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## Rich River Exploration Ltd.



### Iron Pot ~ (Sulphide Facies) Iron Formation ~ Au - Ag - Cu - Ni

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#### Introduction

Banded Iron-formation (BIF) - hosted gold deposits are a particularly attractive global exploration target.

For example, the Homestake and Morro Velho mines belong to this classification and they are among the world's largest gold producers. Generally, gold deposits in banded iron formations (BIF's) contain from 0.1 to 100 million tonnes of ore grading between four and thirty grams of gold per tonne.

The IRON POT property was staked after prospecting for banded iron formation gold, in an area considered favorable for this type of deposit model. New showings of predominately massive iron sulphides and very extensive alteration zones have been recently discovered over an area greater than two kilometres by five hundred metres.

The Scotch Creek banded iron formation Au-Ag-Cu property is located just a few kilometres to the east.

#### Property

The original old Iron Pot occurrence is located on the bank of a small unnamed creek which flows into Scotch Creek from the west.

A number of highly mineralized sulphide zones striking east and dipping south are exposed in the area.

Mineralization comprises massive pyrrhotite with some galena, sphalerite and chalcopyrite. The mineralisation occurs within a zone of about at least 122 metres wide at this location.

The best showing is at the highest point on the side of the hill on the foot wall of the zone. Two short tunnels had been driven at this point. It has been reported that "some fair gold values have been obtained from the lower seams and that nickel is also found with the pyrrhotite" (Minister of Mines Annual Report 1930, page A189).

Prospecting reports (circa 1975) describes a quartzite body (chert horizon?) and volcanic rocks, both containing chalcopyrite

mineralization.

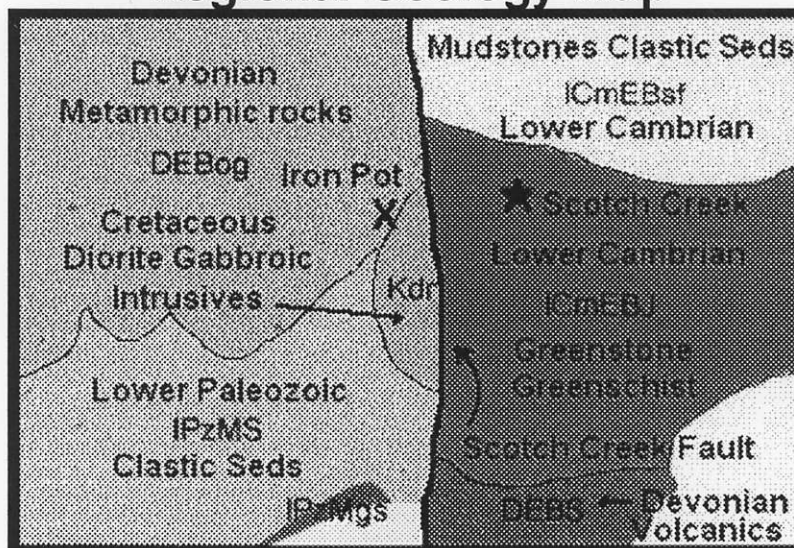


**Iron Pot ~ Massive Sulphide Showings**

## Regional Geology

The area of the showing is underlain by the Devonian and/or older? Woolford Creek unit and Devonian Skwaam Bay unit, both of the Eagle Bay assemblage.

## Regional Geology Map



**X = Iron Pot Showings**

Some of the mineralisation on the Iron Pot property appears to be of a VMS style. However the property exhibits other model characteristics as well. There are numerous zones that bear strong similarities to a banded iron formation (BIF) type.

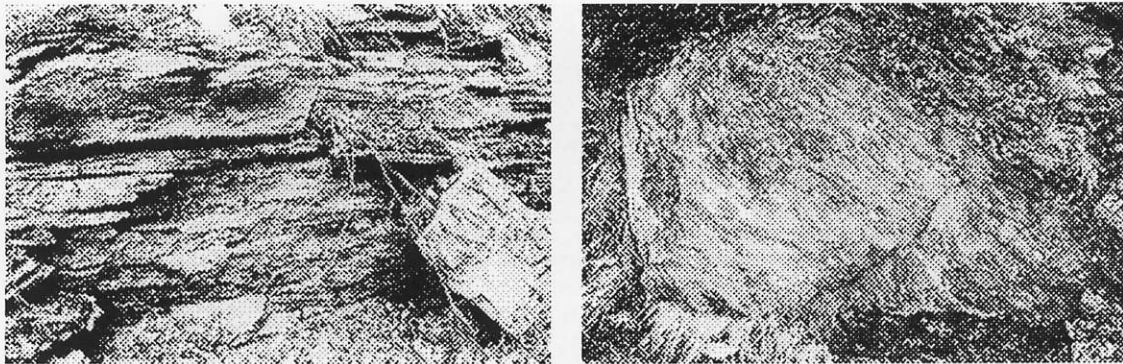
The geological model that is currently being investigated on the IRON POT property, is a sulphide facies (BIF) banded iron formation type gold deposit.

**Banded iron formation-hosted gold deposits consist of gold inter-grown with quartz and/or sulphide minerals in deformed and structurally complicated iron-rich sedimentary rocks.**

**In general, most of these types of deposits can be defined as a variety of the mesothermal lode gold type.**

**The banded iron formation (BIF) host rocks are thinly layered sedimentary rocks with alternating iron-rich and cherty (siliceous) layers; the BIF's can have considerable lateral extents.**

**There are different types of BIFs, defined on the basis of the mineralogy of the iron-rich layers.**

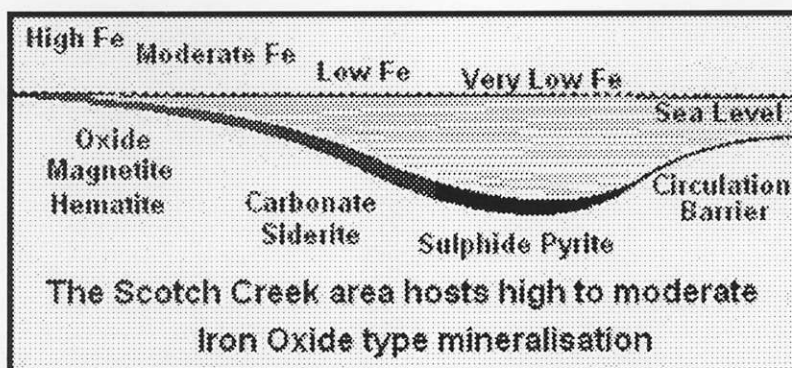


### **Banded sulphides and mineralized chert horizon (Iron Pot property)**

- **If the iron-rich layer is dominantly magnetite-hematite, then the BIF is termed an oxide facies, (Scotch Creek Property)**
- **If the layer is composed of mostly pyrite and / or pyrrhotite (iron sulphides) then the BIF is called a sulphide facies, (Iron Pot Property)**

**All BIF's are classified as chemical sediments, which means that they formed through chemical precipitation from sea water on the sea floor. Other sedimentary textures in the BIFs suggest deposition in shallow water on submarine continental shelves.**

**Gold occurs as native (free) gold inter-grown with pyrite and/or pyrrhotite; arsenopyrite and/or magnetite are also present in some deposits.**



Other accessory and trace minerals are similar to those found in mesothermal lode gold deposits, such as sphalerite, chalcopyrite, tetrahedrite, scheelite, and molybdenite.

Quartz, in the form of crosscutting veins, is also a common alteration association and, most typically, the gold is inter-grown with sulphides in the quartz veins. Chlorite is also a common alteration product.

## Deposit Characteristics

BIF-hosted gold deposits are thought to form by the reaction of auriferous and sulphur-bearing hydrothermal fluids with the iron oxide (or sulphides) in country rocks, causing precipitation of gold and sulphides.

The gold is present in quartz veins or the immediate wallrock, wherein the precipitation reactions occur.

As such, the deposits are said to be stratabound (i.e., the gold is contained within a single stratigraphic unit, but the mineralization can cut across the layering in the unit) because the specific chemical horizon responsible for gold precipitation is represented by a single sedimentary horizon. Access to the favorable chemical environments of the BIF for the hydrothermal fluids was provided by large-scale fault and shear systems in a manner similar to that visualized in mesothermal type lode gold models.



**The newly discovered Lucky 5 showing  
Massive Pyrrhotite, Pyrite, Chalcopyrite**

## (Iron Pot claims)

The main points in both variations to the genetic model for these deposits are that deformation either provided permeable pathways for the gold-bearing ore fluids along faults, or caused remobilization of pre-existing gold accumulations, essentially enriching and upgrading gold concentrations.

The Iron Pot property is located adjacent to a large regional fault (Scotch Creek Fault) and is in contact with a Cretaceous Dioritic Gabbroic Intrusive.

Exploration should focus on highly deformed, structurally complicated portions of BIFs within greenstone belts, especially where regional fault-shear systems cut through.

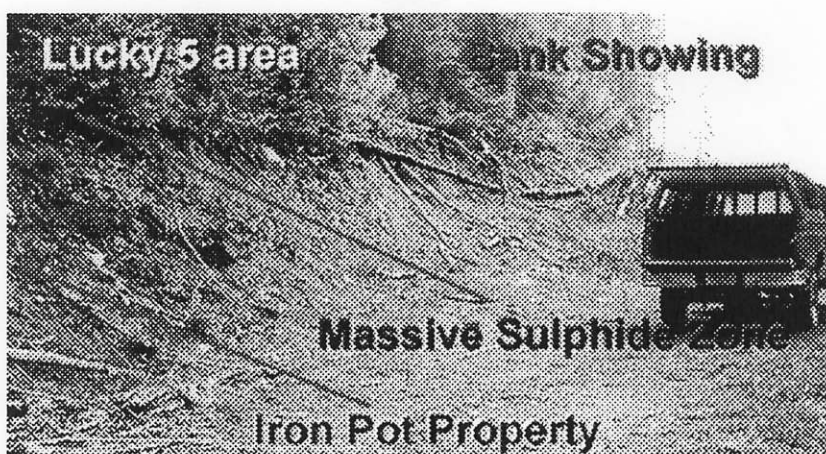
The dominant structural style of the deformation manifested at most gold-bearing BIFs is folding; hence the contorted fold zones in a BIF would also be a favorable exploration target.

The Scotch Creek fault is a large regional structure that is cut by several smaller faults.

Isoclinal folding as well as small to medium scale faulting and shearing is evident in outcrop on the Iron Pot claims.

Though deformation is strongly developed in these types of deposits. Metamorphic grade usually does not exceed greenschist facies.

Exploration related to these deposits should concentrate on portions of iron formations that are sulphide facies, ie; (Iron Pot) or on areas with sulphide alteration overprinting oxide facies BIFs. (Scotch Creek - Iron Pot ) transition zones.



**The Bank showing ~ 30 metres from the Lucky 5  
1.5 Kilometres from the Iron Pot occurrence**



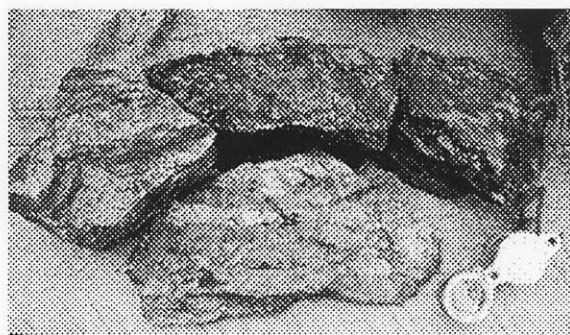
**The Bank showing consists of a wide zone of massive; pyrrhotite, pyrite, chalcopyrite and possibly pentlandite and / or tetrahedrite.**

**The Iron Pot property is a relatively unexplored prospect.**

**Certainly the property has never been explored for a banded iron formation type of gold deposit.**

**As far as it is known, the property has never been tested by diamond drilling. Recent prospecting has discovered several new showings of massive sulphides. As well as areas of intense alteration, that occurs over an area greater than two kilometres by five hundred metres.**

**Strong iridescence in the sulphides has been noted in several locations on the property. This could be attributed to the copper content, from chalcopyrite or tetrahedrite and / or the nickel content from pentlandite.**



**Massive Pyrrhotite with Pyrite, Chalcopyrite, Pentlandite?  
( Iron Pot property )**

## **Discussion**

**Banded iron formation-hosted gold deposits are important in terms of Canadian and U.S. gold production. This is illustrated by mines such as the Lupin and Musselwhite in Canada and the Homestake in South Dakota USA.**

**Since the associated veins and BIFs are frequently relatively narrow high**

grade units, mining is typically done by an underground operation. This type of mining has the least impact on the land surface and the environment.

The IRON POT claim area has excellent road access and infrastructure. The claims are traversed by a main power transmission line and most of the mineral showings are road accessible.

This would facilitate a cost effective property exploration and diamond drilling program.

Further exploration for a sulphide facies iron formation gold deposit on the Iron Pot claims is definitely warranted.

It is possible that the Iron Pot (Sulphide Facies) BIF property could be included within an option agreement and exploration program conducted on the Scotch Creek (Oxide Facies) Iron formation Au-Ag-Cu property.

Rich River is in the process of researching the available data and prospecting near the newly discovered showings. Further information and results will be posted as soon as they become available.

*The vendor is highly motivated and willing to include the IRON POT, BOWLER VMS and SCOTCH CREEK claims into one easy deal!*

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**This property is offered for sale, by way of working option to purchase.**

**Contact us, for more detailed information.  
Or to discuss participating in this project.**

**Contact us: [prospect@richriver.bc.ca](mailto:prospect@richriver.bc.ca)**

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