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GEOLOGICAL REPORT

on the

ERIE CREEK PROPERTY

Nelson Mining Division - British Columbia

Lat. 49° 16 N

Long. 117° 23' W

N.T.S. 82F/6W

for

KOOTENAY KING RESOURCES INC.

by

Donald G. Allen, P. Eng. (B.C.)

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Vancouver, B.C.

SUMMARY

Kootenay King Resources Inc. holds 107 claim units which cover a molybdenum-copper-tungsten-lead-zinc-silver + gold prospect in the Erie Creek area of southeastern British Columbia. The property is situated eleven kilometres northwest of Salmo and is accessible by good logging road. Nine of the 25 largest gold producers in British Columbia, in terms of past production, lie within 25 kilometres of the property.

The Erie Creek prospect is centred on a complex swarm of porphyritic acid to basic dikes of Eocene age which intrude sedimentary and volcanic rocks of the Hall and Rosslund Formation, both of Jurassic age. The dike complex extends northward and southward for a total distance of seventeen kilometres and is six kilometres wide. Mineralization on the property occurs in four concentric zones:

- 1) an inner zone of molybdenite + scheelite (tungsten) mineralization which occurs in fracture and quartz vein stockworks;
- 2) a surrounding zone of chalcopyrite + scheelite in fracture zones and shear veins;
- 3) an outer zone of galena-sphalerite-chalcopyrite + gold shear veins; and
- 4) a widespread zone of disseminated and fracture controlled pyrite and pyrrhotite zone which occurs in and well beyond all zones.

The property has had a long history dating back to the late 1890's. The molybdenum-copper potential has been investigated in recent years by McIntyre Porcupine Mines and AMAX Exploration Ltd. (now Canamax Resources Inc.). Their work to date has included geological, geochemical and geophysical surveys and 2778 metres of diamond drilling in 15 holes. However, surveys to date have not fully delineated or tested the lead-zinc-silver zone. Silver values of up to 7.8 ounces per ton have been reported from shear veins and values of 1.2 ounces per ton have been reported in one of McIntyre Porcupine's drill holes. Gold values of up to 0.045 have also been reported from shear veins.

CONCLUSION

The Erie Creek property is a zoned porphyry-type deposit with a central molybdenum-copper-tungsten zone surrounded by base and precious metal mineralization.

Geochemical sampling to date has only partly defined the peripheral lead-zinc-silver zone, and analyses for gold, except for spot checks and limited sampling in 1986, were not undertaken. An exploration program comprising further geochemical surveys, to fully define the lead-zinc-silver zone, followed by diamond drilling on any targets generated are warranted.

The property may have potential for gold mineralization considering (1) the proximity to a number of important gold prospects, two of which lie within the Erie Creek dike swarm and (2) the recent discovery of a significant gold deposit associated with copper-molybdenum mineralization by Selco and Rio Algom in the Mt. Aylwin area sixty-five kilometres to the north.

In addition, other lower priority targets remain, as suggested by Canamax. Should molybdenum tungsten and copper prices improve, then a possible target would be a buried high grade (0.04% MoS₂ equivalent) at depths greater than 200 metres below the Erie Creek valley floor. Other targets are low-grade tungsten in calc-silicate hornfels on the west side of Erie Creek and silver-bearing hydrothermal breccias beneath Erie Creek.

RECOMMENDATION

A two-stage exploration program is recommended to evaluate the base and precious metal potential of the Erie Creek property. Stage I will comprise expanding the survey area to fully delineate the anomalies previously partly outlined. The existing survey grids, should be extended and soil sampled at intervals of 25 metres on lines 100 metres apart. Soils should be analyzed for Mo, Cu, Pb, Zn, Ag, As, and Au. In

addition, the AMAX pulps especially those from the lead-zinc-silver zone should be reanalyzed for gold. The numerous pits and underground workings should be mapped and sampled. Should results be favorable then a Stage II program including diamond drilling of any targets generated will be warranted.

Estimated costs for Stage I and Stage II are \$37,000 and \$102,000 respectively for a grand total of \$139,000.

HISTORY

Mineralization on the property was first explored in the 1890's. Little information is available on the work carried out at that time. In the 1896 B.C. Minister of Mines Annual Report, (Carlyle, 1896) brief mention is made of discoveries on the Ben Hassan and Arnold (Reverted Crown Grant) claims.

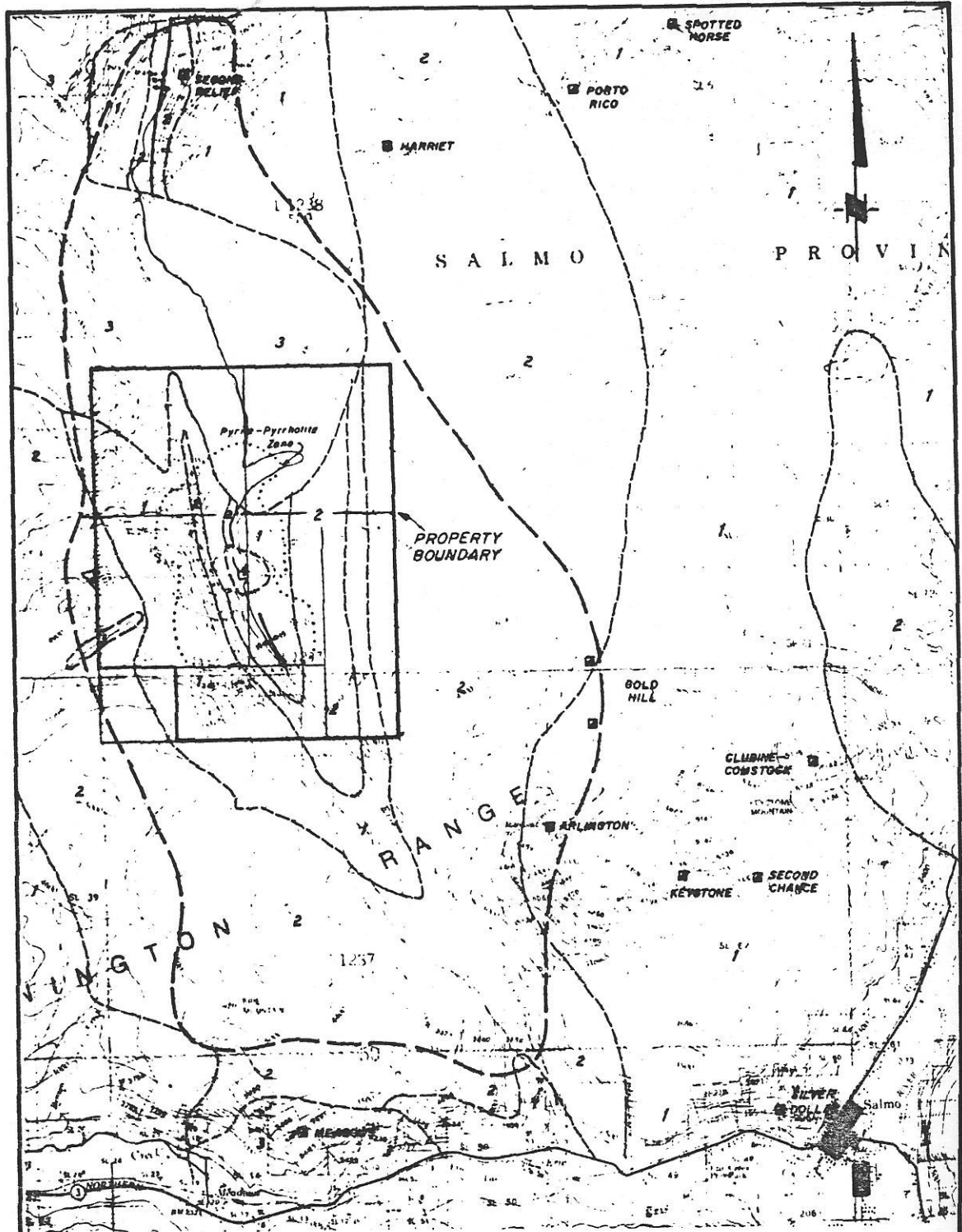
In 1926 to 1928 Consolidated Mining and Smelting Ltd. conducted diamond drilling on "copper-gold" deposits (O'Grady, 1928) on the Arnold, St. Louis and Drum Lummon claims.

In 1968, the property was held by Canzac Mines Ltd. and optioned to McIntyre Porcupine Mines Ltd. who in 1969 and 1970 conducted 1712 metres of drilling in 12 holes. The best mineralization encountered was 85 metres grading 0.115% MoS_2 and 0.05% copper including a 30 metre section grading 1.2 oz/ton silver. The property was acquired by AMAX, who in 1976 to 1979, conducted detailed geological mapping, geochemical sampling, geophysical surveys and diamond drilling totalling 1066 metres in four holes. Best grades encountered were 17 metres grading 0.06% WO_3 in drill hole 80-4, and 36 metres grading 0.07% MoS_2 in drill hole 79-1.

REGIONAL GEOLOGY

The Erze Creek property is in the Nelson Map-Area of Little (1960) and the Bonnington Map-Area of Walker (1934). Geology of the immediate claim area is summarized on Figure 4.

The property lies near one of the lobes of the 160 m.y. old Nelson batholith. In this area, it is composed of coarse grained porphyritic granodiorite-granite containing numerous white orthoclase phenocrysts in a groundmass of orthoclase, plagioclase and quartz with minor amounts of hornblende and biotite. The granite has intruded sedimentary rocks of the "Sinemurian beds" (Little, 1960) and volcanic rocks of the Rosland Formation, both of Lower Jurassic age.



LEGEND

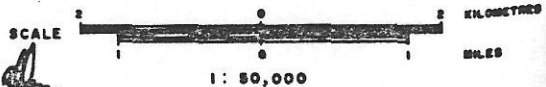
- 4 ERIE CREEK STOCK
- 3 NELSON BATHOLITH - *Porphyritic granodiorite*
- 2 ROSSLAND FORMATION - *Augite porphyritic basalt, volcanic breccia.*
- 7 HALL FORMATION - *Argillite, phyllite.*

SYMBOLS

- Limit of Erie Creek Dyke Complex.
- Approximate geological contact.
- Mine or prospect
- Major fold axis (anticline).

ERIE CREEK PROPERTY
NELSON, B.C. - B.C.

REGIONAL GEOLOGY



Donald J. Allen

A complex array of dikes and sills of porphyritic rhyolite, quartz latite, dacite, and basalt (Erie Creek dike swarm) occur in the Erie Creek basin for a distance of at least seventeen kilometres, between the Arlington and Second Relief Mines. The swarm is about one kilometre wide. An age determination of 47 million years has been reported by Hodgson et al (1979). Dikes trend north-south and parallel Erie Creek. Abundance ranges from about three per 100 metres to as many as thirty per 100 metres in the centre of the property where one or more of the dikes assume stock-like dimensions.

A number of former producers of base and precious metals occur in the immediate vicinity of Erie Creek, notably the Second Relief Mine (past production 99,000 ounces of gold from 228,000 tons of ore) to the north and the Arlington (past production 56,000 ounces of gold and 100,000 ounces of silver from 85,000 tons of ore). Both deposits and a number of other prospects are associated with the Erie Creek dike swarm although a direct genetic relation has not been established.

PROPERTY GEOLOGY

The property geology has been described by the writer (Allen, 1977) and Hodgson, Parry and Lebel (1980). The following is a brief summary. For details, see assessment reports in file with the B.C. Ministry of Energy, Mines and Petroleum Resources.

The main geological features of the property are a quartz monzonite stock containing a well developed quartz vein stockwork about 400 metres in diameter, and swarms of quartz-feldspar porphyry dikes. Host rocks are hornfelsic siltstone of the "Sinemurian Beds" and/or Hall Formation, and augite basalt and volcanic breccia of the Rosslund Formation.

Erie Creek Stock

The Erie Creek stock is a light grey quartz monzonite with an aplitic texture. Four sub-types with complex cross-cutting relationships between types and molybdenum mineralization have been noted.

Dikes

Dikes of quartz-feldspar porphyry of various textures are abundant on the property, much more so than indicated on the accompanying maps. They range in width from several centimetres to about twenty metres. In general, they trend north-south ($+30^{\circ}$) and have steep dips. Numerous phases have been recognized. Age relationships with each other and with mineralization are complex. Most dikes appear to be intramineral and postmineral in age.

The most prevalent dike type is a biotite quartz-feldspar porphyry which in itself has variable proportions of phenocrysts of biotite, quartz and feldspar. Other common readily identifiable dike phases include white quartz porphyry and black basalt dikes.

Alteration

Four main alteration types have been mapped.

- 1) Biotite hornfels is apparently a contact metamorphic effect related to both the Nelson batholith and the Erie Creek dike swarm. It is developed mainly in argillite and siltstone.

- 2) Weak quartz-sericite-pyrite alteration occurs in envelopes along and adjacent to fractures and molybdenite-quartz veins.
- 3) Chlorite occurs mainly on fractures and in shear veins in augite andesite and hornfels.

Mineralization

Mineralization on the Erie Creek property occurs roughly in four concentric zones.

- 1) An inner quartz-molybdenite + scheelite zone is approximately 600 metres in diameter and is centered on the east side of Erie Creek. Host rocks are quartz monzonite dikes and stock, and white rhyolite. Grades in the zone range from 96 to 590 parts per million molybdenum, 166 to 1960 parts per million copper and 50 to 1400 parts per million tungsten. Best results reported by McIntyre Porcupine Mines were 85 metres of 0.115% MoS_2 and 0.05% Cu (including 30 metres 1.2 ounces per ton silver).
- 2) Chalcopyrite occurs over an area of 1.5 to 2 kilometres, both in and around the molybdenite zone. Chalcopyrite occurs in quartz and sulphide veinlets, as fracture coatings, and in shear veins with pyrite, pyrrhotite and minor amounts of scheelite. Best copper values were obtained up to 1.3% from vein and dump samples mainly on the west side of Erie Creek.
- 3) Pyrite and pyrrhotite occur finely disseminated and as fracture coatings in and around the molybdenite-chalcopyrite zone, over an area of about 1.5 by 2.5 kilometres.
- 4) Sphalerite and galena along with some gold occur in shear veins beyond the molybdenite zone. They are found on the Arnold, St. Louis, Ben Hassen and Rosa reverted crown grant claims.

The distribution of gold and silver appears to be erratic. McIntyre Porcupine Mines reported a thirty metre composite in drill hole 69-5 that assays 1.2 ounces per ton silver. Elsewhere, silver values up to 90 parts per million (2.6 ounces per ton) are reported by AMAX from the shear veins mentioned above. Gold values of up to 620 parts per

billion (0.017 ounces per ton) are also reported.

GEOCHEMISTRY

Previous Work

Results of soil and rock geochemical sampling by AMAX are summarized on Figures 5a to 5f. Data reinforces the zoning pattern already described above, i.e.:

- 1) A molybdenum soil anomaly 700 metres in diameter centered east of Erie Creek.
- 2) A tungsten anomaly about 1.2 kilometres in diameter which overlaps the molybdenum anomaly.
- 3) A copper soil anomaly which is two kilometres in diameter.
- 4) Lead and zinc soil anomaly patterns occur beyond the copper anomalies. Of significance are highly anomalous lead (>200 parts per million) and zinc (>600 parts per million) on the western part of the claims and immediately to the north of Grassy Creek. Soil sampling grids have not been extended sufficiently to fully delineate the anomalous area.
- 5) Silver values are anomalous (0.8 - 2.4 ppm) mainly in the extreme northwest part of the sampled area. Elsewhere, reconnaissance sampling has revealed several clusters of silver anomalies in soil (0.8 to 2.8 ppm with one anomalous value of 10.6 ppm obtained in the southwestern corner of the claim group) that warrant follow-up.

1985 Work

In 1985, most of the available drill core pulps on storage at Rossbacher Laboratory Ltd. were selected and analyzed for gold. Samples were analyzed to investigate whether or not gold values are present in the molybdenum-tungsten zone. Except for a few scattered anomalous values of 20 to 30 parts per billion only two significant values of 180 and 350 parts per billion (0.005 and 0.01 ounces per ton) were obtained

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