

FILE

To: A. J. Davidson
From: D. V. Lefebure
Date: March 19, 1986

Title: Property Evaluation of the King Solomon Property NTS92B/12

Introduction

Reward Resources Ltd. offered to option their King Solomon Property on Vancouver Island to Corporation Falconbridge Copper. They have intersected massive sulphides hosted by Sicker Group volcanic rocks and sediments. A. J. Davidson and I examined their drill core and I visited a number of the showings. Greg Hawkins of MPH Consultants Ltd. is currently directing Reward's exploration programme.

Target

Past exploration has focussed on Cu-rich skarn mineralization hosted by limestones and volcanic rocks. However, the current exploration programme is directed towards finding a syngenetic massive sulphide ore body.

Location and Access

The King Solomon Property is located between Humes Creek and Koksilah River, 10 km south of Duncan in the Victoria Mining District of British Columbia (Figure 1). The property is accessible via paved and all-weather roads from Duncan. Numerous gravel roads, most of which are suitable for 2WD vehicles in dry weather, criss-cross the Property.

Mineral Rights

A total of 9 claims make up the Property (Figure 2). The initial 4 claims were staked in 1982 and the sil claims were added in 1985.

<u>Claim</u>	<u>Record No.</u>	<u>Units</u>	<u>Anniversary Date</u>
Pacific Star	701(19)	12	October 10, 1985
Western	711(11)	12	November 15, 1985
Independence	712(11)	8	November 15, 1985
Koksilah	713(11)	12	November 10, 1985
Sil 1	1551(8)	20	August 8, 1986
Sil 2	1552(8)	20	August 8, 1986 (?)
Sil 3	1553(8)	20	August 8, 1986 (?)
Sil 4	1554(8)	20	August 8, 1986

"Detailed study of the land status is required to elucidate the ownership of mineral rights in the area, as ownership is very complex and poorly known. The boundaries of the Mabel, Red Emma, Cornucopia and Swansea Girl two-post claims and the Wallace Crown Grant (L.16G) have not been precisely established; claim(s) purported to be owned by local prospectors are not shown on government claim maps; and Canadian Pacific may own base metal rights to part (or all) of the area, as it was part of the E&N Land Grant, parts of which have not been relinquished."

The confusion over mineral rights and existence of claims owned by other parties along with the mineralized horizons drastically reduce the value of this property.

Ownership

Reward Resources Ltd.,
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History

Copper was first discovered on the property by a homesteader in 1886. The King Solomon and Blue Bell Crown-granted claims were staked in 1902 and commenced production the following year. Total production from these two mines and the nearby Viva Mine from 1903 to 1916 amounted to 993 tons of ore yielding 102,510 lb. of Cu (5.16%) and 352 oz. of Ag (0.51 oz/ton).

Aside from minor trenching, there was a hiatus in exploration activity until 1956 when Cellardor Mines Ltd. started a four year exploration programme which included geological mapping, an SP survey, bulldozer trenching and stripping, and at least 4823 feet of diamond drilling in 34 holes. Some of the more important drill intersections are tabulated below:

<u>Hole</u>	<u>From</u>	<u>To</u>	<u>Width</u>	<u>Cu(%)</u>	<u>Zn</u>	<u>Ag (oz)</u>
B2	70	82.5	12.5	0.05	2.3	
B4	51	64.5	13.5	0.33		0.40
B4A	55	68	13	0.21		0.78
B4B	64	71	7	3.2		
B8	30	44.5	14.5	1.3		
B15	49	67	18	0.33	0.63	
incl.	49	55	6	0.4	1.9	
B17	73	85	12	0.25	4.1	0.3
B3G	151	170	19	5.61		0.31
incl.	155.5	167.4	11.9	7.83		0.49
B8G	10.5	26.5	16		2.11	
	88	139.5	51.5	0.97		
incl.	125	139.5	20.5	1.48		
B9G	80.5	117.5	37	1.44		
incl.	102	117.5	15.5	2.12		
B12G	53	75.3	22.3	1.45		

The old workings were dewatered and the lower adit was enlarged for more than 400'. Reserves of the King Solomon ore bodies were estimated at 250,000 tons of 1.4% Cu or 316,000 tons of 0.83% Cu. The SP survey 1 major anomalies in the King Solomon/Blue Bell area as well as 2 very large anomalies 600 to 1525m to the northwest of this area, presumably in the area of the 4 adits.

Umex Inc. carried out geological mapping and soil sampling on the Property in 1978. In 1982 Lionel Scott staked the ground and optioned the

claims to Reward Resources who have completed a programme of geological mapping, geochemical sampling and a magnetometer survey. In 1985 MPH Consulting Limited completed geological mapping (1:5000), rock and soil sampling and VLF-EM, magnetometer and IP surveys. Early in 1986 MPH drilled 10 holes totalling 672.5m to test their best anomalies and the King Solomon Mine mineralization.

Geology

A west-northwest belt of Paleozoic Sicker Group rocks intruded by Jurassic Island intrusions and Triassic diorite dikes and overlain by Triassic Karmutsen Formation basalts and Cretaceous Nanaimo Group sediments are the principal rock types in the area. The King Solomon Property is 2 km north of the San Juan Fault, a major tectonic break.

On the claims the Sicker Group consists of bedded cherts; basaltic tuffs, lapilli tuffs and flows; limestone and cherty tuffs (Figure 3). There are no felsic extrusive rocks. G. Benvenuto, who has worked extensively within the Sicker Group, subdivided these rocks into the Myro Formation, sediment-sill unit and Buttle Lake Formation. It seems more reasonable to consider these rocks as part of Muller's sediment-sill unit with minor intercalations of limestone. These conformable rocks are part of northerly plunging syncline bounded by faults. East of a fault which eventually parallels Kelvin Creek, there is a homoclinal sequence dipping to the north.

In contrast to most areas within the Sicker Group, a large number of dikes and stocks of intrusive rocks outcrop on the four central claims. The largest intrusion, a granodiorite, is the eastern part of the Koksilah stock. A phase (?) of this stock is metavolcanic dacite which is present as dikes within the conformable rocks. The numerous fine-grained and variably porphyritic dikes on the property probably are related to the Koksilah stock as well.

Mineralization

Surface mineralization in adits, shafts and trenches can be traced along strike for 3 km and it is stratigraphically related to cherts interbedded with limestones (Figure 3). The mineralization which occurs in fracture fillings and as lenses or pods, consists of massive pyrite or pyrrhotite with magnetite and chalcopyrite (see Table 1). Although limestone is only recognizable at the King Solomon Mine and Four Adit showings, epidote-garnet-diopside-quartz-calcite skarn (which is most likely metasomatized limestone or calcareous sedimentary rock) is found at almost all the mineralized areas.

Typically the mineralization is rich in copper and iron with minor amounts of Ag and contains little or no gold or lead. The silver is present in tetrahedite (Clapp, 1917). Clapp also noted sphalerite and galena in mineralized zones further away from the main intrusive contacts which may be similar to the zinc-rich zone intersected in drilling by Cellardor Mines Ltd. and Reward Resources.

A number of the felsic dikes contain abundant disseminated pyrite

with associated epidote alteration. The Swamp showing consists of this type of mineralization, as well as patches or pads of massive pyrite.

MPH Exploration Results

In April 1985 MPH Consultants Ltd. initiated an exploration programme on the King Solomon Property. They identified a number of soil anomalies (3 Cu, 1 Zn, 1 Ag), two of which do not correlate with known mineralization. The zinc soil anomaly is the most interesting and is coincident with the only surface rock sample (#9898 a meta-argillite with 3-6% pyrite), with a strongly anomalous zinc content (1699 ppm zinc).

Magnetometer, VLF-EM and IP surveys have been completed over the area of the showings. Three magnetic anomalies of more than 57,000 gammas are located west of Two Shafts, coincident with Viva-Blue Bell Mines, and east of the Swamp showing. These magnetic anomalies could all reflect magnetite/pyrrhotite-rich mineralization. Bonafide VLF anomalies are found related to the Blue Bell-Viva horizon and the Swamp showing. Numerous LP. anomalies were found on the claims reflecting the widespread occurrence of disseminated and fracture-controlled sulphides.

In January 1986 MPH drilled 10 holes totalling 672.5m to test the best anomalies and reproduce some of the Cellador Mines Ltd. intersections from the King Solomon Mine area. The results can be summarized as follows:

- KS85-1,2 - drilled to test L.P. anomaly at northern end of Zn soil anomaly
 - best analysis of 2749 ppm Cu and 4670 ppm Zn from 294 to 295.5' in 85-1 at base of mineralized zone.
 - anomalous gold (40 to 70 ppb) in silicified, carbonated and epidotized zone cored by basaltic dike
- KS85-3 - drilled to test L.P. anomaly near Swamp showing
 - predominantly intrusive rock with up to 50% disseminated pyrite
- KS85-4 to 10 - drilled to test King Solomon Mine mineralization
 - intersected up to 14.2% Cu and 1.56 oz/T over 3.57 in a pyrrhotite-chalcopyrite
 - pyrite-magnetite massive sulphide lens hosted by chloritic tuff
 - overlying tuffs contain zinc-rich zone with up to 5.16% Zn and 0.36% Cu over 1' and anomalous Cd and Sb
 - metal zonation could be interpreted as Cu-rich footwall to Zn-rich zone

Conclusions

The mineralization on the King Solomon Property exhibits many of the features of skarns, particularly copper skarns related to porphyry copper deposits (Einaudi, Meinert and Newberry, 1981). Some of the most notable features are:

- i) association with felsic porphyry-textured stocks of hypabyssal

character;

- ii) proximity to intrusive contacts;
- iii) high garnet to pyroxene ratios;
- iv) abundant disseminated pyrite in some intrusive phases, and
- v) replacement of carbonate rocks with skarn assemblages.

The showings are very similar to the Blue Grouse skarn deposit on Lake Cowichan (Pyles, 1955).

The possibility exists that the Sicker Group rocks host a second type of mineralization, syngenetic massive sulphides, which have been "skarnified" by the later metasomatic activity. MPH geologists believe "conformable" massive sulphides intersected in drilling, bedded pyrite and petrographic textures demonstrate the presence of syngenetic massive sulphides. However, the geology of the King Solomon Mine area does not support MPH's interpretation of a conformable sulphide lens and I am sceptical of their ability to decide on the petrogenesis of the mineralization based on two banded polished sections.

Given the present copper prices, the most interesting aspect of MPH's exploration has been the identification of zinc mineralization in the drilling (up to 5.16% Zn over 1') and a large zinc soil anomaly associated with a pyritic meta-argillite containing 1600 ppm zinc. Both these areas may be conformable horizons with potential for polymetallic massive sulphides. Systematic exploration for exhalite horizons and zinc-rich mineralization is needed on the Property as opposed to the current emphasis on pyrite-pyrrhotite-magnetite-chalcopyrite pods and lenses.

Recommendation

The style of mineralization, lack of significant precious metal contents and incomplete ownership of mineral rights seriously reduce the economic potential of the King Solomon Property. No attempt should be made to option it at this time.

David Lefebvre

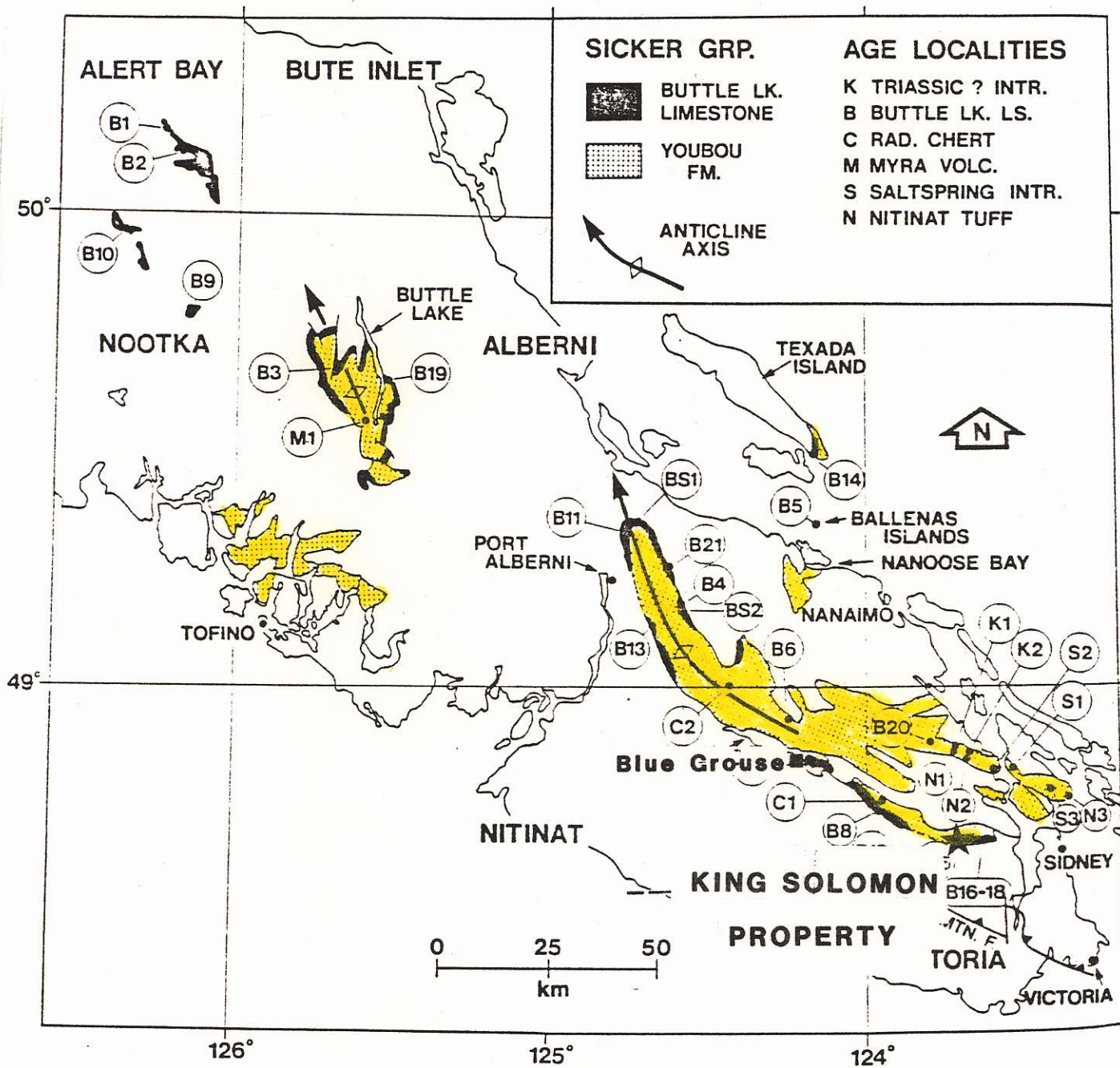


Figure 1. Location of the King Solomon Property.

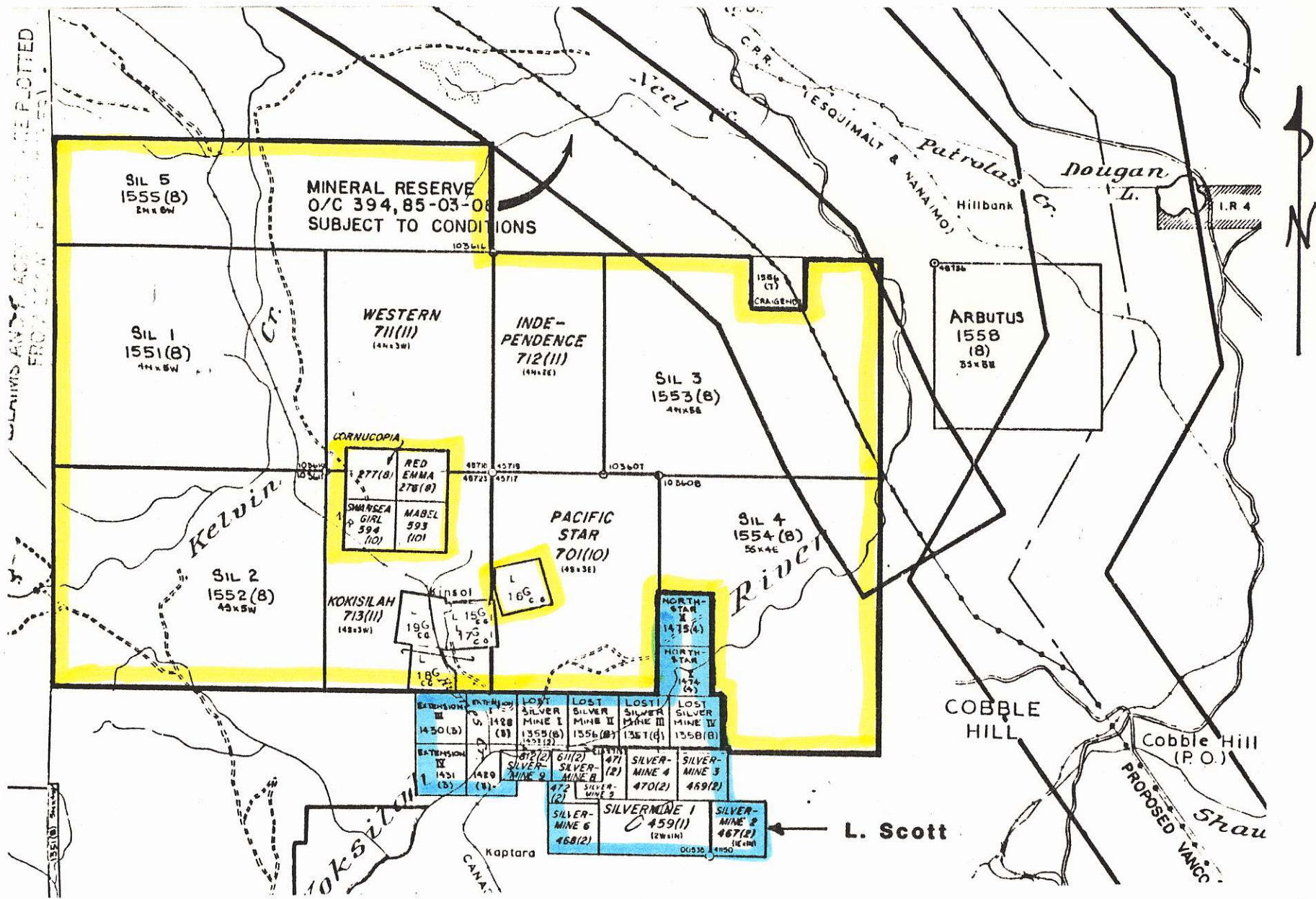
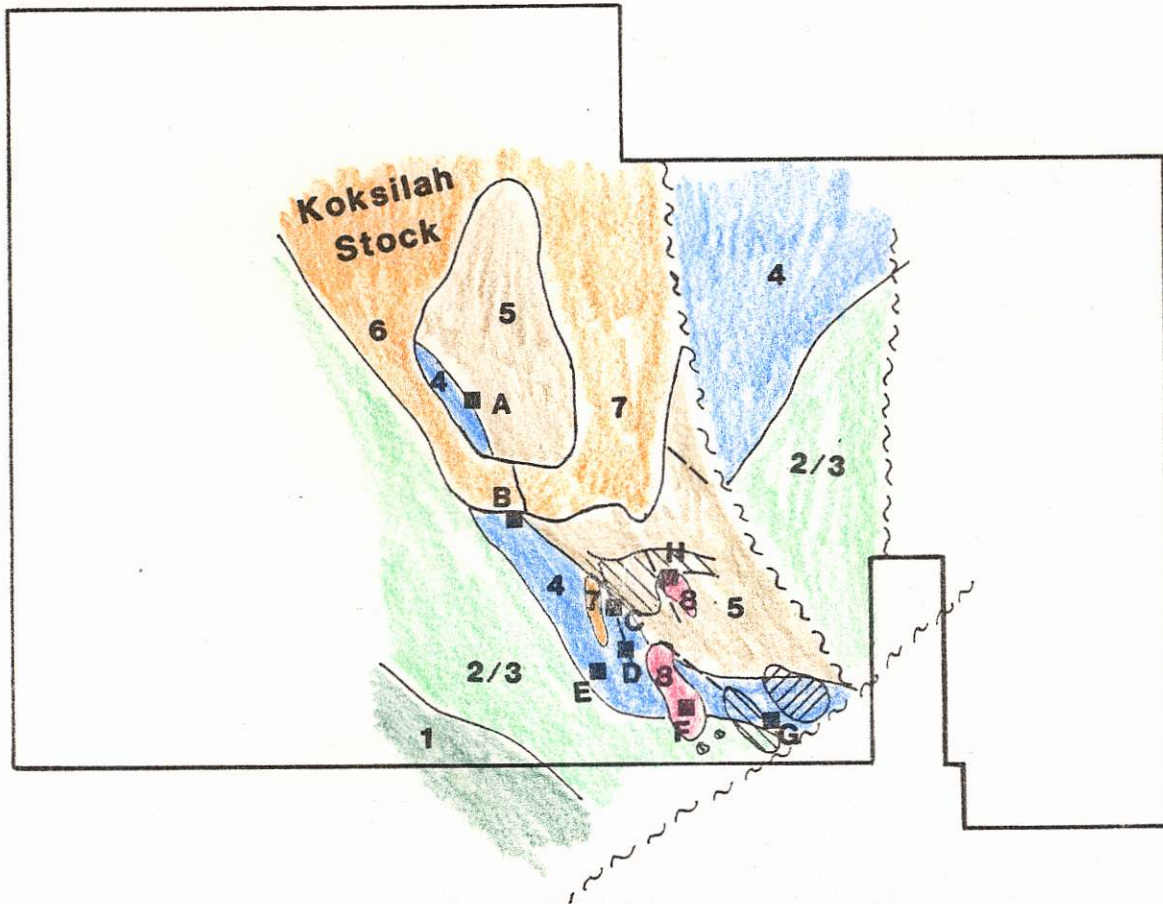




Figure 2. Mineral rights for the King Solomon Property, Vancouver Island (92B/12)



Legend

- 8 Pyrite rhyolite
- 7 Dacite porphyry
- 6 Granodiorite
- 5 Basaltic flows, tuff, chert
- 4 Chert, minor limestone
- 2/3 Basaltic flows, tuffs
- 1 Basaltic tuff, chert
- VLF anomaly
-  Zn soil anomaly
-  Cu soil anomaly

Showings

- A Strip
- B Four Adits
- C Blue Bell Mine
- D Viva Mine
- E King Solomon Mine
- F Two Shafts
- G Finlay Shafts
- H Swamp

Figure 3. Geology of the King Solomon Property.

Table 1. List of Surface Showings

	<u>Host Rock</u>	<u>Mineralization</u>	<u>Best Assay</u>
1) Strip Showing	mineralized skarn & rhyolite intrusive at contact between chert and overlying basaltic flows	py-mag-pyr-cp	23,400 pm Cu, 6.2 pm Ag, 98 ppm Zn over 1.1m
2) Four Adits Showing	felsic intrusive rocks with small (< 7 m) shear-bounded inclusions of chert, skarn and marble	py, minor mag with cp	40,000 pm Cu, 3.4 pm Ag., and 56 pm Zn in a grab sample
3) Blue Bell Mine	garnetite underlying chert and cherty argillite adjacent to small felsic stock	mag + py + pyr? + cp	3.66% Cu, 0.74 oz Ag/Ton, 280 pm Zn over 2m
4) Viva Mine	chert	pyr, minor mag	0.28% Cu, 0.01% Zn, 0.08 oz Ag/T from grab sample
5) King Solomon Mine	interbedded chert, marble and skarn intruded by numerous felsic dikes	py + pyr + cp	0.44% Cu, 0.01% Zn, 0.22 oz Ag/T over 3m in middle workings
6) Two Shafts	porphyritic dacite intruding basaltic tuff and chert	pyr	1,780 ^{ppm} Cu, 42 ppm Zn, and 1.2 ppm Ag
7) Finlay Shafts	mineralized skarn	mag+pyr+cp	0.56% Cu, 0.01% Zn and 0.12 oz Ag/T grab