

# Kokanee Creek (Ag, Au, Zn, Pb)

The **Kokanee Creek Ag, Au, Zn, Pb Claims** were staked in 1996 after base metal mineralization was found on the Lower Kokanee Creek Road. The property is comprised of 60 units located in the Nelson Mining District.

## 2004 Drilling at the Kokanee Creek Project



The claims cover two historical mineral showings and are located within 5 km of two past producing mines.

The property has seen limited past work directed toward assessing mineral potential. In 1996-1997, a \$101,000 exploration program was carried out on the Kokanee Creek Property by Eagle Plains Resources Ltd. and Miner River Resources Ltd. Geological, geochemical and geophysical surveys were used to locate targets for a 445m / 1460 foot diamond drilling program.

The results from this exploration program indicate that the claims cover a mineralized roof pendant structure within the Nelson Batholith and further work was recommended.

In 2004, Eagle Plains carried out an airborne geophysical survey over the claim area, followed up by a short field program. Based on the results from this work and historical work on the property, further work is recommended.

### Location and Access

The Kokanee Creek Property consists of a total of 19 claims (1400 ha located approximately 18 km east of Nelson, B.C. near the convergence of Kokanee Creek and Busk Creek. Vehicular access to the lower part of the property area is provided by the Kokanee Glacier - Gibson Lake Road, while the upper part of the property is crossed by the Busk Creek logging access road. The property sees moderate precipitation, and is accessible year round using 4 wheel drive vehicles with snow clearing as required.

### Tenure

The claims are owned 100% by Eagle Plains Resources Ltd. and carry an underlying 1% NSR.

## **History and Previous Work**

The Nelson area has long been known as a mineral resource-rich area, with numerous mineral showings and mines documented over the years. The Blue Bell Mine, located near the town of Riondel approximately 20 km NE of the Kokanee Creek Claims, is a manteau-type base metal deposit hosted by the Badshot limestones of the Lardeau Group. The Blue Bell produced 4.8 million metric tons of ore grading 37 gm/T Ag, 6% Pb, 5% Zn over a 75 year period. Closer to the Kokanee Claims are historical past producers the Molly Gibson and the Alpine (Figure 3). The Alpine is located 4 km north-west of the Kokanee Creek Property on Sitcum Creek. 15551 tons were produced from a 1.1 m wide quartz vein- quartz shear within a sericitized monzonite. The ore averaged 22.9 gm/T Au and 14.2 gm/T Ag. The Molly Gibson Mine is located 5 km north of the Kokanee Creek Claims near Gibson Lake. The mine produced 55, 860 tons of bonanza grade silver ore (average grade 556gm/T Ag) from two northwest striking quartz breccia veins. The veins are hosted by alkaline granite porphyry and contain galena, sphalerite, arsenopyrite and chalcopyrite in a gangue of brecciated manganese rock, siderite and quartz. This northwest trending structure also hosts the Slocan Chief and Smuggler mineral showings.

Within the claims proper, two historical showings have been documented, the Kok (HOME) showings. These are the site of pyrite, pyrrhotite, sphalerite, galena and minor chalcopyrite associated with quartz veins and fractures within an assemblage of schists, calc-silicate gneisses and acidic granites.

Documentation of past work on the Kokanee Creek Project area is limited. It is believed that a small adit or tunnel has been driven above Kokanee Creek. The adit has not yet been located in the field due to topographical and snowcover constraints. A ground Mag survey in 1980 located a 250m SW-NE trending Mag anomaly. Further geophysical detail work was recommended to locate possible drill targets; it is not known if this follow-up was completed. It is believed that the target was skarn type mineralization.

In 1996-1997, Eagle Plains Resources and Miner River Resources carried out a \$101,000 exploration program on the Kokanee Creek Property. Geological, geochemical and geophysical surveys were used to locate targets for a 445m / 1460 foot diamond drilling program. Soil and silt geochemistry indicated the presence of anomalous base and precious metal geochemical values associated with schists and calc-silicate gneisses. This was followed up by chip / panel sampling of exposures along Upper Busk Creek and Lower Kokanee Creek Road, which returned anomalous Au, Ag, Cu, Pb and Zn values associated with silicified schist and paragneiss. A 3.5 km of Horizontal Loop Electro-magnetic (HLEM) survey identified three possible trends across the five lines surveyed.

The 1997 diamond drilling program successfully tested the geochemical and geophysical anomalies with results including 1.4m at 13.5 g/t Au and 0.7m at 26.11 gm/T Au in DDH K97-02, which tested a coincident soil and panel geochemical anomaly.

The results from this exploration program indicated that the claims cover a mineralized roof pendant structure within the Nelson Batholith and further work on the project was recommended as a result of the program.

## **Regional Geology**

The previously mapped regional geology in the area of the Kokanee Creek Claims consists of volcanic and sedimentary rocks ranging in age from Windermere (late Precambrian) to the Cretaceous. These units have been intruded by two phases of generally acidic plutonic rock. The older, more abundant rocks are granites of the Jurassic - Cretaceous Nelson and Valhalla intrusive events which are thought to be metasomatic in origin with local magmatic injection. A younger, Tertiary pluton consists of

generally more alkaline rocks with a mainly magmatic origin.(Little 1964) These intrusive events have resulted in a number of roof pendants of volcanic and sedimentary rocks.

## **Structure**

The regional structure is dominated by a series of generally north - northwest trending tight folds and shears.

## **Property Geology**

The Kokanee Creek Claims cover a metasedimentary roof pendant remnant within the Nelson Batholith. Thought to be of either Slocan Group or Ymir Group affinity, the roof pendant is dominantly argillic siltstone (siltite) and biotite schist mixed with paragneiss of presumable Nelson affinity. The siltstones are exposed along both the Lower Kokanee Creek Road and the Upper Busk Creek road where they have a trend of 140 -155°, dipping 50-70° SW. Drill core samples indicate that the siltstones have been moderately metamorphosed for the most part with weakly developed schistose textures. Alteration within the metasediments includes pervasive fine pink-brown biotite flood and coarser black to brown, often bedding parallel, biotite hornfels. The siltites are generally moderately to strongly silicified with local quartz flood and quartz replacement and have a weak to moderately developed mylonitic texture in part. In places, the metasediments also show chloritic alteration / chlorite flood, often with associated fine sericite alteration. Paragneiss within the roof pendant consists of slices or plugs of granitic acidic Nelson Batholith which have been moderately to strongly silicified with local weak to moderate biotite hornfels. The weakly gneissic granites or paragneisses are medium to fine grained equigranular to porphyritic in texture.

Both base and precious metal mineralization occurs on the Kokanee Creek Claims. The KOK showings consist of pyrrhotite, pyrite, sphalerite and galena associated with irregular quartz veinlets and fractures within a fine-grained to porphyritic granite. 1997 drilling intersected pyrrhotite and sphalerite within both metasediments and paragneisses. Gold mineralization associated with paragneiss and mixed paragneiss / metasediment was also located by the 1997 drilling. Mineralization appears to be of replacement or secondary type and does not appear to be associated with quartz veins.

Larger 3 - 10 cm medium- to coarse-grained, rusty, quartz veins intrude the host metasedimentary rocks; veins can contain muscovite and form minor stockworks. Sulphide mineralization includes coarse-grained euhedral galena, coarse-grained euhedral pyrite cubes and associated pseudomorphs (limonite?), as well as fine-grained disseminated arsenopyrite.

## 2004 Work Program

The 2004 Eagle Plains Resources exploration program at the Kokanee Creek Project consisted of an airborne geophysical survey followed by a short field program.

## 2004 Field Work at the Kokanee Creek Project



Geophysical work consisted of an airborne, high resolution Time Domain Electro Magnetic geophysical survey. A total of 78 line km of survey were flown in March. A short field program was carried out after the survey was completed to ground truth the location of the geophysical anomalies with respect to the known geology and to carry out a soil geochemical survey. A total of 125 soil samples and 15 silt samples were collected and analyzed.

## Conclusions and Recommendations

The Kokanee Creek Claim Group covers a mineralized roof pendant structure. A metasedimentary remnant within the Mesozoic Nelson Batholith, the roof pendant is a mixed package of Slocan or possibly Ymir Group metasediments and paragneisses. Soil and chip sample geochemical sampling in 1996 outlined a number of base and precious metal anomalies in one area of the roof pendant. Drill testing of geochemically anomalous zones during 1997 intersected high grade precious and base metal mineralization. The mineralization is associated with strongly silicified, strongly biotite altered, pyrrhotitic schist and paragneiss and appears to be secondary in nature. Mineralization may be the result of skarn or contact metamorphic remobilization along the contact between the Nelson Batholith and the metasediments. It is thought that the mineralization may also be related to a regional structure that also hosts the nearby Molly Gibson Mine, Smuggler and Slocan Chief mineral showings. Although all mineralization to date has been associated with the roof pendant, the possibility of porphyry-type mineralization within the Batholith related to the regional structure should be considered as a possible exploration model.

One of the conclusions flowing from the 1997 report was that geophysics may be useful in locating mineralized zones within the roof pendant. Disseminated pyrrhotite associated with anomalous base and precious metal mineralization may be the source for the HLEM anomalies located during 1997. It also appears that the electro-magnetic anomalies located by the 1980 survey coincide with the interpreted outline of mineralized roof pendant metasediments and the Nelson Batholith. Based on these recommendations, a total of 78 line km airborne, high resolution Time Domain Electro Magnetic geophysical survey was flown over the Kokanee Creek Project in 2005. The initial results provided by the data collection contractor, Geotech Ltd., indicated two magnetic high features in the south western part of the property, in the area of the Big M Minfile showing and another feature northeast of the Home Minfile occurrence. This northeasterly feature was the area chosen for initial ground truthing and

geochemical surveying. The results from the geochemical soil and silt survey indicate a weakly anomalous zinc response in the area of the geophysical anomaly.

Subsequent to the field program, the geophysical data was sent to Condor Consulting for further processing. The reinterpreted data indicates two areas of interest, one roughly coincident with the mag anomaly in the area of the Big M Minfile occurrence and another one in the west central part of the property.

Further work on the Kokanee Creek Project is recommended. Ground truthing of the two airborne geophysical anomalies outlined by Condor Consulting should be undertaken. This should include rock and soil sampling, geological mapping and possibly ground based geophysics. Based on the success of past diamond drilling on the project and contingent on positive results from the field work, a short diamond drilling program should be carried out to test high priority targets.

This project is available for option.

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