Report on Petrographic and Electron Microprobe Investigation of 6 Rock Samples from the Heron Pond Prospect, Black River South Property Grimsthorpe Township, Ontario

For
Union Glory Gold Limited
Toronto, Ontario

By: Robert Barnett of R.L. Barnett Geoanalytical Consulting Ltd.
Jim Renaud of Renaud Geological Consulting Ltd.
And Robert Dillman of Arjadee Prospecting

February 4, 2013

I N D E X

Summary

This report summarizes the results of a petrographic and electron microprobe investigation of six rock samples collected from a trench on the Heron Pond Prospect on the Black River South Property in Grimsthorpe Township, Ontario. The rock samples were examined by R.L. Barnett Geoanalytical Consulting Ltd. of London, Ontario and, by Jim Renaud of Renaud Geological Consulting Ltd. also, of London, Ontario. Their report is contained within. The rocks were examined to gain a better understanding of the hydrothermal processes involved, the various metals contained within and the degree of metamorphism and alteration of surrounding wallrocks. The survey identified sulphide minerals containing: iron, arsenic, lead, zinc, copper, antimony, molybdenum, gold and silver.

Location, Property Ownership, Access

The Black River South Property is located in the Southern Ontario Mining Division approximately 185 kilometres northeast of Toronto, Ontario, Canada (Figure 1). The property is situated in Grimsthorpe Township in Hastings County.

The property consists of five contiguous non-patented mining claims covering a total area of 340 hectares (Figure 2). Table 1. summarizes the logistics of the mining claims. Titles to the mining claims comprising the Black River South property are held equally by:

Robert J. Dillman of Mount Brydges, Ontario,

James M. Chard of Cordova Mines, Ontario

The property is currently under a sales contract to Union Glory Gold Limited of Toronto, Ontario.

The property has good seasonal road access via the Lingham Lake Forest Access Road which crosses through the west side of the property. The Lingham Lake Access Road intersects with the Skootamatta Forest Access Road 4.5 km north of the property. The Skootamatta Forest Access Road is also a seasonal road and extends from the town of Gilmour located on the Weslemkoon Road to the town of Northbrook located on Provincial Highway 41. The Skootamatta Road is not maintained in the winter. A four-wheel drive truck was used to access the property during this survey.

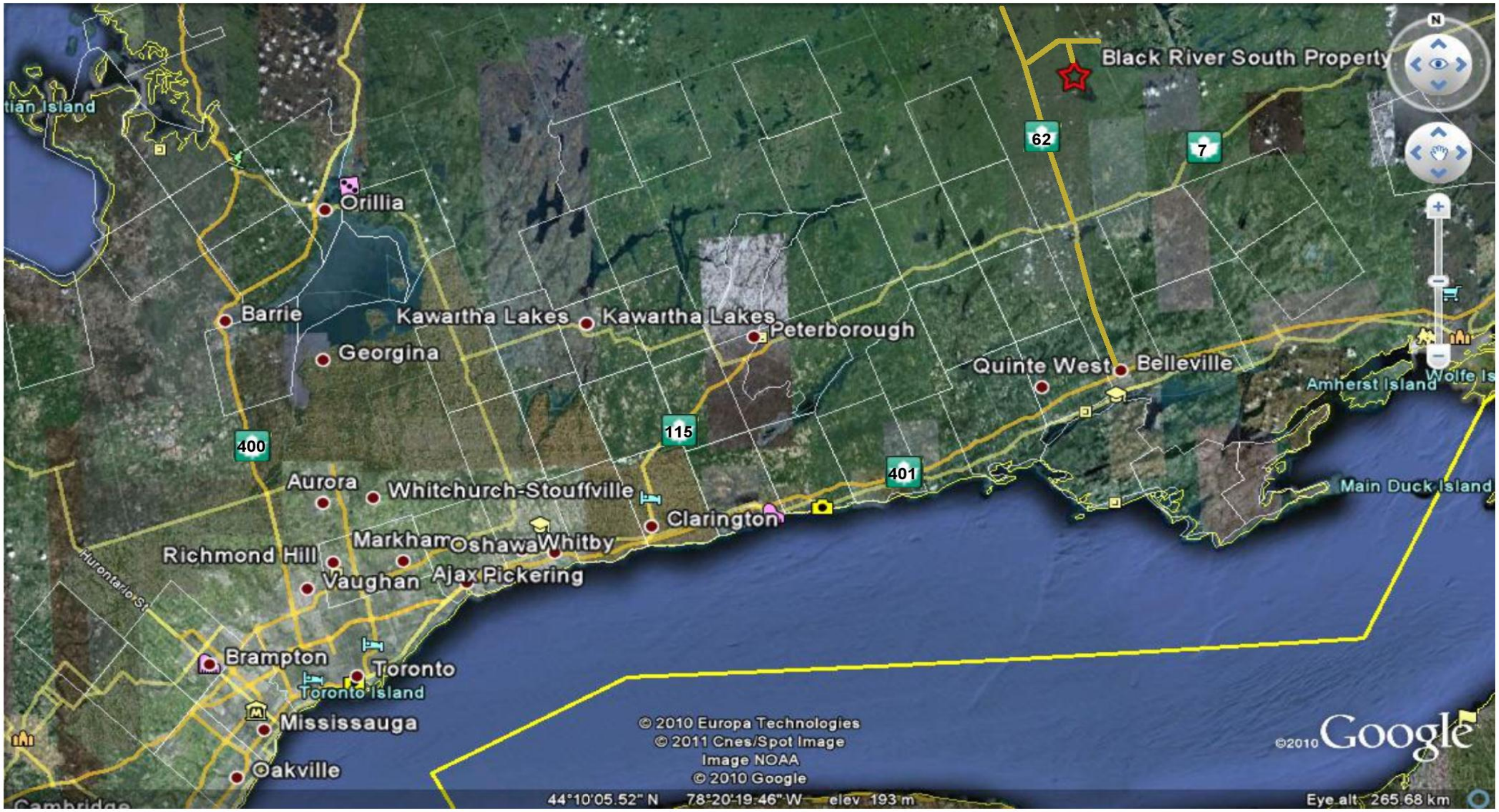


FIGURE 1.
PROPERTY LOCATION MAP
BLACK RIVER SOUTH PROPERTY
GRIMSTHORPE TWP., ONTARIO
UNION GLORY GOLD LIMITED

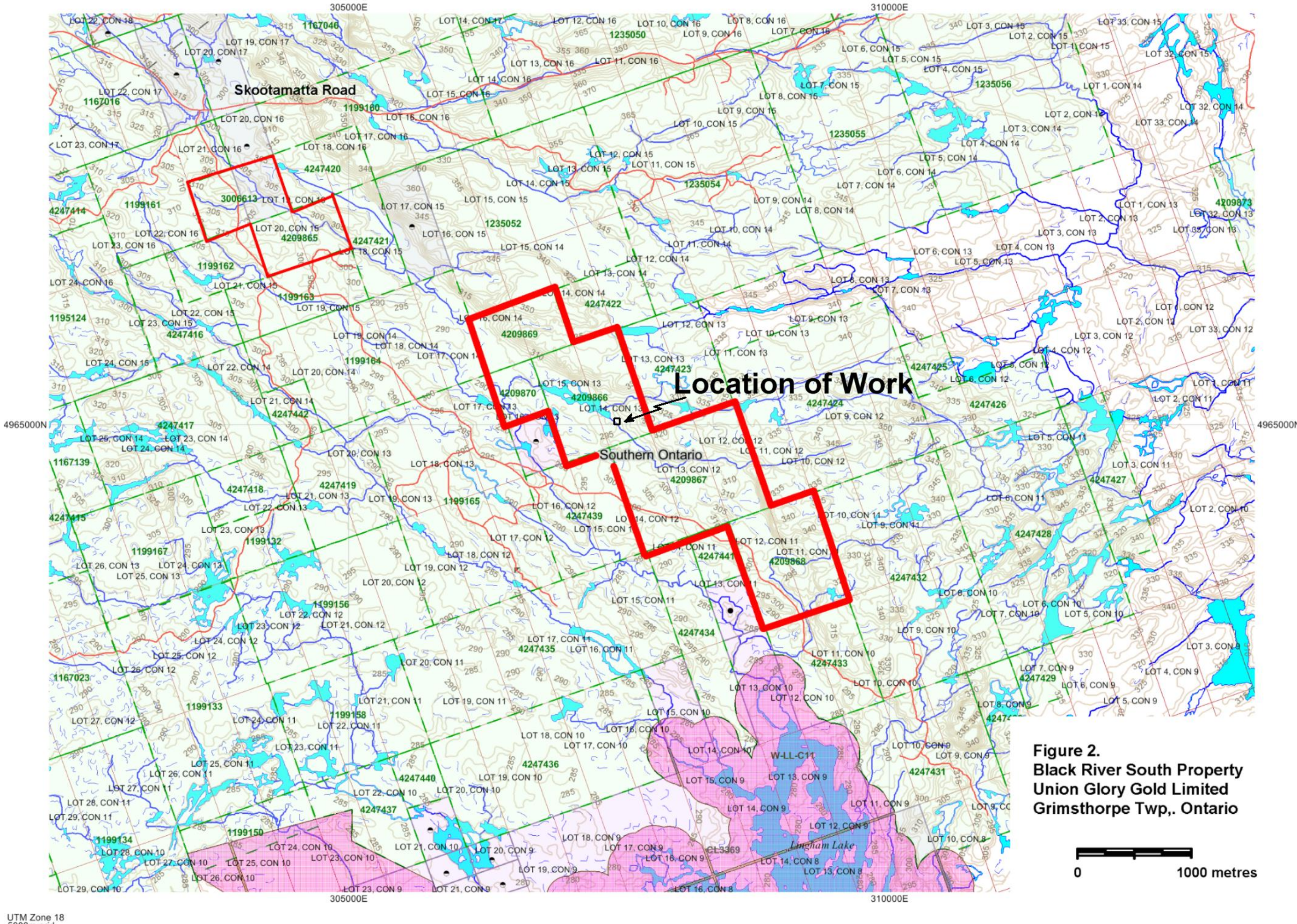
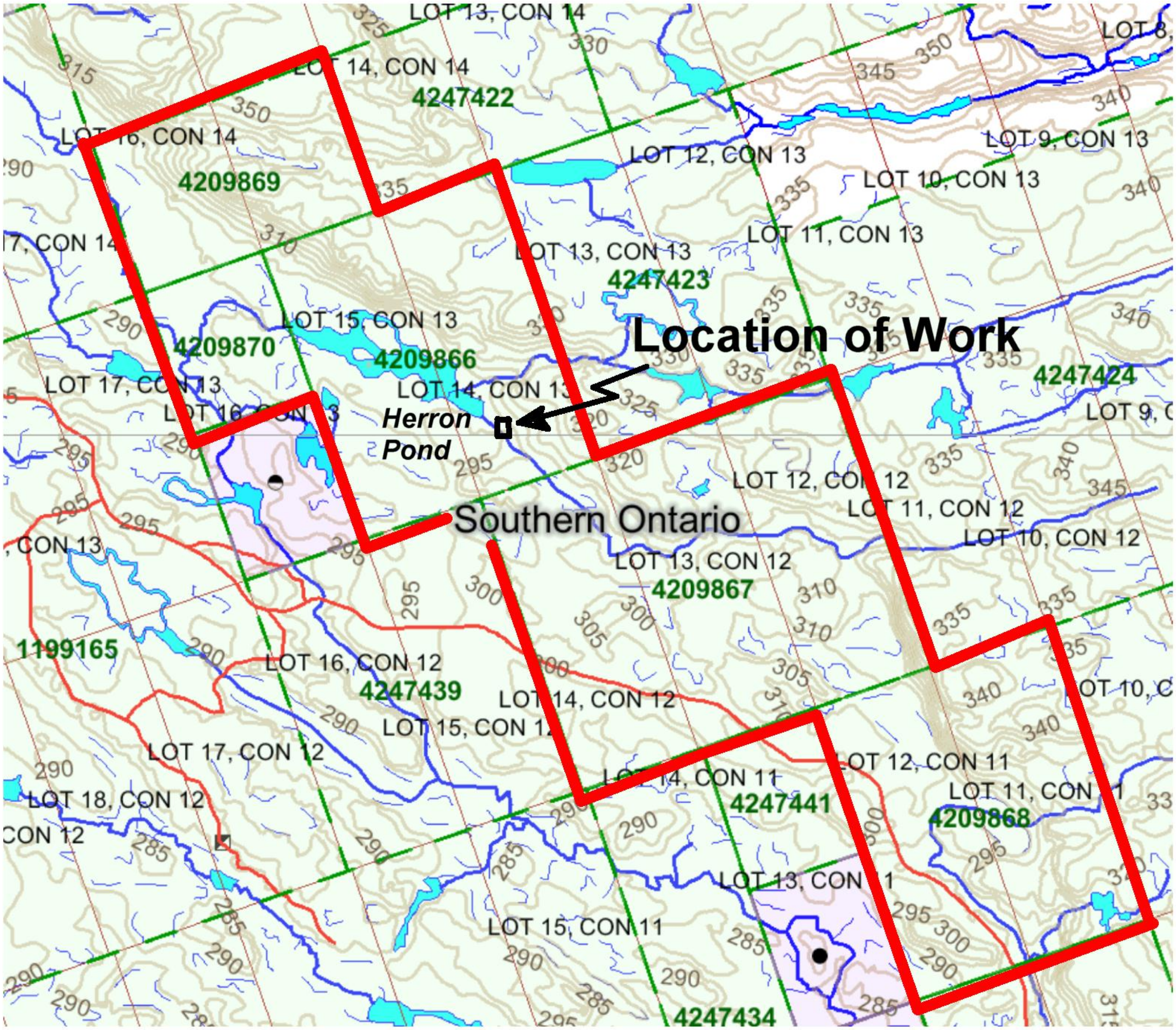


Figure 2.
Black River South Property
Union Glory Gold Limited
Grimsthorpe Twp,. Ontario



0 250 500 metres

Figure 3.
Topography and Land Status
Black River South Property
Union Glory Gold Limited
Grimsthorpe Twp., Ontario

Table 1.

Claim Logistics
Black River South Property
Grimsthorpe Twp., Ontario

Claim Number	Location	Number of Units	Size Hectares	Assessment Due Date	Amount Due	Assessment Bank
4209866	Lot’s 14 & 15, Conc. XIII	4	80 ha	02/ 09/ 2013	$1600	$0
4209867	Lot’s 12, 13 & 14, Conc. XII	6	120 ha	02/ 09/ 2013	$2400	$2,409
4209868	Lot’s 11 & 12, Conc. XI	4	80 ha	02/ 09/ 2013	$1600	$73
4209869	Lot’s 15 & 16, Conc. XIV S.1/2	2	40 ha	02/ 09/ 2013	$800	$0
4209870	Lot’s 16, Conc. XIII N.1/2	1	20 ha	02/ 09/ 2013	$400	$0
		17 Units	**340 ha**		**$6,800**	**$2,488**

Title:

50% Robert J. Dillman
8901 Reily Drive
Mount Brydges, Ontario
N0L 1W0

50% James M. Chard
3495 Country Road 48
Cordova Mines, Ontario
K0L 1Z0

Land Status and Topography

The Black River South Property is situated on lands designated as "Crown Land" by the Ontario Government. The property is uninhabited and there is no hydro electricity. There is a small cabin on Lot 14, Concession 13 which is used for hunting purposes.

Most of the property is covered by thick forest dominated by spruce, pine, maple and poplar. Low areas typically trend northwest-southeast and are covered by linear swamps and beaver ponds such as Heron Pond. Higher elevations usually consist of outcrops of bedrock or are covered by a thin layer of reddish-brown glacial till soil.

The Black River South Property is at a mean elevation of 300 metres above sea level (Figure 3). The west half of the property has gentle topography with relief ranging approximately 20 metres. East of the river the property is crossed by a steep, northwest-southeast orientated ridge of outcrop ranging approximately 50 metres high.

The west side of the property is crossed by the Black River. The river in the vicinity to the property is small and flows gently towards the south. It eventually drains into Lingham Lake several kilometres from the property.

Parts of the property have been clear-cut logged in the last 5 years. There are numerous new skidder trails and access roads from the Lingham Lake Road.

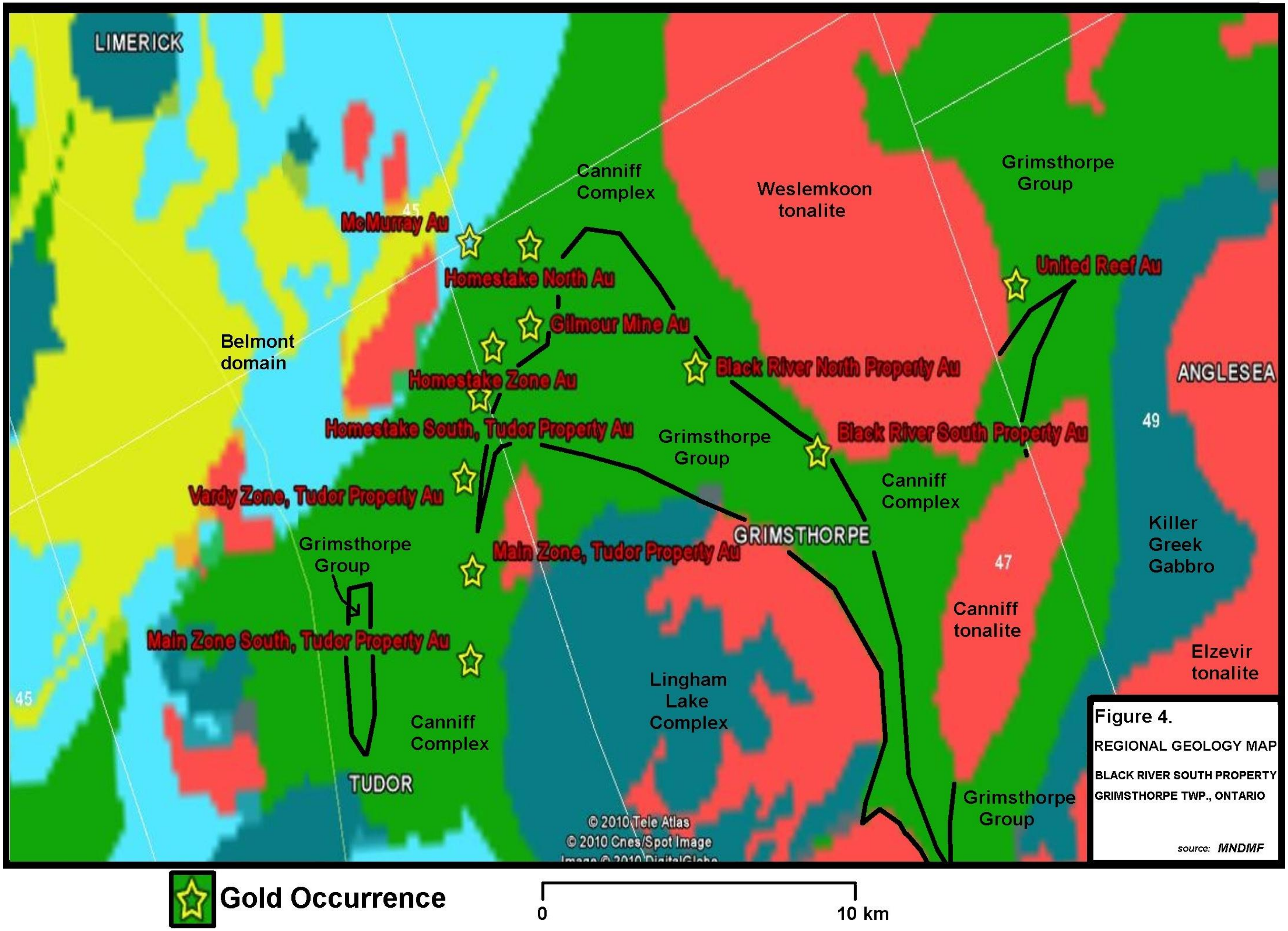
Regional and Local Geology

The Black River South Property is underlain by Proterozoic geological units belonging to the Grimsthorpe Domain of the Central Metasedimentary Belt of the Grenville Structural Province (Figure 4).

The Grimsthorpe Domain is dominated by mafic metavolcanic and volcanoclastic metasedimentary rocks older than 1270 Ma (Easton 1992). The Grimsthorpe Domain includes:

- the younger Grimsthorpe Group, consisting mainly of metavolcanic-claste metasedimentary rocks and minor metavolcanic flows of the Tudor Formation, minimum age 1279 +/13 Ma (Easton 2004).

- the older Canniff Complex dominated by massive and pillowed tholeiitic metabasalts, metagabbro and metaperidotite.


LIMERICK
Belmont
domain
McMurray Au
Homestake North Au
Gilmour Mine Au
Homestake Zone Au
Homestake South, Tudor Property Au
Vardy Zone, Tudor Property Au
Main Zone, Tudor Property Au
Main Zone South, Tudor Property Au
Grimsthorpe
Group
Canniff
Complex
TUDOR
45
Canniff
Complex
Weslemkoon
tonalite
Grimsthorpe
Group
United Reef Au
Black River North Property Au
Black River South Property Au
Grimsthorpe
Group
Canniff
Complex
GRIMSTHORPE
Lingham
Lake
Complex
Canniff
tonalite
Grimsthorpe
Group
ANGLESEA
49
Killer
Greek
Gabbro
47
Elzevir
tonalite
© 2010 Tele Atlas
© 2010 Cnes/Spot Image
Figure 4.
REGIONAL GEOLOGY MAP
BLACK RIVER SOUTH PROPERTY
GRIMSTHORPE TWP., ONTARIO
source: MNDMF
Gold Occurrence
0
10 km

The property is situated over the unconformity between the Grimsthorpe Group and the Canniff Complex (Figure 5). In the north section of the property, the unconformity follows the base of the northwest trending ridge situated east of Herron Pond. Outcrops northeast of the unconformity consist of metabasalts and metagabbro of the Canniff Complex. Outcrops west of the unconformity consist of northwest trending schistose metasedimentary units and metavolcanic flows of the Grimsthorpe Group. In the south section of the property, the position of the unconformity is unknown due to little exploration and increasing overburden and swamp.

The Grimsthorpe Domain, notably along the Grimsthorpe-Canniff unconformity has been subjected to a variety of mafic and felsic intrusive rocks including:

- northwest trending felsic aplite dikes

- east-west striking gabbroic dikes

- small, circular gabbroic plutons

The Grimsthorpe Domain in the north area of the property is sandwiched to the west by gabbroic and dioritic rocks of the Lingham Lake Complex and to the northeast by tonalitic and granodioritic rocks of the Weslemkoon Tonalite.

Rock units on the property generally trend northwest-southeast and dip vertical to steeply southwest. In south section of the property, the strike of the Grimsthorpe Domain is almost 90^0 to the trend of the Canniff Complex.

The Grimsthorpe Domain in the project area has been subjected to amphibolite-biotite facies metamorphism. Metasedimentary units proximal to the Grimsthorpe-Canniff unconformity are variably sheared by local northwest trending structures but are not extensively carbonated like other shear zones in the region. The entire sequence is crossed by southwest to east-west orientated strike-slip faults. Some of the younger faults have displaced the unconformity. The crosscutting faults occur as tight, brittle fractures with no apparent deformation and as intense shear zones up to 25 metres wide with strong ductile deformation, carbonate and chlorite alteration and extensive quartz-carbonate veining.

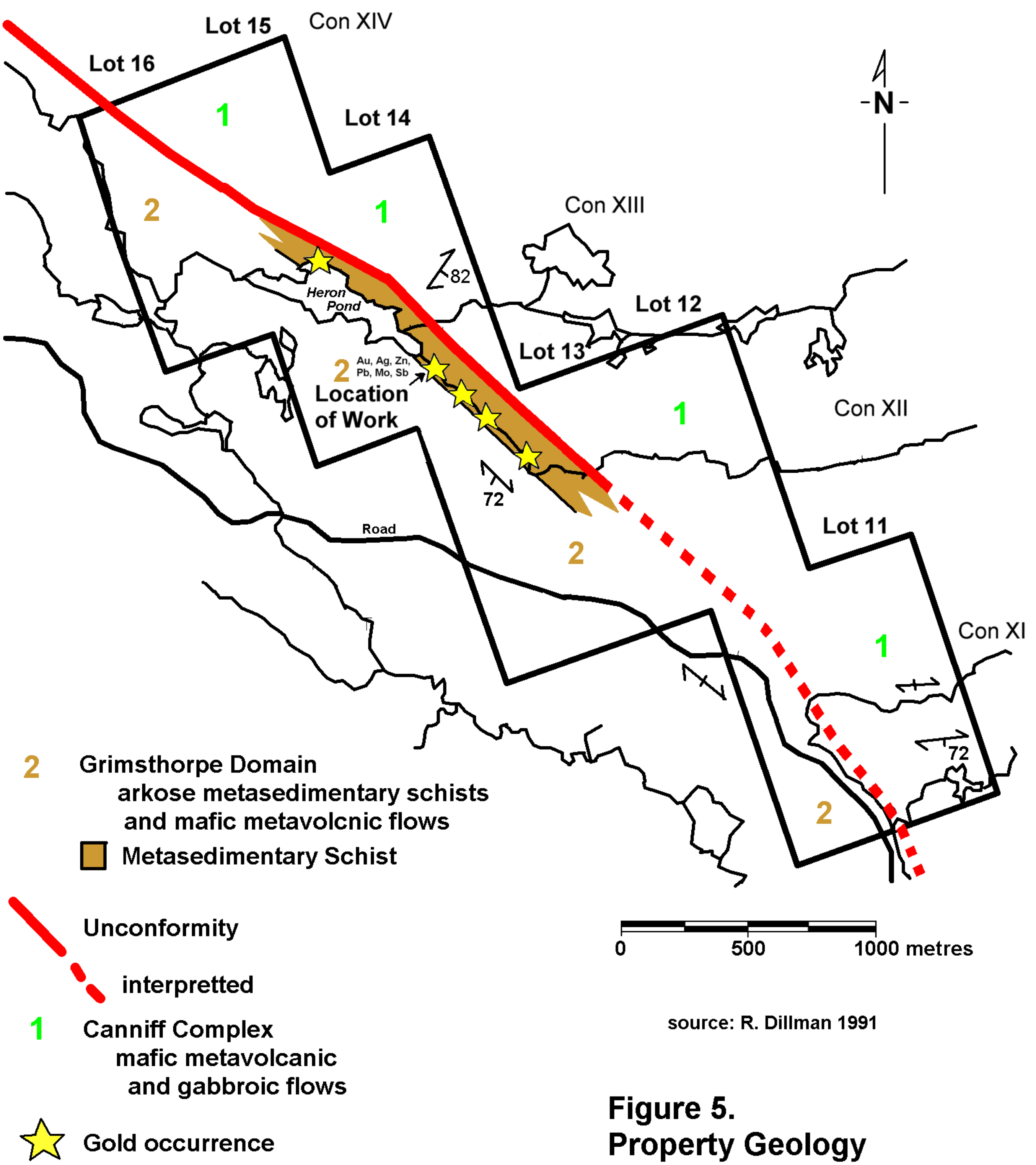


Figure 5.
Property Geology
Black River South Property
Union Glory Gold Limited
Grimsthorpe Twp., Ontario

Economic Mineralization

In the vicinity of Herron Pond, a series of gold occurrences have been discovered in metasedimentary rocks situated west of the Grimsthorpe-Canniff unconformity (Figure 6). The gold mineralization occurs in a variety of settings in the metasedimentary unit including:

- deformed, saccharoidal quartz veins mineralized with pyrite and arsenopyrite
- bluish-grey quartz stringers mineralized with pyrite and arsenopyrite
- silicified and breccia zones mineralized with pyrite and arsenopyrite.
- white crystalline quartz veins mineralized with pyrite, chlorite and carbonate.

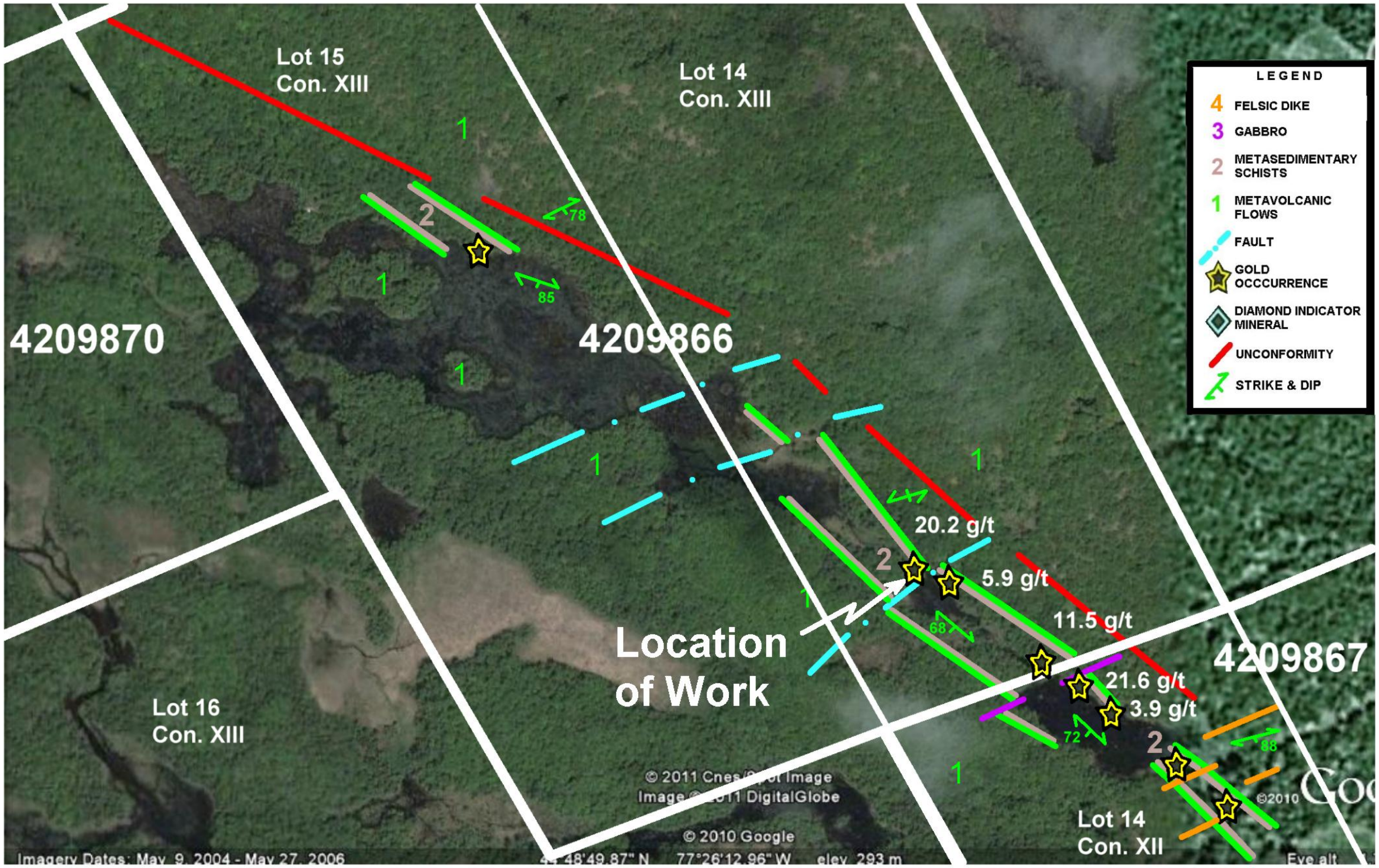
Assays have shown a wide variation in gold content ranging as high as 21.6 g/t gold. A sample of quartz with traces of sphalerite returned 5 oz/t silver and 3% zinc.

The gold bearing zone has been traced on surface roughly 1,300 metres. On a larger scale, the mineralization is a section of a 5 kilometre trend of gold occurrences situated close to the unconformity.

History of Exploration

In 1941 and 1942, the geology of Grimsthorpe Township and surrounding area was mapped by V. B. Meen on behalf of the Ontario Department of Mines (Meen, 1942). The area was re-mapped in 1990 by R. M. Easton of the Ontario Geological Survey (Easton and Ford, 1990). Prior to 1991, there is no record of mineral exploration in the area covered by the Black River South Property.

In 1991, gold was discovered along the Black River by the author and claim holder, Robert Dillman. Between 1991 and 2003, various low-cost surveys have been completed to determine the extent of gold mineralization and to fulfil the rigorous duties of assessment work required to maintain claims. The surveys completed on the property include: prospecting, geological mapping,



source: R. Dillman 1992

0 100 200 metres

Figure 6.
Geology of Heron Pond Area
Black River South Property
Union Glory Gold Limited
Grimsthorpe Twp., Ontario

manual trenching, soil sampling, ground magnetometer and VLF surveys. Reports for all the surveys are available online at the Ministry of Northern Development and Mines website.

Survey Dates and Personnel

Six rock samples were collected on the Black River South Property by property owner, James M. Chard of Cordova Mines, Ontario on January 7, 2013.

All rock samples were sent for petrographic examination to Robert Barnett of R.L. Barnett Geoanalytical Consulting Ltd. and Jim Renaud of Renaud Geological Consulting Ltd. both located in London, Ontario. The rock samples were examined between January 12 and February 1, 2013.

This report was compiled by property owner, Robert Dillman of Arjadee Prospecting located in Mount Brydges, Ontario.

Survey Logistics

Six rock samples were collect from two trenches located in the north half of lot 14, concession XIII. The GPS location of the trenches is 307520mE, 4964997mN (NAD 83, Zone 18)

The locations of the rock samples collected within the trenches are shown on Figure 7. The trenches were originally excavated by shovel in 1993 and 1996 by the author.

All six rock samples have been sent for analyses of gold, silver and zinc at SGS Minerals Limited in Lakefield, Ontario. Assay results were not available at the time of this report.

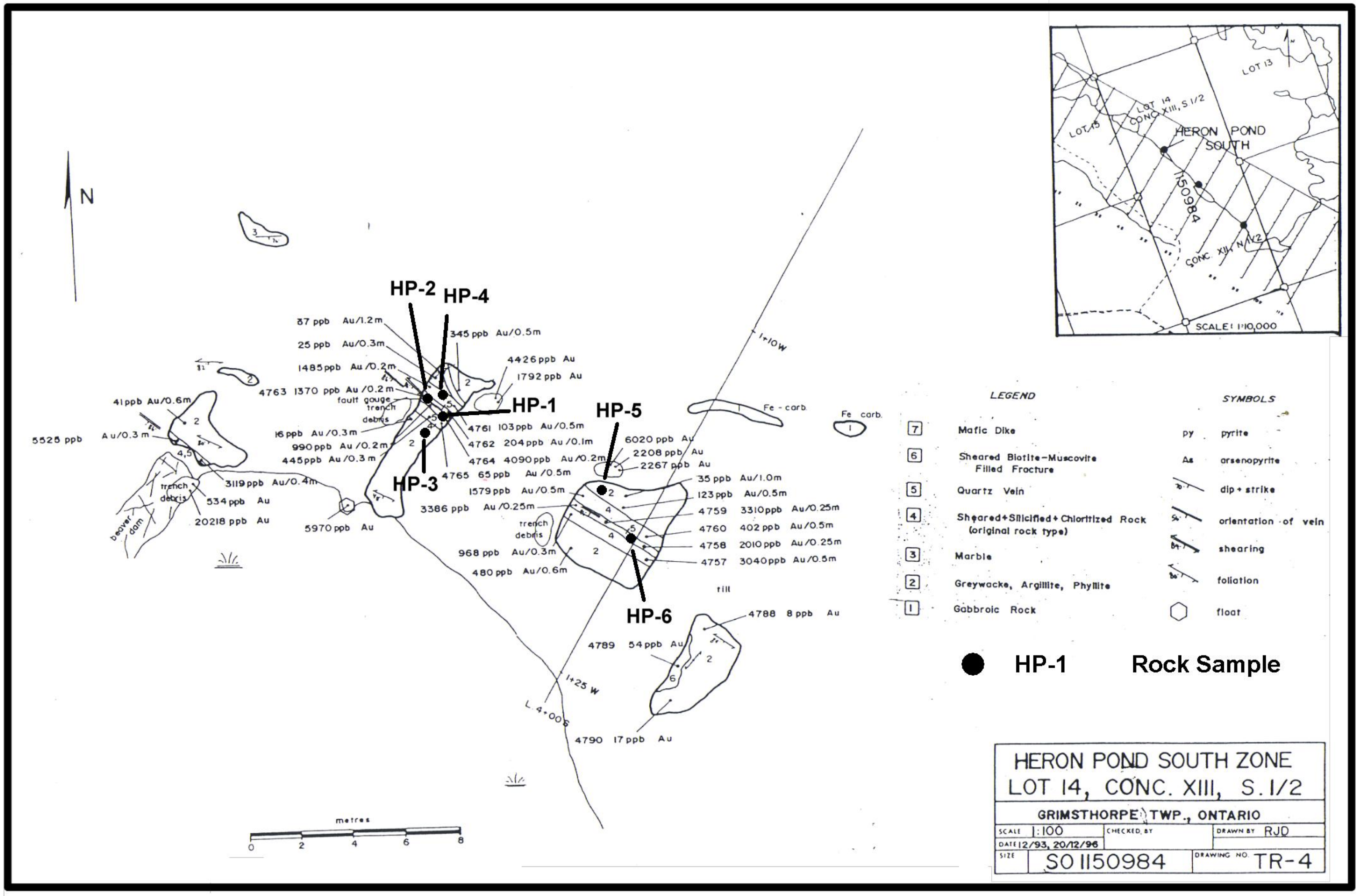


Figure 7.
Rock Sample Locations
Heron Pond Prospect
Black River South Property
Union Glory Gold Limited

Petrographic and Electron Microprobe Investigation of 6 Rock Samples from the Heron Pond Prospect, Black River South Property Grimsthorpe Township, Ontario

By: Robert Barnett of R.L. Barnett Geoanalytical Consulting Ltd.
and
Jim Renaud of Renaud Geological Consulting Ltd.

February 1 2013

Discussion and Summary:

This study is a detailed petrographic and electron microprobe of 6 samples from the Heron Pond prospect provided by Robert Dillman. The rocks were cut and polished thin sections were made. Samples were carbon coated and examined in transmitted and reflected light with a Zeiss petrographic microscope. Regions of interest were photographed and circled with a diamond scribe to enable relocation of the selected areas when in the microprobe. Samples were examined in detail using the Energy Dispersive System (EDS) on the microprobe and relevant minerals analyzed using the wavelength spectrometers. Backscattered electron detector images of relevant and interesting mineralogical and textural relationships were collected digitally. Minerals were analyzed using a JEOL JXA 733 electron microprobe equipped with a Tracor Northern EDS and five wavelength spectrometers.

In simplest terms, the mineralogical and textural relationships in the samples examined indicate the mineralization at the Heron Pond prospect formed in a hydrothermal-metasomatic environment in a regime of ever decreasing temperature. Sample Heron Pond-3 is domainal. Certain domains consist essentially of blue-green amphiboles while other domains are essentially biotite-phlogopite solid solution. As such, the sample appears to represent the two main rock types involved being amphibolite metabasalt and biotitic metasedimentary lithologies. Deep green amphiboles have an acicular habit and are riddled with multiple inclusions interpreted to indicate rapid growth. The amphiboles in this sample have elevated aluminium approaching 16 wt% Al2O3. As such, the composition of these amphiboles indicates they formed in a high temperature metamorphic environment. The abundance of inclusions provides textural evidence that these amphibole needles and compositions formed in a high temperature, possible contact metamorphic environment. This sample is important as the amphiboles allow some reasonable explanation of the origin metamorphic grade of the rock volumes at Heron Pond. All remaining samples do not contain amphiboles and as such, the estimation of the metamorphic grade is more difficult. Samples Heron Pond-1 and Heron Pond-4 do not contain amphiboles and have similar mineralogy of red-brown biotite within a matrix of Ca-plagioclase and both samples contain an abundance of pyrrhotite and other sulphide minerals. Sample Heron Pond-1 has a strong fabric defined by alignment of biotite and alignment of abundant pyrrhotite and arsenopyrite throughout. The section is penetrated by linear veinlets consisting of abundant pyrrhotite and lesser arsenopyrite within a coarse-grained twinned An45 plagioclase. It appears that fluids were accessible to the rock volume of this sample to form the pyrrhotite and plagioclase veinlets at high temperatures. This sample contains an abundance of arsenopyrite throughout the matrix and veinlets. In many examples pyrrhotite and arsenopyrite form clusters of discreet crystals, and it is possible that both pyrrhotite and arsenopyrite were simultaneously stable. However, numerous grains of arsenopyrite have small isolated grains of pyrrhotite. The linear pyrrhotite and Ca-plagioclase veinlets aligned with the fabric in this sample, have only a minor arsenopyrite component replacing pyrrhotite along grain margins and fractures. Thus, the sample originally existed as a highly attenuate biotite quartzo-feldspathic schist without arsenopyrite. The pervasive development of arsenopyrite throughout the matrix and in veinlets is thought to have formed from later arsenic-rich hydrothermal solutions. It is important to note that this sample contains fabric. In contrast, sample Heron Pond-4 contains essentially the same silicate-sulphide mineral assemblage yet is significantly without fabric. The sample consists of fine-grained domains of muscovite and plagioclase with only a subtle fabric preserved. The sample is also penetrated by large vein-like domains and patches consisting predominantly of pyrrhotite with lesser chalcopyrite within coarse twinned Ca-plagioclase. Concentrations of tourmaline with epidote occur with the sulphides and plagioclase. This sample represents a rock volume similar to Heron Pond-1 that has expressed a considerable degree of recrystallization associated with injection of pyrrhotite and coarse Ca-plagioclase veinlets. Sample Heron Pond-1 contains pyrrhotite and Ca-plagioclase veinlets aligned with the fabric while sample Heron Pond-4 contains abundant pyrrhotite and Ca-plagioclase domains without fabric. Occasional grains of scheelite were noted on margins of pyrrhotite. The fabric parallel pyrrhotite and Ca-plagioclase in Heron Pond-1 suggests fluids were accessible to the rock during deformation while the textures in Heron Pond-4 suggests that the same fluids were ambient in a rock volume without fabric. The interpretation is that pyrrhotite was introduced into the biotitic metasedimentary rock volumes in a continuum from an early stage deformational regime gradational into a post tectonic environment. It is also possible that the rock volume of Heron Pond-4 was affected by thermal metamorphic processes.

Samples Heron Pond-5 and Heron Pond-6 contain broad domains of recrystallized biotite, pyrrhotite and quartzo-feldspathic material as linear domains and trails within coarse-grained multigranular quartz. Both of these samples have abundant textures indicating that higher temperature mineral phases have been replaced by retrogressive mineral assemblages in that early stage biotite is replaced by chlorite and pre-existing Ca-plagioclase is replaced by muscovite, albitic feldspar, and quartz. While these samples contain abundant arsenopyrite, they also contain abundant pyrite which is formed at the expense of pre-existing pyrrhotite. In these samples, arsenopyrite is commonly intergrown with galena and importantly, both samples contain precious metal-bearing minerals. Sample Heron Pond-5 contains arsenopyrite with inclusions of stephanite (Ag_5SbS_4) while arsenopyrite in sample Heron Pond-6 contains inclusions of electrum (AuAg solid solution) and galena. While the silicates in these samples provide evidence of low temperature hydrothermal retrogression and higher temperature pyrrhotite is replaced by pyrite the interpretation is that the gold and silver were introduced into the rock volume of this sample by earlier stage higher temperature hydrothermal solutions that involved the mobility and introduction of arsenic, antimony, lead, zinc, silver, and gold. The last sample Heron Pond-2 is coarse grained multigranular quartz vein with spectacular inventory of sulphide mineral species. The arsenopyrite throughout the sample has spectacular zonation pattern representing variations in As and Fe-contents within the arsenopyrite solid solution. Certain arsenopyrite grains have central regions with concentrations of galena, gudmundite (FeSbS), stephanite (Ag_5SbS_4), argentite (AgS) and Ag-bearing tetrahedrite. This sample also contains paragonitic-muscovite throughout the coarse-grained multigranular quartz. The presence of paragonitic muscovite in this sample and not biotite allows the interpretation that the spectacular and exotic mineral inventory in this sample was the result of mobility of lower temperature post tectonic and post peak metamorphic lower temperature hydrothermal solutions.

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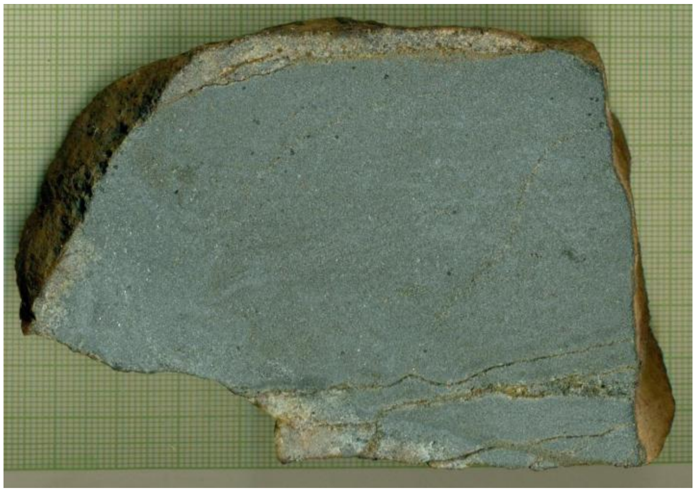
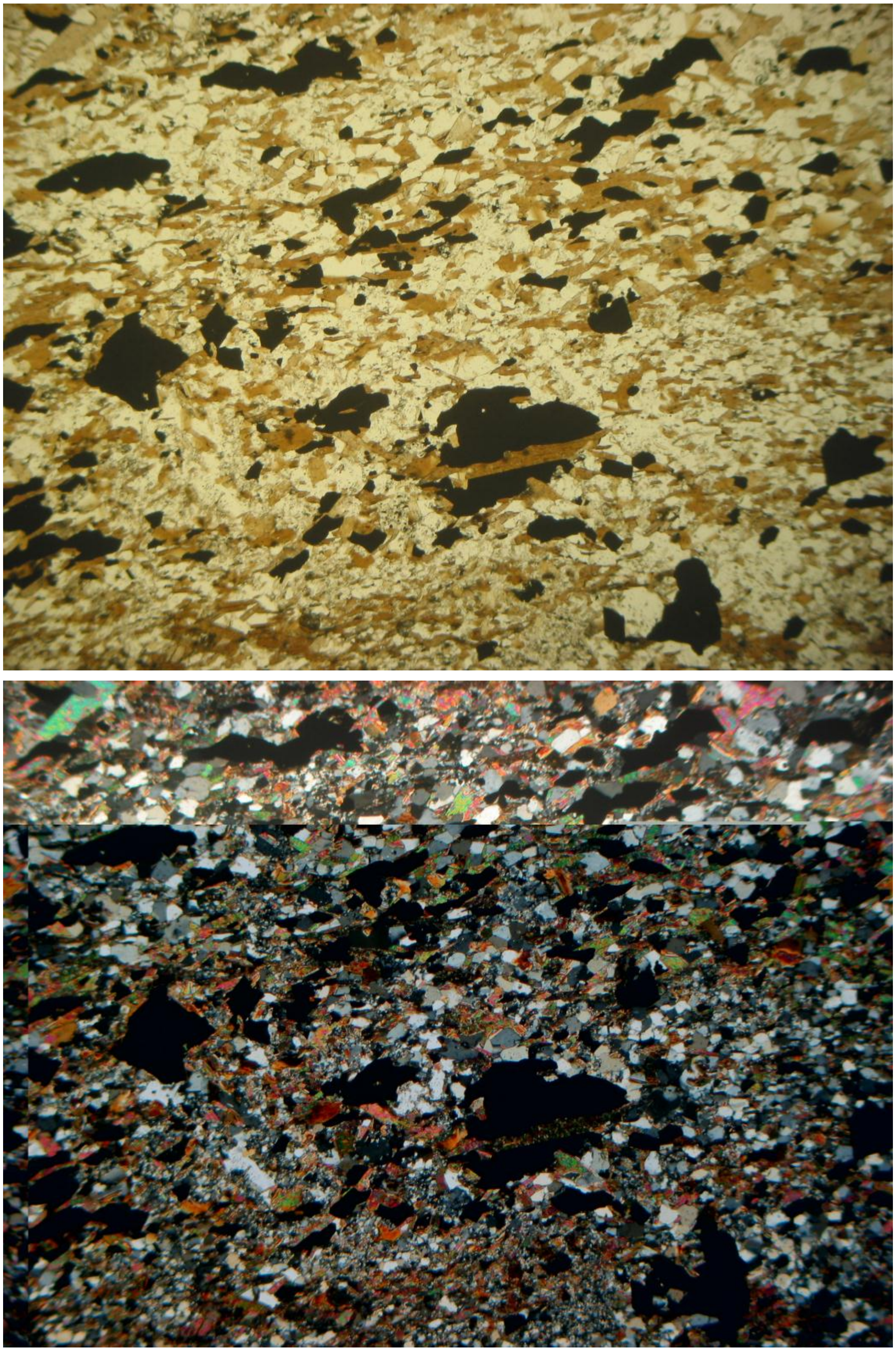
Sample Heron Pond-1

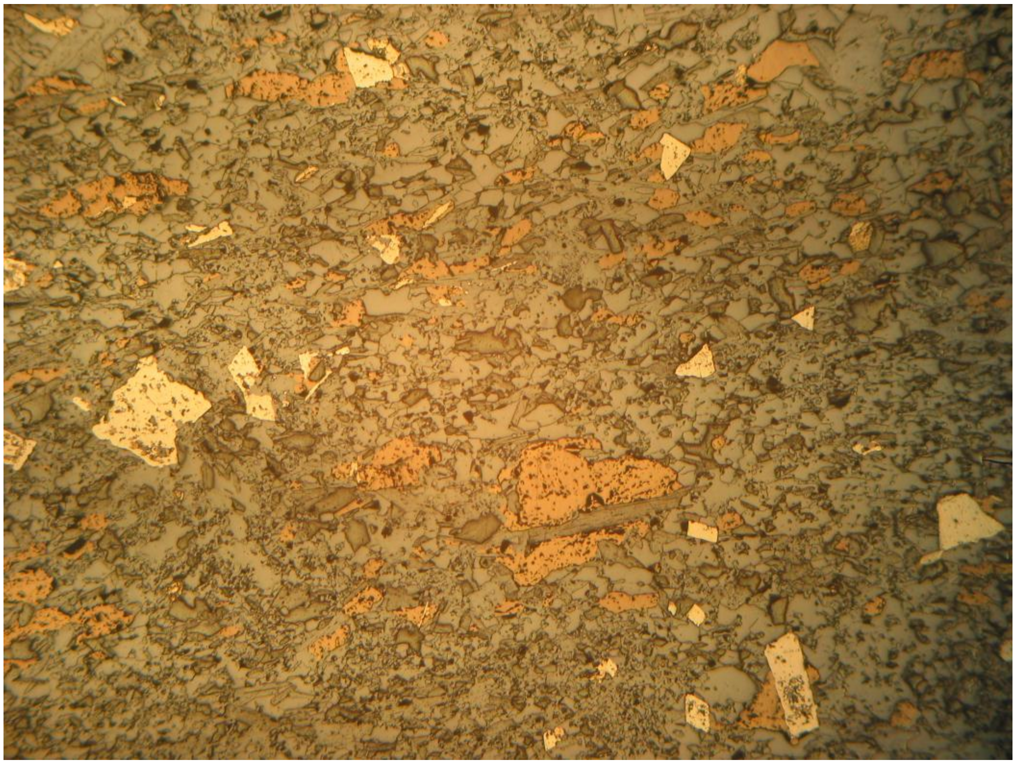
 

The sample is a biotite-quartz-feldspathic schist with strong to moderate fabric throughout. Fine-grained foliated domains contain 15-20% pyrrhotite intergrown with idiomorphic arsenopyrite and occasional grains of chalcopyrite intergrown with abundant biotite. These sulphide minerals are intimately intergrown with the quartz and biotite. The planar fabric is disrupted by coarse patches of recrystallized and intimately intergrown biotite and sulphide minerals and there are linear vein-like regions of coarse sulphide and biotite intergrown with relatively coarse-grained twinned Ca-plagioclase (~An50). These coarse patchy domains and coarse sulphide-mica-feldspar veins represent fluid ingress in a post tectonic environment. The sample contains 2% ilmenite scattered evenly throughout and occasional grains of scheelite.

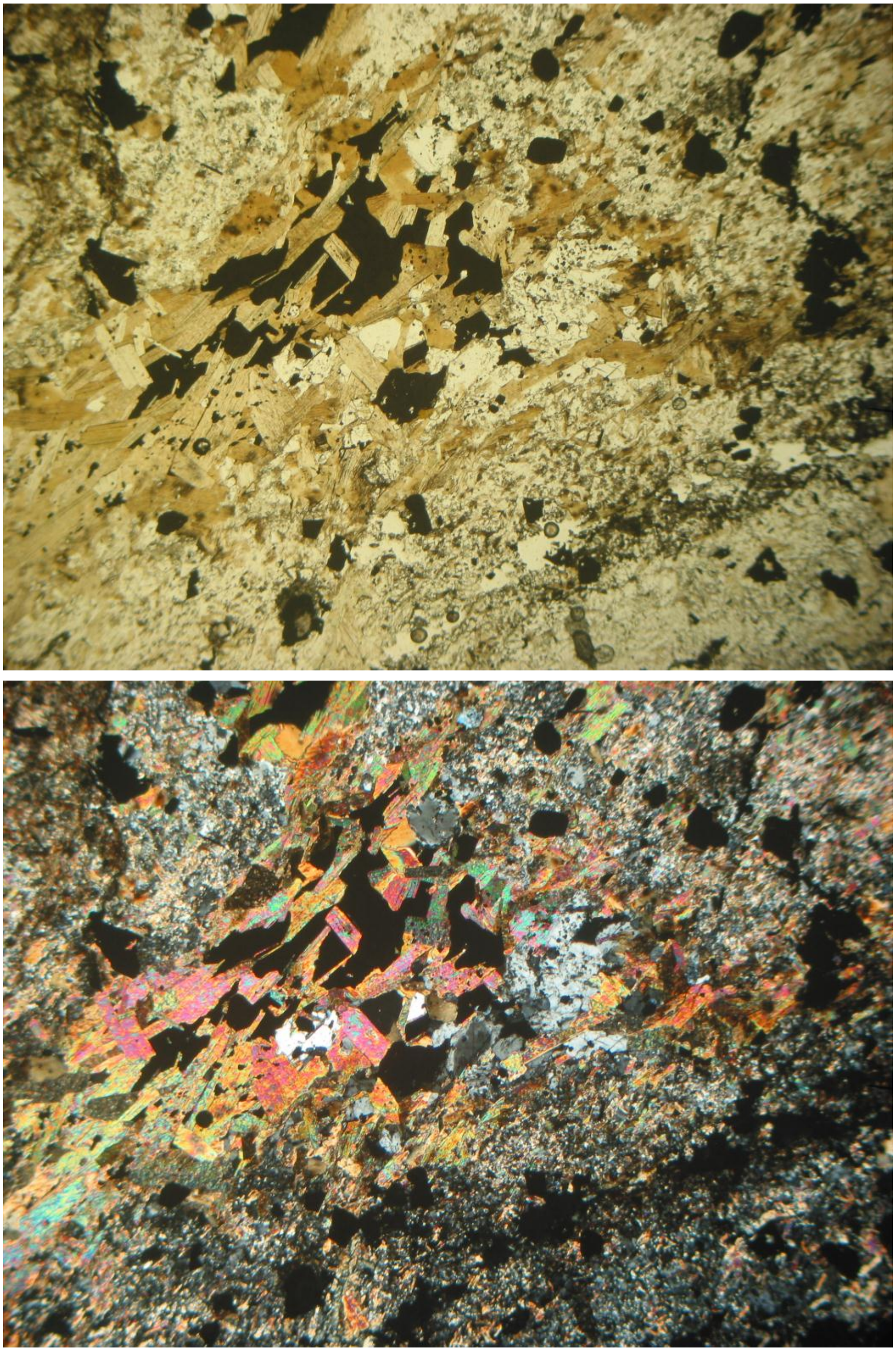
In summary, this sample is an attenuated pyrrhotite-rich biotite-quartzo-feldspathic schist with coarse pyrrhotite-plagioclase veinlets. Pyrrhotite is replaced pervasively throughout by arsenopyrite.



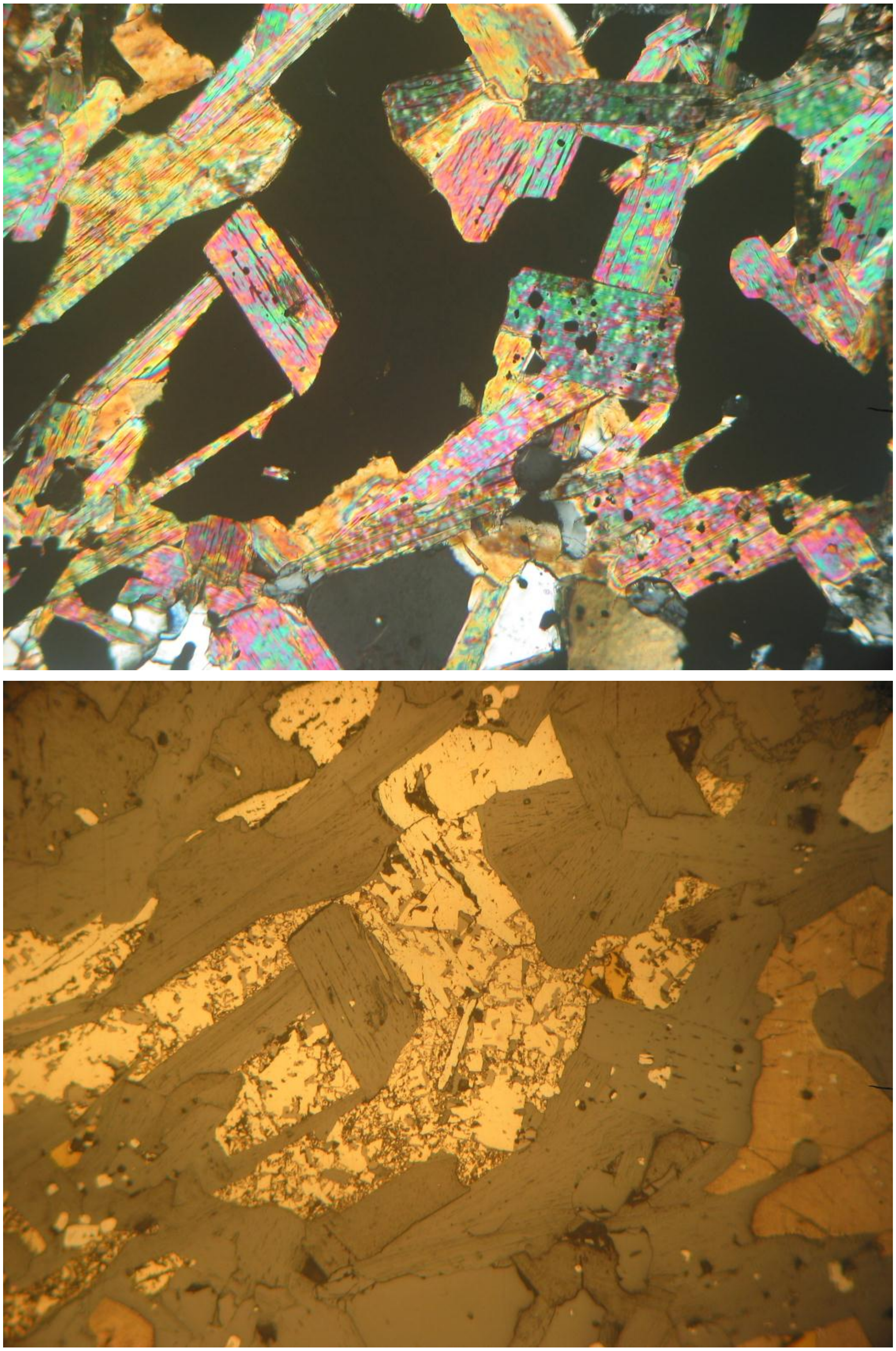
Heron Pond-1 Plate 1: Fine-grained region of the section with abundant pyrrhotite intimately intergrown with biotite laths in a fine-grained quartz-feldspar matrix.



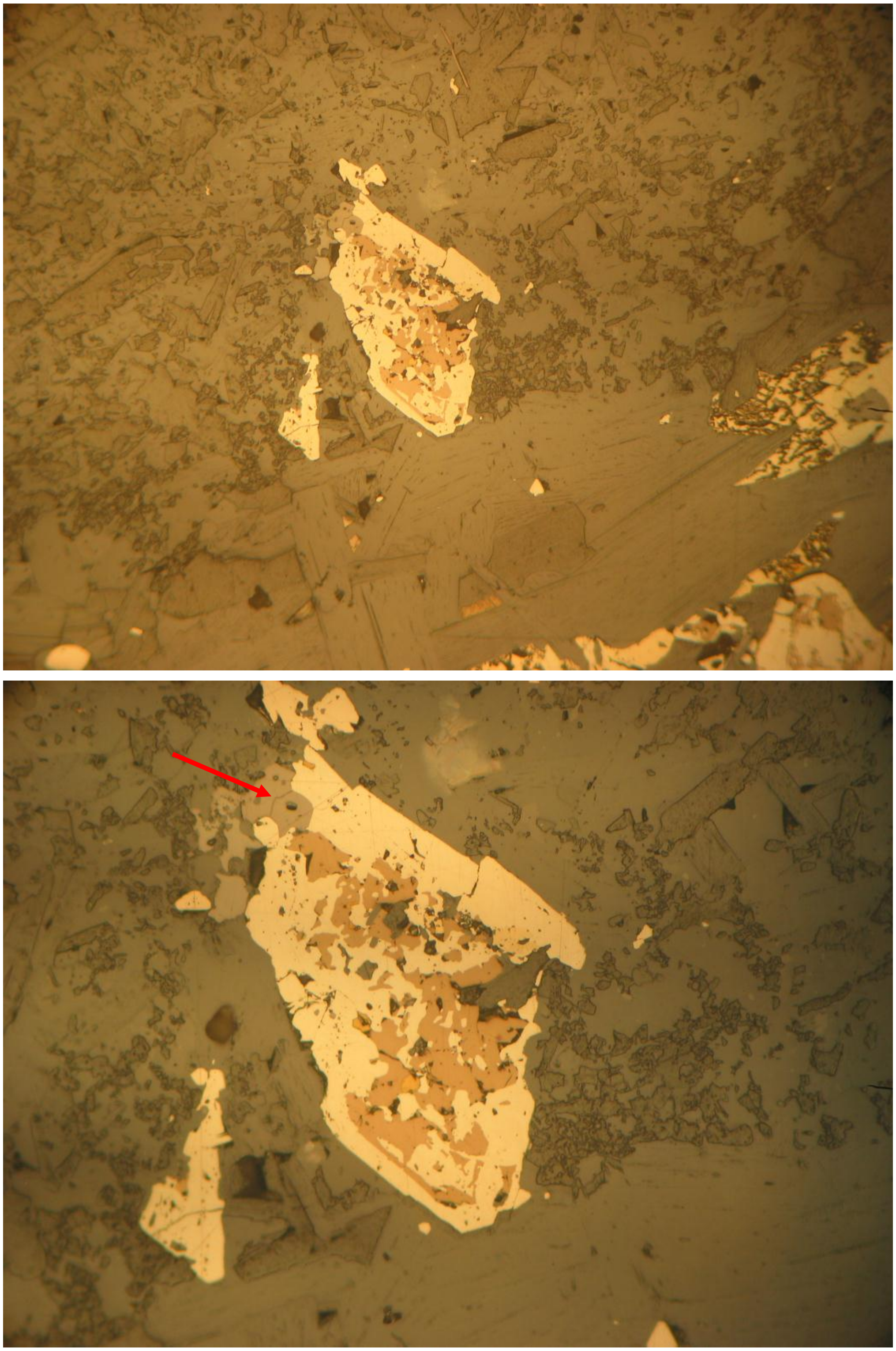
Heron Pond-1 Plate 2: Typical fine-grained region of sample with 20% pyrrhotite and intermittent arsenopyrite (white). It is important to not that the arsenopyrite grains have inclusions of pyrrhotite and the interpretation is that the arsenopyrite developed in this rock volume by replacement of pre-existing pyrrhotite as a result of ingress of arsenic-rich solutions.



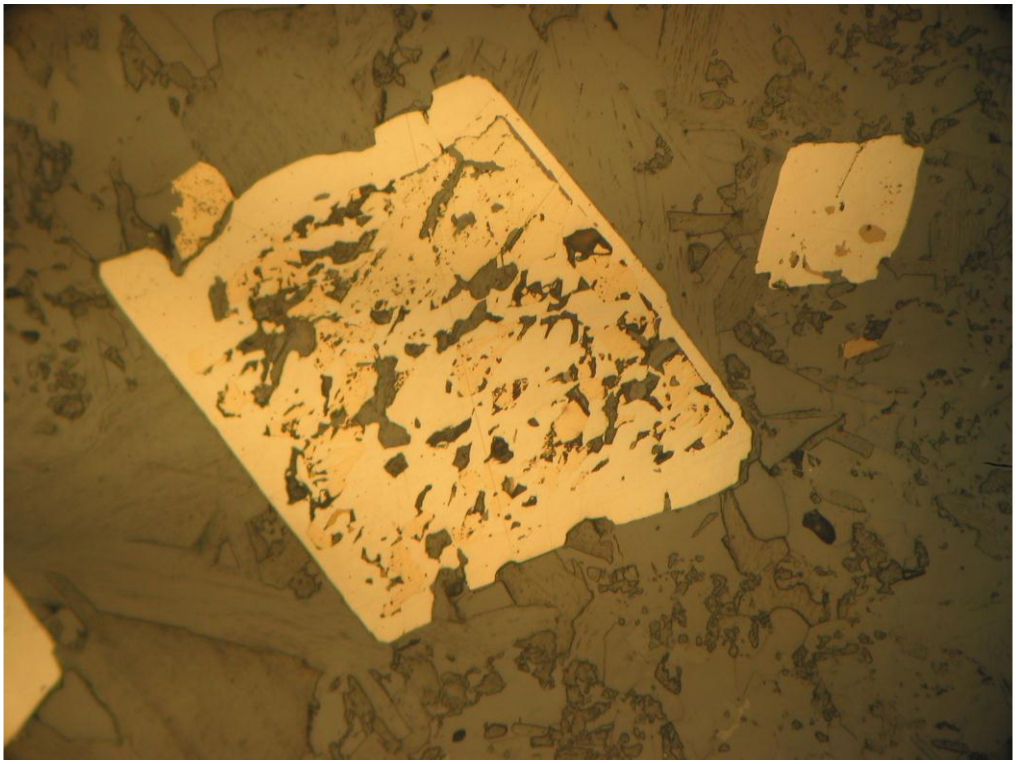
Heron Pond-1 Plate 3: Domain of pyrrhotite and lesser arsenopyrite intergrown with coarse recrystallized biotite-phlogopite solid solution intergrown with Ca-plagioclase (~An45), a zone of recrystallization caused by ingress of post tectonic hydrothermal solutions.



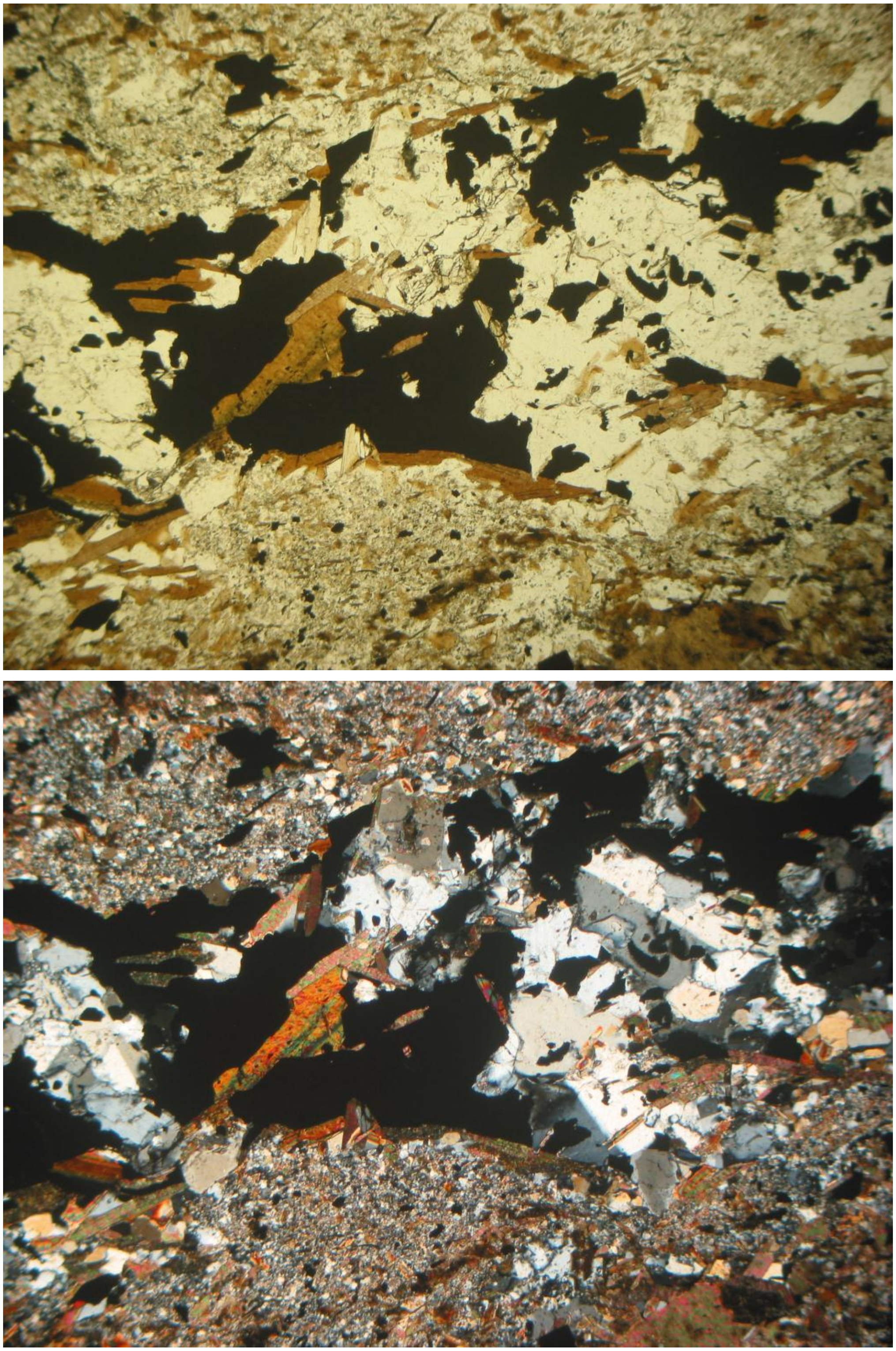
Heron Pond-1 Plate 4: Coarse sulphide intergrown with biotite-phlogopite solid solution. Note that brown pyrrhotite is pervasively consumed by brighter-yellow arsenopyrite.



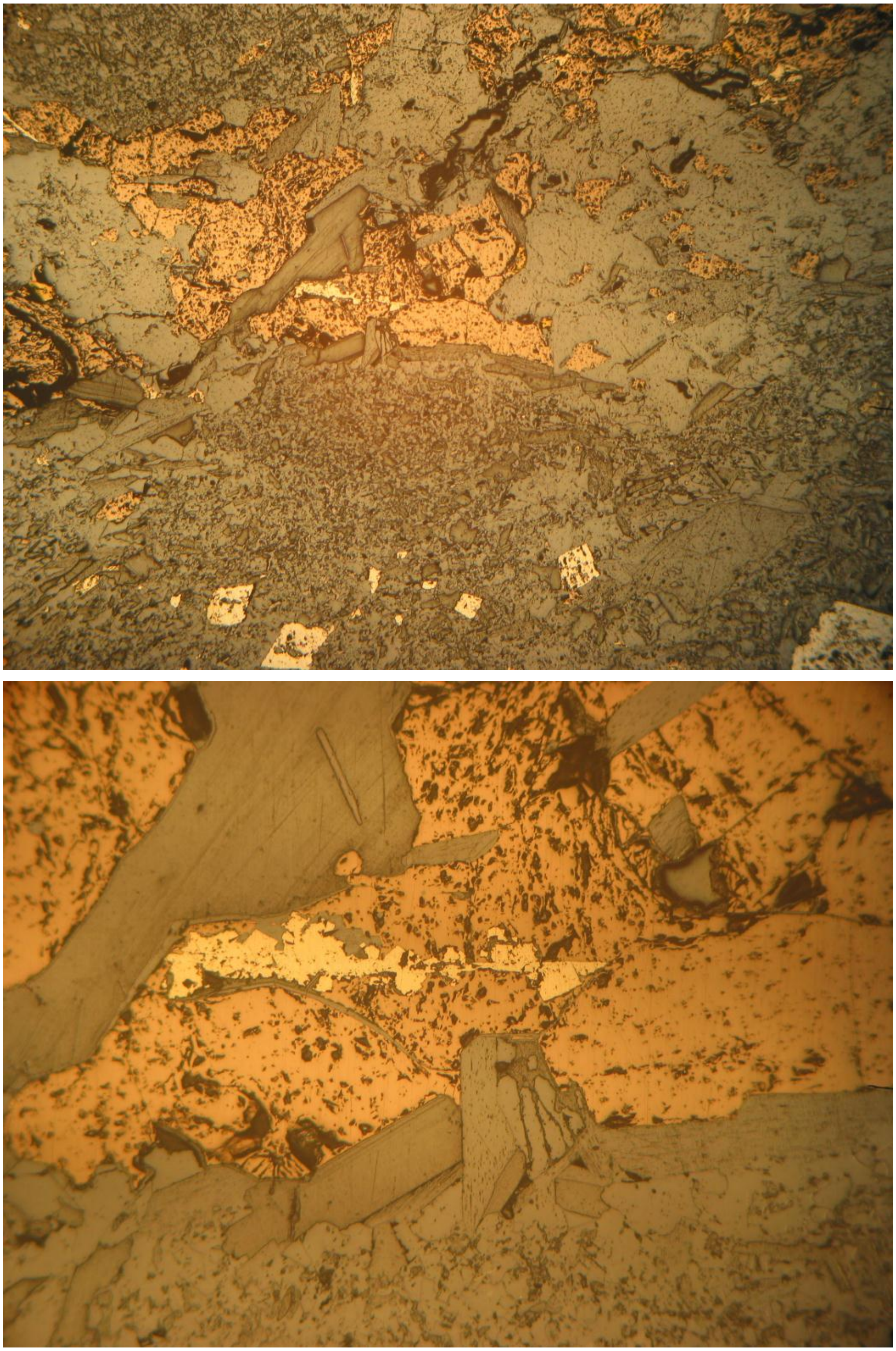
Heron Pond-1 Plate 5: Reflected light image of pyrrhotite (brown) replaced by arsenopyrite (yellow). Note ilmenite intergrown with arsenopyrite (top left, red arrow).



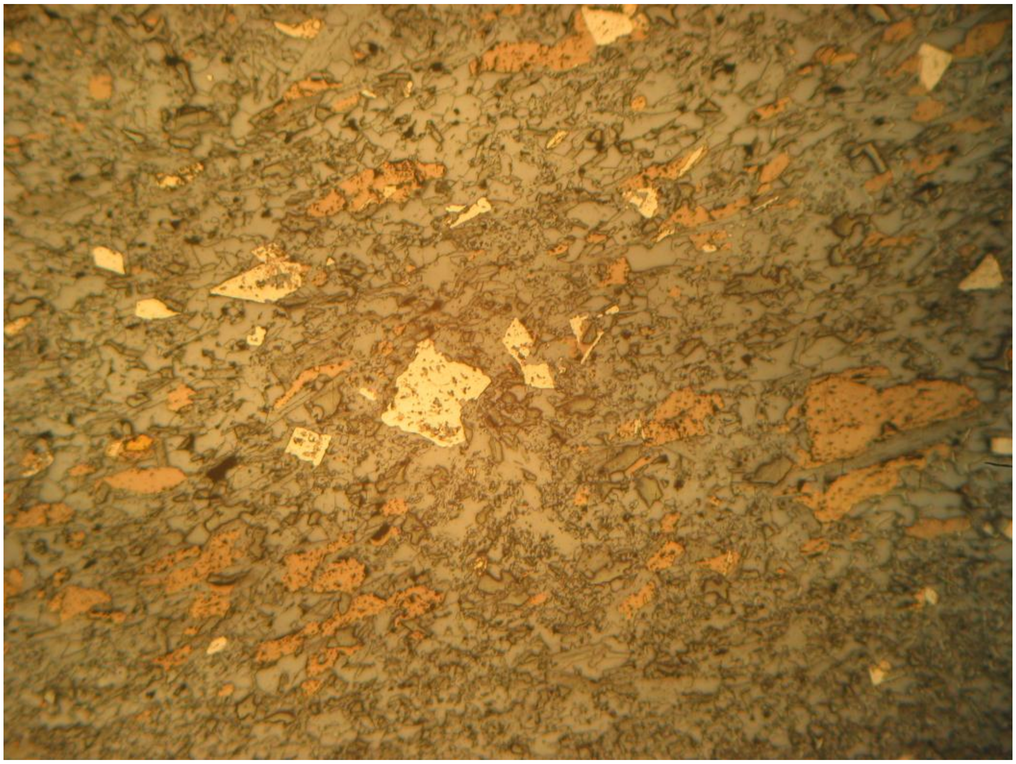
Heron Pond-1 Plate 6: Idiomorphic grain of arsenopyrite with abundant relict domains of pyrrhotite in the central regions. The interpretation is that arsenopyrite has developed by replacement of pre-existing pyrrhotite grain.



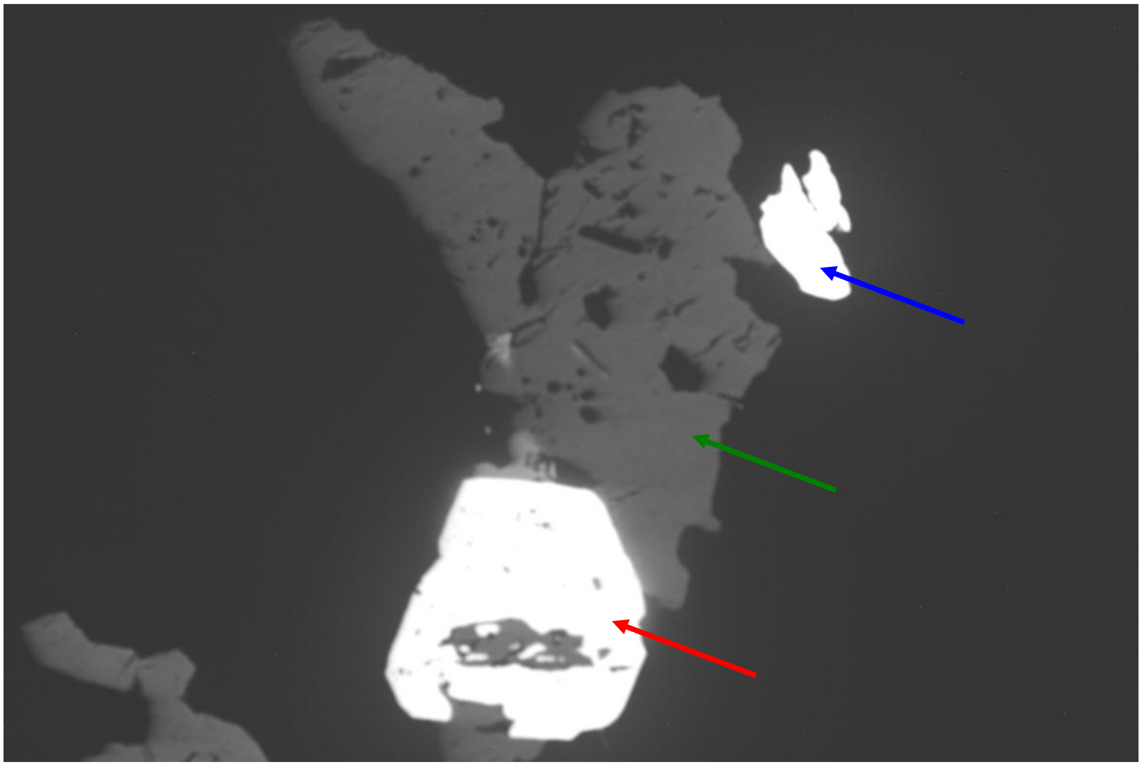
Heron Pond-1 Plate 7: A later vein-like region of pyrrhotite-arsenopyrite intergrown with twinned plagioclase feldspar.



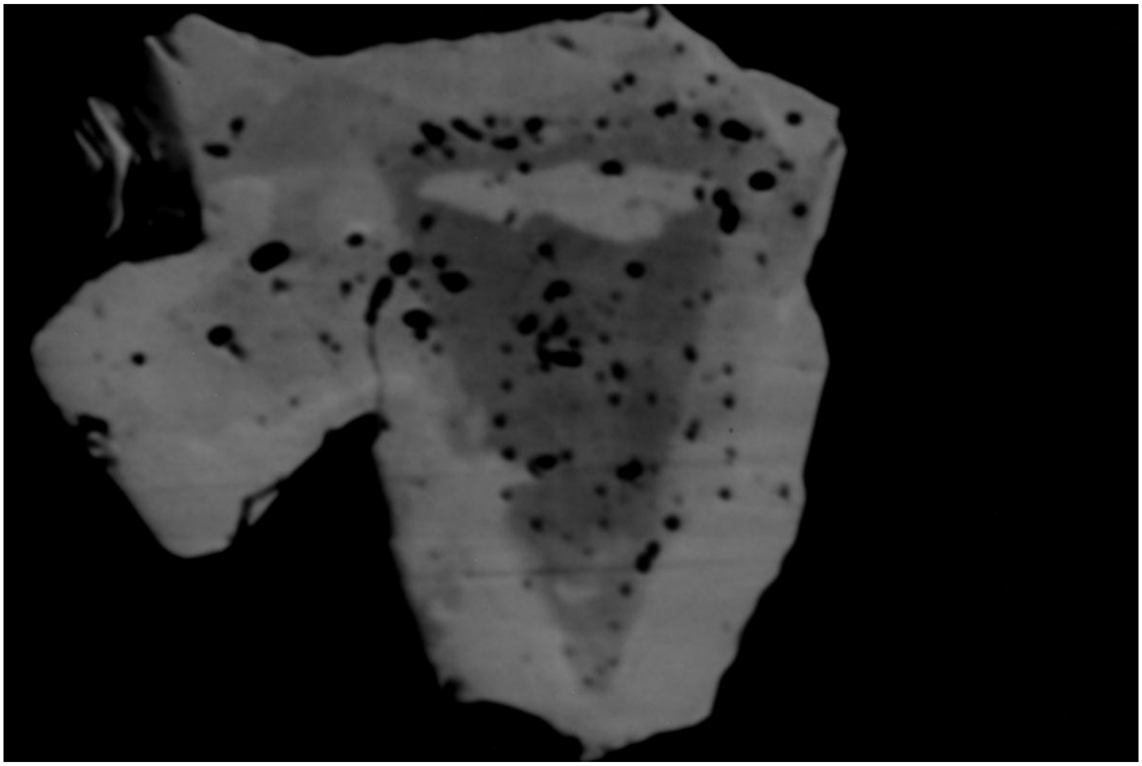
Heron Pond-1 Plate 8: Linear vein-like regions of pyrrhotite with linear zone of arsenopyrite replacing pyrrhotite, same field of view of Plate 7, reflected light.



Heron Pond-1 Plate 9: Typical region of matrix with brown pyrrhotite with fabric intergrown with biotite. Note development of idiomorphic arsenopyrite grains (white) with inclusions of pyrrhotite.



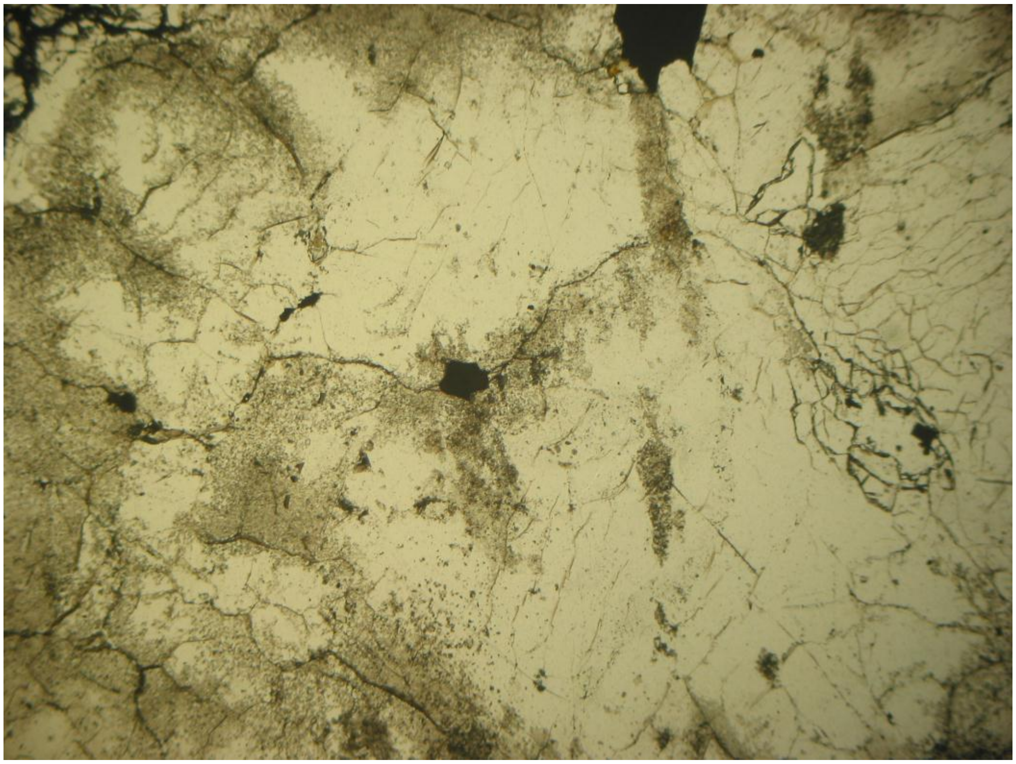
Heron Pond-1 Plate 10: Backscatter image of a pyrrhotite grain with inclusions of arsenopyrite (red arrow) and scheelite (blue arrow).



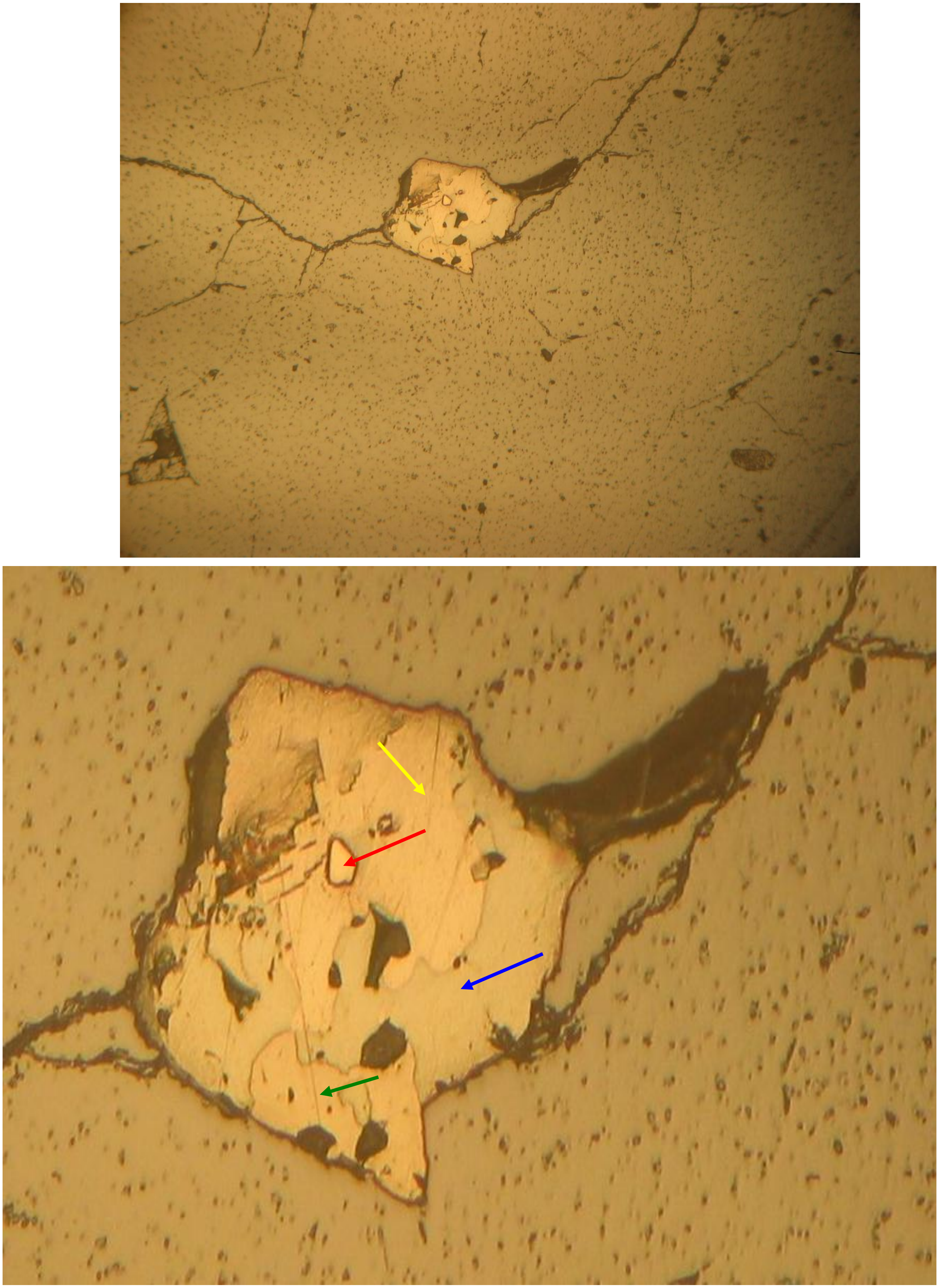
Heron Pond-1 Plate 11: Spectacular chemical zonation in a single arsenopyrite grain. The dark central regions are enriched in iron and the brighter marginal zones are enriched in arsenic possibly indicating the evolution of ambient hydrothermal fluids to increasing arsenic content.

Sample Heron Pond-2

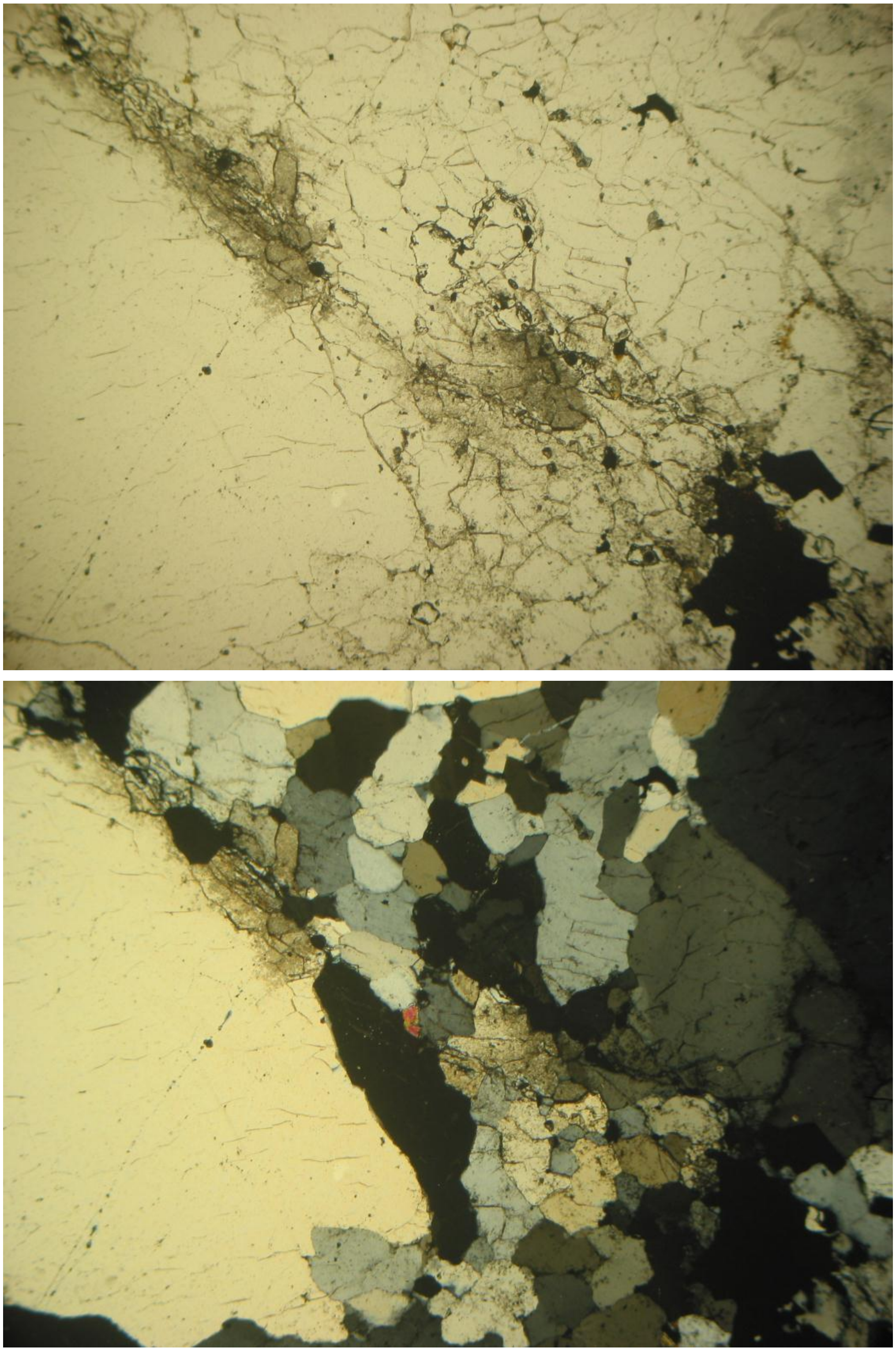
The sample appears to consist entirely of quartz-rich vein material. Certain regions of the sample consist of extremely coarse-grained quartz and these regions are gradational into much finer-grained multigranular quartz domains that have occasional grains of paragonitic-muscovite. It is possible that these quartz sub-grains resulted from sub-grain development of the coarser quartz grains. The finer multigranular quartz regions consist of linear to interconnecting vein-like regions consisting of translucent red Fe-sphalerite. The sulphide component of these vein-like regions consist of 85% sphalerite, 5% pyrrhotite, and 3-4% concentrations of crystalline zoned arsenopyrite. Examination with the backscatter electron detector revealed that the sample also contains <1% galena with triangular polishing pits present. The arsenopyrite throughout the sample has spectacular zonation pattern representing variations in As and Fe-contents within the arsenopyrite solid solution. Certain arsenopyrite grains have central regions with concentrations of galena, gudmundite (FeSbS), stephanite (Ag_5SbS_4), argentite (AgS) and Ag-bearing tetrahedrite.



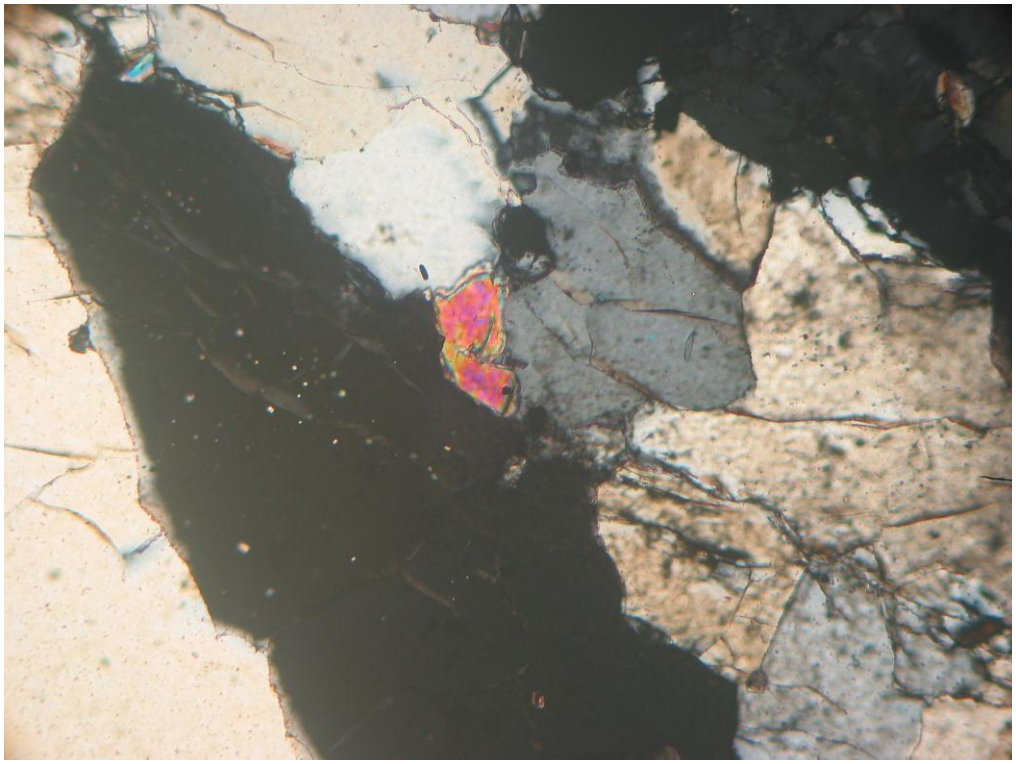
Heron Pond-2 Plate 1: Coarse multigranular quartz with central opaque grain consisting of a complex intergrowth of galena, stephanite, and arsenopyrite.



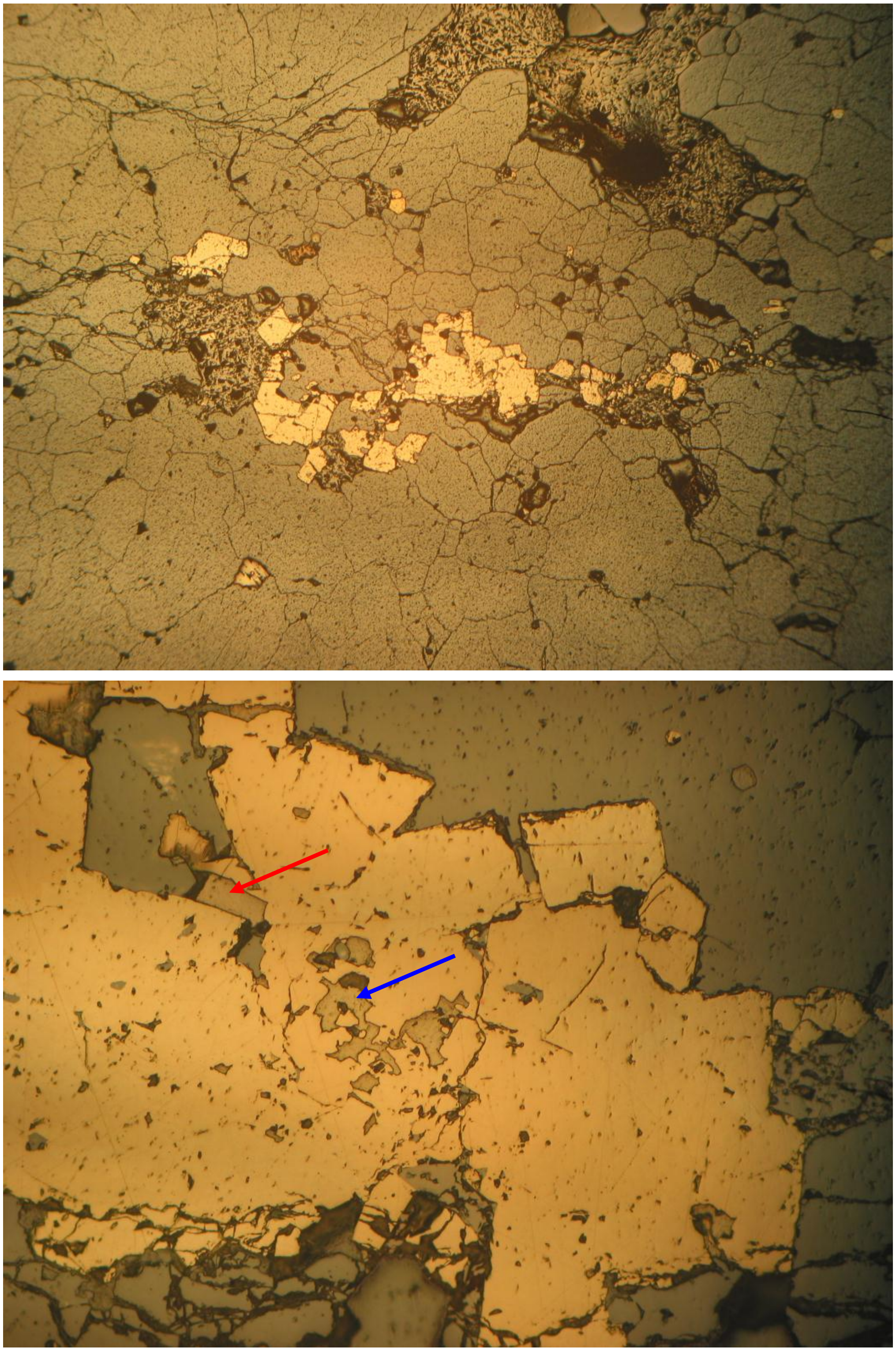
Heron Pond-2 Plate 2: A complex intergrowth of galena (yellow arrow), arsenopyrite (red arrow), stephanite (blue arrow), and tetrahedrite (green arrow).



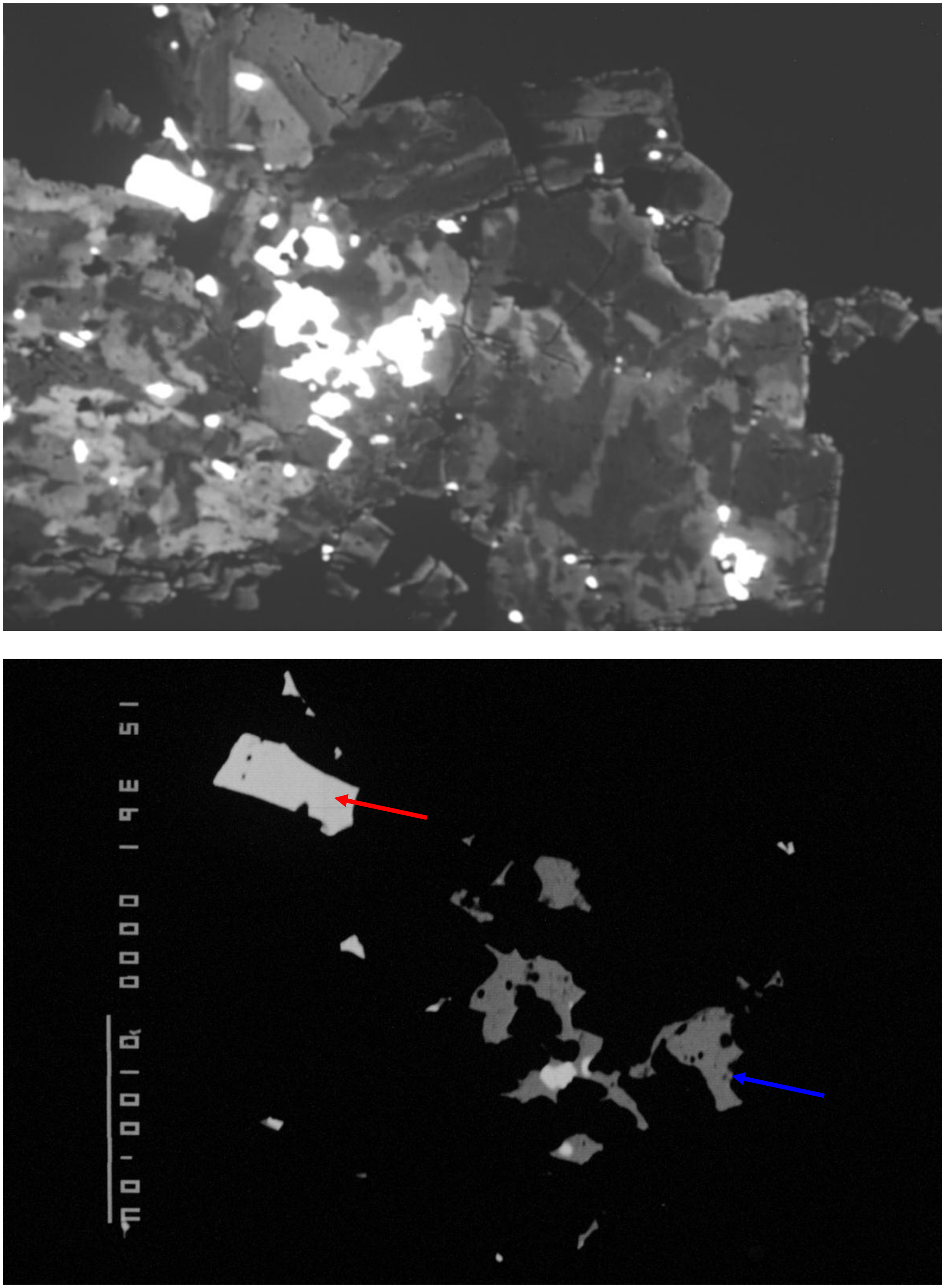
Heron Pond-2 Plate 3: Coarse-grained quartz with interstitial multigranular quartz intergrown with fine-grained paragonitic muscovite.



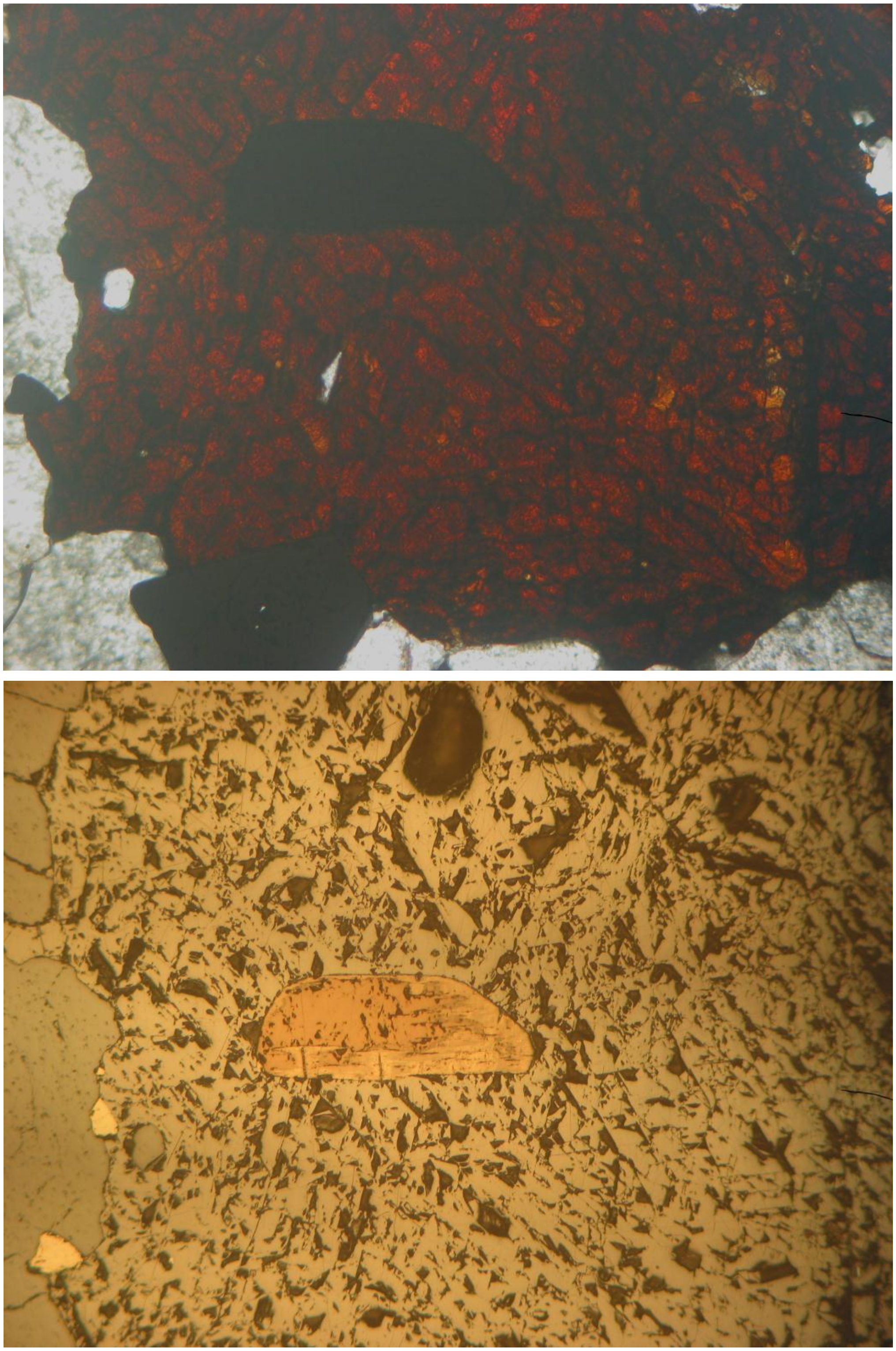
Heron Pond-2 Plate 4: Highly birefringent grain of paragonitic muscovite intergrown with multigranular quartz, Plate 3 at higher magnification.



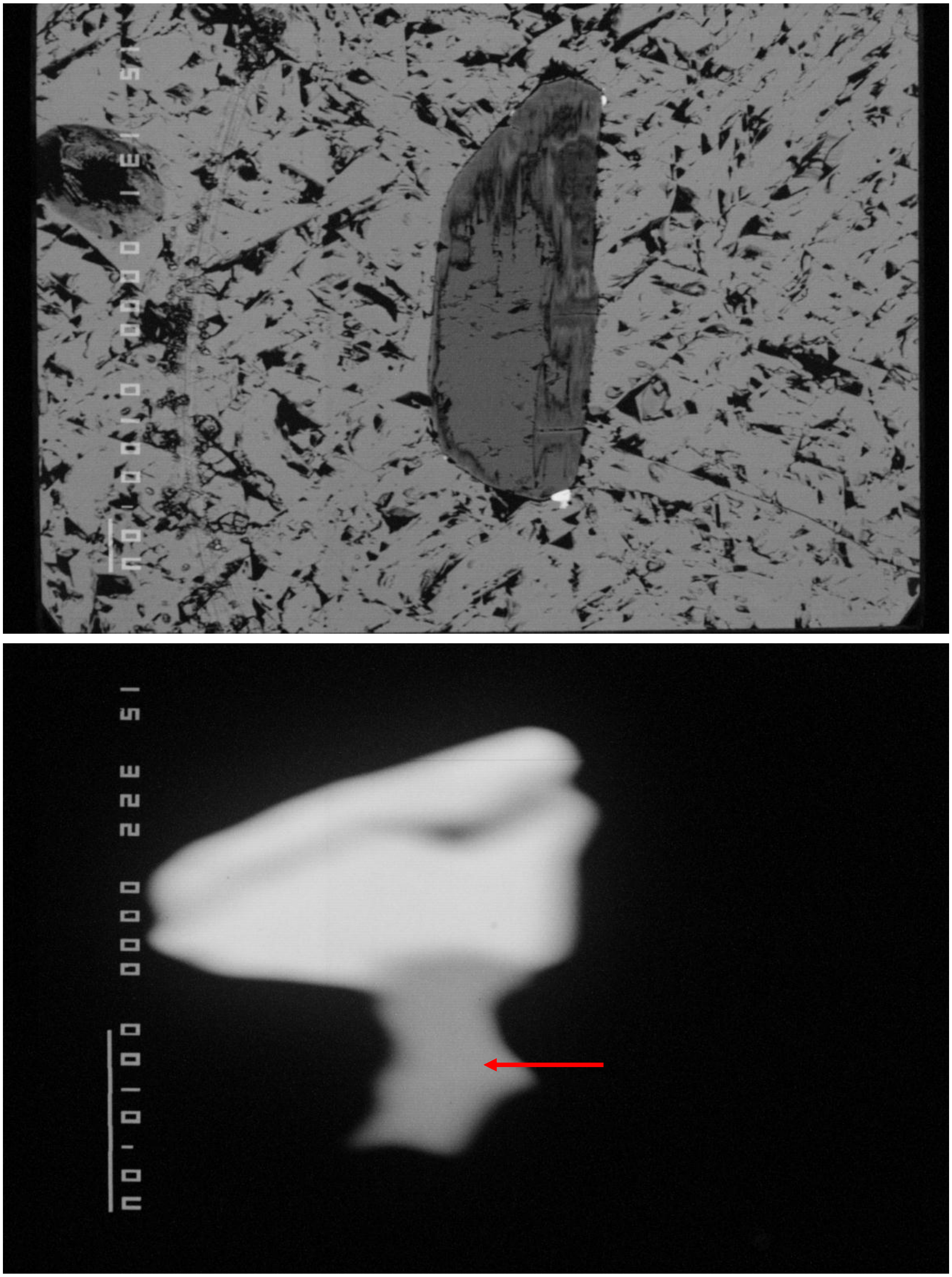
Heron Pond-2 Plate 5: Main grain is compositionally zoned arsenopyrite intergrown with galena (red arrow) and stephanite (blue arrow).



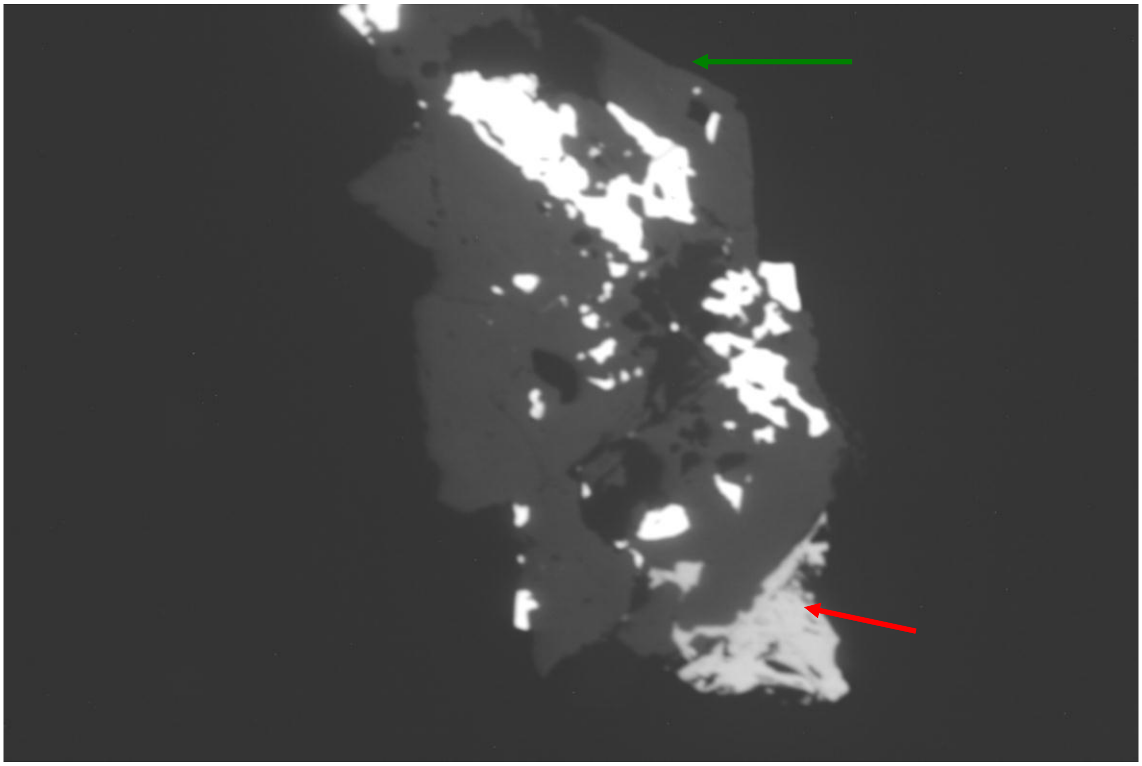
Heron Pond-2 Plate 6: BSE image of galena (red arrow) and stephanite (blue arrow) inclusions within arsenopyrite as illustrated in previous plate. Note the extreme domainal variation in arsenic content in a single arsenopyrite grain. Light and dark domains reflect variations in arsenic and iron content.



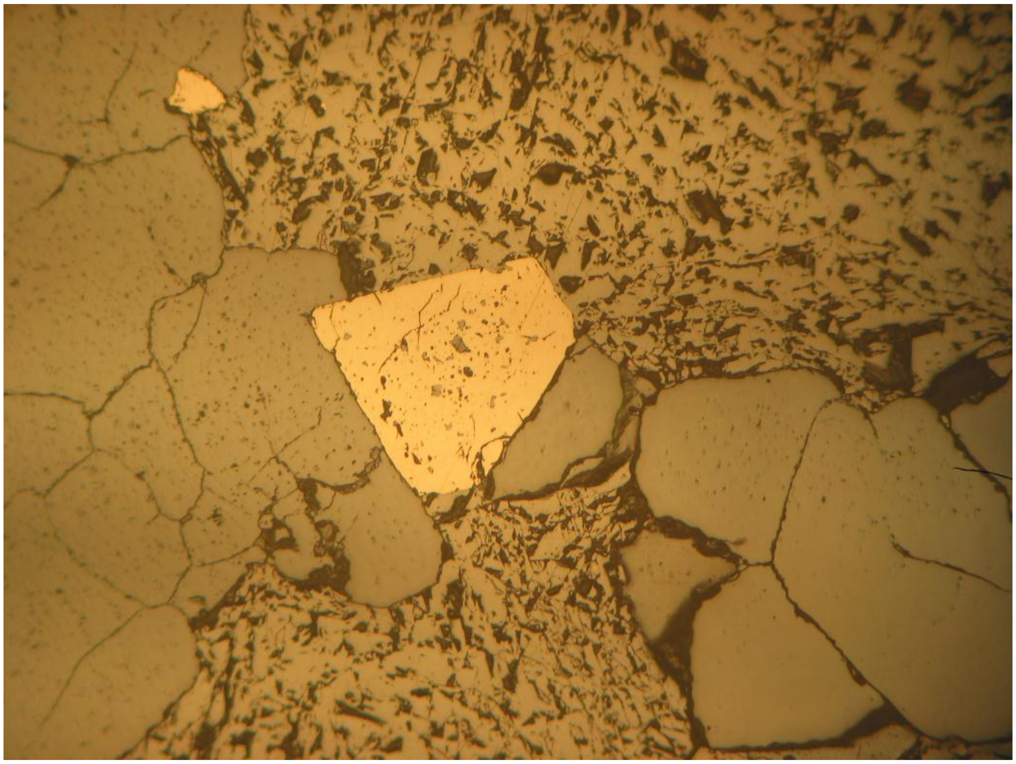
Heron Pond-2 Plate 7: Pyrrhotite included within translucent red Fe-sphalerite with marginal zones of retrogressive reaction to pyrite.

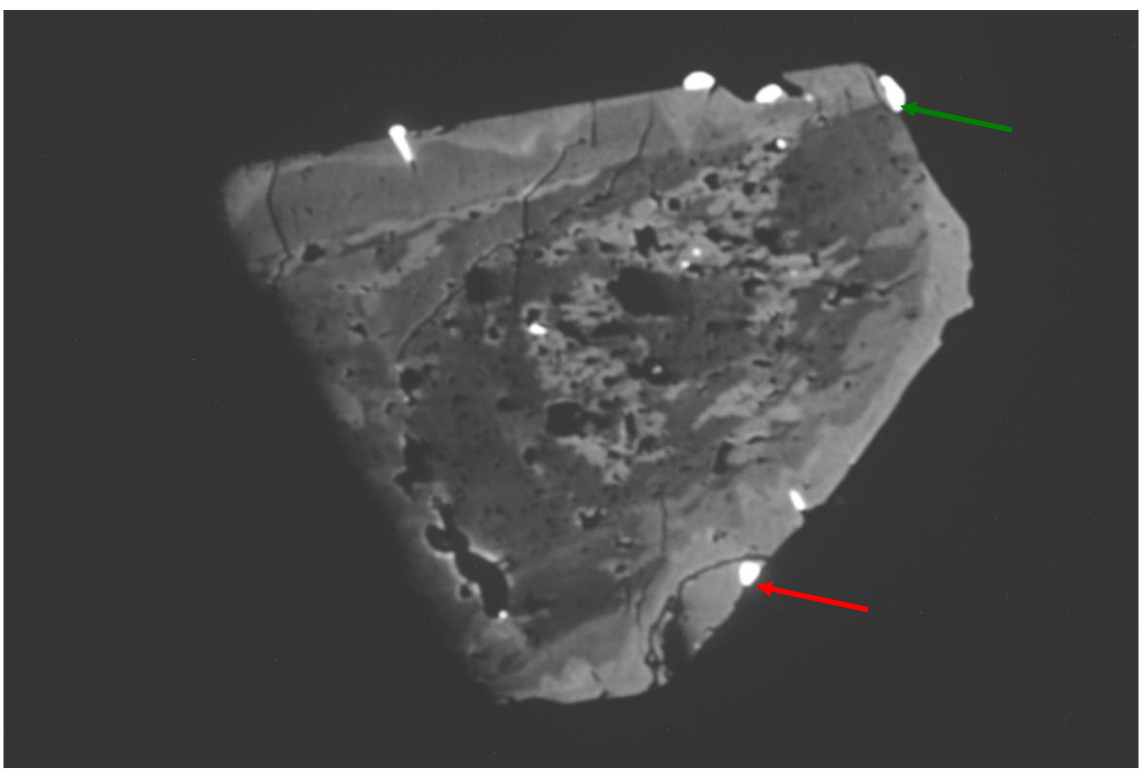


Heron Pond-2 Plate 8: Backscatter image illustrating an intergrowth of galena and argentite (red arrow), higher magnification of Plate 7.

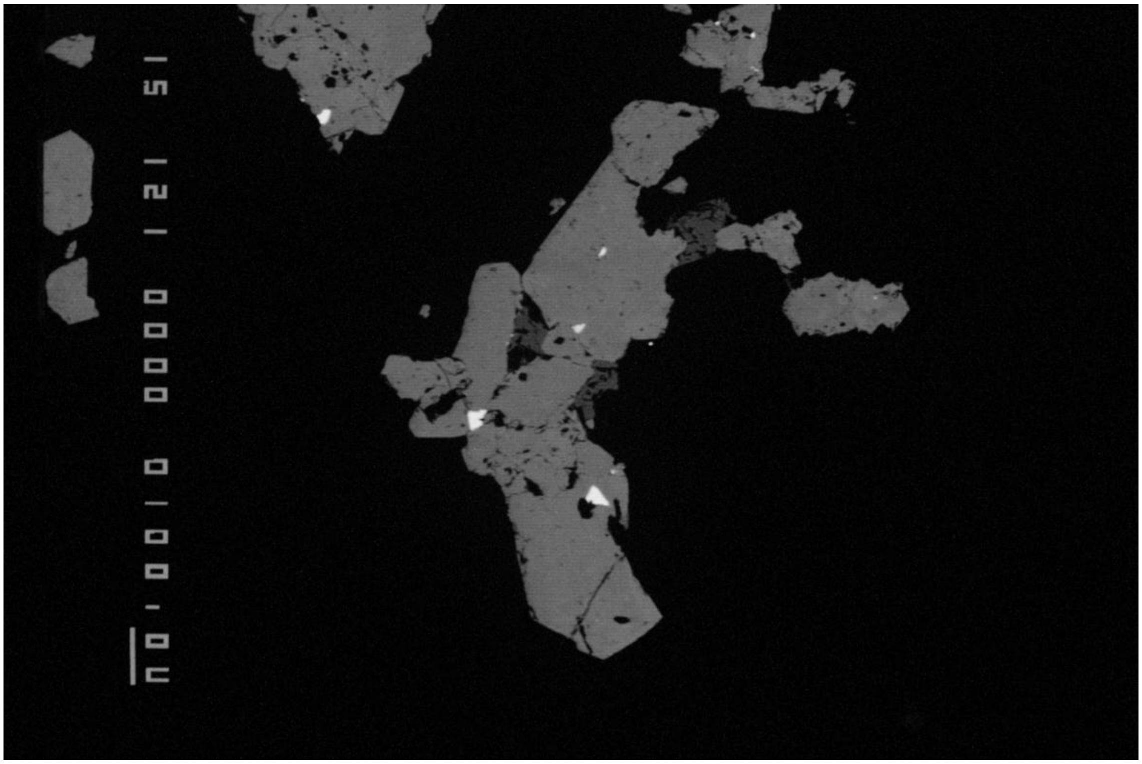


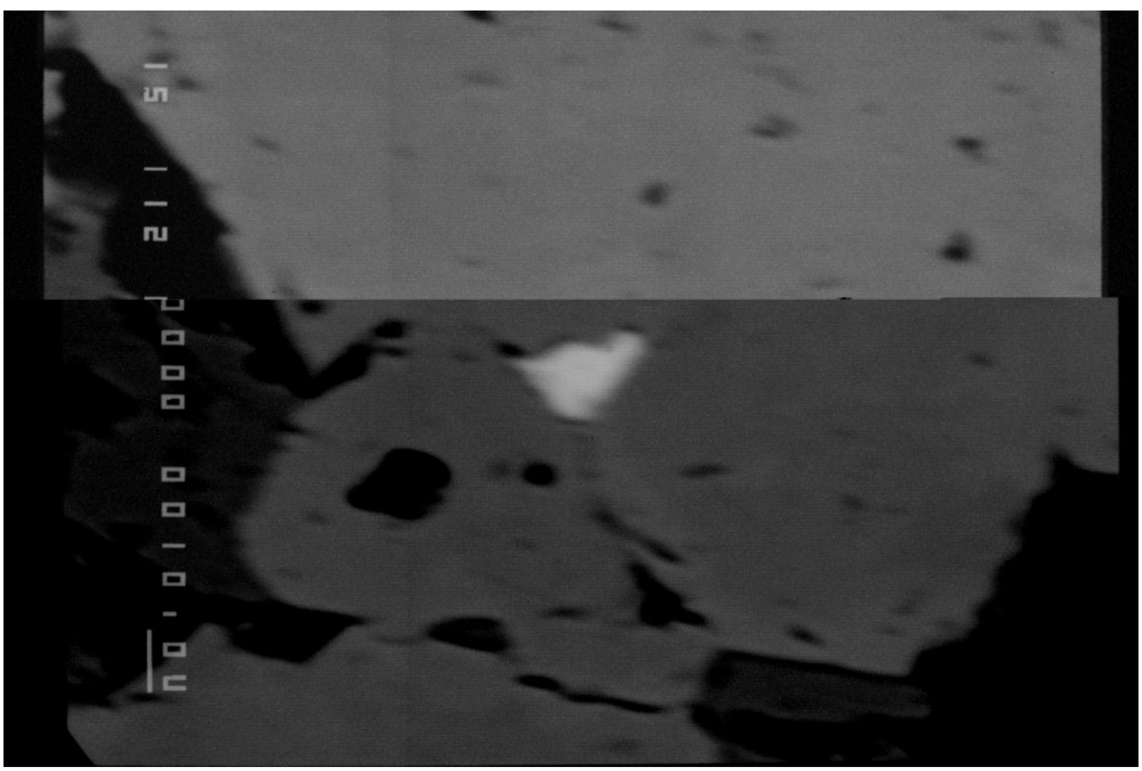
Heron Pond-2 Plate 9: Backscatter image of arsenopyrite with included grains of galena (green arrow) with stephanite at margin (red arrow).



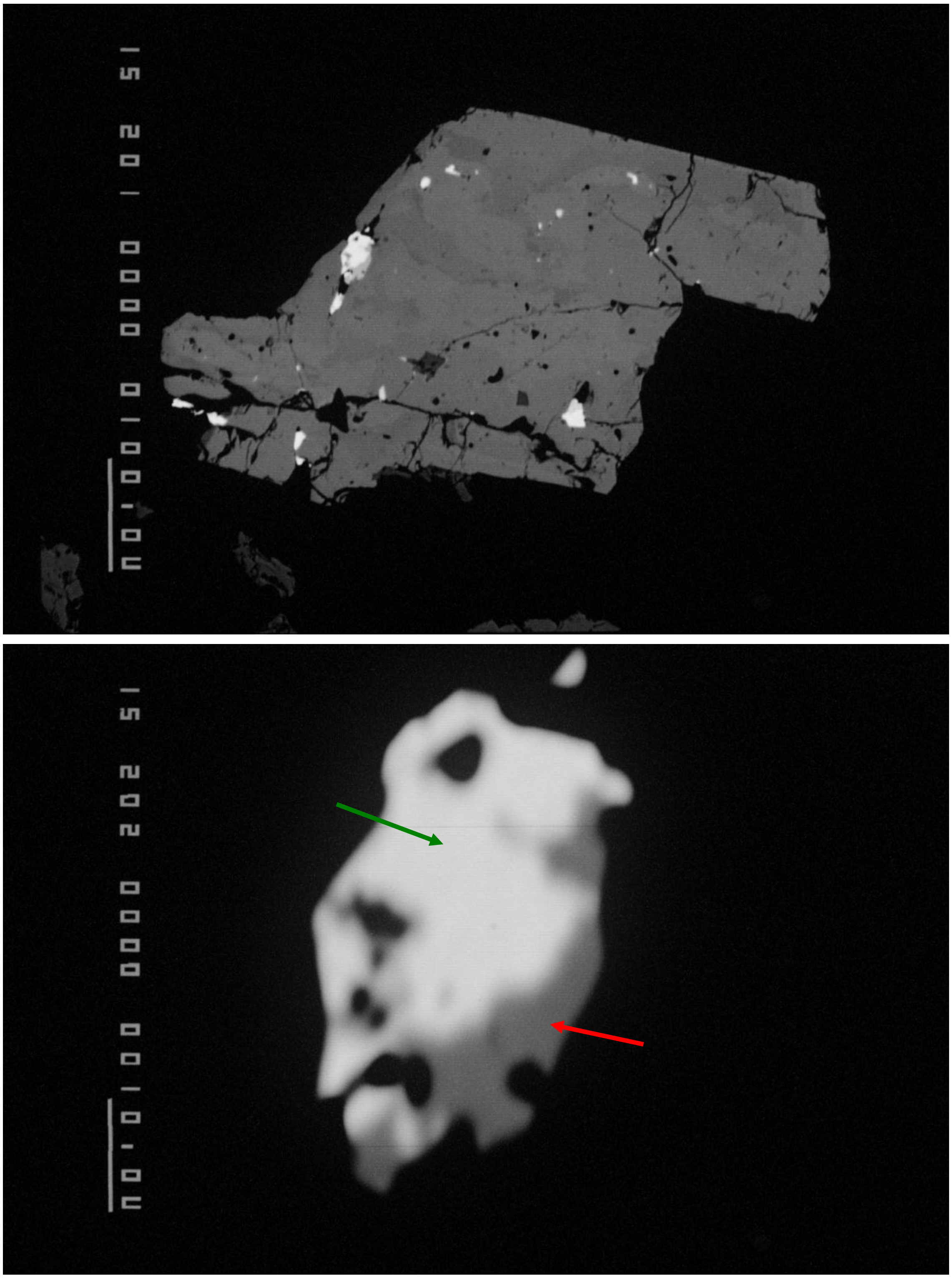


Heron Pond-2 Plate 10: Compositionally zoned arsenopyrite with inclusions of sphalerite (green arrow) and stephanite (red arrow). Note that the inclusions are associated with the bright high As zones in the arsenopyrite.

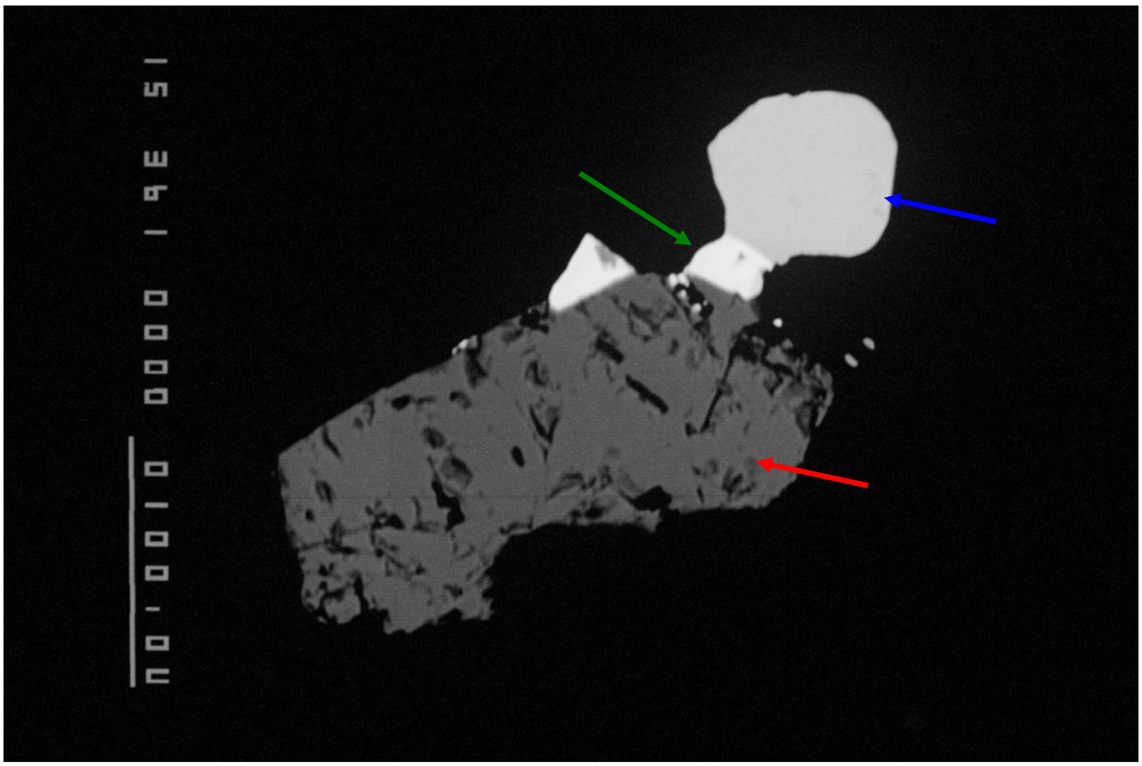




Heron Pond-2 Plate 11: Backscatter image of an arsenopyrite grain with inclusions of galena and stephanite. The lower image is a higher magnification image of the stephanite inclusion in arsenopyrite.

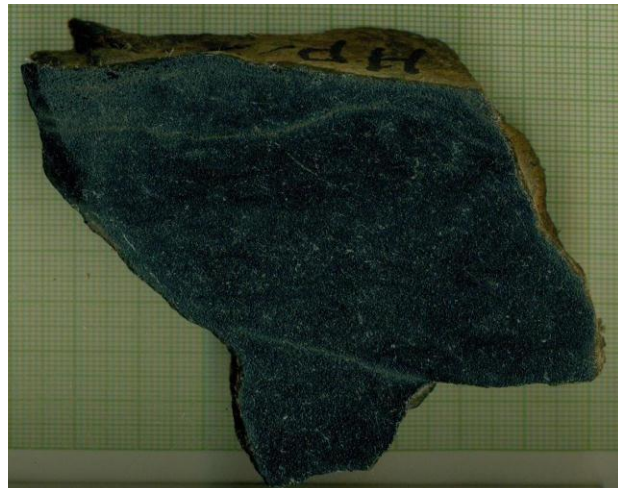


Heron Pond-2 Plate 12: Backscatter image of a compositionally complex arsenopyrite grain with inclusions of gudmandite (FeSbS red arrow) and galena (green arrow).

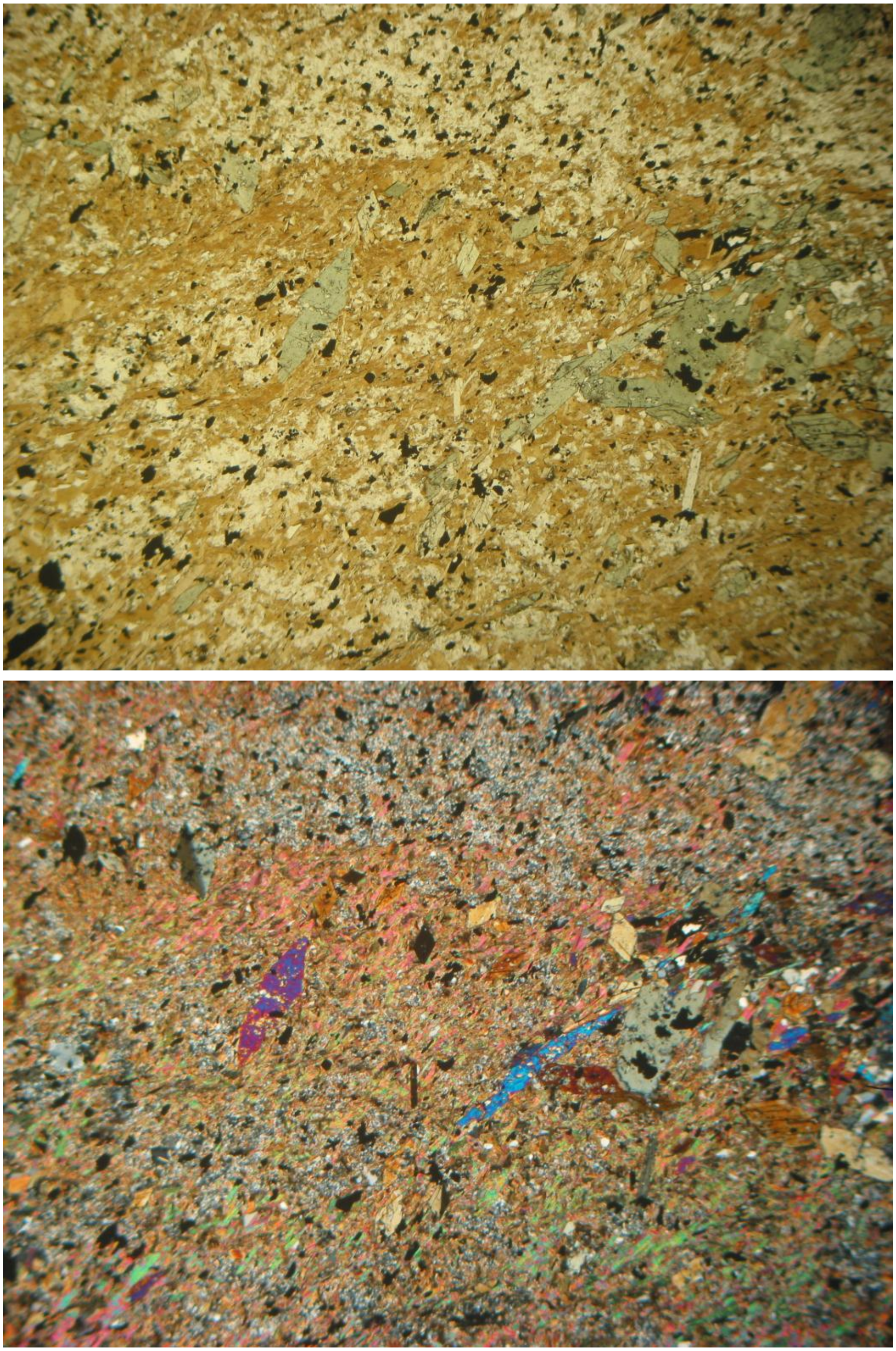


Heron Pond-2 Plate 13: Backscatter image illustrating the intergrowth of pyrrhotite (red arrow), galena (green arrow), and Ag-bearing tetrahedrite (blue arrow).

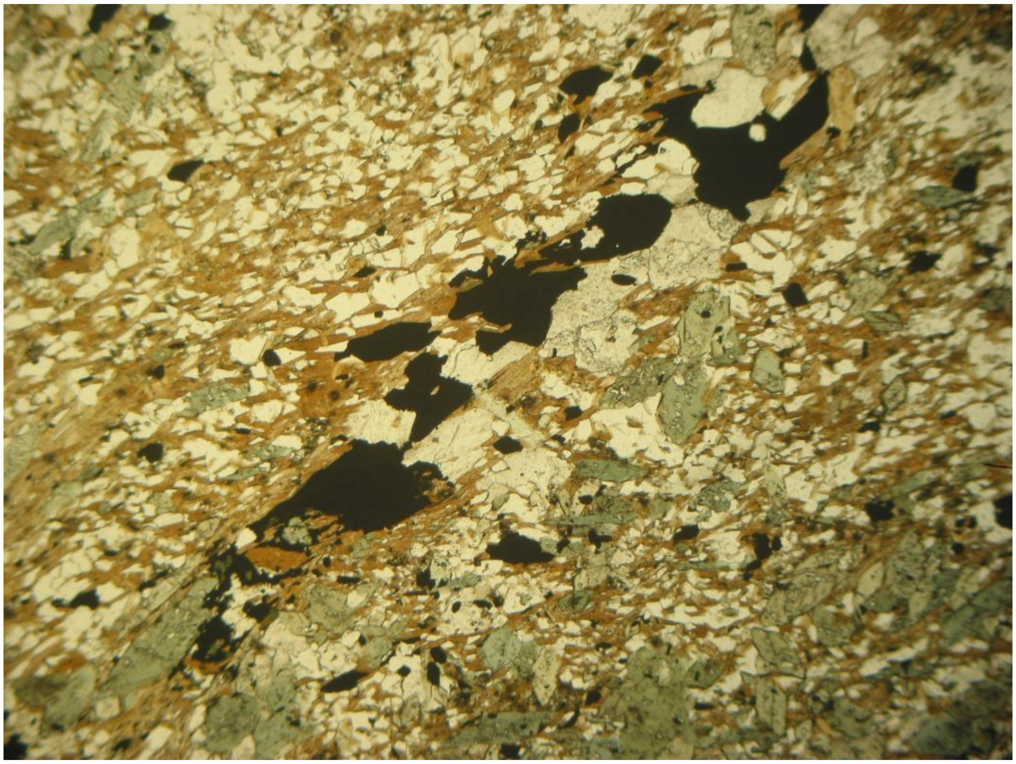
Sample Heron Pond-3

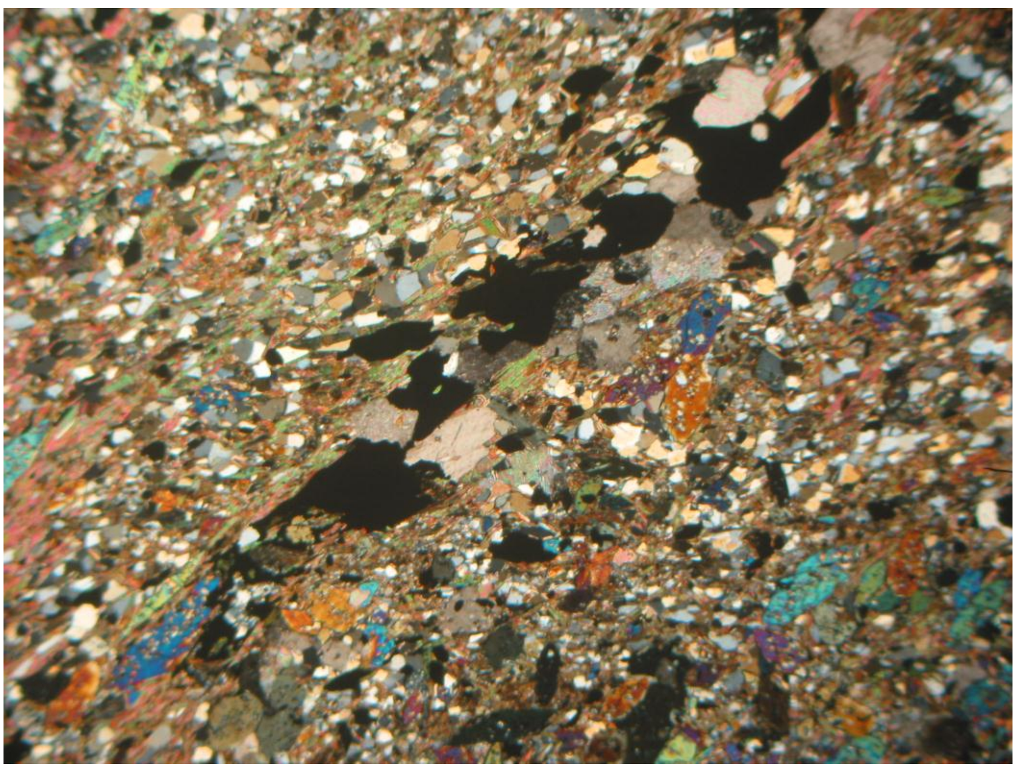


The rock is a biotite quartzo-feldspathic schist with broad domains of highly acicular deep-green Fe-rich tschermakitic amphibole. The sample is cut by later veinlets, generally aligned with the fabric, containing pyrrhotite partly replaced by arsenopyrite with pyrite developed by replacement of pre-existing pyrrhotite. Minor amounts of chalcopyrite occur throughout. Importantly, the later veinlets contain an abundance of calcite and calcite also occurs in patchy domains throughout. Individual amphibole needles have an abundance of quartz and feldspar inclusions. This texture is interpreted to indicate rapid growth. The green hornblendic amphibole according to strict amphibole nomenclature are actually Fe-rich tschermakitic hornblende with consistently elevated aluminum contents approaching 16 wt% Al_2O_3 and elevated sodium content approaching 1.25 wt% Na_2O. As such, the composition of these amphiboles indicates they formed in a high temperature metamorphic environment. The abundance of inclusions provides textural evidence that these amphibole needles and compositions formed in a high temperature contact metamorphic environment.

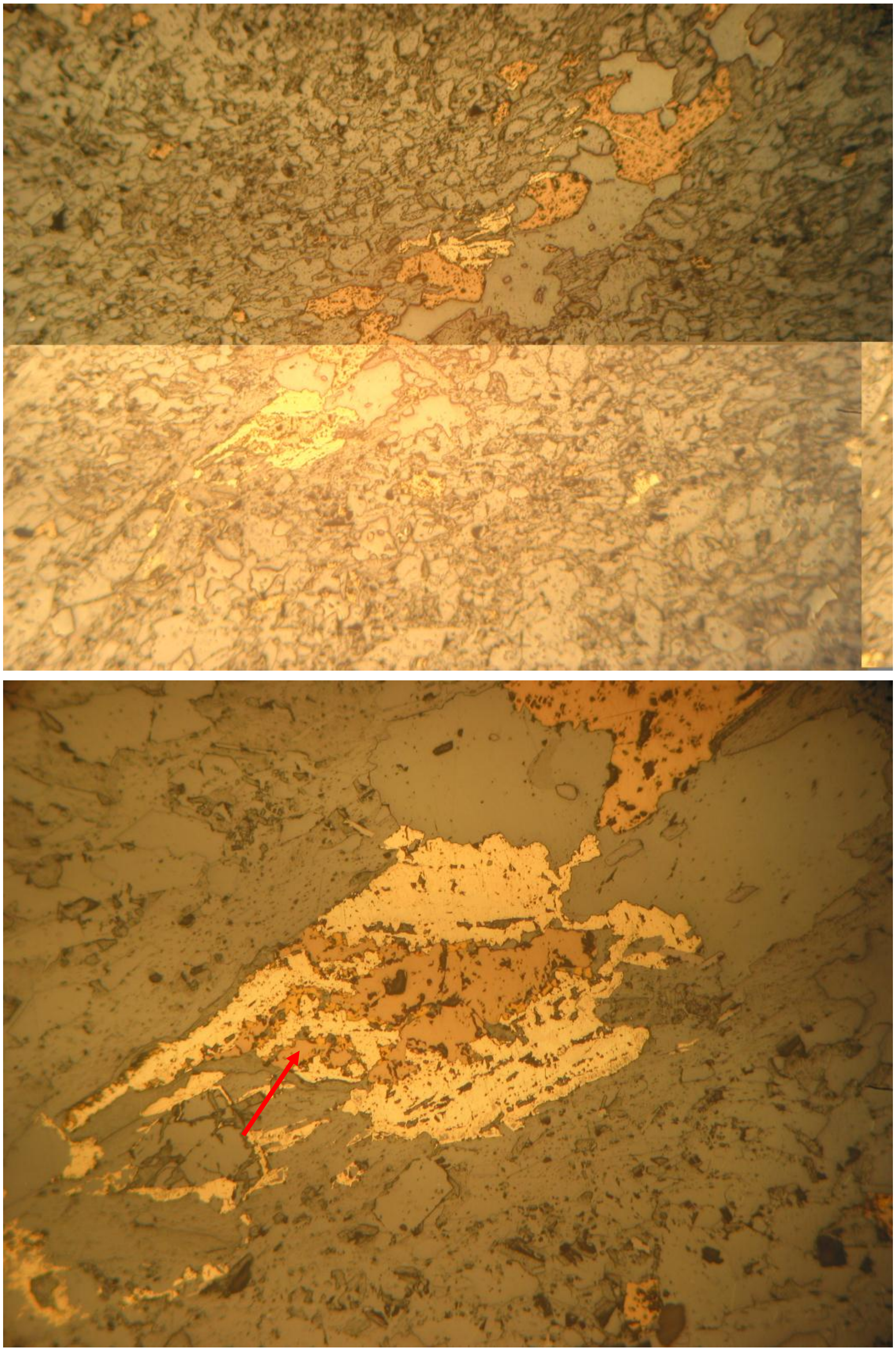


Heron Pond-3 Plate 1: Randomly oriented idiomorphic grains of green hornblendic amphibole within a biotite-rich quartzo-feldspathic matrix with even distribution of ilmenite grains.

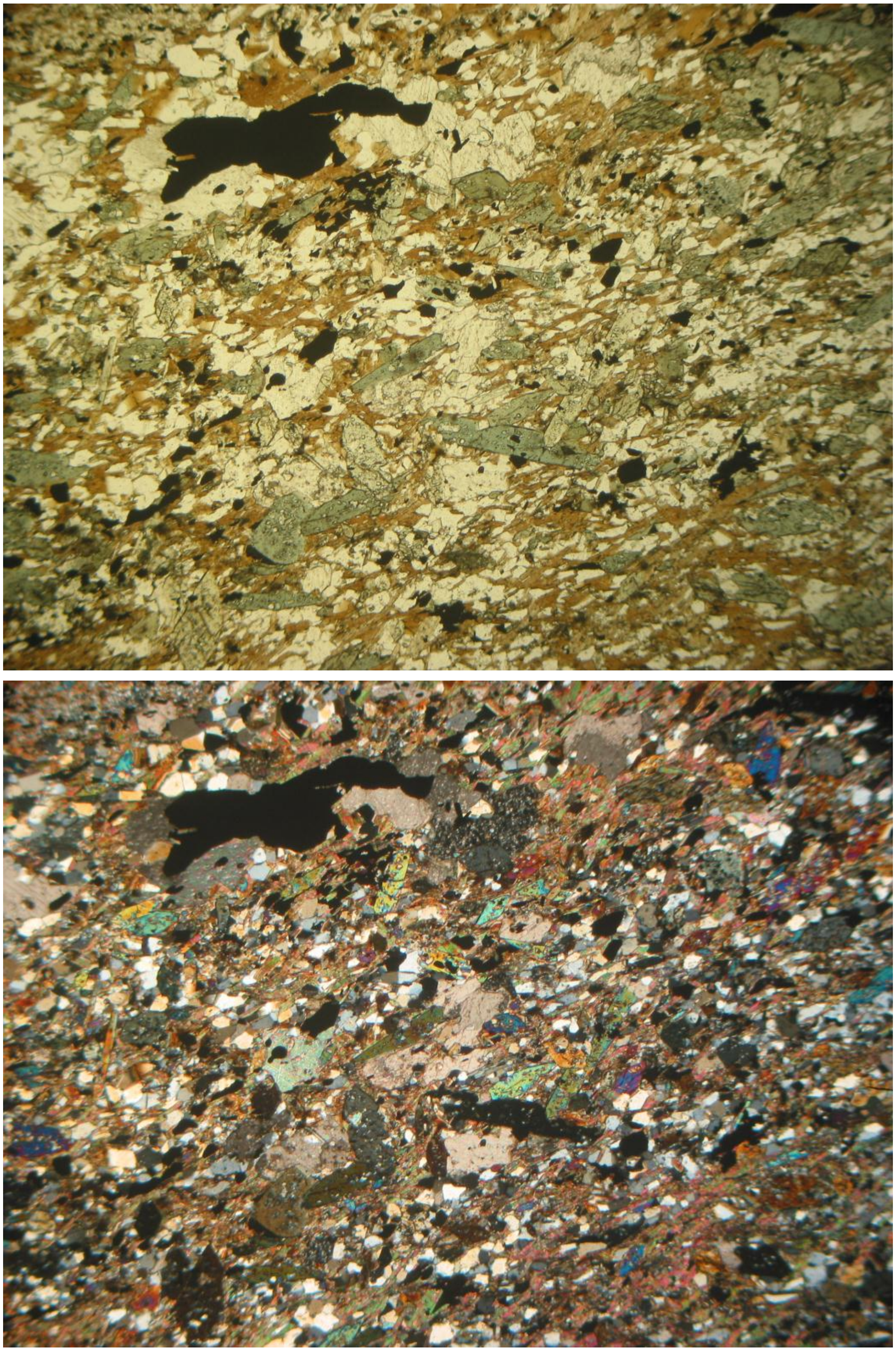




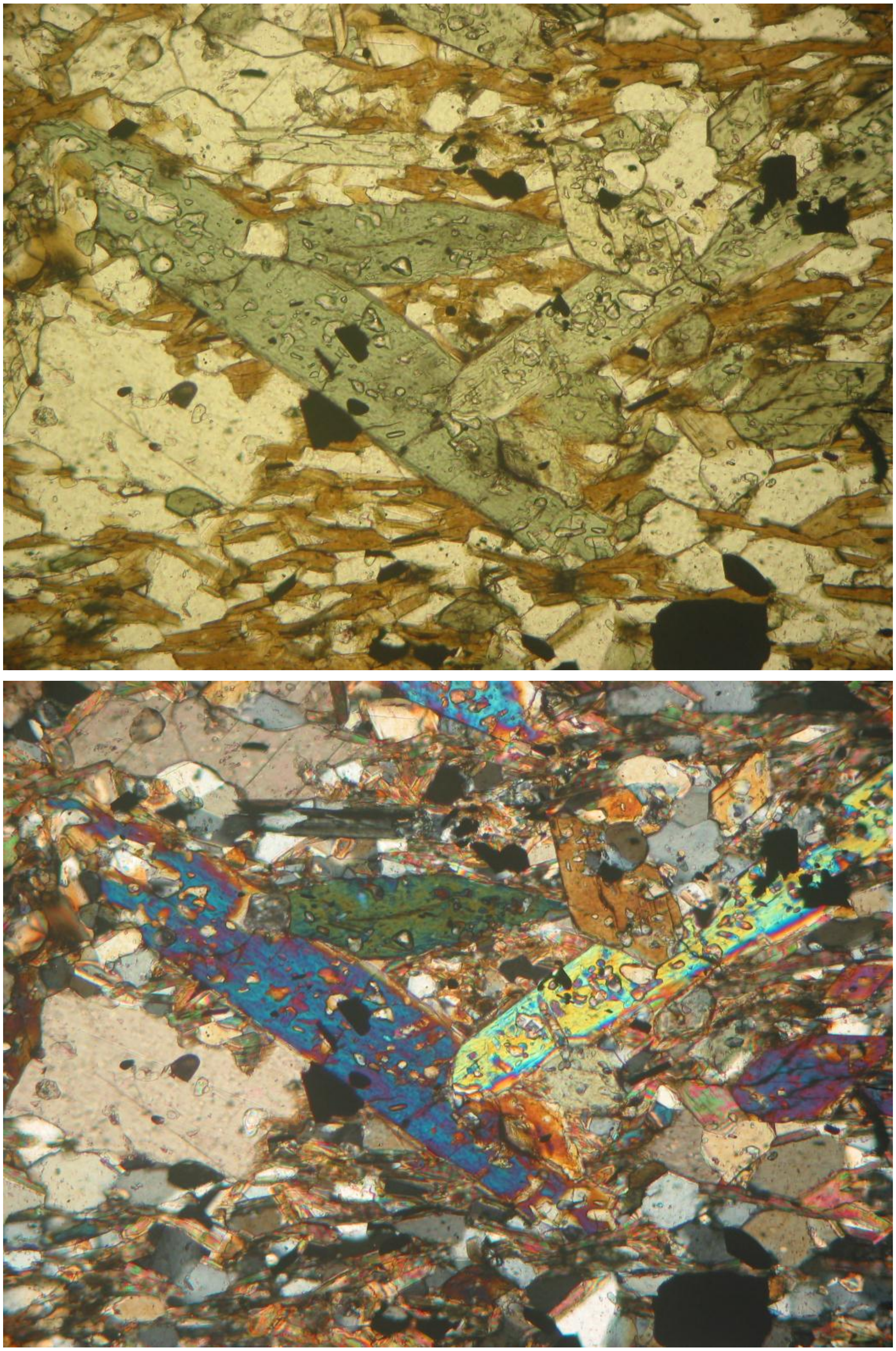
Heron Pond-3 Plate 2: Patchy distribution of amphibole within quartzo-feldspathic matrix cut by linear vein-like region of pyrrhotite with minor arsenopyrite and chalcopyrite and importantly with interstices of calcite.



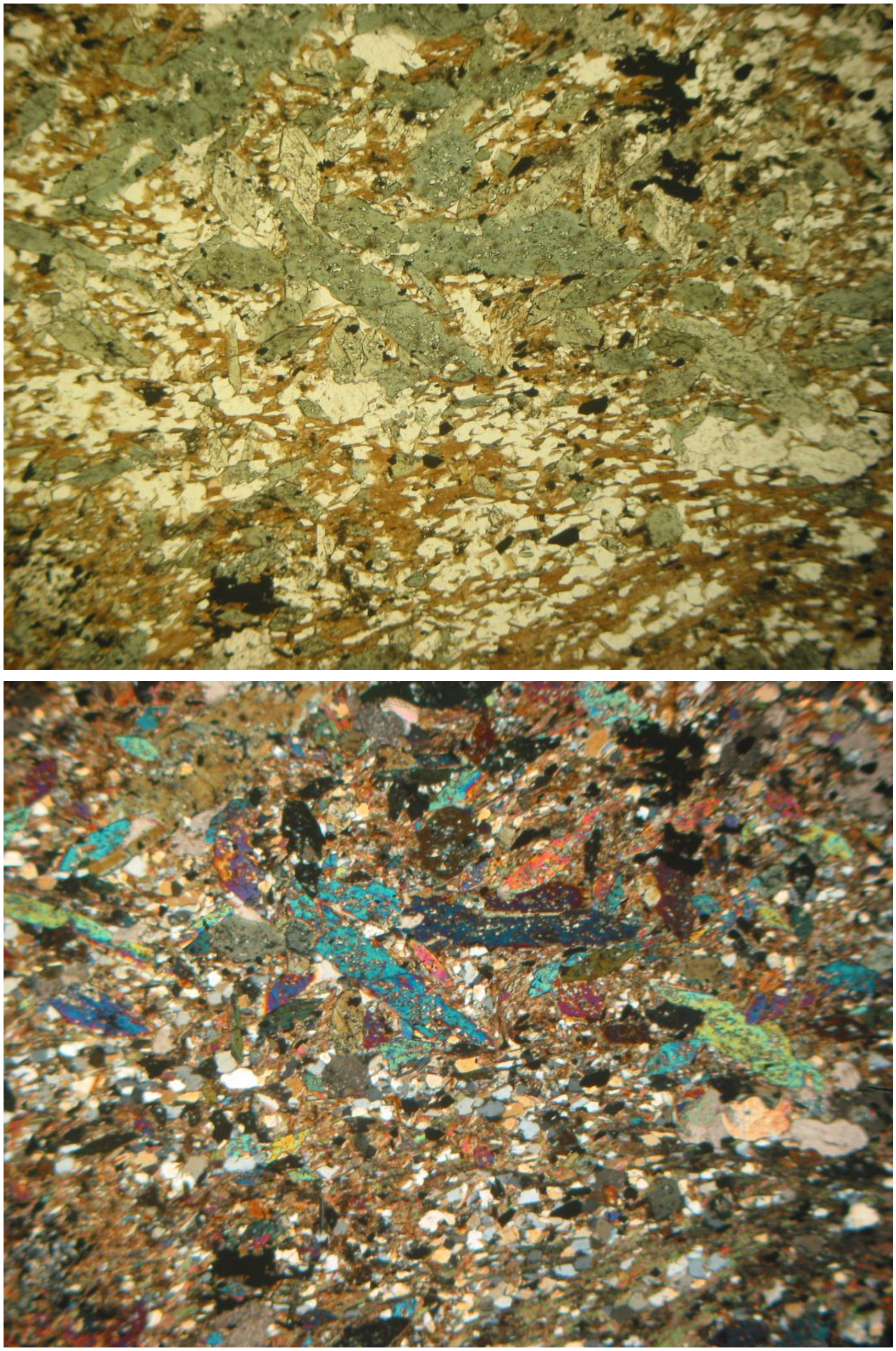
Heron Pond-3 Plate 3: Coarse pyrrhotite (brown) intergrown with chalcopyrite (red arrow) replaced by arsenopyrite.



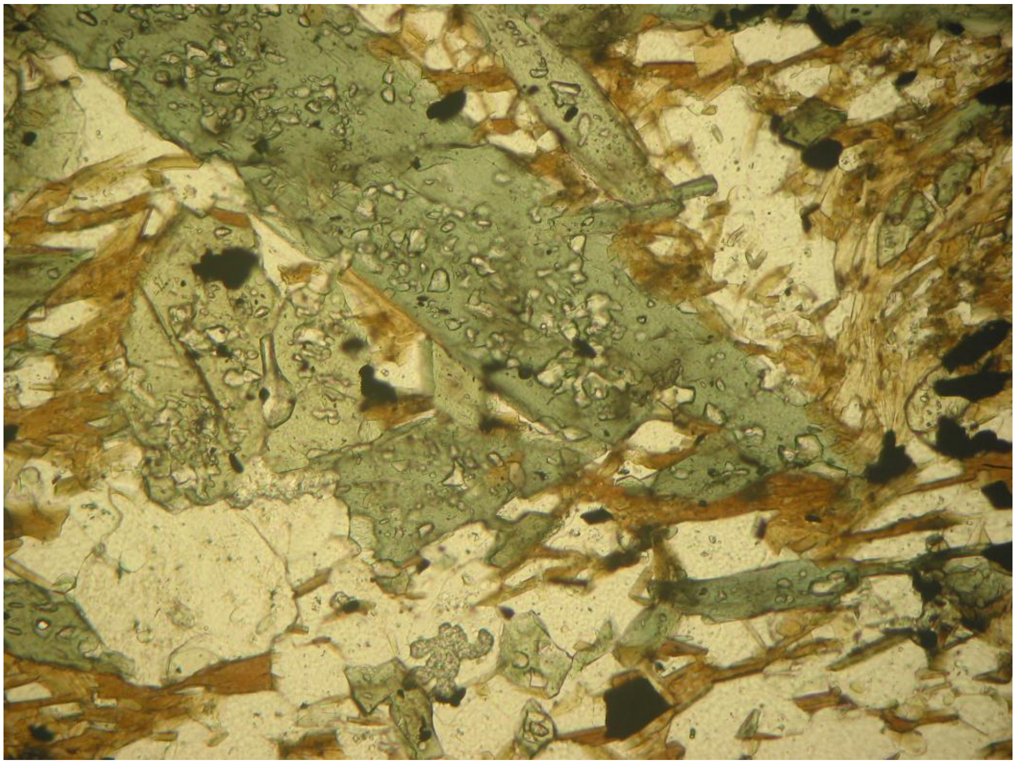
Heron Pond-3 Plate 4: Typical region of sample with blue-green highly aluminous amphibole (tschermakite) with development of 10% calcite within a quartzo-feldspathic matrix. Even distribution of smaller ilmenite grains throughout.



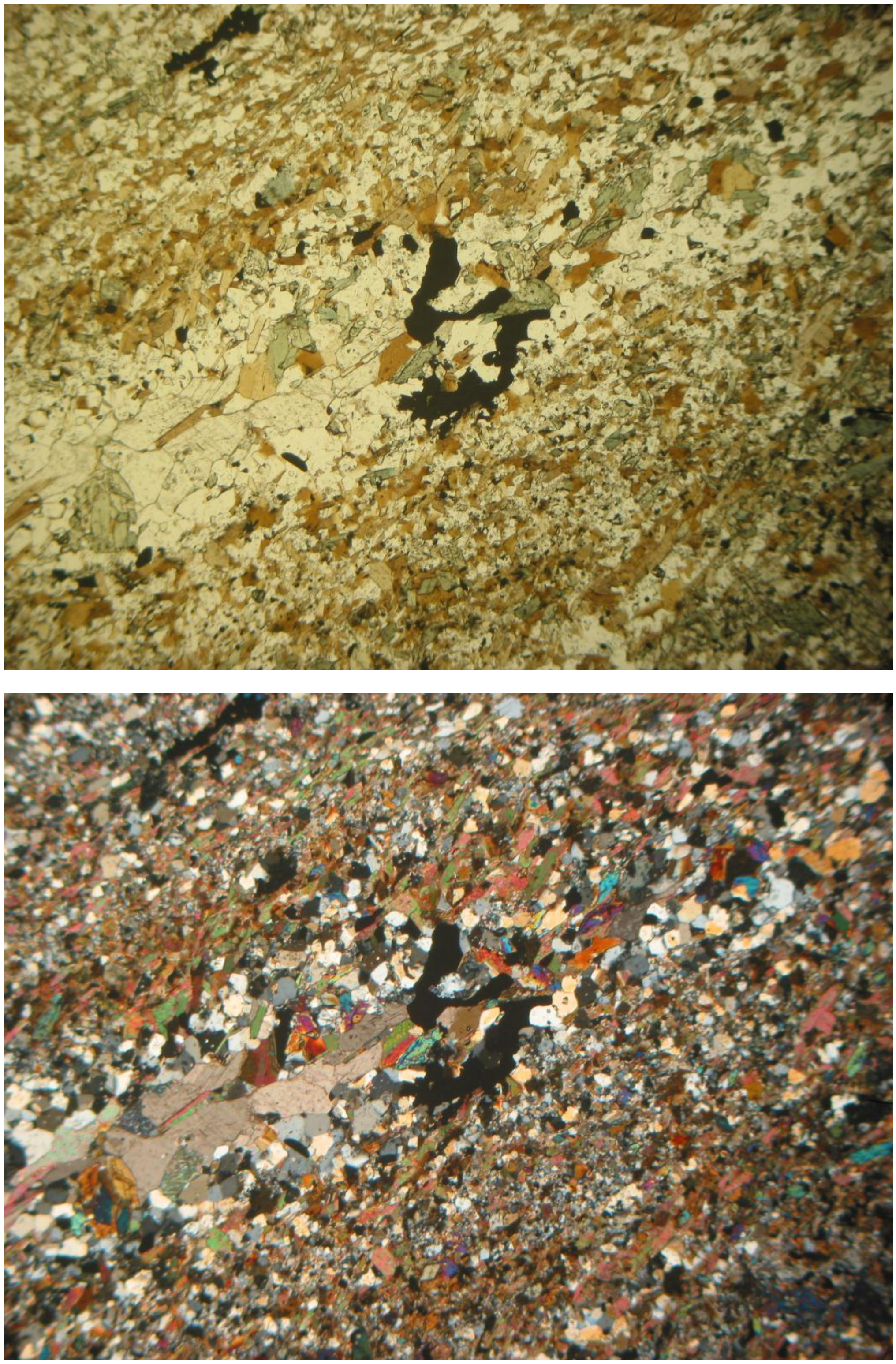
Heron Pond-3 Plate 5: Randomly oriented grains of Fe-rich tschermakitic amphibole randomly oriented in a biotitic quartzo-feldspathic matrix with calcite. It is important to note the abundant inclusions of quartz and feldspar within individual amphibole needles. This texture is interpreted as evidence that these amphiboles grew rapidly within a high temperature, possible contact metamorphic environment.



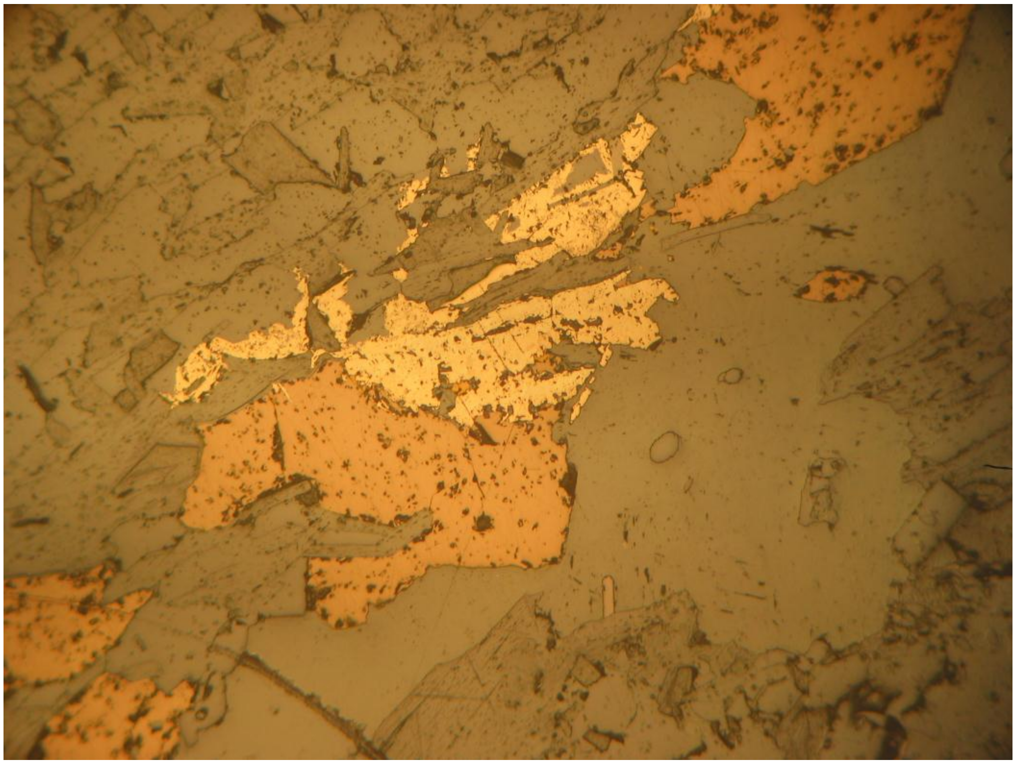
Heron Pond-3 Plate 6: Concentration of randomly oriented blue-green tschermakitic amphibole within quartzo-feldspathic biotite-rich matrix.



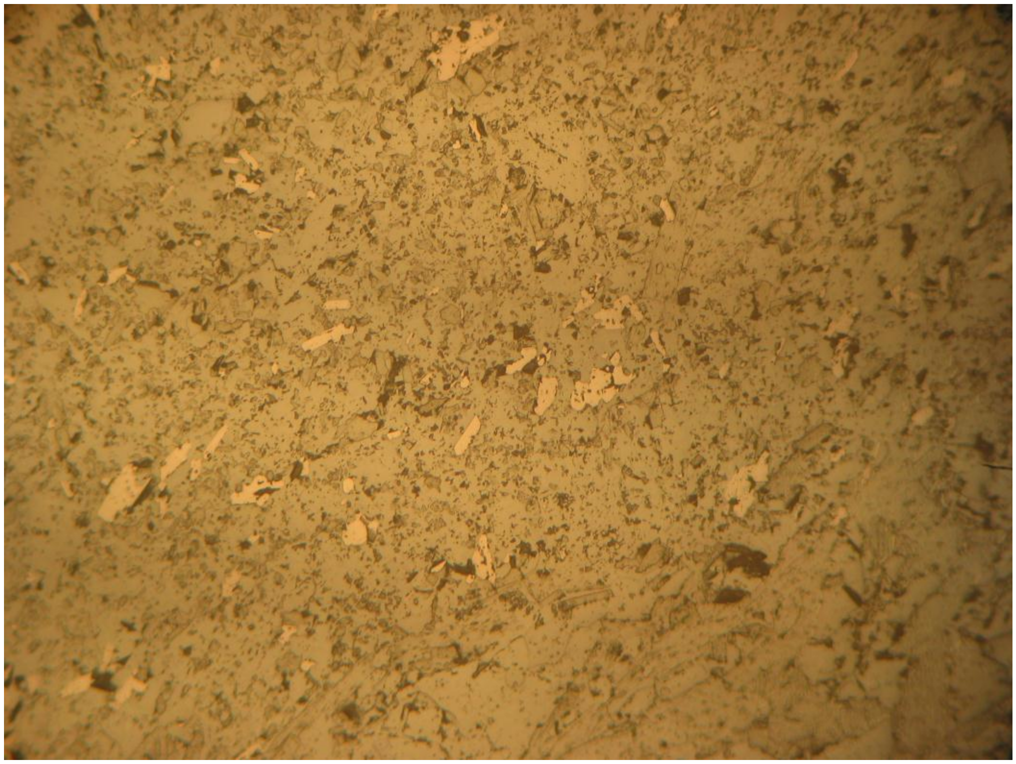
Heron Pond-3 Plate 7: Single poikiloblastic grain of blue-green tschermakitic amphibole with abundant inclusions of quartz and feldspar, evidence for rapid growth. The amphiboles are extremely iron-rich with 16 wt% FeO and 8.12 wt% MgO. It is important to note that the amphibole grains throughout are highly aluminous with a typical composition approaching 16 wt% Al2O3 and the sodium content approaching 1.25 wt% Na2O. Such aluminous contents are indicative of formation in a high temperature metamorphic environment and the abundant inclusions are indicative of rapid growth. The interpretation is that these amphiboles developed in a high temperature environment, possibly with the environs of contact metamorphic thermal aureole.



Heron Pond-3 Plate 8: Fine-grained amphibole biotite quartzo-feldspathic schist with moderate fabric with late pyrrhotite-arsenopyrite veinlet containing an abundance of calcite.



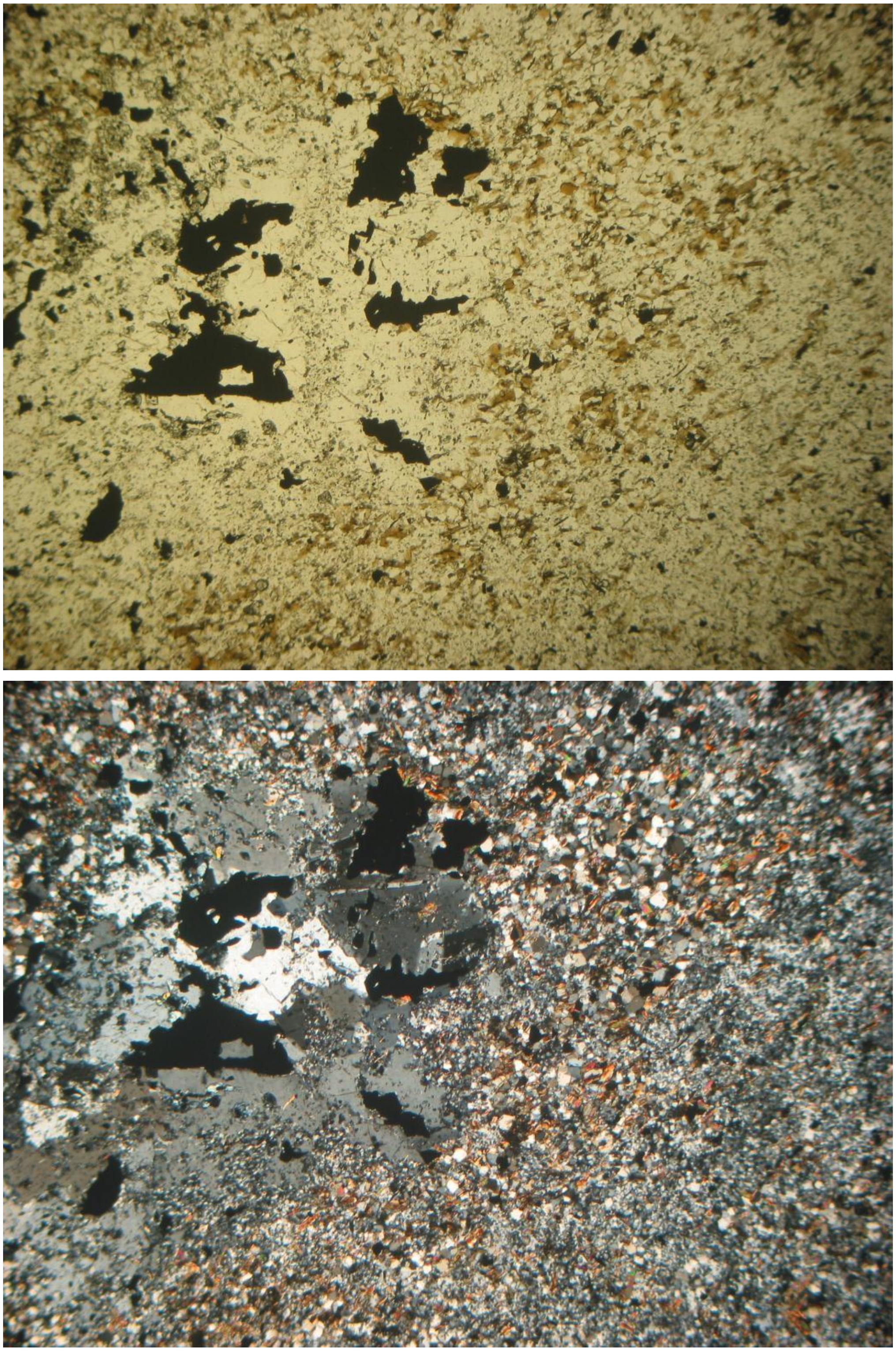
Heron Pond-3 Plate 9: Concentration of sulphide minerals within late calcite veinlet. Note that pyrrhotite is replaced directly by arsenopyrite (white) in association with pyrite (pale yellow) that is clearly replacing pre-existing pyrrhotite.



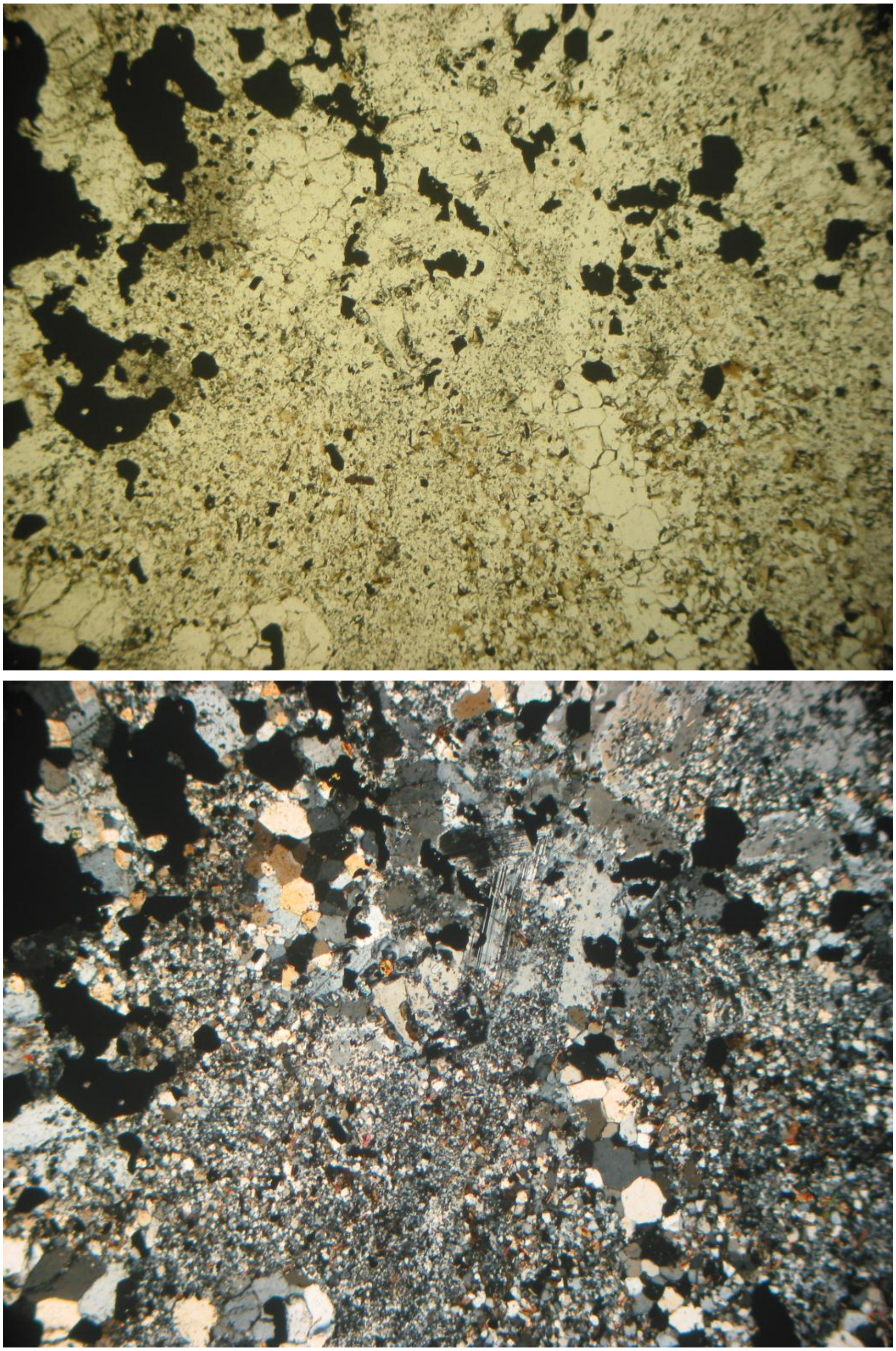
Heron Pond-3 Plate 10: Typical region of sample with even distribution of ilmenite needles intimately intergrown with tschermakitic amphibole and biotite-phlogopite solid solution.

Sample Heron Pond-4

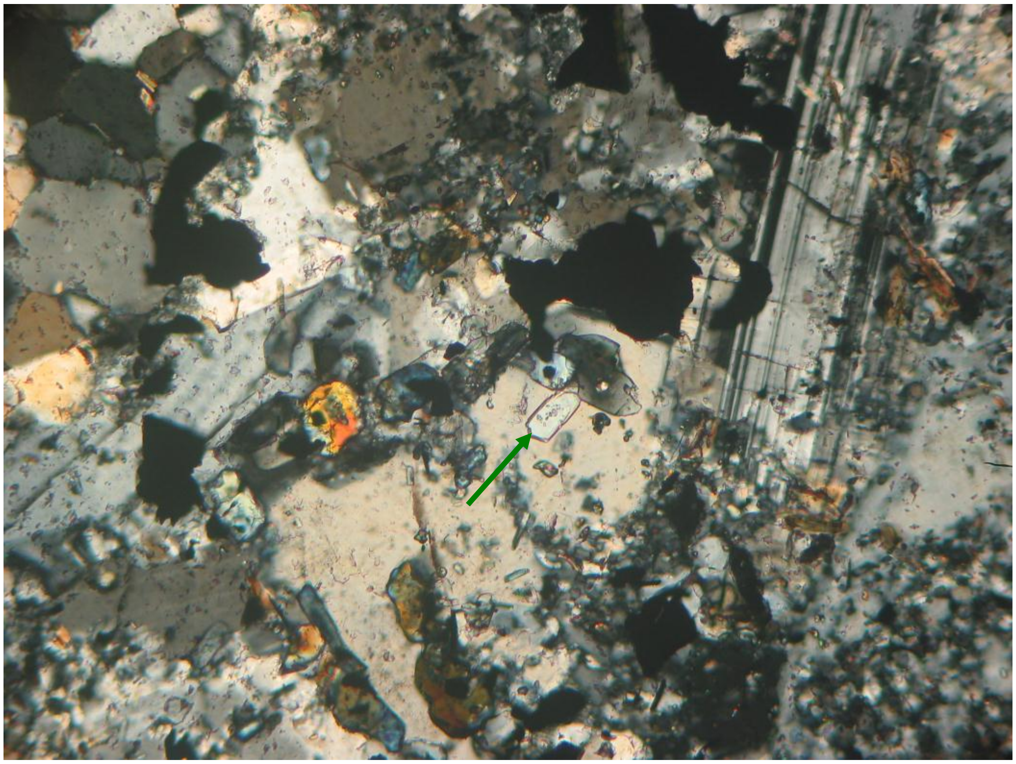
The hand specimen appears as a medium green fine-grained material with discontinuous linear rounded domains of recrystallization (red arrow). The finer-grained domains of the sample are extremely fine intergrowths of biotite, quartz, and Ca-plagioclase with only a minor sulphide and ilmenite component. These fine-grained domains are cut and penetrated by interconnecting vein-like regions of quite coarse-grained Ca-plagioclase feldspar intergrown with an abundance of pyrrhotite. An example of these domains in evident in hand specimen noted by patch domains of mineral growth (top left – red arrow). The sample is without fabric and the finer grained domains have a recrystallized aspect. The coarse pyrrhotite, Ca-plagioclase, quartz veinlets are sites of ingress of hydrothermal solutions. These solutions induced the recrystallization of biotite and the development of coarse biotite patches. It is important to note that these vein-like regions also contain coarse plates of biotite within the pyrrhotite and numerous concentrations of epidote and apatite in feldspar in addition to clusters of deep green tourmaline grains. Individual grains within the pyrrhotite domains are replaced by later retrogressive pyrite indicating continued ingress of hydrothermal fluids at lower temperatures.



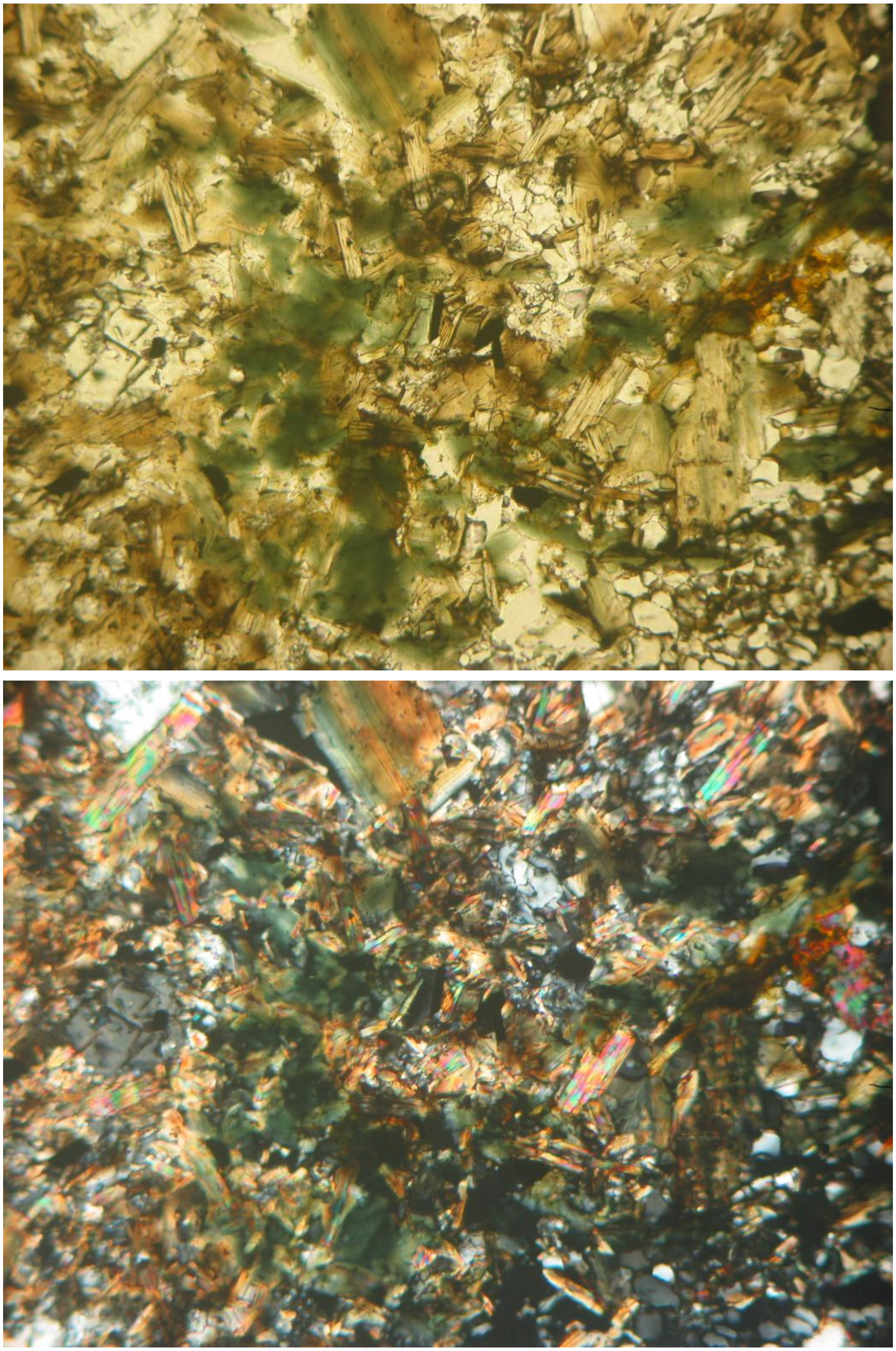
Heron Pond-4 Plate 1: Fine-grained biotite, Ca-plagioclase, and quartz matrix significantly without fabric, including a domain of coarsely crystalline Ca-plagioclase (An50) intergrown with pyrrhotite, a zone of ingress of hydrothermal solution.



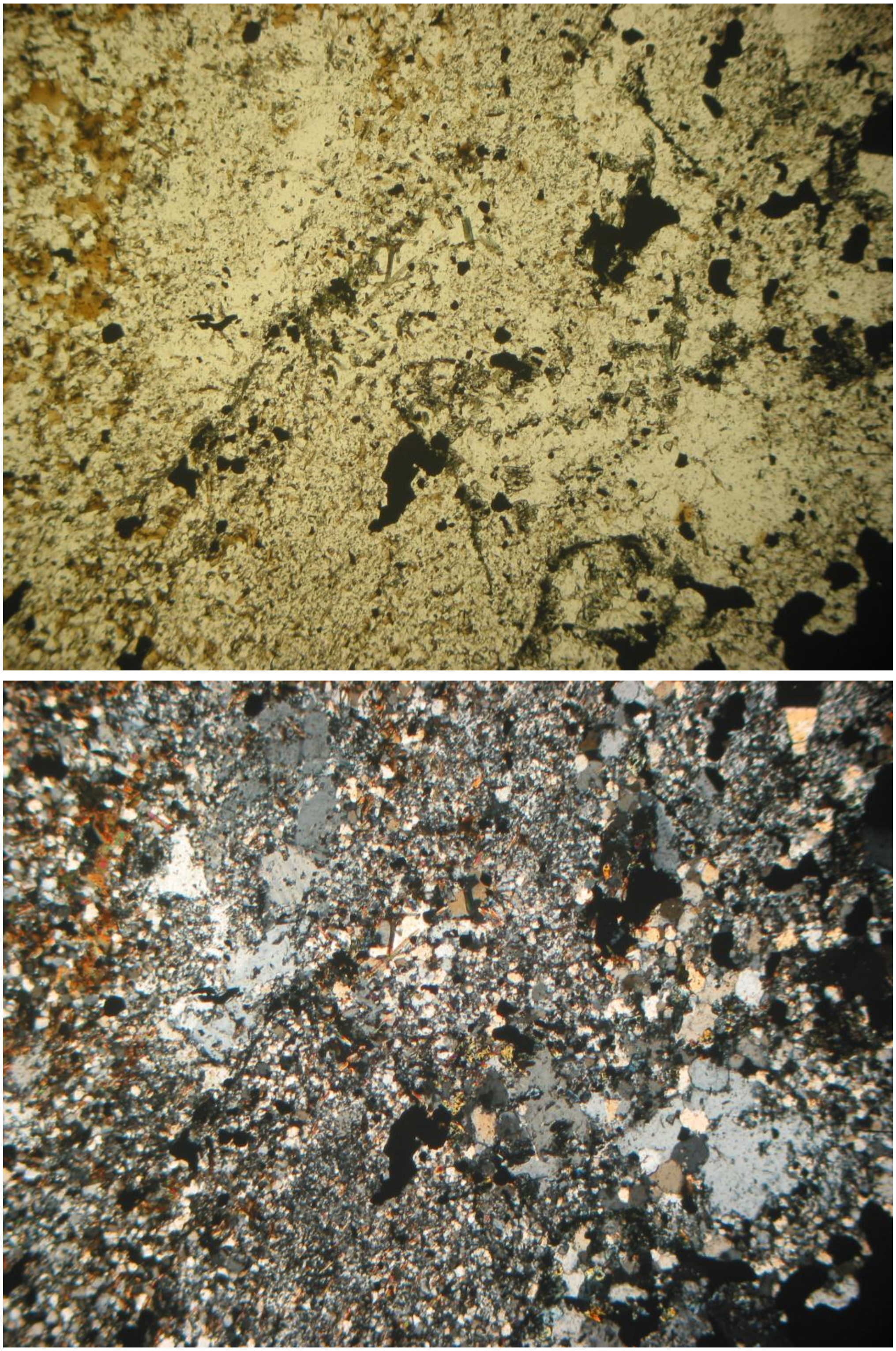
Heron Pond-4 Plate 2: Fine-grained domains of biotite-quartz-feldspar penetrated by intersecting vein-like regions of coarse polysynthetically twinned plagioclase laths (An50) intergrown with an abundance of pyrrhotite and minor component of chalcopyrite.



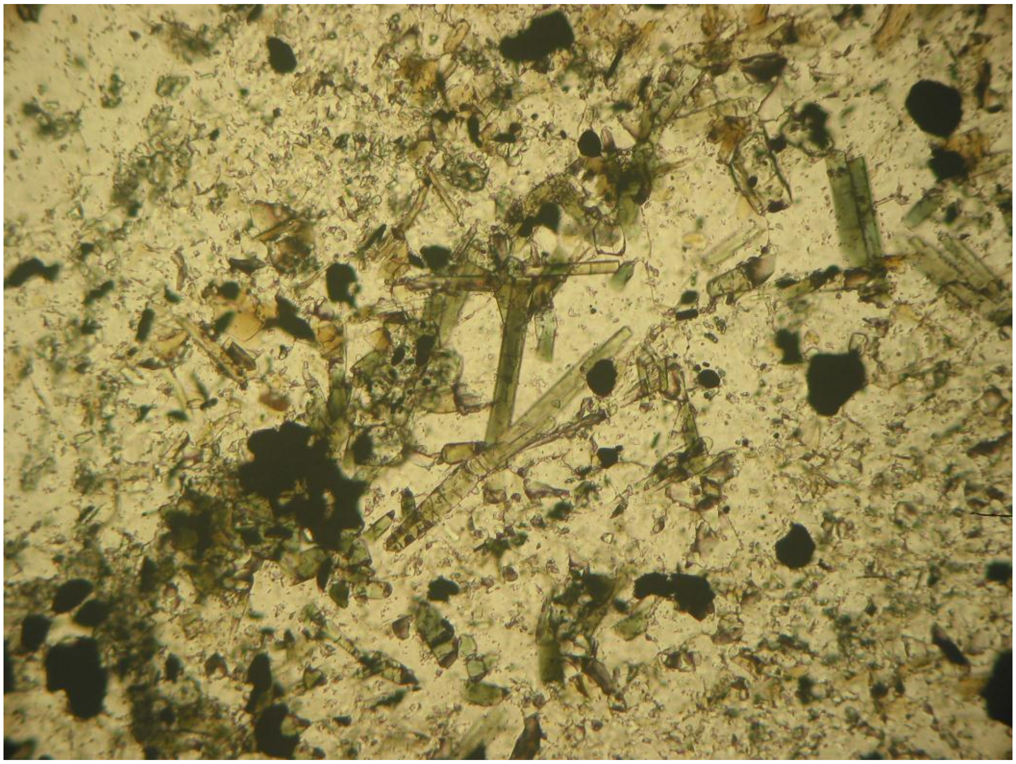
Heron Pond-4 Plate 3: Small birefringent yellow-red grain of epidote and colourless apatite (green arrow) intergrown with coarsely recrystallized Ca-plagioclase (An50). Central region of Plate 1, higher magnification.



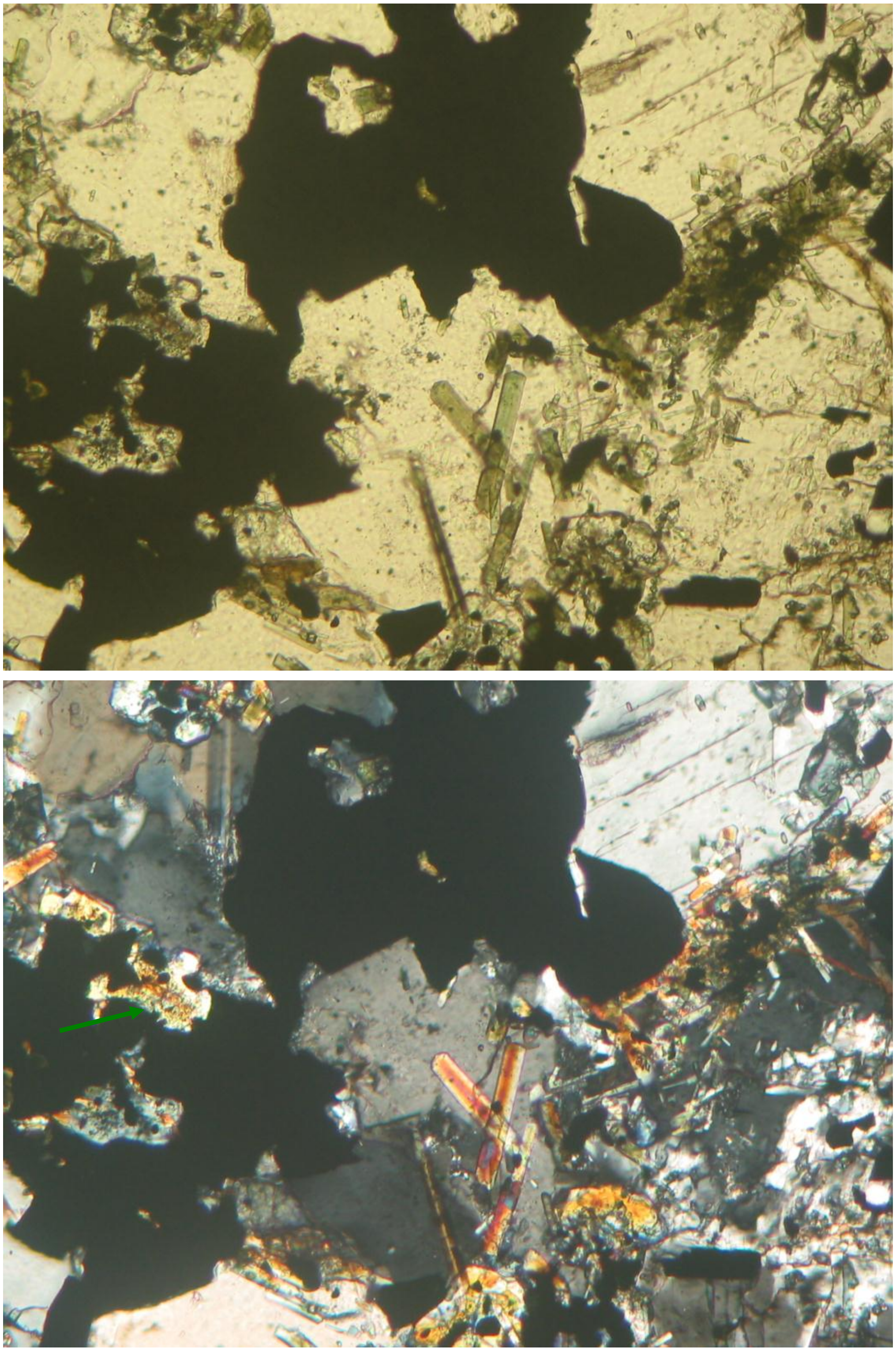
Heron Pond-4 Plate 4: Patchy retrogressive domain of chlorite after biotite-phlogopite solid solution. Chlorite retrogression occurs adjacent to mineralized vein.



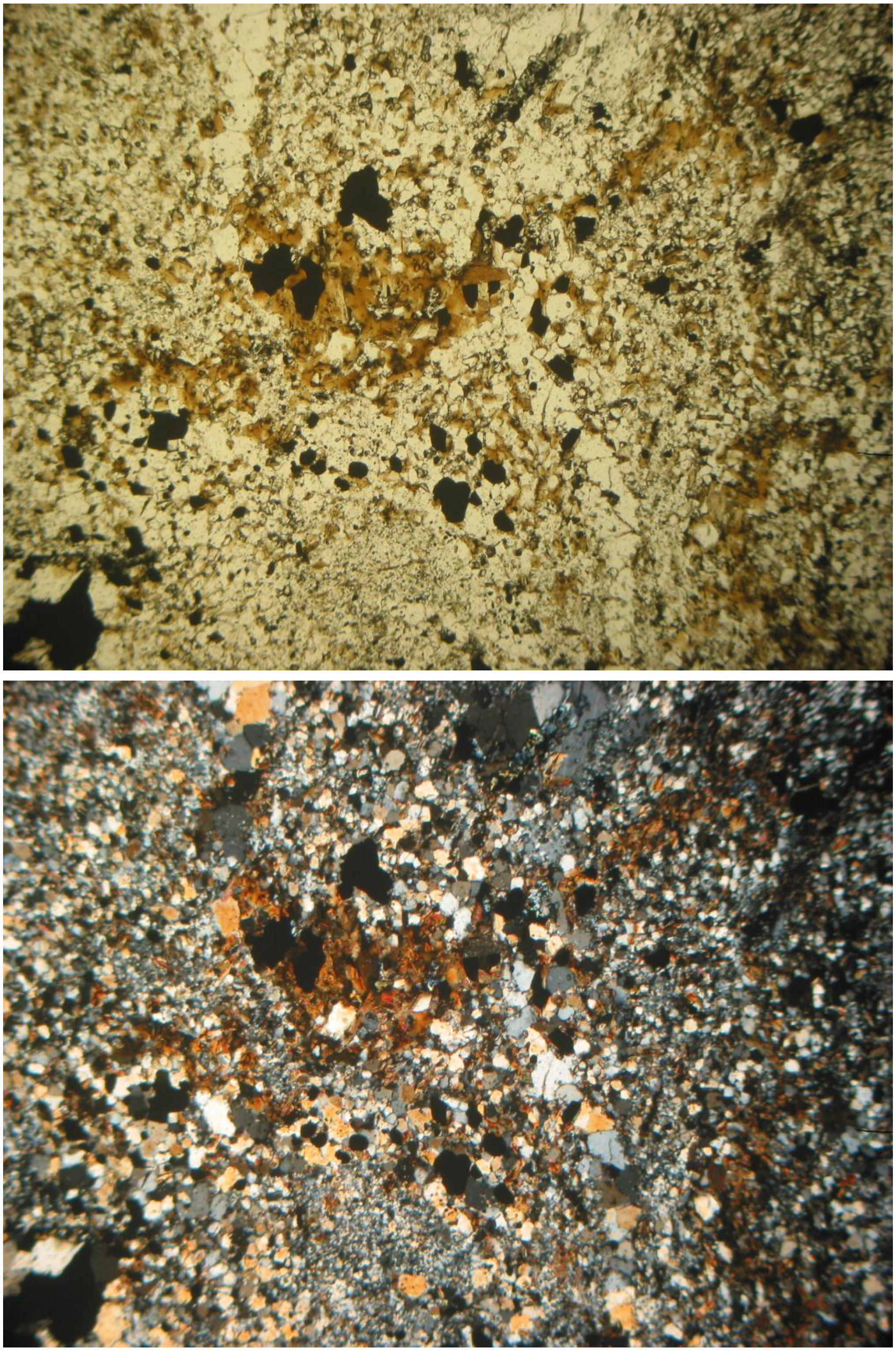
Heron Pond-4 Plate 5: Region of ingress of solutions inducing the development of coarse-grained Ca-plagioclase (first-order grey) associated with linear concentrations of deep-green tourmaline crystals intergrown with zoisite.



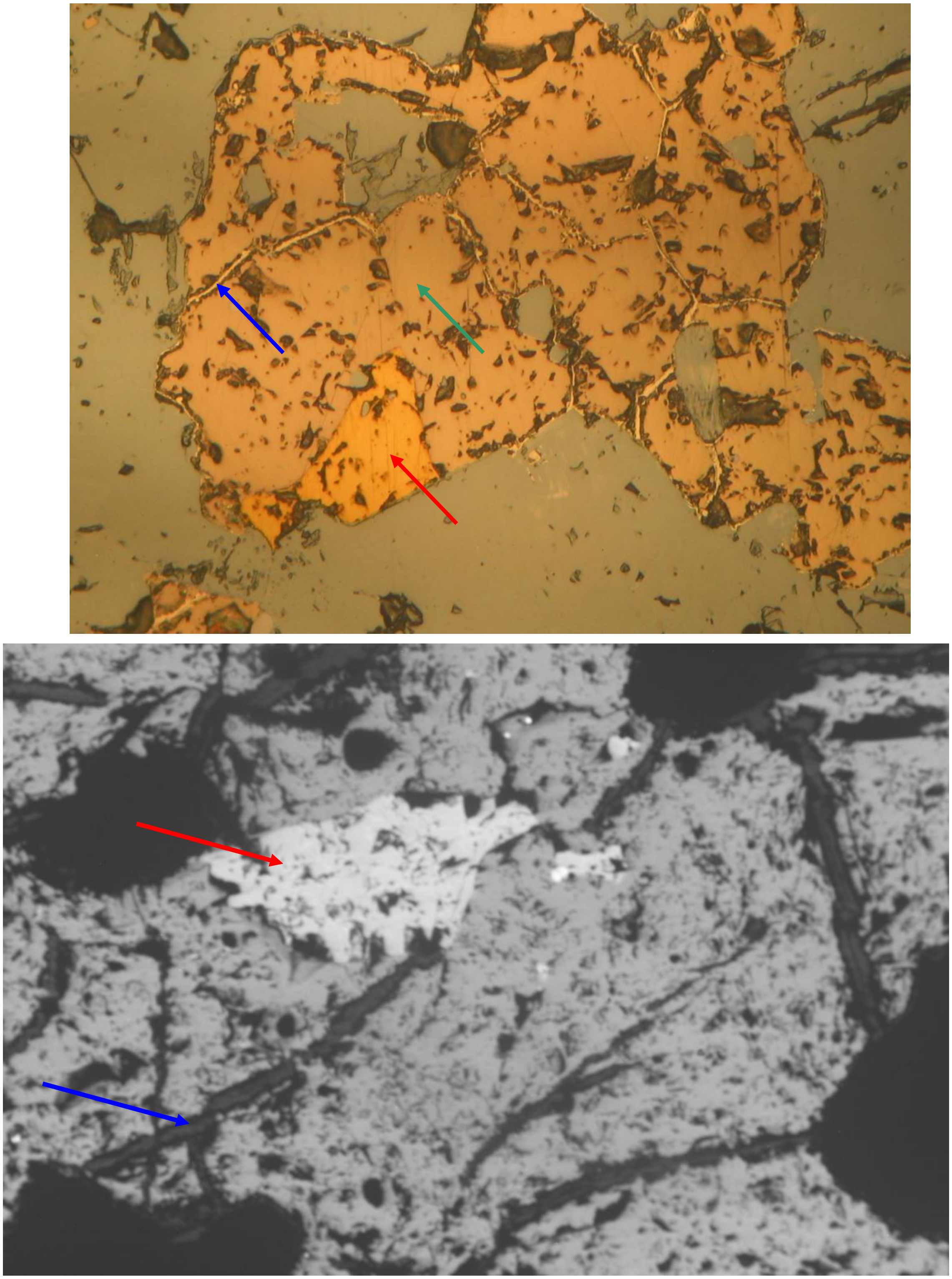
Heron Pond-4 Plate 6: Linear concentration of deep-green tourmaline intergrown with colourless epidote (zoisite) and pyrrhotite.



Heron Pond-4 Plate 7: Concentration of linear green tourmaline needles within Ca-plagioclase in late vein-like domains associated with pyrrhotite and minor chalcopyrite. Note birefringent epidote grains in pyrrhotite (green arrow).



Heron Pond-4 Plate 8: Concentration of red-brown biotite including pyrrhotite within a domain of ingress of hydrothermal solutions.

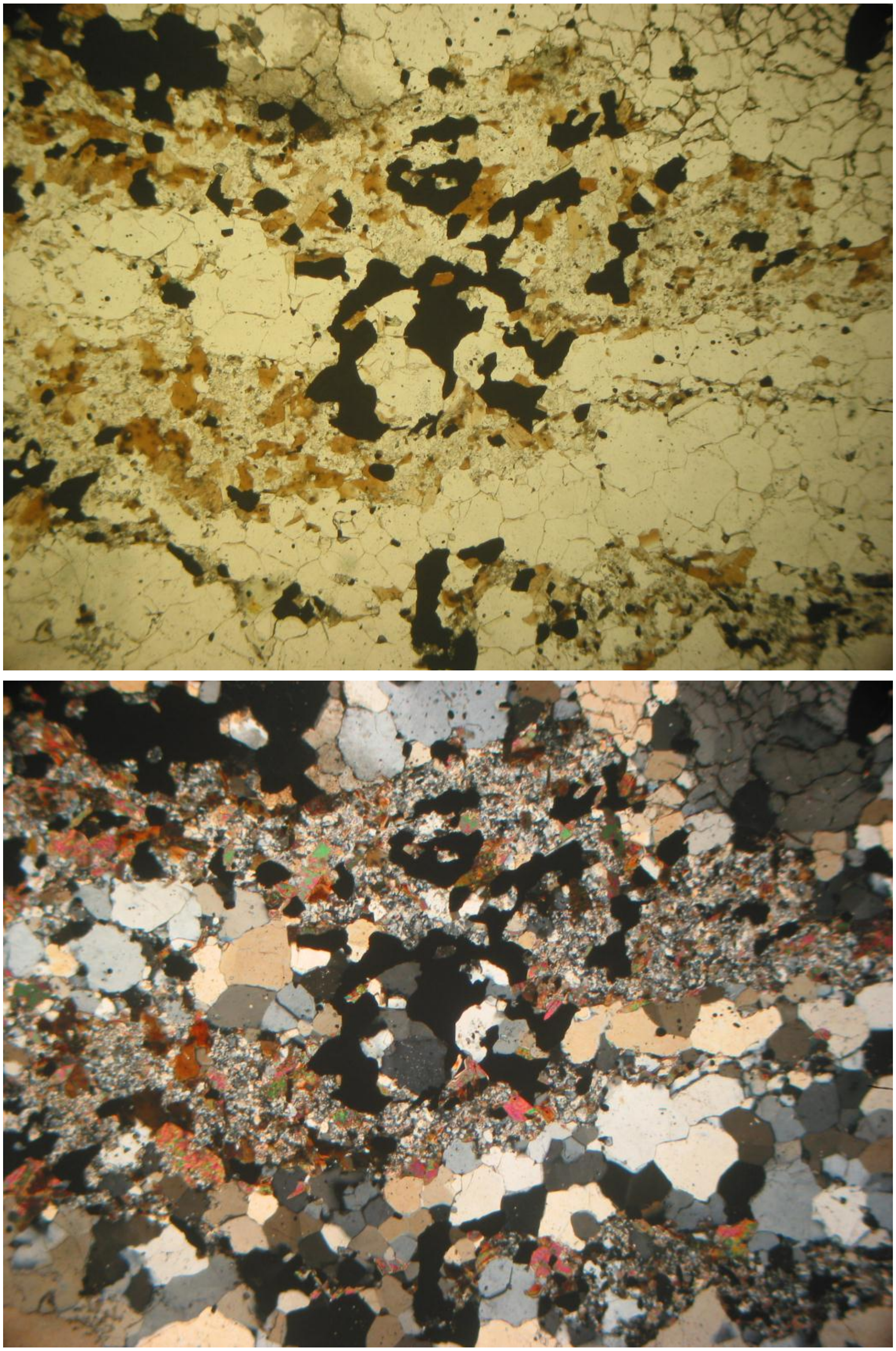


Heron Pond-4 Plate 9: Reflected light and backscatter image of chalcopyrite (red arrow)-pyrrhotite (green arrow) intergrowth replaced by retrogressive pyrite along fractures (blue arrow).

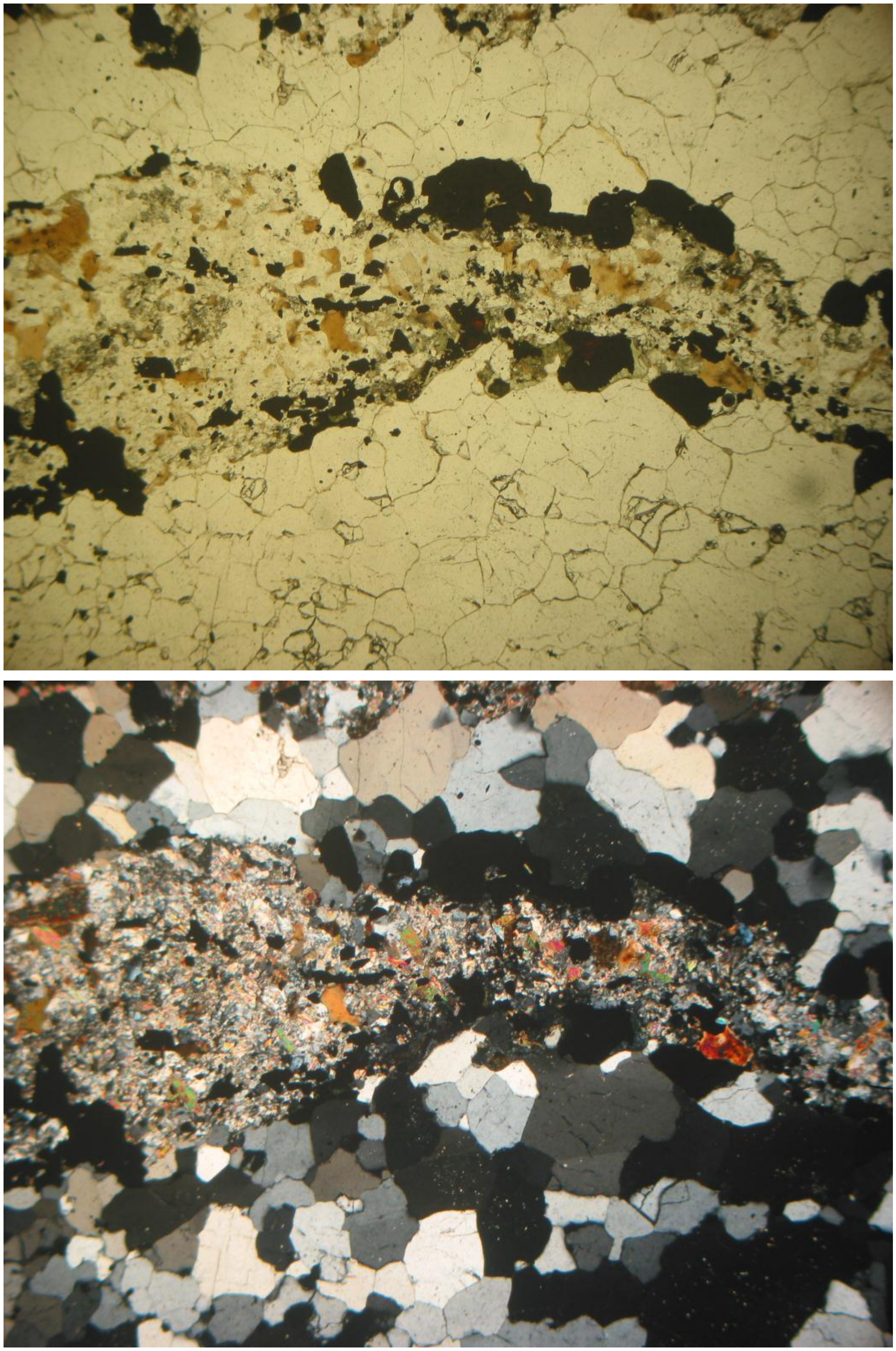
Sample Heron Pond-5

The specimen consists of a central region of relatively coarse-grained white quartz with two apparent marginal zones of dark black biotitic sulphide material. The dark sulphidic material consists of discontinuous linear trails of coarse pyrrhotite and red-brown biotite intergrown with a pre-existing mineral, likely Ca-plagioclase, now replaced by muscovite and albitic feldspar. The sulphides within these domains include translucent red Fe-sphalerite, pyrrhotite, arsenopyrite, galena with lesser amounts of chalcopyrite. One interesting and important grain is a single arsenopyrite with pyrrhotite inclusions is intergrown with galena and stephanite (Ag_5SbS_4) (Plate 7). Detailed relationships within these sulphide domains indicate that the original pyrrhotite was initially replaced at elevated temperatures by arsenopyrite in association with galena and chalcopyrite. Abundant textures indicate that at lower temperatures, pyrrhotite was replaced by pyrite and in some examples, primary pyrite cubes may have developed from retrogressive hydrothermal solutions. It is interesting to note that there are linear grains of chlorite that occur within the sulphides. The interpretation is that this chlorite has replaced higher temperature biotite within the lower temperature hydrothermal regime.

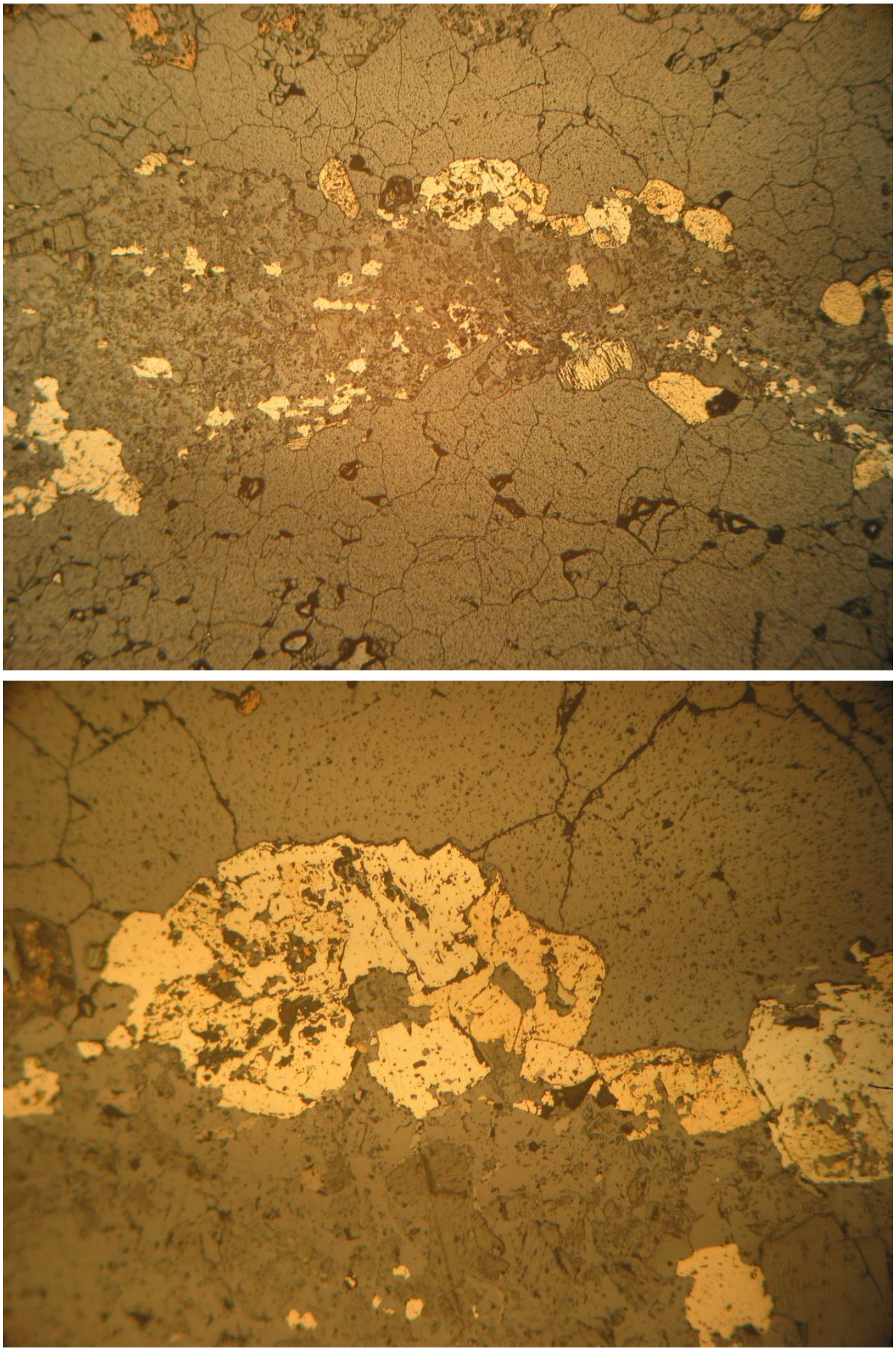
The two symmetrical disposed zones of pyrite, pyrrhotite, arsenopyrite, galena, and occasional grains of stephanite are interpreted to be linear slivers and fragments of original wall rock material incorporated into later multigranular quartz. This sample has many similarities with sample HP2 that is essentially coarse multigranular quartz with a similar inventory of sulphide minerals including a number of different silver-antimony minerals.



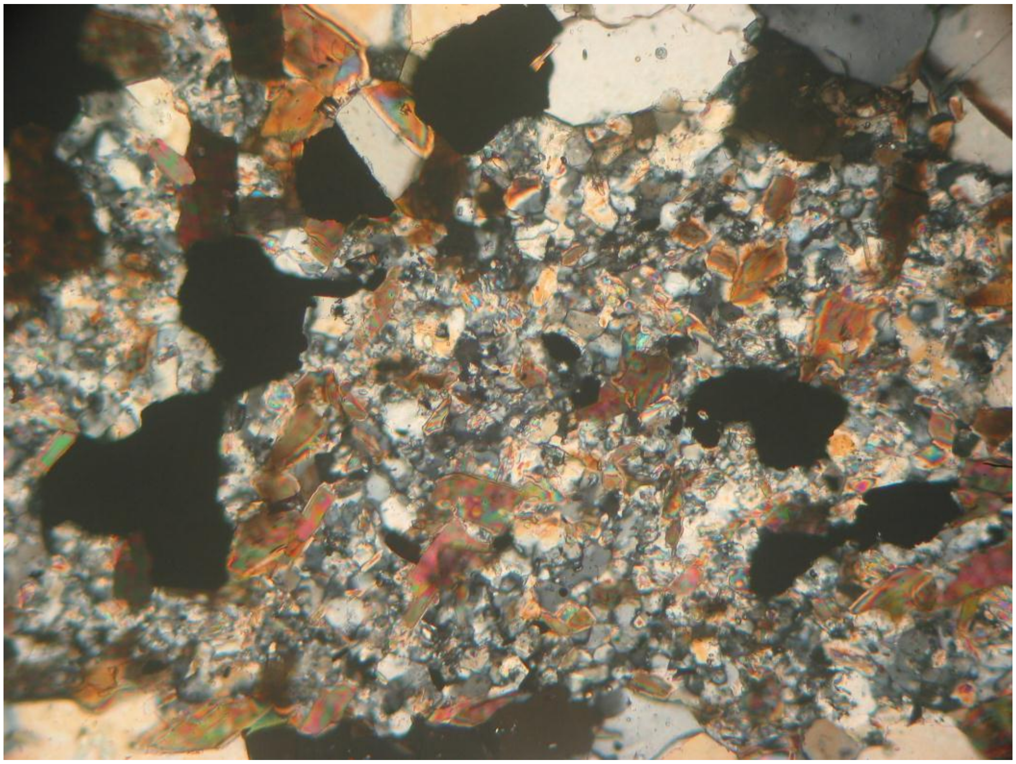
Heron Pond-5 Plate 1: Alternating discontinuous linear trails of coarse brown biotite-phlogopite solid solution, pyrrhotite, pyrite, and minor chalcopyrite within extremely fine-grained multicrystalline quartz and feldspar domains.



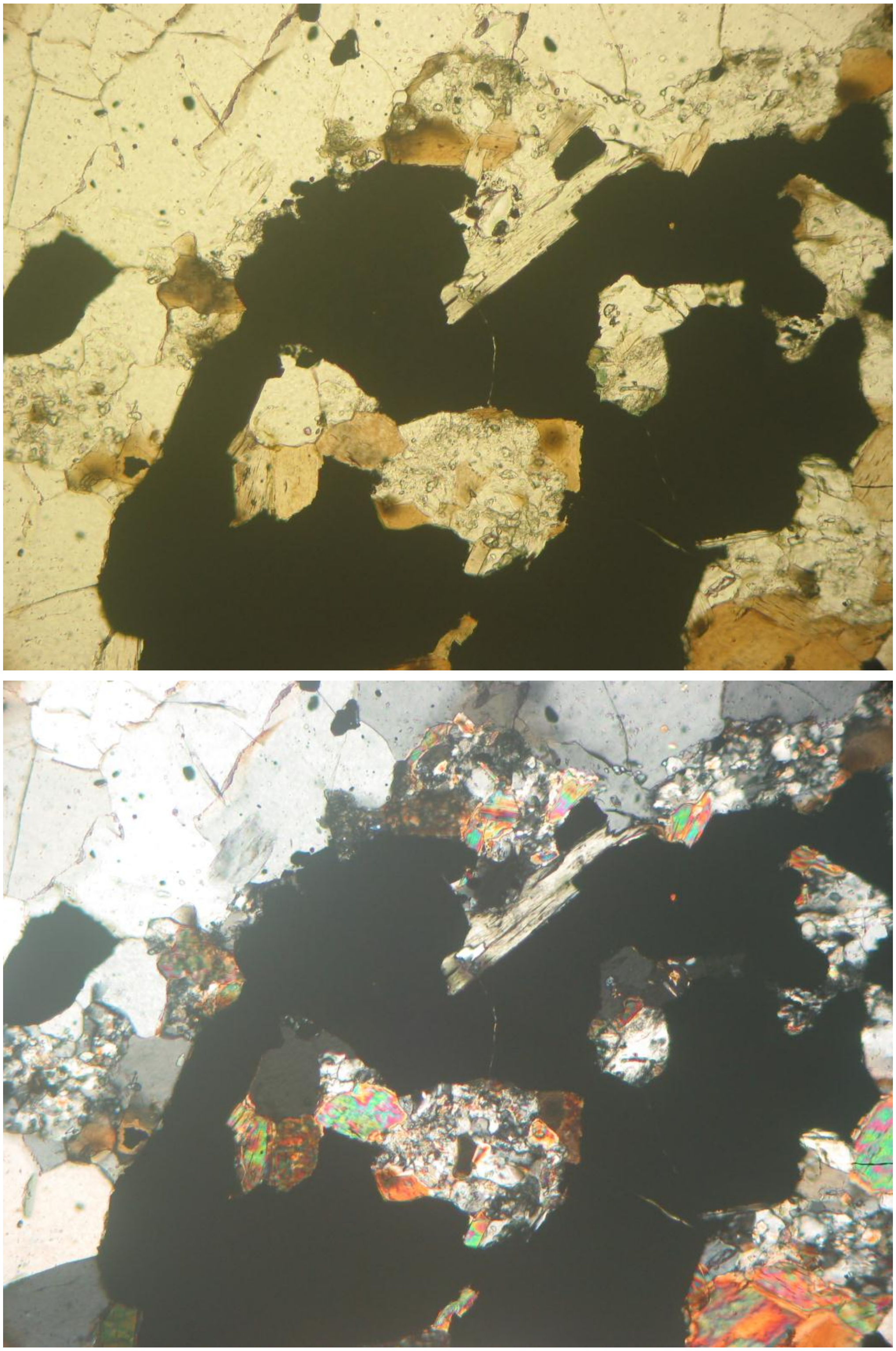
Heron Pond-5 Plate 2: A linear band of fine-grained multigranular quartz and muscovite with complex sulphide intergrowth, and coarse biotite within coarser-grained multigranular quartz without fabric. The fine-grained domains of multigranular quartz and mica are interpreted to be alteration products of pre-existing feldspar that originally co-existed with the coarse-grained biotite and sulphides, products of low temperature retrogressive solutions.



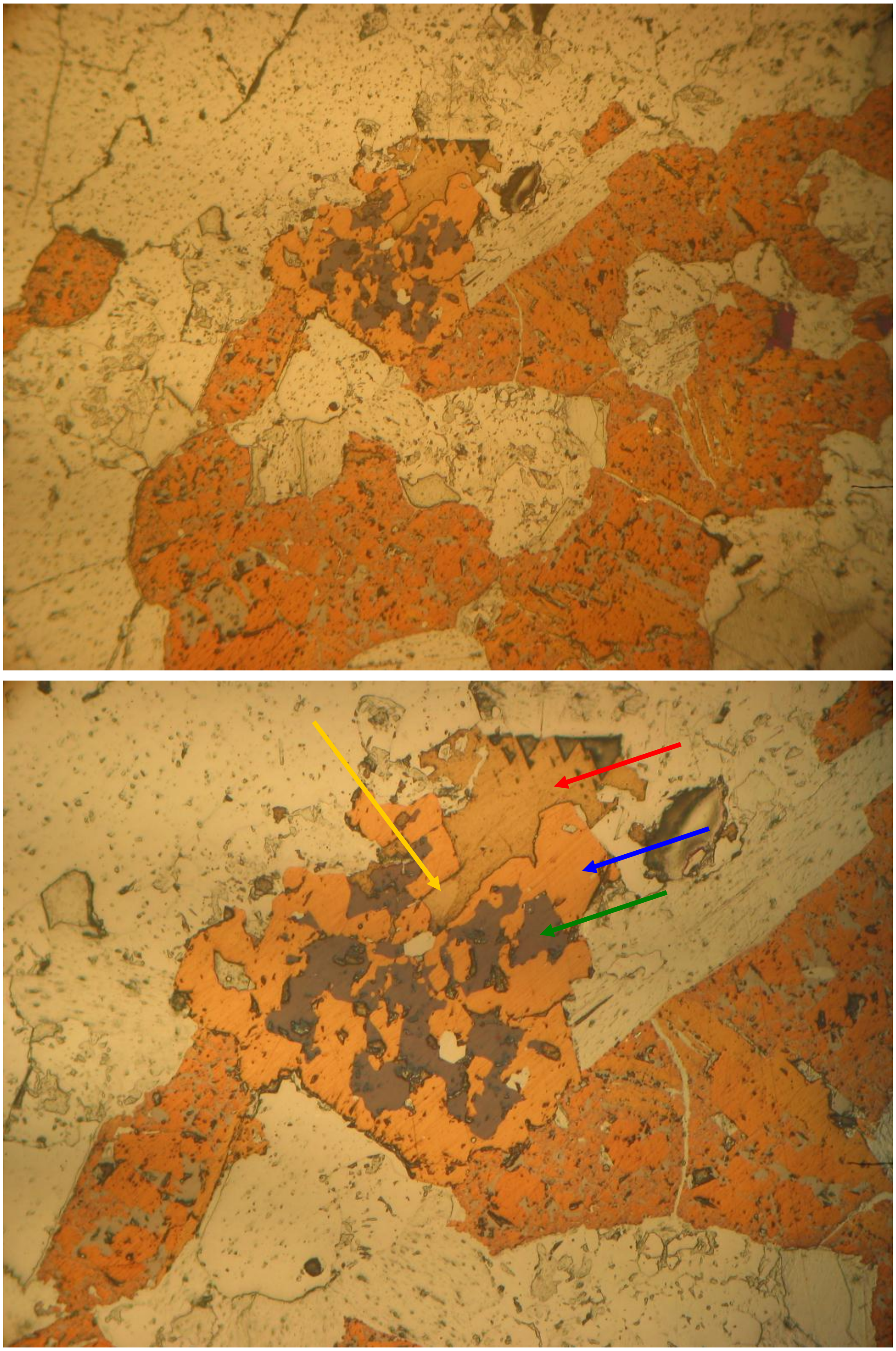
Heron Pond-5 Plate 3: Distribution of sulphides at the margin of the linear zone depicted in Plate 2. The bright linear domains (central) and at margins of the veinlet are arsenopyrite. The arsenopyrite grains contain relict regions of pyrrhotite and the brighter yellow domains are pyrite both after pyrrhotite and potentially growing directly from solution. The interpretation is that the pyrite formed at lower temperatures in a retrogressive hydrothermal regime that occurred whilst the pre-existing feldspar was replaced by ultra fine-grained quartz and muscovite.



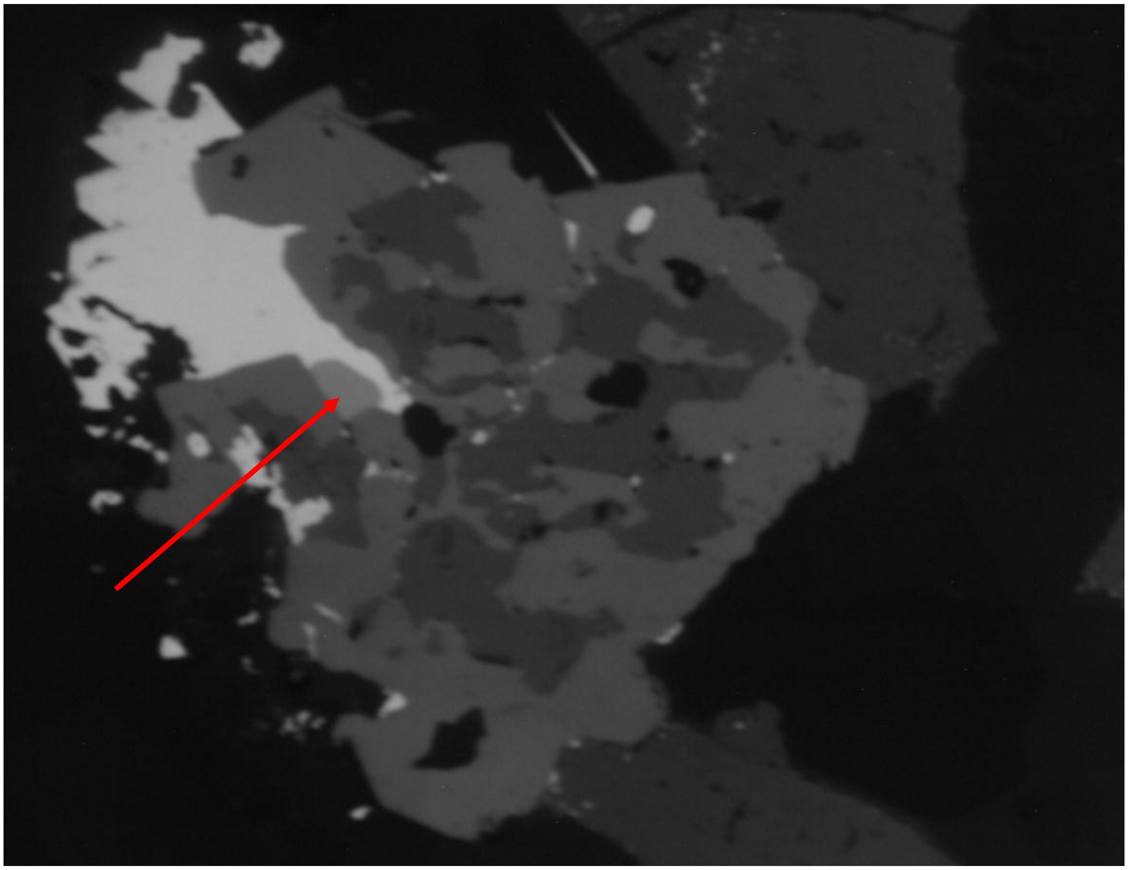
Heron Pond-5 Plate 4: A small domain within a sulphide-rich band in which plagioclase grains have been altered to ultra fine-grained quartz and muscovite, interpreted to represent retrogression of higher temperature Ca-feldspars.



Heron Pond-5 Plate 5: Coarse intergrowth of galena, pyrrhotite, arsenopyrite and stephanite intergrown with biotite. Note linear grain of chlorite at center which has replaced pre-existing biotite. Note pre-existing feldspars have been replaced by albitic feldspar and muscovite.

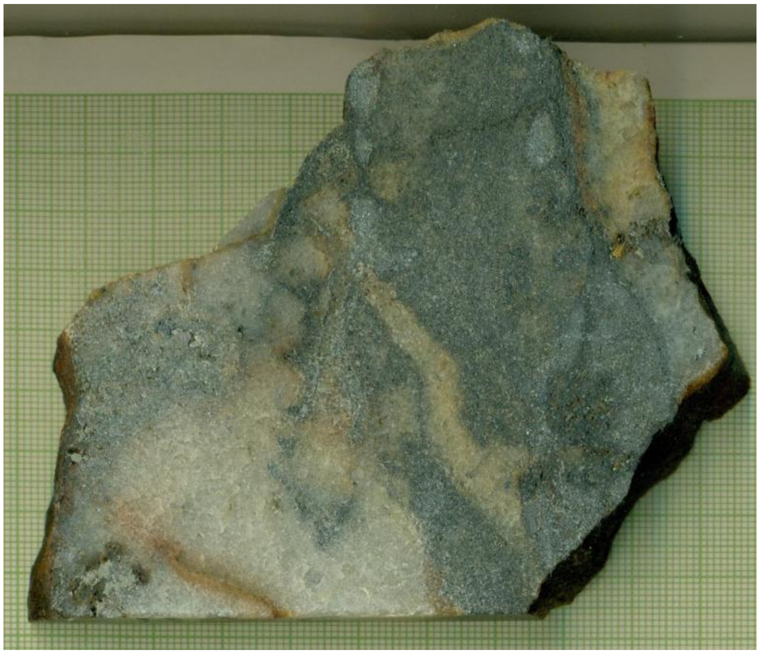


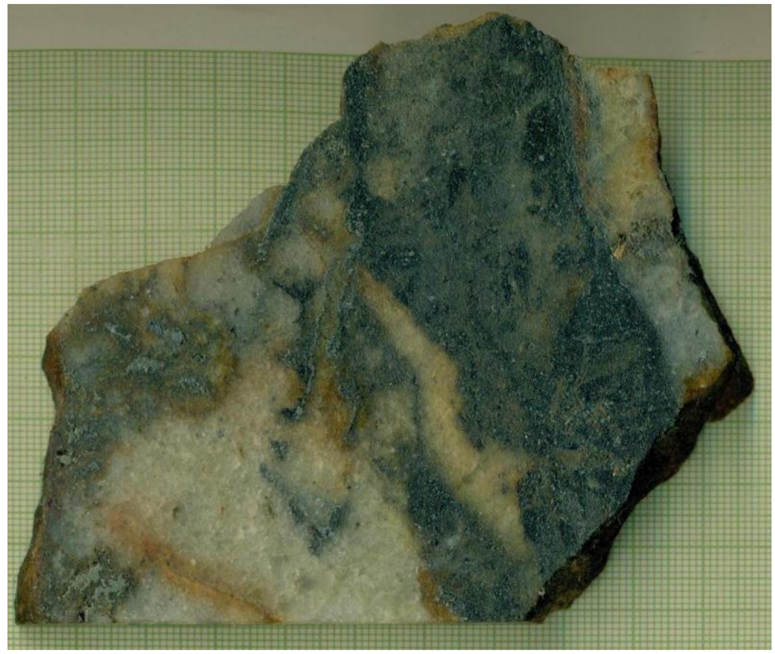
Heron Pond-5 Plate 6: Reflected light image illustrating a complex intergrowth of pyrrhotite (green arrow), arsenopyrite (blue arrow), galena (red arrow), and stephanite (yellow arrow).



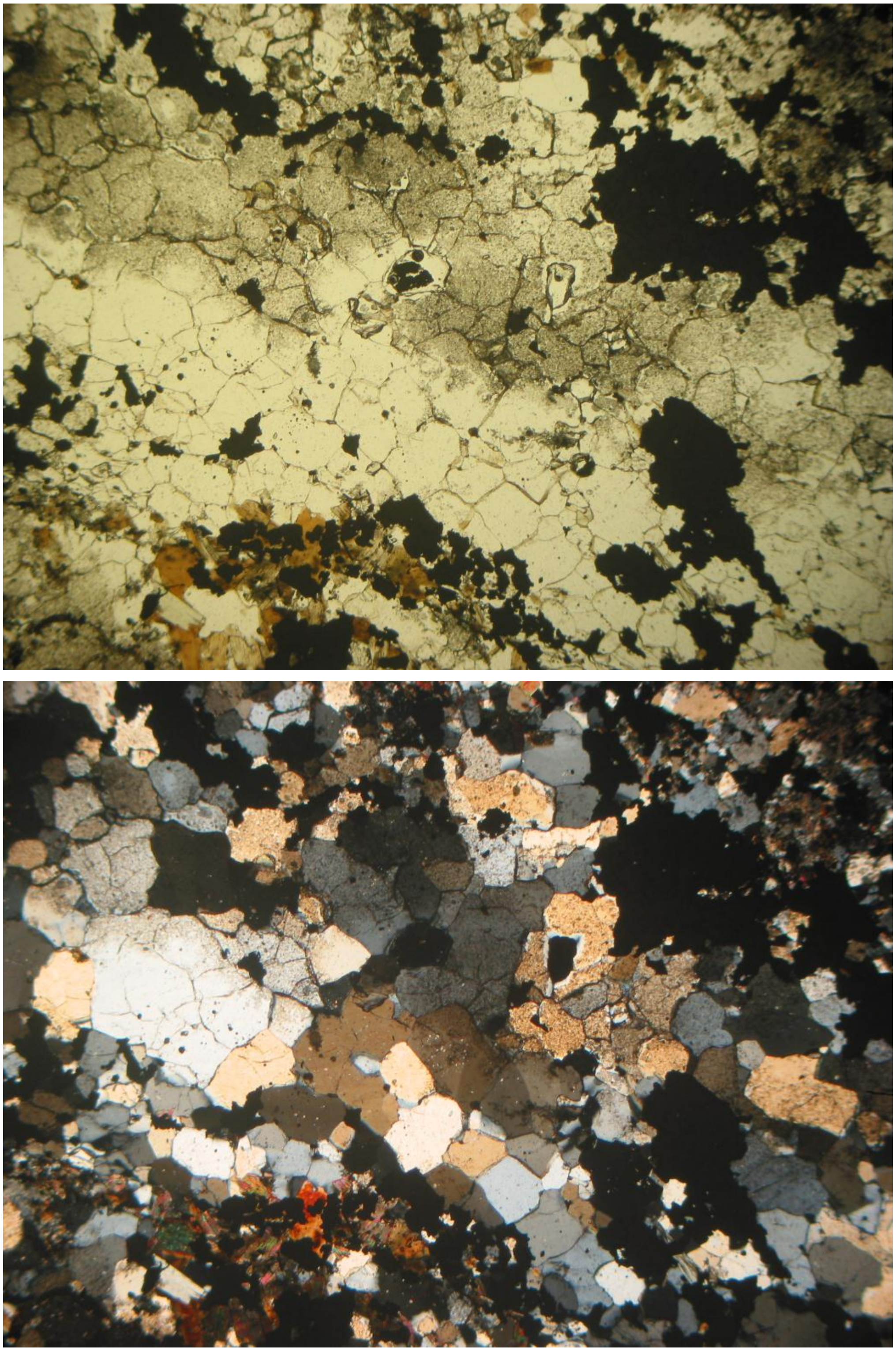
Heron Pond-5 Plate 7: A complex intergrowth of pyrrhotite, arsenopyrite, galena, and stephanite (red arrow), same field of view as Plate 6.

Sample Heron Pond-6

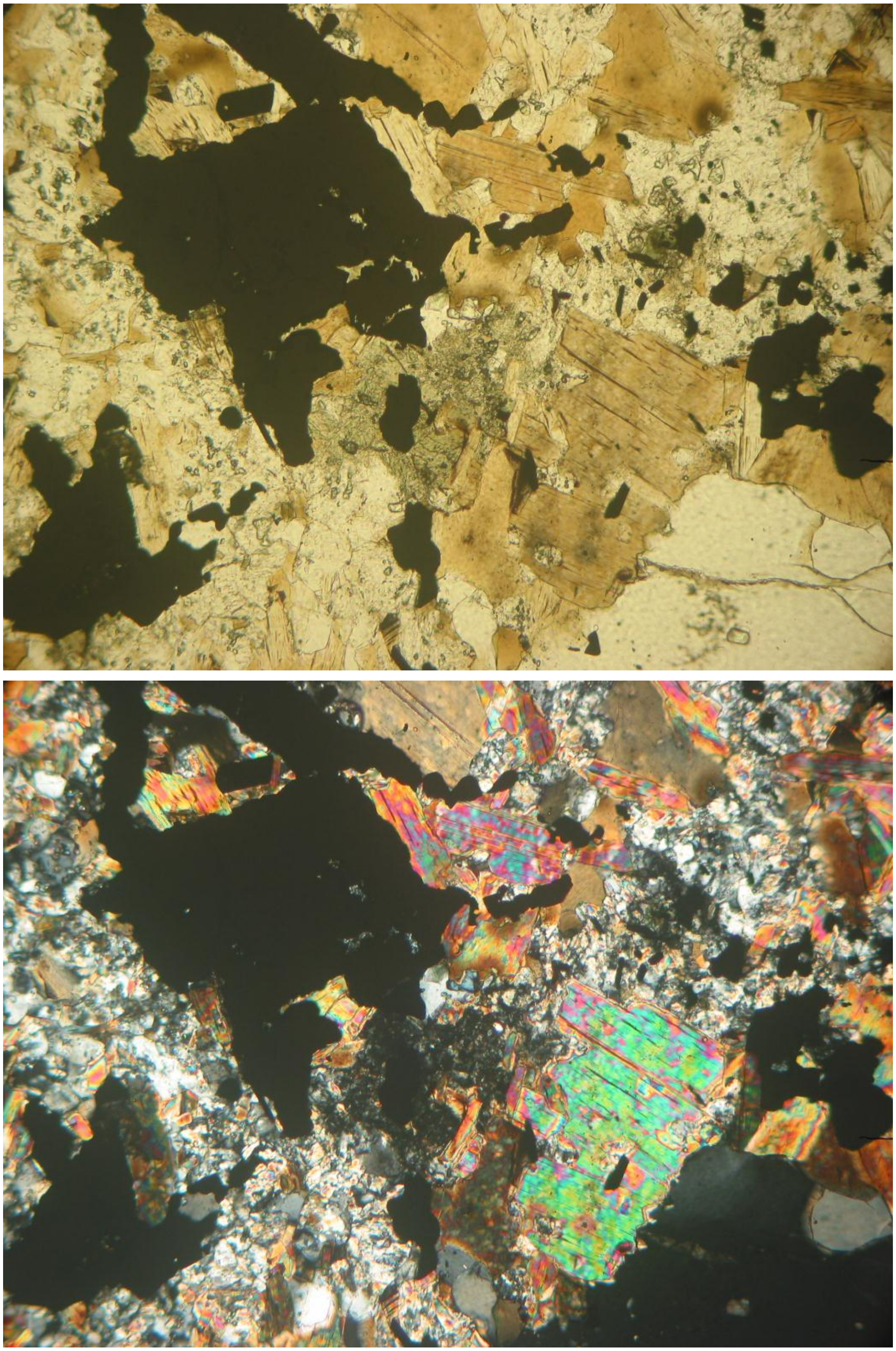




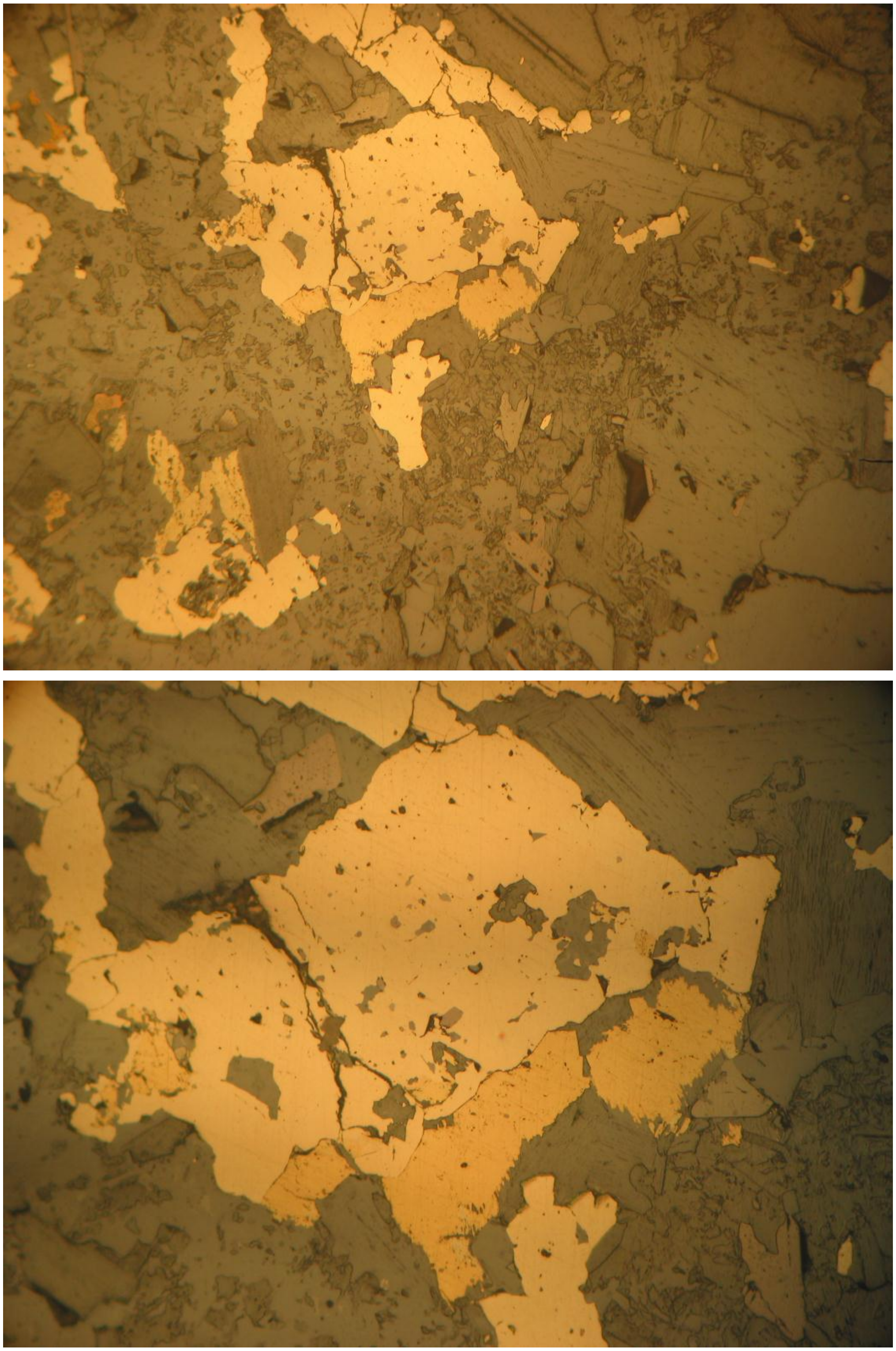
The sample contains a broad linear dark zone consisting o abundant biotite-phlogopite solid solution intergrown with abundant pyrrhotite with minor development of arsenopyrite. These dark domains are penetrated by discontinuous zones of multigranular quartz with a pale yellow colour in hand specimen and included within coarser-grained, colourless multigranular quartz. In comparison to other samples examined, both the sulphide and silicate minerals provide abundant textural evidence for retrogressive processes and mineral reactions. Original biotite grains are replaced by chlorite-muscovite and Ca-plagioclase noted in other samples are now represented by fine-grained domains of quartz, albitic feldspar, and muscovite. In certain areas, original pyrrhotite is replaced directly by arsenopyrite. In other regions, it is apparent that pyrrhotite originally consumed by arsenopyrite is now almost pervasively replaced by lower pyrite. The regions of pyrrhotite and arsenopyrite replacement are considered to represent relict domains of earlier stage, higher temperature, mineralization in which the original pyrrhotite stable under reducing conditions at higher temperatures was directly replaced by arsenopyrite. Large areas of linear pyrite in this sample are considered to form at lower temperatures in a more evolved hydrothermal regime. The pre-existing biotites and plagioclase were retrogressed to chlorite and muscovite by the same lower temperature solutions that converted pyrrhotite to pyrite. Importantly, this sample was found to contain a single grain of electrum included along with a number of smaller galena grains within arsenopyrite. This arsenopyrite contains numerous inclusions and relict domains of pyrrhotite. The interpretation is that the gold and silver were introduced into the rock volume of this sample by earlier stage higher temperature hydrothermal solutions.



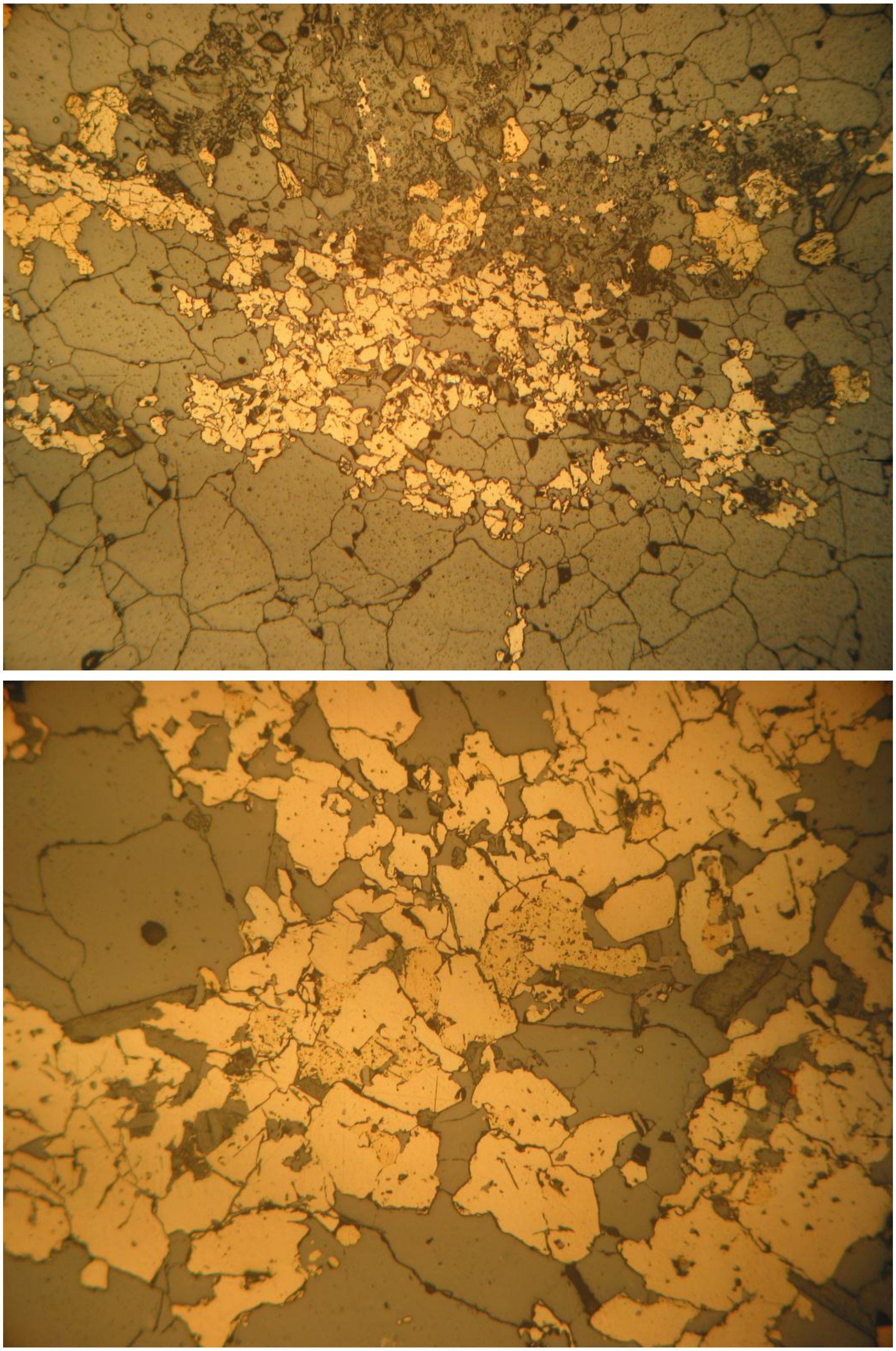
Heron Pond-6 Plate 1: Linear discontinuous regions of red-brown biotite-phlogopite solid solution intergrown with concentrations of arsenopyrite, pyrite, and lesser pyrrhotite. These regions alternate with bands of coarser-grained multigranular quartz. It is not certain if these more mafic bands have developed in the multigranular quartz or they are dismembered pieces of adjacent altered wall rock incorporated into a later quartz vein.



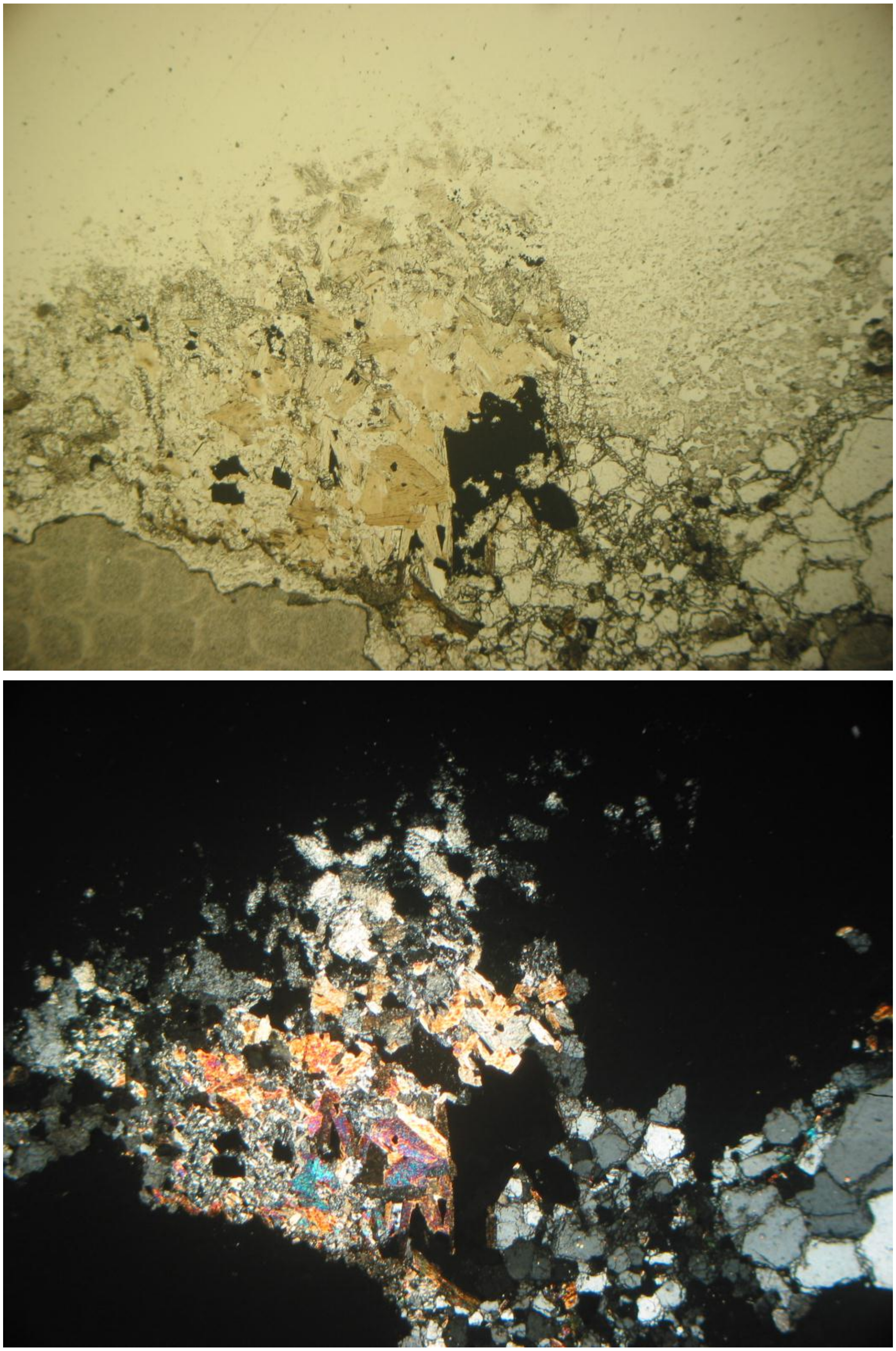
Heron Pond-6 Plate 2: Coarse intergrowth of brown biotite-phlogopite solid solution and arsenopyrite, pyrite, pyrrhotite. The central region of the above image demonstrates biotite retrogression to chlorite. The extremely fine-grains domains of quartz-plagioclase-muscovite have replaced pre-existing Ca-plagioclase.



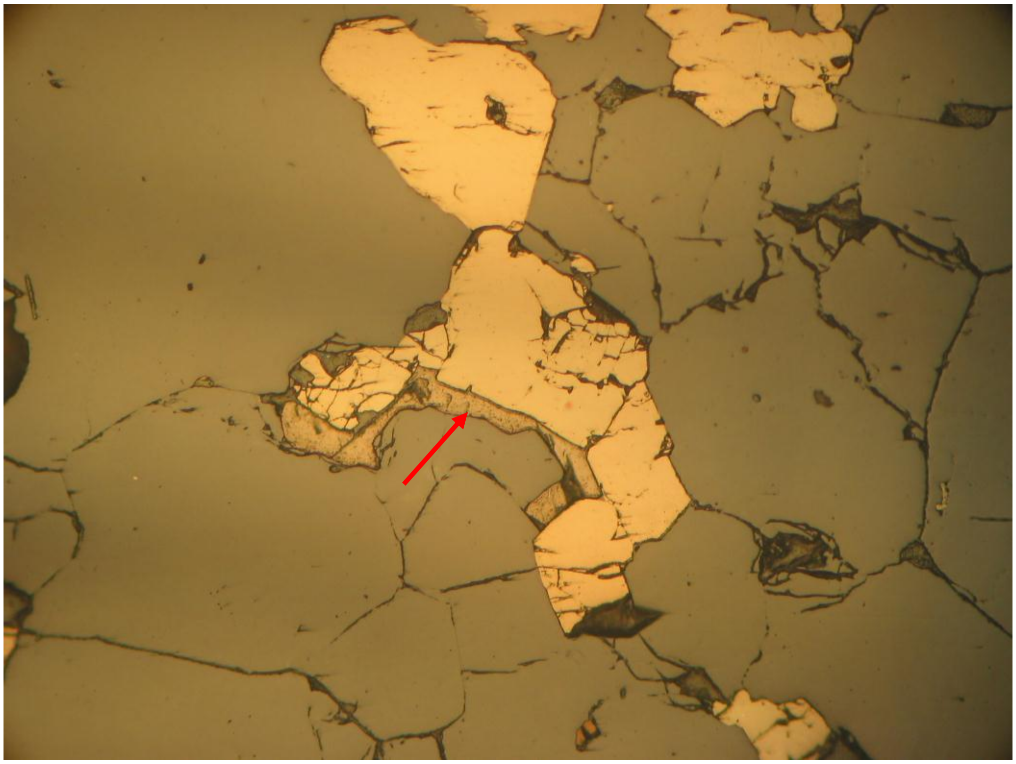
Heron Pond-6 Plate 3: Coarse arsenopyrite surrounded and possibly replaced by pyrite along grain margins.



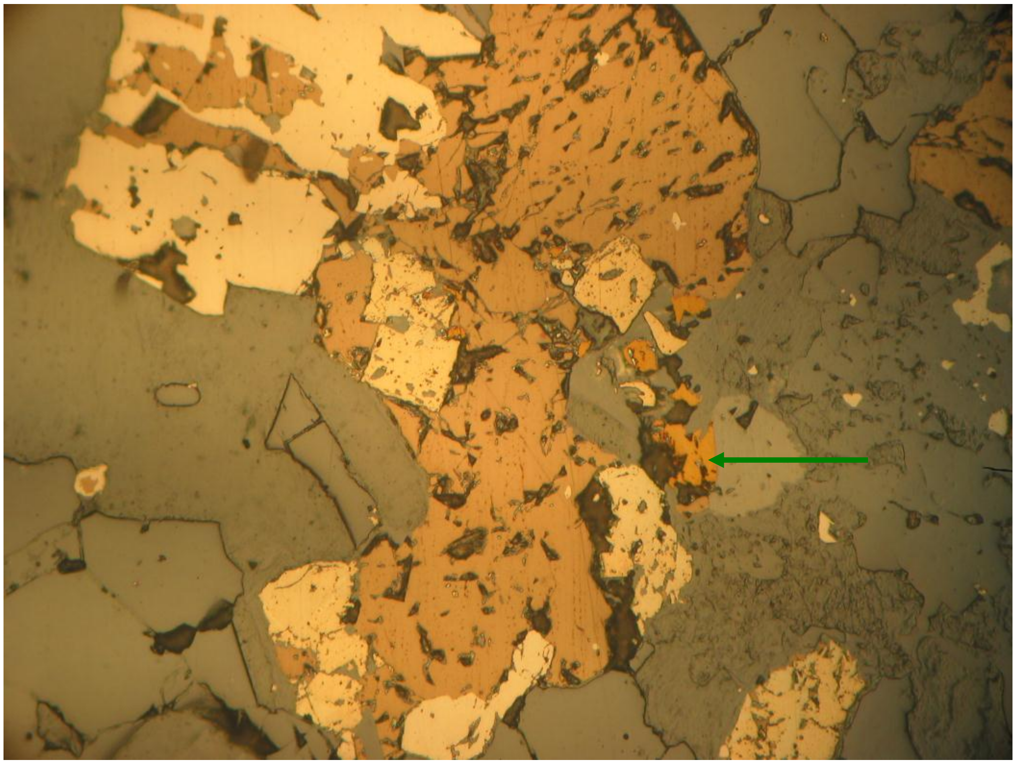
Heron Pond-6 Plate 4: Complex intergrowth of both arsenopyrite and pyrite. In fine detail, individual pyrite grains have a peculiar mottled texture and may have developed by replacing pre-existing pyrrhotite.



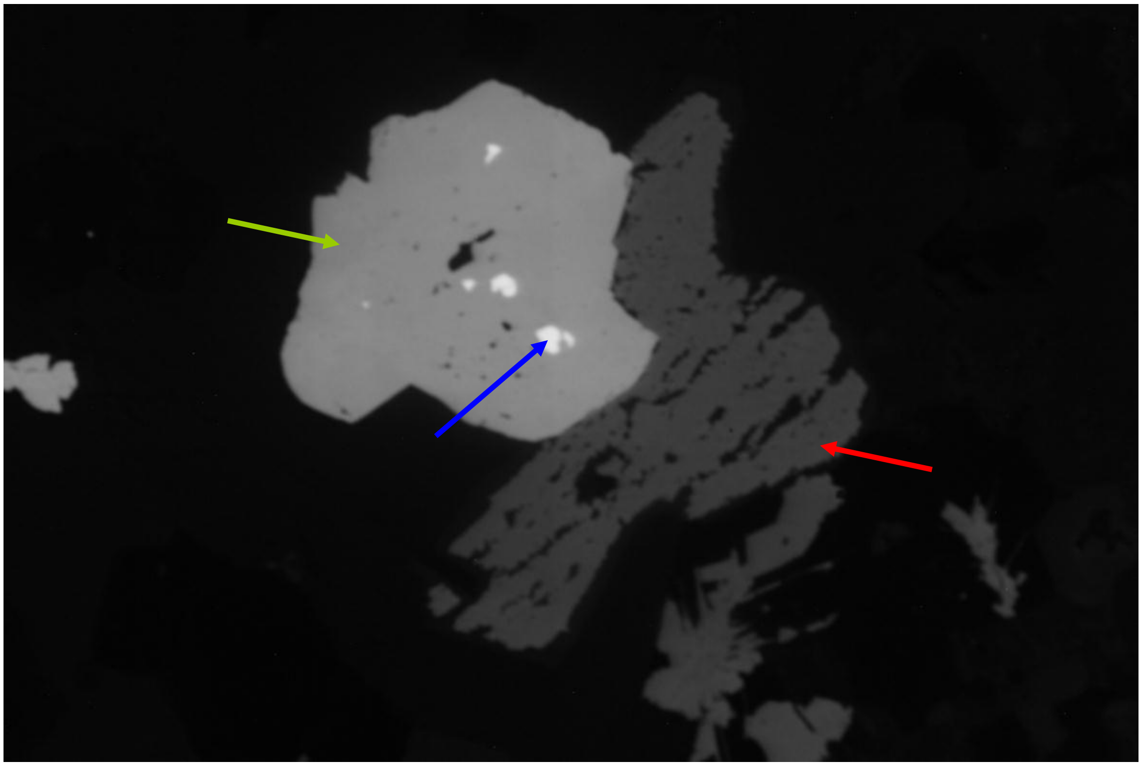
Heron Pond-6 Plate 5: Isolate patch of highly retrogressed silicate material at the margin of a quartz domain. Brown biotite-phlogopite is replaced by chlorite and muscovite and pre-existing plagioclase has been replaced by muscovite and quartz.



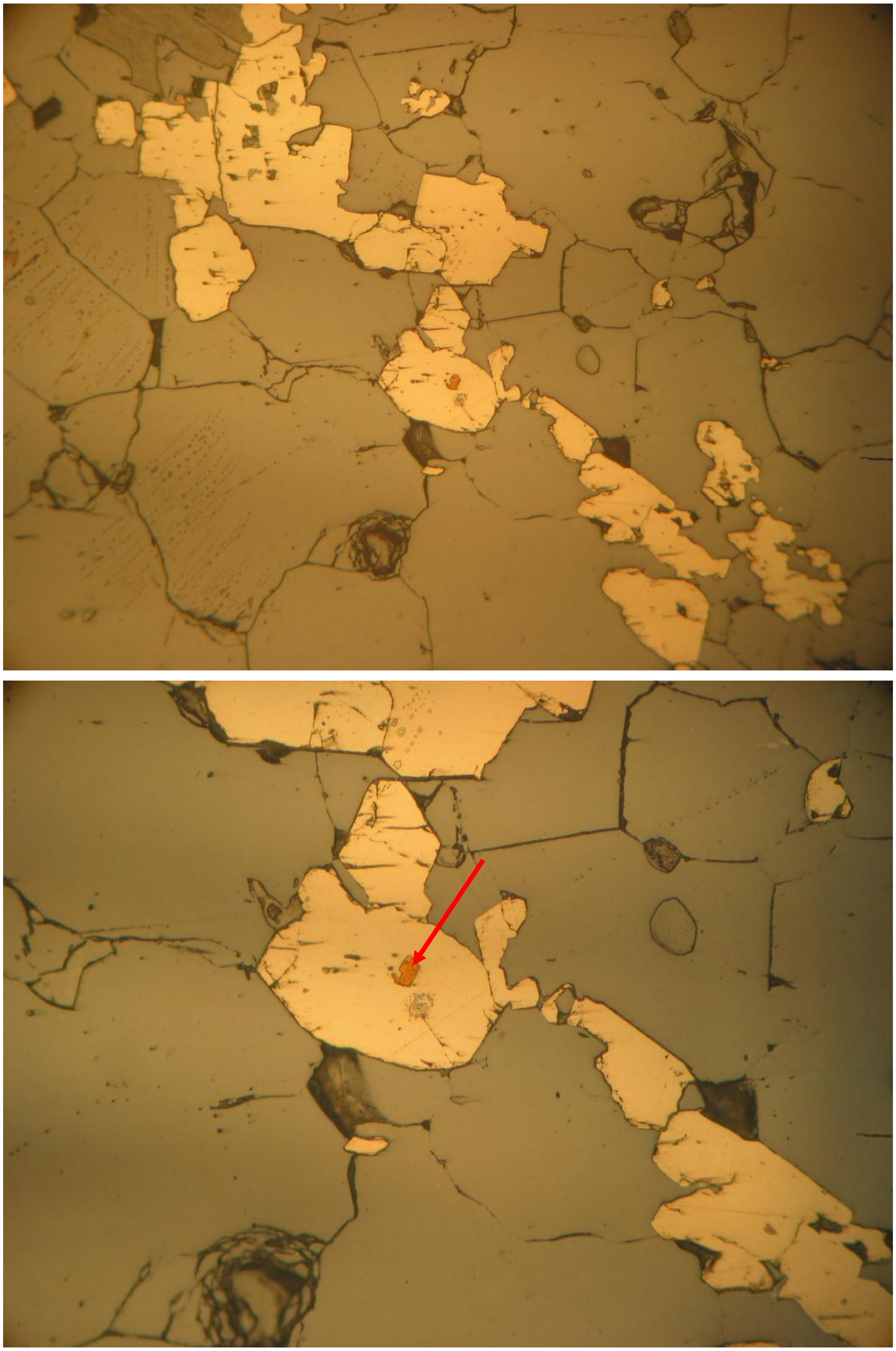
Heron Pond-6 Plate 6: Arsenopyrite grain with marginal rind of galena (red arrow) against quartz.



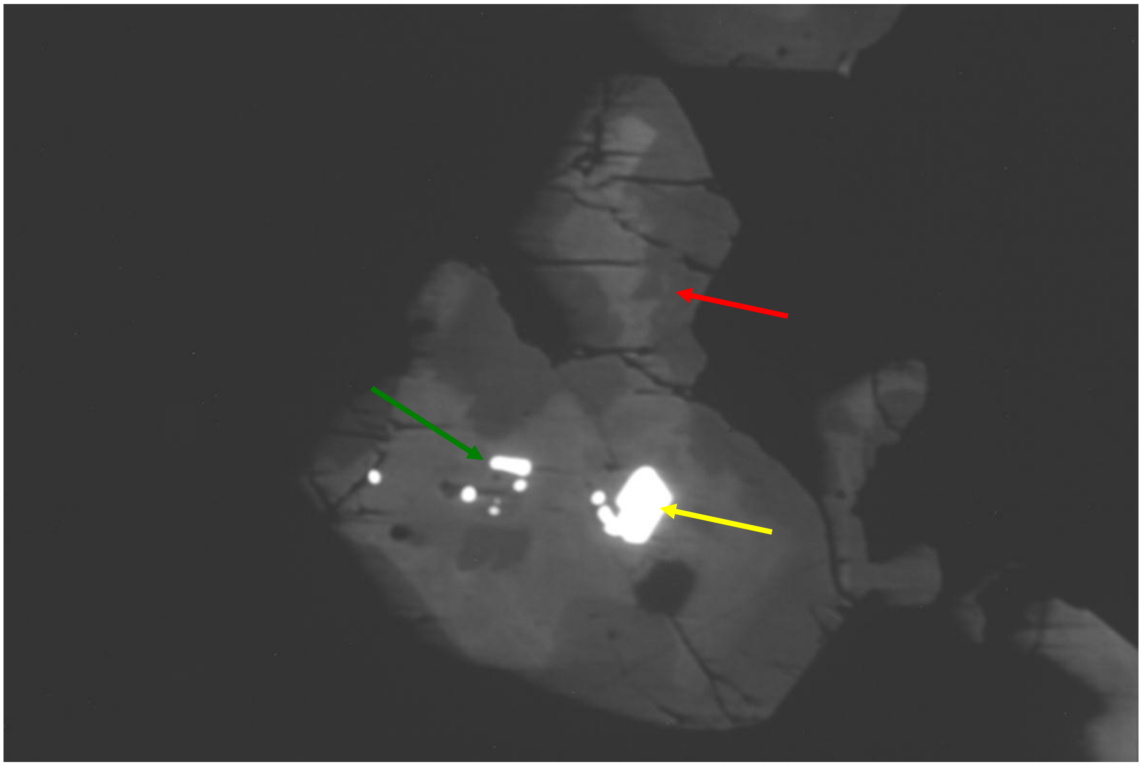
Heron Pond-6 Plate 7: Large grain of pyrrhotite (light brown) penetrated and replaced by massive to idiomorphic grains of arsenopyrite. Note the fine-grained chalcopyrite on the margin of the pyrrhotite (green arrow).



Heron Pond-6 Plate 8: Backscatter image illustrating arsenopyrite (green arrow) with inclusions of galena (blue arrow) intergrown with pyrite (red arrow).



Heron Pond-6 Plate 9: Linear trail of arsenopyrite within multigranular quartz. Note that the central grain has an inclusion of electrum, (Au,Ag solid solution). (red arrow).



Heron Pond-6 Plate 10: Backscatter image of compositionally zoned arsenopyrite (red arrow) with inclusions of galena (green arrow) and electrum, (Au, Ag solid solution), (yellow arrow).

Conclusions and Recommendations

The petrographic study has shown high concentrations of sulphide minerals containing gold, silver, zinc, lead, copper, molybdenum and antimony. The sulphides and precious minerals are associated with hydrothermal solutions most likely derived from the emplacement of the Lingham Lake Complex and/or the Weslemkoon Tonalite.

The extent of the mineralization in the Heron Pond Zone is not known and further work is recommended to determine the size of the zone. An exploration program combining additional rock sampling, trenching, geological mapping and ground magnetometer and VLF surveys is warranted. This work should focus on exploring the metasedimentary unit of the Tudor Formation situated along the unconformity. The work is estimated to cost $64,800 and a budget is outlined in Table 2.

Respectfully submitted,

Robert James Dillman **P.Geo**
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February 4, 2013

Table 2. Budget For Proposed Exploration

Line Cutting/ Grid Work			
Line Cutting	21 km @ $400 / km	$8,400	
Food, Hotel, Transportation		3,000	
		$11,400	**$11,400**
Prospecting, Geological Work			
Prospecting	2 men x $350 /day x 14 days	$9,800	
Assays	50 samples @ $42 / sample	2,100	
Food, Hotel, Transportation		3,000	
Maps, Reports		3,500	
		$18,400	**$18,400**
Trenching			
Excavator	$1,200 /day x 5 days	$6,000	
Assays	100 samples @ $42 / sample	4,200	
Food, Hotel, Transportation		1,500	
Maps, Reports		3,500	
		$15,200	**$15,200**
Ground Magnetometer and VLF Survey			
Survey	21 km @ $300 / km	$6,300	
Food, Hotel, Transportation		1,500	
Maps, Reports		3,500	
		$11,300	**$11,300**
Contingency	15%		**$8,500**
		Total	**$64,800**

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CERIFICATE of AUTHOR

I, **Robert J. Dillman**, **Professional Geologist**, do certify that:

1. I am the **President** and the holder of a **Certificate of Authorization** for:

   ARJADEE PROSPECTING
   8901 Reily Drive
   Mount Brydges, Ontario, Canada
   N0L1W0

2. I graduated in 1991 with a **Bachelor of Science Degree** in **Geology** at the **University of Western Ontario.**

3. I am an active member of:

   Association of Professional Geoscientists of Ontario, APGO
   Prospectors and Developers Association of Canada, PDAC
   Geological Association of Canada, GAC

4. I have been a **licensed Prospector in Ontario** since 1985.

5. I have worked continuously as a **Professional Geologist** for 22 years.

6. Unless stated otherwise, **I am responsible** for the preparation of all sections of the Assessment Report titled:

   Report on Petrographic and Electron Microprobe Investigation of
   6 Rock Samples from the Heron Pond Prospect, Black River South Property
   Grimsthorpe Township, Ontario

   dated, February 4, 2013

7. I am not aware of any material fact or material change with respect to the subject matter of the Assessment Report that is not contained in the Assessment Report and its omission to disclose makes the Assessment Report misleading.

Dated this 4th day of February, 2013

Robert James Dillman P.Geo
Arjadee Prospecting

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