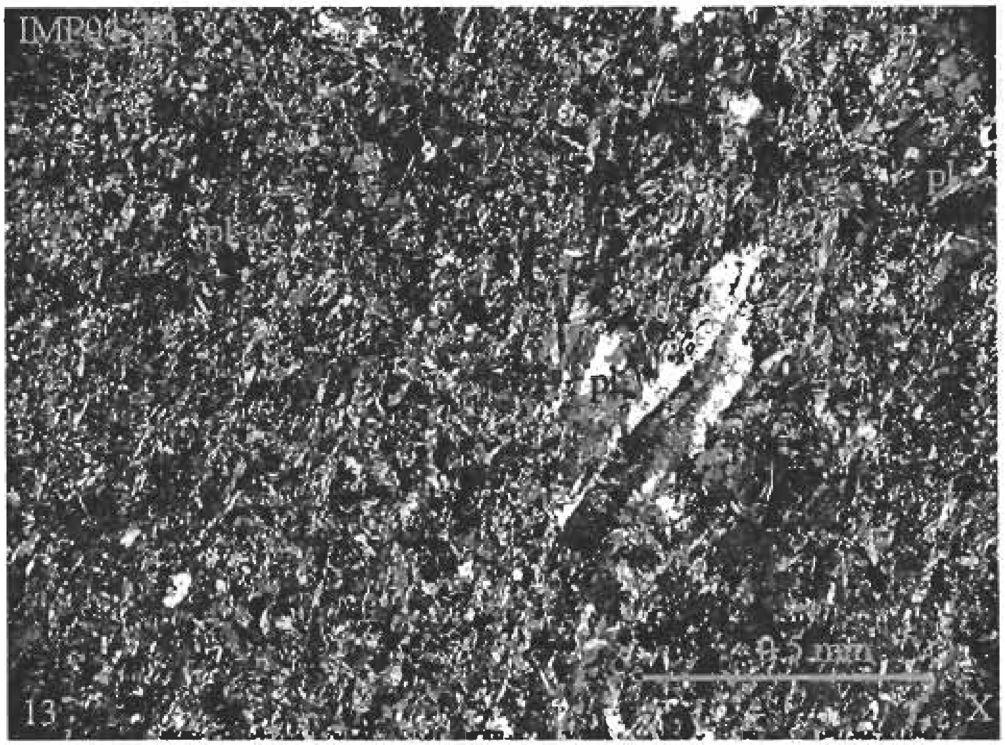
10 IMP04-3A Replacement patch of euhedral quartz (in part showing growth twin zones) and interstitial ankerite with minor quartz.



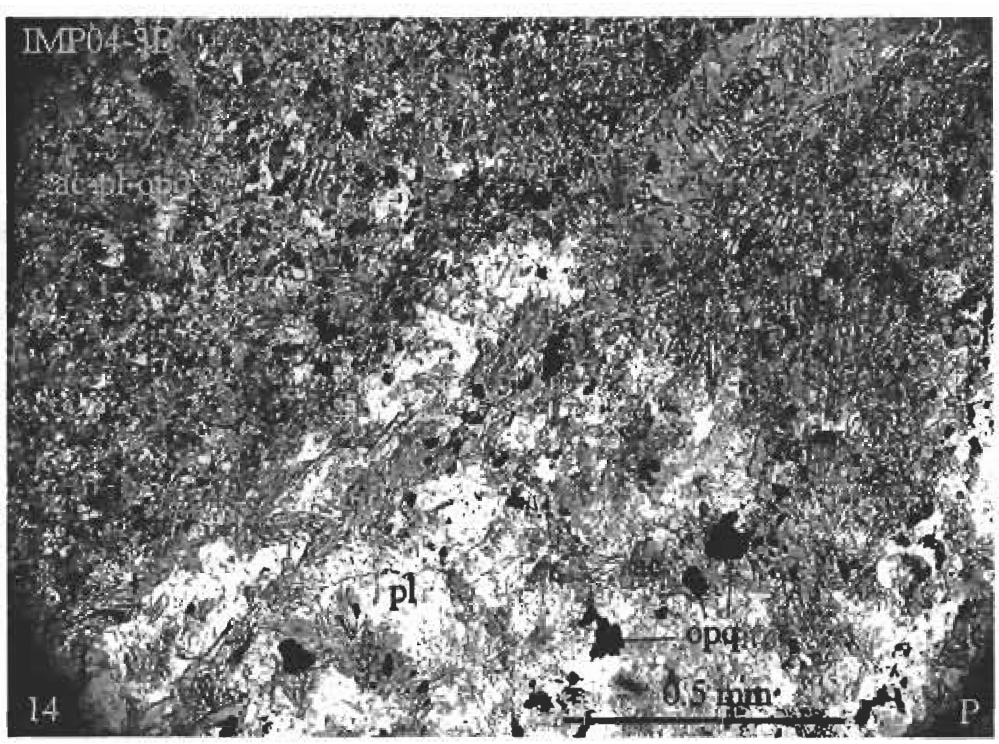
11	IMP04-3A	Magnesite-rich host rock (thin band at left) cut by zoned vein: early crustiform calcite overgrown by thin layer of limonite and then zone of calcite; core of vein is cherty quartz with disseminated subhedral to euhedral ankerite grains; replacement patch of calcite (containing cavity formed by plucking during sample preparation).



12	IMP04-3B	Zone rich in plagioclase with much less actinolite in contact with zone rich in actinolite and opaque with lesser plagioclase; contact cut by veinlet of actinolite.

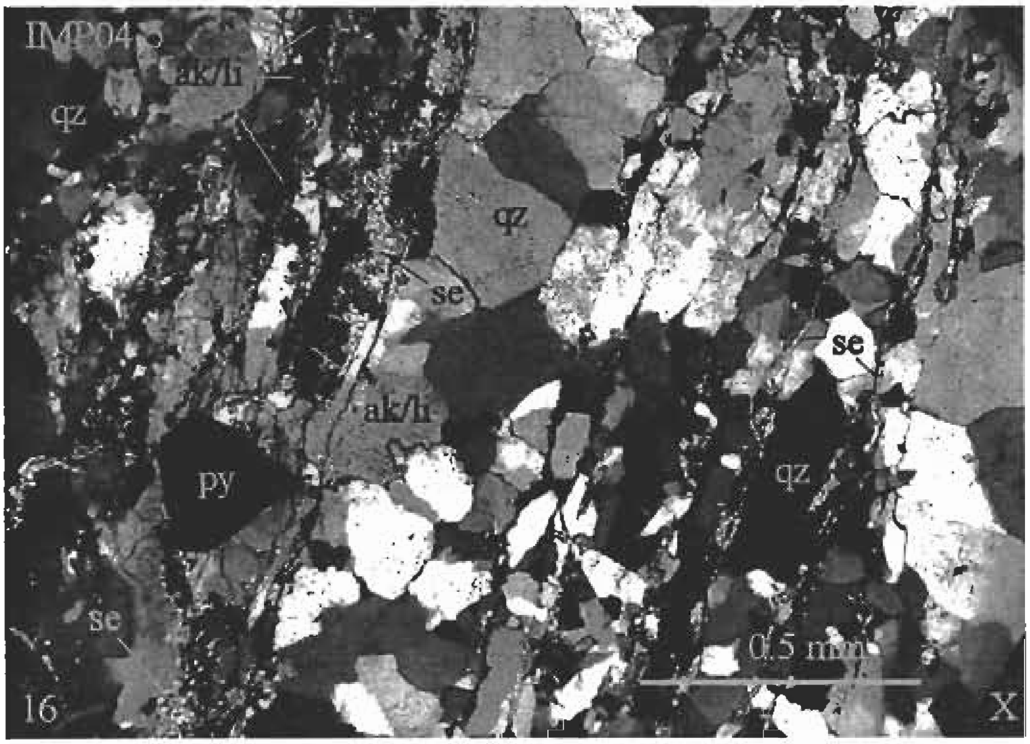


13 IMP04-3B Ragged plagioclase phenocrysts in groundmass of plagioclase-actinolite.

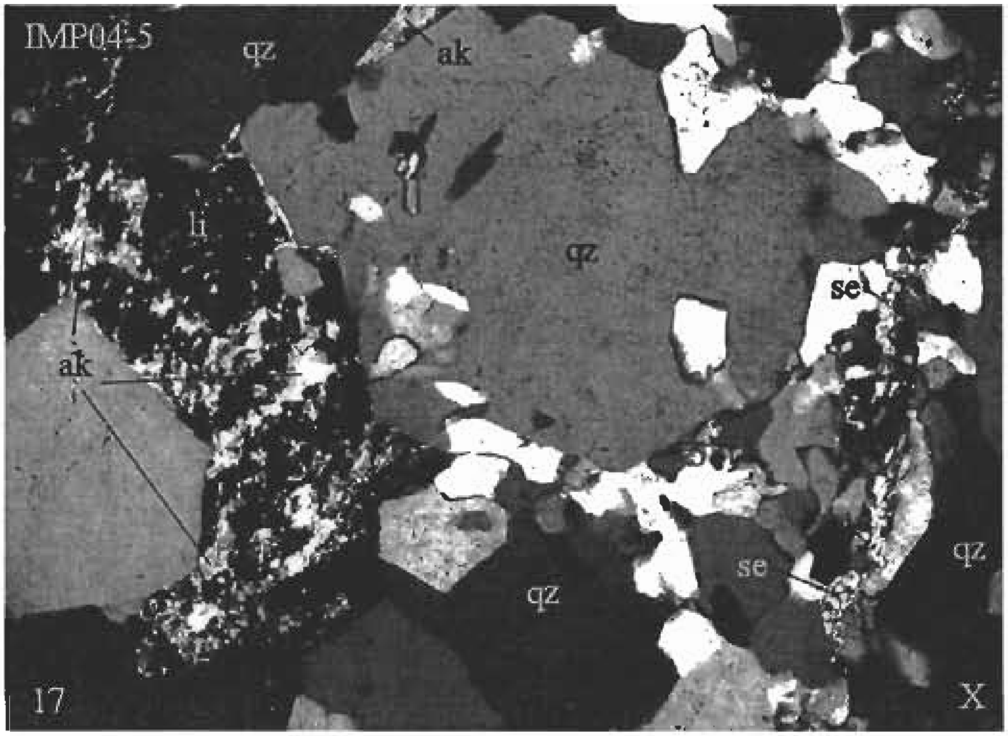


14 IMP04-3B Plagioclase-rich patch (with scattered coarser grains of opaque) adjacent to actinolite-rich patch (with abundant finer grains of opaque); veinlet of actinolite is broader in actinolite-rich zone and narrows to a vague seam in the Plagioclase-rich zone.

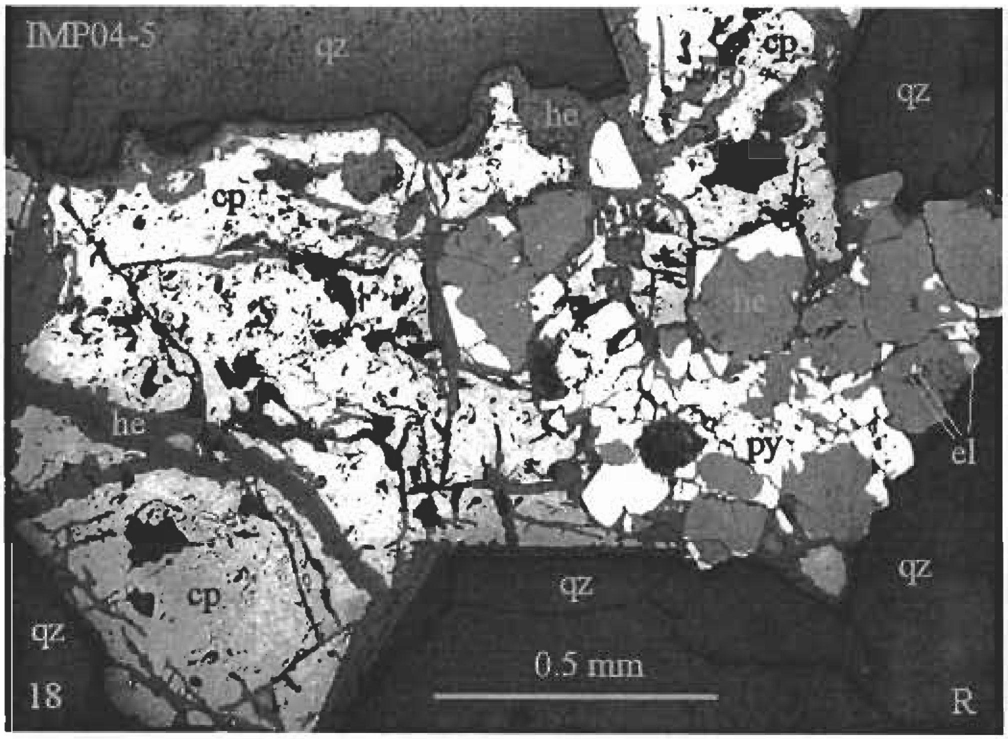
15 IMP04-3B Deformed quartz vein (with minor actinolite and plagioclase) in variable intergrowth of plagioclase and actinolite.



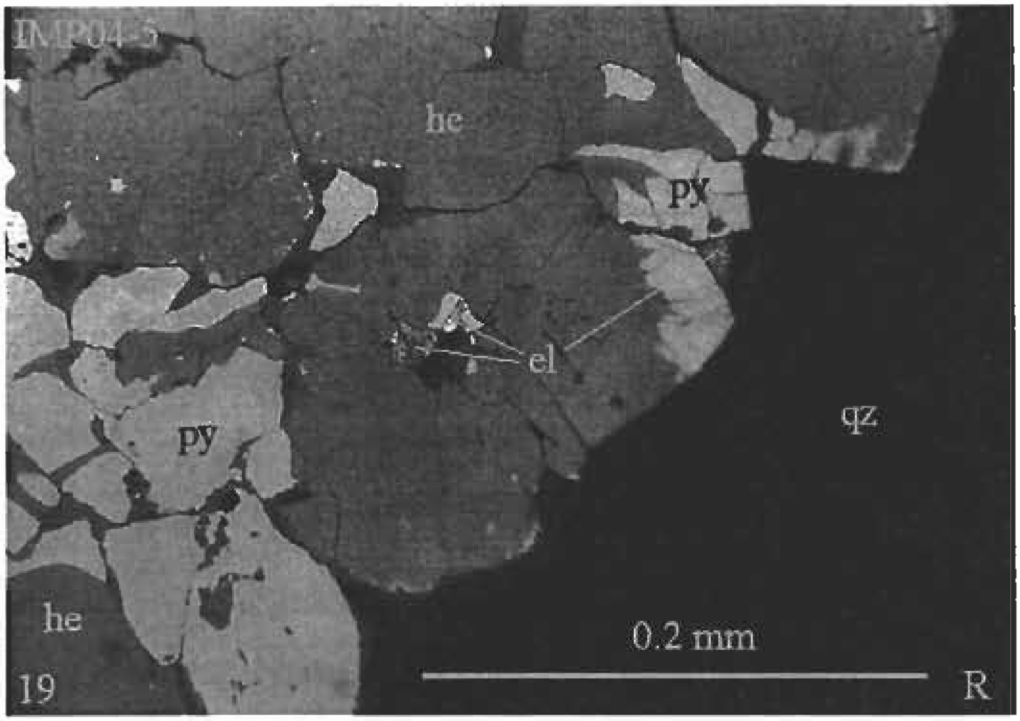
16 IMP04-5 Quartz vein with wispy bands of sericite-ankerite (altered strongly to limonite) and grain of pyrite (altered moderately to hematite).



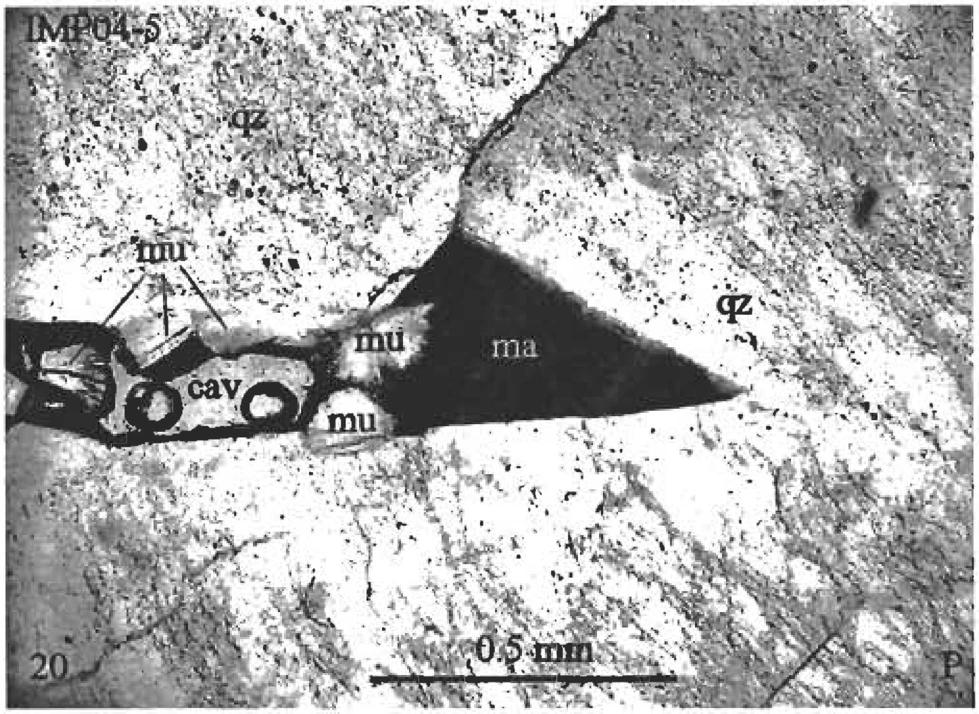
17 IMP04-5 quartz vein with patch of ankerite (altered strongly to limonite) and wispy seam of sericite-(limonite), the last associated with extremely fine grained, recrystallized quartz.



18 IMP04-5 Patch of chalcopyrite-pyrite with minor grains of electrum in pyrite included in quartz. Chalcopyrite and pyrite altered moderately to hematite; veinlet of hematite cuts chalcopyrite. A few patches of chalcopyrite and two grains of electrum are tarnished. For details of electrum see Photograph 19.



19 IMP04-5 Sulphide patch: pyrite (altered moderately to hematite) with three grains of light yellow electrum (two grains tarnished) adjacent to coarse quartz grains.



20 IMP04-5 Coarse quartz (showing dusty fluid and semi-opaque inclusions) with interstitial patches of radiating malachite and radiating muscovite; central cavity (partly filled by limonite and minor pyrite dust during sample preparation).

Conclusions

Although not conclusive, this study would suggest altered ultramafic rocks (listwanite?) within the Imperial claim are prospective when:

- Affiliated with a quartz veins or veinlets.
- Located adjacent to a major fault zone/located adjacent to a contact zone
- Associated visible sulphides in quartz veins and veinlets
- Fuchsite, carbonate, magnesite and ankerite present
- Associated elemental chromite and nickel
- Due to possible chromite altering to magnetite, magnetic susceptibility is high
- Stibnite and arsenic do not appear to be relevant

However, it is significant andesite/basalt rocks are prospective when

- Rocks are metamorphosed, and exhibit actinolite
- Associated or in contact with altered rocks
- Associated with sulphide bearing quartz veins and veinlets in contact zones
- Fuchsite, carbonate, magnesite and ankerite not present
- Low elemental chromite and nickel
- Hematite present
- Due to lack of chromite altering to magnetite, magnetic susceptibility is low
- Stibnite and arsenic do not appear to be relevant
- It is also significant that gold and silver within the sample studied, (IMP04-5)

- Occurs as electrum within pyrite
- Proximal to quartz
- Chalcopyrite is present
- Silver may also be associated with galena, (seen visually)

Essentially, based on observations to date. Listwanite and andesite/basalt rocks when in proximity, associated with geological contacts and faulting, and are prospective. In fact the proximal andesite/basalt rocks could be even more prospective than the listwanites. Therefore the proximal andesite/basalt suites should not be ignored even though they may lack the visible alteration characteristics of the ultramafics.

Recommendations

Other rock suites should be petrologically and analytically examined: these include

- Gabbro, and if host high chromite then analyze for platinum group minerals.
- Feldspar porphyry dike rocks, and their contacts.
- All the above style of associations encountered on the Imperial claim should be compared to other similar geological environments in the Atlin camp, such as the Lake View claims near Surprise Lake.

It is also recommended continuation of prospecting and sampling of quartz veins in listwanites type rocks within the Imperial claim, but in particular associated andesite/basalt rocks.

Clive Aspinall, M.Sc., P.Eng.
Geologist

References

Aitkin, J. D., (1958) Atlin Map Area, BC. Geological Survey of Canada, Memoir 307

McIvor, Duncan (1988) summary Report: geological mapping and lithological sampling Programs on the Lear Property, (West Claim Group). Atlin Mining Division, British Columbia. Assessment Report # 17,495.

Monger J.W.H. (1975). The Upper Paleozoic rocks of the Atlin Terrane, northwest British Columbia and South Central Yukon, GSC Paper 74-7.

Souther, J.G., (1971). Geology and mineral Deposits of Tulsequah Map Area, British Columbia. Geological Survey of Canada, Memoir 362.

Juneau-Alaska Treadwell mine files, originals in writers archive library, and copies in Atlin Museum.

BC Minfile (Report) Numbers:
104N008,

Statement of Costs.
Imperial Mineral Claim, Year 2004

Field Work. Wages and food
1) Fees; geologist 4 days @ $500.00 per day……………………$2,000.00
Total…………………………………………………………………… $2,000.00

Personal Transportation
1) Suzuki jeep, 4 days at $25 per day, plus fuel……………………$100.00
Total……………………………………………………………………$100.00

Analyses of Samples
Five samples………………………………………………………$138.04
Total……………………………………………………………………$138.04

Petrology
Thin Sections, Polished sections and Photographs…………………$1,058.14
Total……………………………………………………………………$1,058.14

Report Preparation
2 days at $500.00 per day……………………………………………$1,000.00
Production………………………………………………………… $80.00
Total……………………………………………………………………$1,080.00

Total Amount ……………………………………………………………………**$4376.18**

Qualifications of writer:

I, N. Clive Aspinall, of Pillman Hill, the community of Atlin, British Columbia, do hereby certify that:

- I am a geologist with offices at the above address
- I am a graduate of McGill University, Montreal, Quebec, with B. Sc degree in Geology (1964), and a Masters degree (1987) from the Camborne School of Mines, Cornwall, England, in Mining Geology.
- I am registered member of the Associations of Professional Engineers in the province of British Columbia.
- I have practiced mineral exploration for 39 years, in countries such as Libya, Saudi Arabia, North Yemen, Morocco, Indonesia, Mexico, Peru, USA, and in the provinces and territories of Canada.
- At the time of writing this report, I am the registered owner (100%) of Imperial mineral claim tenure# 379554
- I completed the geological Investigations as summarized in this report
- I am author of report titled: **BC. Assessment Report**

Covering preliminary geological investigations altered Ultramafic rocks and other basic rocks on and around the Imperial mineral claim, (12 Units), tenure number 379554, Monroe Mt., Located in the Atlin Mining Division, British Columbia, Canada.

Signed and sealed in Atlin BC. on the 7th September 2004

Respectfully submitted,

N. CLIVE ASPINALL, M.Sc, P.Eng.

Appendices III

Geochemical analyses

14-Jul-04

ECO TECH LABORATORY LTD.
10041 Dallas Drive
KAMLOOPS, B.C.
V2C 6T4

Phone: 250-573-5700
Fax : 250-573-4557

ICP CERTIFICATE OF ANALYSIS AK 2004-631

Clive Aspinall Geological
Pillman Hill, Box 22
Atlin, BC
V0W 1A0

No. of samples received: 5
Sample type:Rock

Values in ppm unless otherwise reported

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	IMP04-1	20	0.4	0.02	140	10	<5	2.30	<1	54	163	7	3.73	<10	>10	555	<1	<0.01	962	<10	<2	<5	<20	107	<0.01	<10	9	<10	<1	13
2	IMP04-2	120	0.4	0.12	85	<5	<5	2.23	<1	47	289	32	3.49	<10	>10	564	<1	<0.01	763	<10	<2	<5	<20	78	<0.01	<10	10	<10	<1	13
3	IMP04-3A	205	6.2	0.03	15	<5	<5	1.04	8	2	138	411	0.60	<10	0.17	150	11	<0.01	6	40	154	15	<20	5	<0.01	<10	3	<10	<1	640
4	IMP04-4	715	24.2	0.03	10	5	<5	0.41	3	1	153	153	0.51	<10	0.04	127	7	<0.01	4	70	50	5	<20	<1	<0.01	<10	2	<10	<1	206
5	IMP04-5	355	7.9	0.03	10	5	<5	0.40	4	1	157	534	0.57	<10	0.06	91	14	<0.01	2	80	150	10	<20	<1	<0.01	<10	3	<10	<1	236
QC DATA:																														
Repeat:																														
1	IMP04-1	770	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Resplit:																														
1	IMP04-1	30	0.4	0.02	125	<5	<5	2.28	<1	54	154	6	3.62	<10	>10	537	<1	<0.01	944	<10	<2	<5	<20	102	<0.01	<10	8	<10	<1	12
Standard:																														
GEO '04		135	1.5	1.61	55	145	<5	1.58	<1	19	54	88	3.60	10	0.95	604	<1	0.03	28	700	20	<5	<20	51	0.10	<10	60	<10	10	76

ECO TECH LABORATORY LTD.
Jutta Jealouse
B.C. Certified Assayer

JJ/jm
df/627
XLS/04