



# Minerex Services Pty. Ltd.

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MOBILE: 0438215768 FAX: (08) 9071 3374

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WEB: [www.minerex.com.au](http://www.minerex.com.au)

ACN: 008 971 220  
ABN: 91 352 507 055

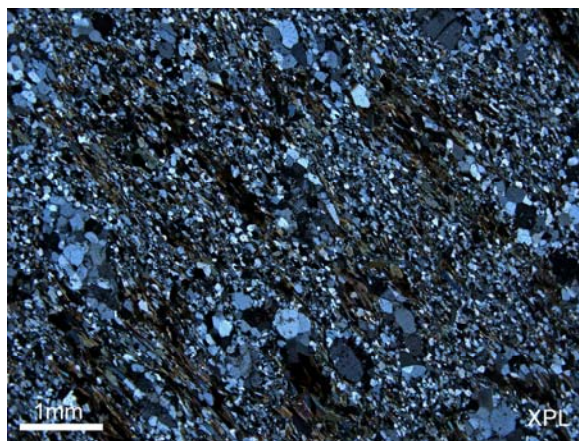
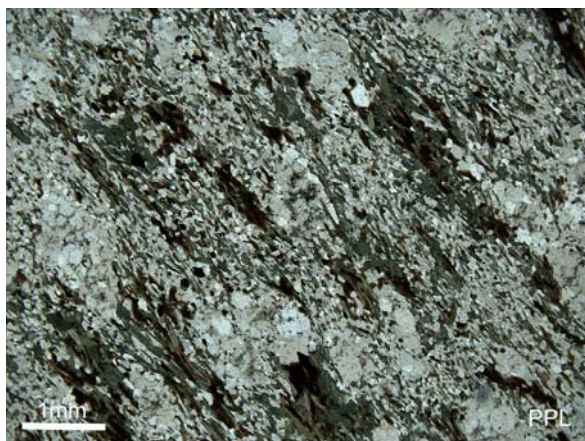
## THIN SECTION DESCRIPTION

DATE: June 2016  
PETROLOGIST: Robert Crossley  
CLIENT: Golden Eagle Mining  
CONTACT: Peter Paterson  
**THIN SECTION No: FFD02 (499.63m)**  
NATURE OF THE SAMPLE: Core

A moderately foliated, recrystallised groundmass retains a relict, porphyritic texture. It consists of a granular mosaic of orthoclase and acicular hornblende, with former plagioclase phenocrysts now completely pseudomorphed by coarser, annealed aggregates of orthoclase. Patches of porphyroblastic biotite overprint some of the hornblende. Minute zircon grains ( $\pm$  metamict haloes) and fine rutile needles occur within the biotite. Rare ilmenite is present.

## FULL ROCK NAME AND CLASSIFICATION:

A foliated, recrystallised and metamorphosed former intermediate feldspar porphyry (Upper Amphibolite Facies metamorphic grade)



Photomicrographs of FFD02 (499.63m) in PPL and XPL. A foliation is defined by amphibole and biotite throughout a fine-grained, granoblastic groundmass.



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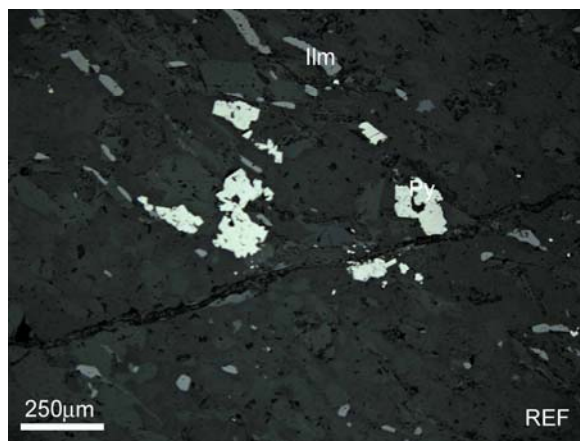
DATE:	June 2016
PETROLOGIST:	Robert Crossley
CLIENT:	Golden Eagle Mining
CONTACT:	Peter Paterson
<b>THIN SECTION No:</b>	<b>FFD02 (579.3m)</b>
NATURE OF THE SAMPLE:	Core

A fine-grained, foliated, granular textured groundmass is composed of sub-equal feldspar, quartz and ferromagnesian minerals. The rock also shows some compositional banding, with some bands containing abundant hornblende and others dominated by chlorite. Minor quartz-orthoclase veins parallel the foliation and are cut by later, retrograde, anastomosing veinlets of clinozoisite-zoisite.

Thinly disseminated aggregates of crystalloblastic euhedral pyrite are confined to the hornblende and chloritic bands. Minor chalcopyrite is also present. Subhedral to tabular grains of ilmenite showing partial alteration to titanite, occur abundantly throughout the rock.

## FULL ROCK NAME AND CLASSIFICATION:

A foliated and veined, amphibolitised former basalt, containing minor, disseminated Fe-Cu sulphides



Photomicrographs of FFD02 (579.3m) in PPL and reflected light. The PPL image shows a strong foliation defined by amphibole and chlorite. A quartz vein parallel to the foliation is cut by a later veinlet of clinozoisite-zoisite. The reflected light image shows minor pyrite (Py) generally associated with the amphibole-chlorite bands, and acicular grains of ilmenite (Ilm).



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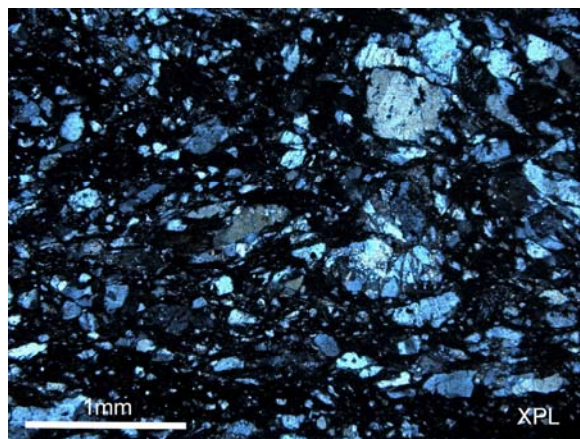
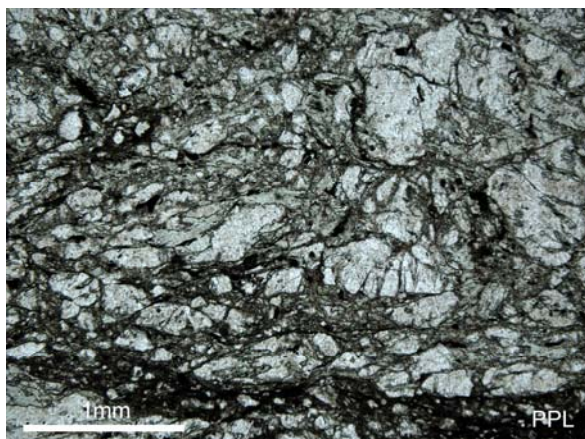
## THIN SECTION DESCRIPTION

DATE: June 2016  
PETROLOGIST: Robert Crossley  
CLIENT: Golden Eagle Mining  
CONTACT: Peter Paterson  
**THIN SECTION No:** **FFD02 (588.3m)**  
NATURE OF THE SAMPLE: Core

The rock is medium-grained, foliated and composed essentially of abundant, deformed, secondary orthoclase grains within a chloritised groundmass. Minor, narrow veinlets of carbonate are present and seams of leucoxene are possible remnants of former titanomagnetite.

## FULL ROCK NAME AND CLASSIFICATION:

A sheared, chloritised and K-metasomatised former possible dolerite



Photomicrographs of FFD02 (588.3m) in PPL and XPL. The strong alteration and shearing of this sample has obliterated any significant, relict primary textures to aid with classification. It is now composed of secondary feldspar and chlorite.





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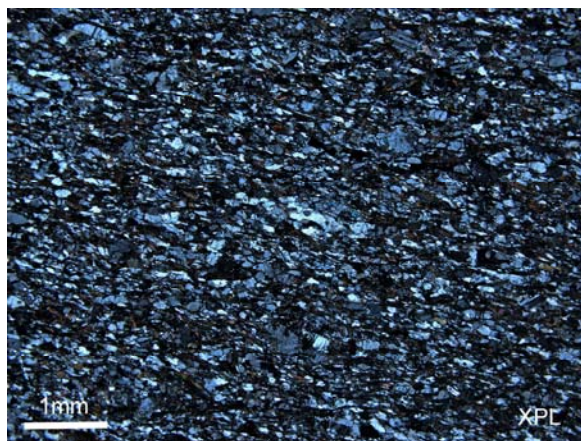
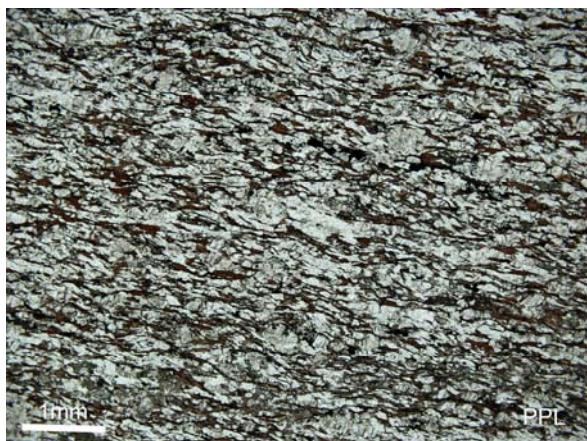
DATE: June 2016  
PETROLOGIST: Robert Crossley  
CLIENT: Golden Eagle Mining  
CONTACT: Peter Paterson  
**THIN SECTION No: FFD02 (618.43m)**  
NATURE OF THE SAMPLE: Core

A fine-grained, foliated, granular textured groundmass is composed of plagioclase and alkali feldspar grains with lesser quartz. The foliation is defined by abundant, fine biotite and minor hornblende. Narrow quartz veining parallels the foliation and is cut by later, oblique orthoclase veinlets. Rare carbonate occurs along quartz vein margins.

Fine pyrrhotite, minor chalcopyrite and pyrite grains are thinly disseminated throughout the foliated groundmass.

### FULL ROCK NAME AND CLASSIFICATION:

A foliated, K-metasomatised, meta-sediment containing minor quartz veining and rare Fe-Cu sulphides



Photomicrographs of FFD02 (618.43m) in PPL and XPL. A strong foliation is defined by fine biotite and minor hornblende.



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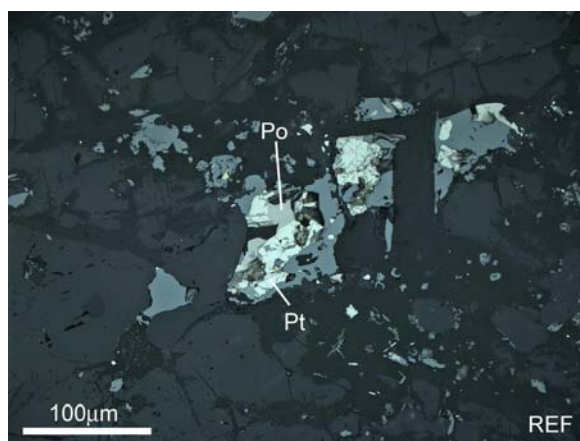
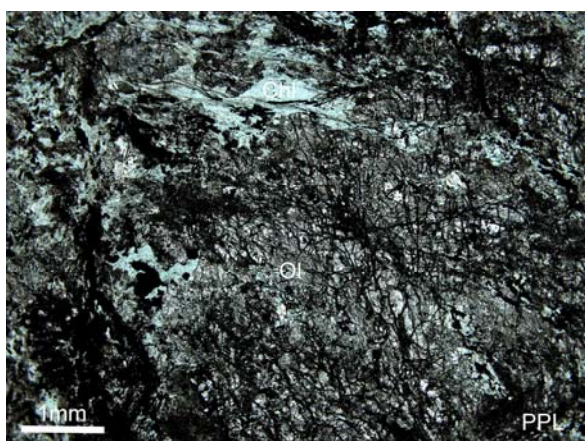
DATE: June 2016  
PETROLOGIST: Robert Crossley  
CLIENT: Golden Eagle Mining  
CONTACT: Peter Paterson  
**THIN SECTION No:** **FFD02 (684.8m)**  
NATURE OF THE SAMPLE: Core

The rock is coarse-grained and consists of a confused aggregate of metamorphic phases overprinting a former ultramafic rock. Former serpentinised olivines (with exsolved magnetite) are largely overprinted by metamorphic olivine porphyroblasts that in places show some alteration to iddingsite. The remainder of the groundmass carries patches of Mg-chlorite, coarse tremolite blades and abundant porphyroblasts of diopside.

The opaque assemblage is sparse, consisting of fine magnetite braids, minor ilmenite and composite grains of remobilised pentlandite-magnetite-pyrrhotite and minor chalcopyrite. The composite blebs range up to 0.2mm in size. Late exsolution of mackinawite occurs throughout the pentlandite.

## FULL ROCK NAME AND CLASSIFICATION:

A recrystallised, olivine-tremolite-diopside rock, after a former ultramafic, containing rare, Ni-Fe-Cu sulphides



Photomicrographs of FFD02 (684.8m) in PPL and reflected light. The PPL image shows coarse olivine (Ol) porphyroblast surrounded by patches and stringers of chlorite (Chl). The reflected light image shows a composite grain of pentlandite (Pt) and pyrrhotite (Po). The dull grey grains are magnetite. The pentlandite appears veined due to fine exsolution of mackinawite.



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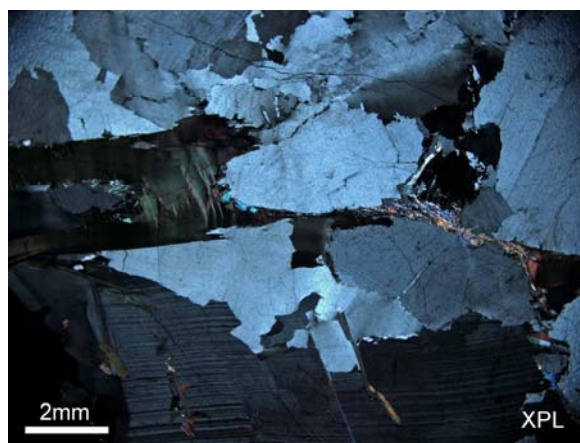
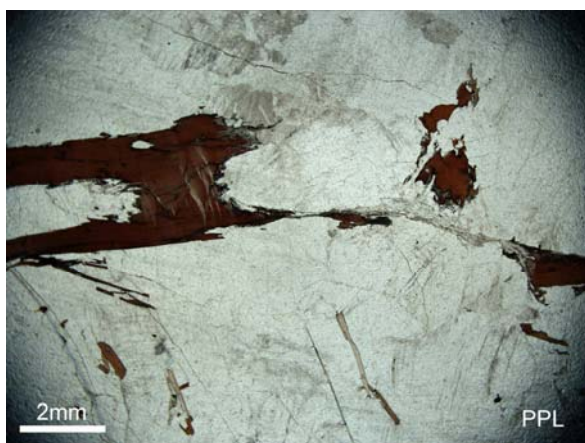
## THIN SECTION DESCRIPTION

DATE: June 2016  
PETROLOGIST: Robert Crossley  
CLIENT: Golden Eagle Mining  
CONTACT: Peter Paterson  
**THIN SECTION No:** **FFD02 (722.4m & 731.6m)**  
NATURE OF THE SAMPLE: Core

The rock at these intervals is essentially the same, with only minor differences. The coarse-grained, subhedral, granular textured groundmass is composed of an interlocking mosaic of albite, quartz, biotite and minor orthoclase. The biotite is fox red in colour and contains manganese (var. manganophyllite). Alteration to chlorite is evident and late muscovite forms around the margins. The quartz shows strong deformation and pressure solution suturing. The rock at 731.6m is slightly coarser grained ( $\leq 10\text{mm}$ ) and the biotite contains minute metamict haloes surrounding zircon inclusions.

## FULL ROCK NAME AND CLASSIFICATION:

Acid pegmatite



Photomicrographs of FFD02 (722.4m) in PPL and XPL. The foxy red (in PPL) mineral is biotite surrounded by coarse feldspar (twinned, XPL) and quartz.





## THIN SECTION DESCRIPTION

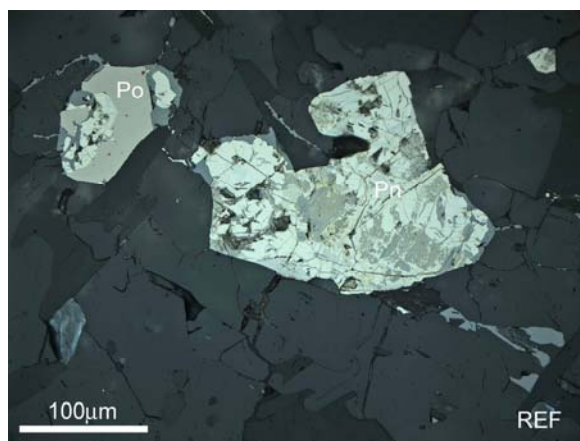
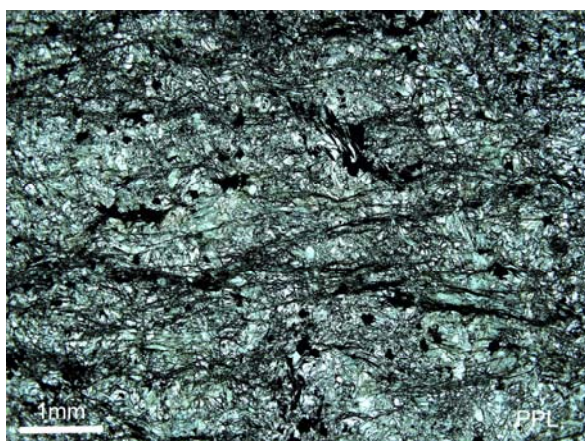
DATE: June 2016  
PETROLOGIST: Robert Crossley  
CLIENT: Golden Eagle Mining  
CONTACT: Peter Paterson  
**THIN SECTION No:** **FFD02 (766.0m)**  
NATURE OF THE SAMPLE: Core

The rock is completely recrystallised and similar to the interval at 684.8m. A coarse-grained, chaotic groundmass of secondary phases overprint a former ultramafic rock. Remnant, scattered serpentinised olivines are obscured by a pervasive intergrowth of metamorphic olivine, Mg-chlorite, tremolite and coarse diopside. A veinlet of nematoblastic tremolite traverses the rock with some olivine near the margins being altered to bowlingite.

Fine braids of exsolved magnetite are preserved and composite masses of remobilised magnetite-pentlandite-pyrrhotite up to 0.50mm in size occupy some 1% of the rock. The pentlandite contains abundant exsolution flames of mackinawite. Minor phases include chalcopyrite, ilmenite and tochilinite.

## FULL ROCK NAME AND CLASSIFICATION:

An olivine-tremolite-diopside rock after a former probable komatiite orthocumulate, containing disseminated Ni-Fe-Cu sulphides



Photomicrographs of FFD02 (788.0m) in PPL and reflected light. The PPL image shows the chaotic groundmass of this altered ultramafic. Remobilised magnetite, pentlandite (Pn) and pyrrhotite (Po) occurs throughout. The pentlandite appears veined due to exsolution flames of mackinawite.