NOTES
KLINKIT J.V. (VAL CLAIMS) 22 June 84
EXAMINATION

007620

A fairly simple sequence of recrystallized limestone and weakly pyritic hornfels is intruded by pink biotite granite of the Seagull Batholith. The limestone ocurrs in thicknesses up to 50m or more, and is the host to the mineralized skarns. Diorites and peridotites are also present, the former barren, the latter serving as host to uneconomic Sn-bearing veins.

As many as 10 skarn varieties have been distinguished, with combinations of the following minerals: (in crude order of overall abundance) — Actinolite, magnetite, garnet (brown, red, black, and green), biotite, hornblende, fluorite, tourmaline, idocrase, hedenburgite, cassiterite, sphaleri and malayite (Sn bearing Sphene). Cassiterite has never been seen in hand specimen on the Klinkit ground but is evident from cassiterite-specific assaying.

John Kowalchuk of Dupont makes an important distinction between 2 main assemblages — an early phase of garnet-actinolite which is replaced during prolonged metamorphism by magnetite-fluorite. It is during this replacement that Sn silicates in the garnet are released to form cassiterite. This theory is, I believe, based on thesis work conducted by a

U. of T student on Cominco's nearby Sn deposit, and on skarn studies by Larry Dick (now of Chevron).

The outcome of a close magnetite – cassiterite relation is that magnetic anomalies near the granitic contact* become the prime drill targets. The just completed diamond drilling is a technical success (at least) based on this approach. Drilling a blind magnetic anomaly (Hole 12, Swift claims) has yielded two good looking zones of magnetite – fluorite (30 to 52m and 100 to 115m in 60° hole). HCl – zinc flake testing on these zones gives a positive response. The forthcoming assays should be most interesting. These sections are also higher than usual in arsenopyrite and pyrite (total ½%?), and may be precious-metal bearing. A hole 200m from this hole proved barren, but the zone is open in the other direction.

The major question with these skarns is of course their erraticness in shape and normally small size. However:

1. There are adequate thicknesses and extents of potential host rock.

2. Cominco is reported to have a deposit of

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* Preferably within 50m

1·5 m.t. @ 0·6% Sn between the VAL B and SWIFT-SLIP claims

3. There are many small bodies in the district of modest grade which might be open-pittable, should mill facilities be available in the district. J. K. knows of several potential skarns presently unstaked amid the very widespread current staking.

The implication is that any approach to Sn in this district should be all or nothing. Only a large cumulative tonnage will lead to mining in the district at current Sn prices. Certainly Cominco's cooperation would have to be solicited. A broad-scale approach would hedge the odds of finding a single large deposit.

Metallurgy? I have no knowledge of this.

The examination consisted of 2½ hours on the VAL A, a fly over the DV and Cominco claims, and brief stops on the VAL B and SWIFT-SLIP claims. Much of the above is obviously drawn from J. K.'s comments. Some detail follows:

<u>VAL A claims</u>

A roof pendent, largely limestone, occupies the top of a low hog-backed ridge in a broad topographic basin. The pendent appears to be bowl-

bottomed (slightly convex downwards) and is less than 1km long, less than 100m thick, and perhaps less than 300m wide. At least 3 skarns are present in the limestone. The one I was best able to examine in detail showed extension both along bedding and along a probable cross-cutting fault. Banding in the skarn parallels the adjacent bedding. The extent of this skarn is some 20m by+20m (edge obscured by snow). It is mainly actinolite with moderately abundant magnetite and 10cm lenses of Cu rich sulphides. It is within 25m of relatively fresh slightly coarse grained pink biotite granite (major contact).

Trenches in the neighbourhood of the granitic contact on the E. side of the ridge have weakly to strongly skarnified intrusive and limestone (samples YV-DR 1, 2 and B)

VAL B claims

These are characterized by an abundance of skarn types over a probably cupola shaped Seagull granite which forms the core of a ridge. The adjacent valleys are floored by granite and the best mineralization (close to the contact) is unfortunately beneath talus.

SWIFT - SLIP claims

As mentioned earlier, this is the scene of what may become, upon assay, a discovery hole. The setting is similar to the VAL A and B but abrupt variations in the depth of the batholith are suggestive of block faulting. The promising hole resulted from essentially reconnaissance magnetic lines with a 200m line interval. A large area of these claims with geologic potential has yet to be magnetically surveyed.

D. A.

KLINKIT PROPERTY EXAMINATION

21 June 84

SAMPLES

YV - DR 1	Grab from boulders in upper trench on VAL A claims. Actinolite skarn, green, fairly fine grained. Almost no magnetite *
YV - DR 2	Grab from boulders in upper VAL A trench. High magnetite skarn (almost massive magnetite) *
YV - DR 1-2	Specimen showing some features of DR1 and DR2
YV - DR 3	Grab from boulders in lower VAL A trench. Weakly skarnified granitic intrusive. Trace magnetite and fluorite. *
YV - DR 4	Typical Seagull batholith biotite granite (slightly coarser grained than average)
YV - DR 5	Alaskitic phase of Seagull batholith

* Show moderate purple fluorescence