Gem Group
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YUKON REVENUE MINES LIMITED

GEM and B.B. CLAIM GROUPS

SELWYN BASIN - ROSS RIVER AREA Y.T.

REPORT ON INITIAL PROSPECTING

Following the staking and optioning of the GEM 1 to 16 Mineral Claims a soil geochemistry survey was carried out over the area of greatest known interest.

Both zinc and copper run between five and ten times background over the zones of interest. Lead values contour, in general, coincidently with zinc and copper but are of less interest as they are only two and three times background. The known zone of geochemical interest has a length of over 3,000 feet but would probably be more extensive were it not for deep, frozen till on each extremity and the side slopes.

Bedrock was reached in several locations by hand trenching and this was blasted into in hopes of reaching fresh sulphides. Although two trenches reached a depth of six feet there was no appreciable change in the appearance of the rock which was still completely leached of sulphides.

Preliminary geological mapping was carried out in order to better understand the attitude and other characteristics of the zone of interest.

The anomalous rocks are mostly quartz-graphite schists composed of about 50% + quartz as thin bands alternating with laminations of graphite and bands of leached boxworks and cellular sponge of sulphide derivation. These rocks commonly exhibit crenulation foliation and folding of the early planar structure as so well described by Tempelman-Kluit in GSC Bulletin 208, Geology and Origin of the Faro, Vangorda, and Swim Concordant Zinc-Lead Deposits.

Bulletin 208 points out that favourable rocks in the Faro Area are confined to the 1000' thick Lower Member of Unit 3. These are described as above 50% in quartz content with graphitic members carrying 25% or more of graphite. Although this lower member carried beds of tuffaceous rocks no large bodies of greenstone exist within it.

The Upper Member at Faro is described as 3000' thick with 20% or less quartz in the phyllites, very little graphite and frequent small and large bodies of greenstone. This description fits the rocks at the GEM group exceptionally well with the exception that graphite is more extensive on the GEM claims. The Lower Member as presently defined at GEM is interpreted to be 900 or 1000 feet thick while the Upper Member appears to be thicker than at Faro.

Tempelman-Kluit feels that the ores were supplied by volcanic emanations and emplaced in, or as, fine-grained detrital sediments, essentially at the time these sediments were laid down. Evidence collected to date on the GEM claims would argue to the same conclusion. Tuffaceous volcanic rocks are exposed in a situation which would indicate that they are bedded in the graphitic schists. This outcrop contains considerable sulphides and one location allows the observation of remnant but fresh looking sphalerite and chalcopyrite in the midst of the products of their leaching. The box works and cellular sponge cannot be differentiated from those developed in the graphitic rocks only 50' away - or from a mile away for that matter.

Since geochemistry and leached outcrop studies both indicate that sphalerite and chalcopyrite were once present in the leached rocks, and since leach cavities occupy from 5% to 15% of the volume of the graphite rocks, it therefore is a matter of economic interest to further test the claims by drilling.

Interpretation of the products of leaching, using Roland Blanchard's data in Bulletin 66, Nevada Bureau of Mines, "Interpretation of Leached Outcrops," leads to the conclusion that relatively little pyrite was present in the outcrops and that the showing is essentially a disseminated zinc-copp er deposit now completely leached except for diagnostic indigenous limonites in three colour ranges: Yellow to yellow-orange, orange brown to dark brown, and red brown to deep maroon. These three types often exist as alternating bands and would suggest the possible existance of three sulphides.

In the Anvil area the sulphide grain size ranges from 0.2mm to 0.3mm With this in mind it is easier to understand why the writer has not attempted any studies related to grade of metals - it is plainly too difficult a task in such fine material. It can be stated however that the writer anticipates substantial thicknesses in excess of 7% sulphides in the form of sphalerite with considerable chalcopyrite and a little pyrite.

The writer expects to be questioned regarding the possibility of totally leached outcrops in the glaciated area. It is beyond my experience but it does appear to be the case. When the outcrops are viewed questioners quickly comprehend the great permeability of the graphitic rock type and soon accept the leaching hypothesis. No copper carbonates have been observed in the graphite zone or in the tuffaceous outcrop where chalcopyrite can be observed. The leached outcrops are no more than overburden and assays other than geochemical ones are of no significance at surface. There will very likely be a zone of enrichment at some depth but nothing more can be suggested on this point.

In conclusion it can be said that no great drilling program will be required to prove or disprove this report as the deposit is quite uniform overall and little variation is expected on surface evidence.

Respectfully submitted;

Ronald A. Granger.

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