

'80-777

King Solomon 001170
82ESE 054

COPPER QUEEN CLAIMS
DIAMOND DRILLING AND
GEOLOGICAL MAPPING

Greenwood Mining Division
NTS 82 E 2
Latitude 118°46.5'W; 49°7.5'N

for

Utah Mines Ltd. and
W.R. Financial Consultants Ltd.

by

R.V. Longe
Minequest Exploration Associates Ltd.

November 1980

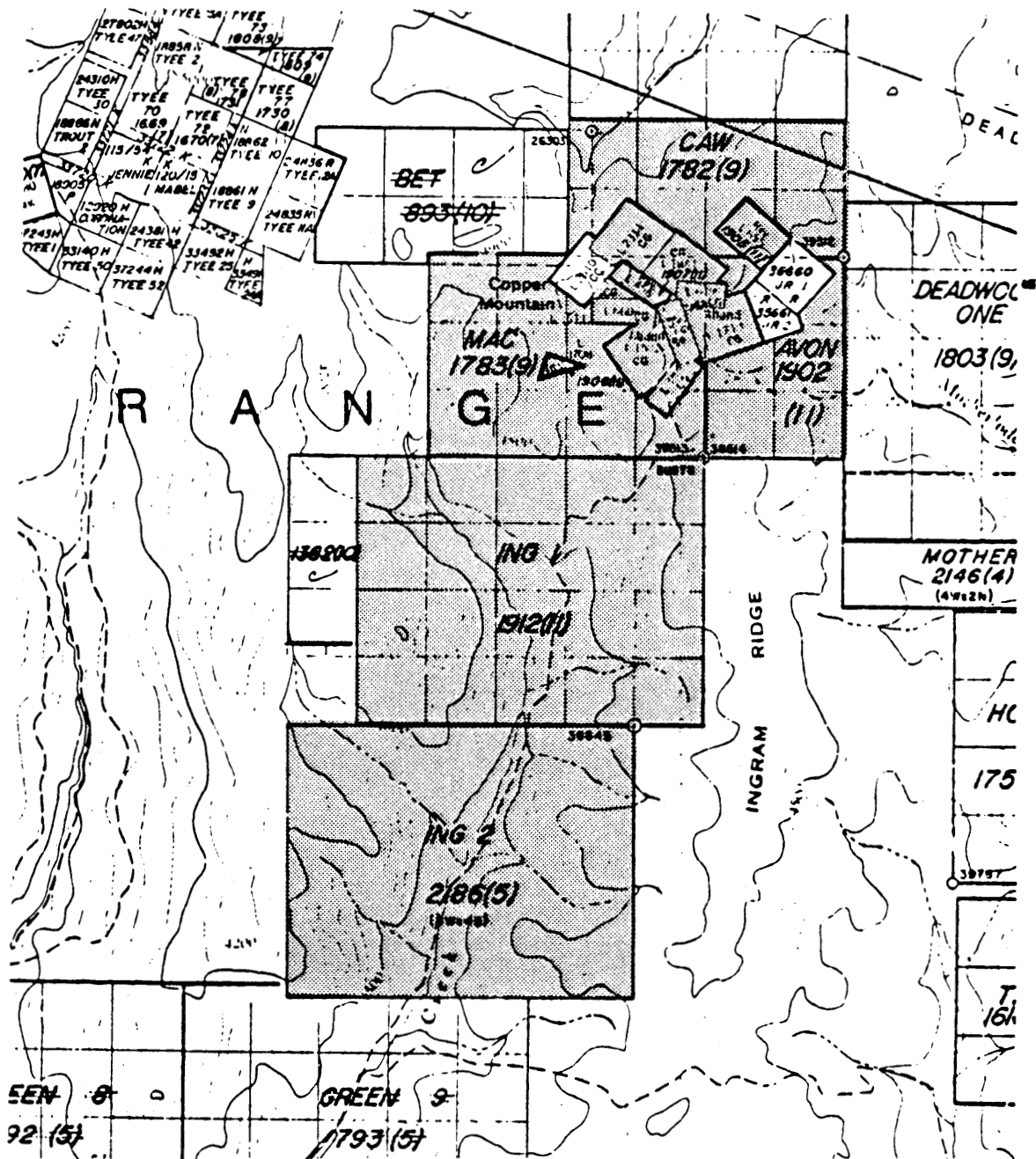
Drill holes located on:

Crown grant L 2311
Mineral Claim Ing 1



CLAIM MAP

From B.C. Ministry of Mines Mineral Title Map 82 E 2



Properties under option to Greenwood Joint Venture

Figure 2.

5. The Greenwood Camp:

The Copper Queen camp lies on the fringes of the Greenwood Mining camp, the ore deposits of which fall into two classes: conformable copper or copper-zinc orebodies lying in Brooklyn Limestone (Triassic) and silver-gold veins associated with granitic intrusives (believed to be Cretaceous). All the significant base-metal deposits belong to the first category.

Most mines in the area ceased operation in 1919. By this time the Boundary Camp, as the area was then known, had produced 22 million tons of ore averaging slightly over 1.5% Cu, 0.03 oz/ton Au, and 0.5 oz/ton Ag, - over half the tonnage was produced from deposits since incorporated into the Phoenix orebody. Including its production since 1956, the Phoenix deposit re-opened by Granby in 1956, has yielded 25 million tons of 1.0% Cu plus significant gold values. The Motherlode orebody produced 3.8 million tons of 1.12% Cu plus 0.044 oz/ton Au. The B.C. Mine was smaller (100,000 tons) but of higher grade (5.8% Cu, 2.8 oz/ton Ag).

6. History of Copper Queen Camp:

The earliest record of activity in the Copper Queen camp is found in the 1894 edition of the B.C. Dept. of Mines in which an 18 foot shaft and a 40 ft. tunnel are reported on the Copper Mine. Widths are reported to have been 40 ft. in the Copper Mine and 26 ft. in the King Solomon in which grades are reported to have been between 15% and 20% copper. No information exists on tonnage mined prior to 1902 but because no railroad was put in to the Copper Queen camp, tonnage can be assumed to have been small. The 1902 and 1903 editions of the Annual Report of the B.C. Dept. of Mines report 850 tons shipped in 1901 and "about 1,000 tons" in 1902. In 1917 the King Solomon and the Big Copper between them, shipped 950 tons. After 1918, the property lay dormant until 1950 when the late W.E. McArthur carried out a programme of drilling and stripping which led to further exploration.

7. Previous Work:

Prior to the end of the first world war there had been tunnelling (probably amounting to three or four hundred feet), shaft sinking (tens of feet), and mining of a few thousand tons of oxidized copper ore from the Upper Brooklyn Limestone.

In 1953 and 1954 the late W.E. McArthur of Greenwood carried out a programme of diamond drilling and stripping of the King Solomon and Copper Mine claims. This work led to the discovery of a body of sulphides from which two carloads of ore was shipped to the Tacoma Smelter.

In 1954 Noranda Mines Ltd. drilled for extensions of the roughly-conformable body passing through the Copper Queen and King Solomon claims. It is believed, on the basis of a map supplied by McIntyre Porcupine, that four holes were drilled by Noranda. In 1955 the Consolidated Mining & Smelting Company drilled a further four holes, again in search of extensions to the conformable body passing through the Copper Queen claim. This drilling intersected mineralized limestone but of too low a grade.

In 1967 McIntyre Porcupine Mines held options on several of the Crown-grants in the vicinity and carried out geological mapping, soil sampling, induced polarization surveys, bulldozer stripping and diamond drilling. McIntyre drilled four holes all directed at I.P. anomalies.

DDH M-1 was drilled at an angle of -50° towards the anomaly on Line 19. The drill hole was directed down-dip. If the anomaly represents a conformable body a drill hole would have passed beneath it. The rock intersected is called "Knob Hill" in the original drill log, but includes sharpstone among cherty lithologies which appear to belong to the same unit.

DDH M-2 was drilled on Line 18 at an angle of -60° towards the I.P. anomaly. The rock intersected, includes sharpstones and cherts.

DDH M-3 was drilled vertically on Line 13. Although going to 520 feet it failed to penetrate beneath the layer of Tertiary volcanic rock.

DDH M-4 was drilled vertically on Line 16 to the southeast of the I.P. anomaly. After penetrating 557 feet of Tertiary volcanic rock the drill intersected massive white limestone. The last 53 feet of the hole were in skarn including a rock described as "green epidote brecciated sections in fine grained dense purplish rock (hornfels), 587-590 limestone, 1-2% finely disseminated pyrite". The limestone intersected in this hole was very possibly the Lower Limestone but the hole was stopped too soon for an answer to this question. Equally certainly, the base of this limestone unit was not reached. The skarn rock described from the bottom of the hole sounds remarkably similar to the purple skarn rock found in the vicinity of the Phoenix orebody.

In 1970 Pechiney Development staked a block of eleven claims to the east of the Copper Queen camp. Work included geological mapping, magnetometry and geochemical soil sampling (B.C. Dept. of Mines Assessment Report 2453). No sub-surface testing was undertaken.

In 1977 Riocanex Ltd. drilled one hole which, collared in Upper Sharpstone, was directed at reaching the Lower Limestone Unit (B.C. Assessment Report no. 6436). This hole penetrated Upper Sharpstone expanded to a considerable degree by Tertiary hypabyssal rocks followed by pyritiferous cherts which were thought to be either the cherts commonly found beneath the Upper Sharpstone or cherts of the Knob Hill basement. The hole was stopped after intersecting 80 m. of Tertiary dyke.

8. Regional Geology:

The country between Grand Forks and Rock Creek is underlain by a sequence of volcanic and sedimentary rock of pre-Permian and Triassic age, known as the Anarchist Group, which is intruded by a variety of granitic and dioritic rocks believed to be of Cretaceous age. Both the Anarchist Group and the Intrusives are extensively covered by Tertiary flows and pyroclastics. Associated Tertiary dykes and sills are numerous. Because it has been used to describe rocks both below and above a major unconformity, the term "Anarchist" is not used in this report. Below the unconformity lies the pre-Permian Knob Hill Formation of meta-volcanics and meta-sediments. Above the unconformity is the Triassic Brooklyn Formation which consists of five mappable units: a shale, two "sharpstone" conglomerates and two limestones as shown in the table below.

The Knob Hill Formation consists of intermediate and silicic volcanics, cherts, argillites and locally limestones. The Knob Hill rocks were metamorphosed, uplifted, and eroded, prior to the deposition of the Brooklyn Formation in Triassic time. The oldest unit of the Brooklyn Formation is the Rawhide Shale reported by Seraphim (1956) to occur SE of the Phoenix Mine. The shale is limited to some hundred metres thick extending approximately six hundred metres along strike. A similar shale occurs on the high ground between Wallace and Ingram Creeks and may be correlative with the Rawhide shale southeast of Phoenix. Such shales are thought to represent depressions in the eroded Knob Hill landscape prior to deposition of the succeeding units of the Brooklyn Formation.

More common than the shale as the basic unit of the Brooklyn Formation is a "sharpstone" conglomerate, an unsorted sedimentary breccia consisting of angular clasts of chert ranging in size from 0.1 to 4.0 cm.

This, the lower of two sharpstone units consists of angular chert fragments devoid for the most part of alluvial sorting. At the Phoenix Mine aeolian quartzites occur in association with this unit, the Lower Sharpstone conglomerate. This distinctive lithology is believed to have been deposited as outwash fans in a desert. The term "fanglomerate" seems to be applicable.

The following unit, the Lower Limestone represents a marine transgression. The limestones range from micro-crystalline to coarsely crystalline, and contain beds of nodular limestone and beds of pyritic fine-grained, thin-bedded limestone. The Lower Limestone has a very restricted distribution.

Overlying the Lower Limestone is the Upper Sharpstone, a unit which is widely distributed in the Greenwood area. The upper member of the Upper Sharpstone contains distinctive clasts of limestone and is known as "Puddingstone". The Upper Sharpstone conglomerate is typically of a greenish or mauvish hue, and is much finer grained than the Lower Sharpstone. Water sorting is common and considerable thicknesses of the Upper Sharpstone can be occupied by siltstones and sandstones.

The Upper Sharpstone is succeeded by a second limestone, the Upper Limestone which represents a second marine transgression. The Upper and the Lower Limestone are not easily distinguished from one another.