

18/9/72

Mt. Copeland Mine, Redstone

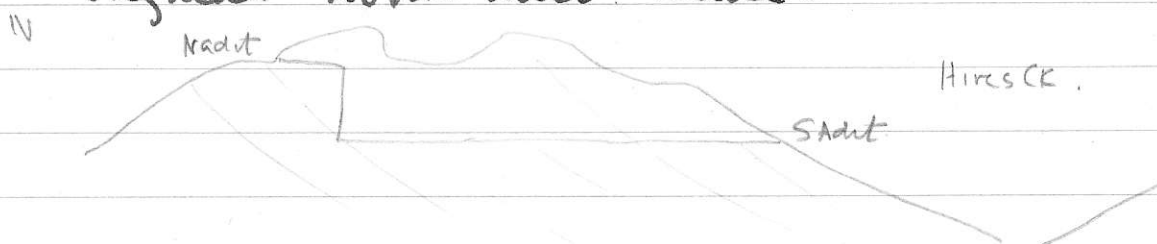
Visited mine in company with Mr. W. Fothergill, General manager.

The mine at the time of the visit had a production of 4000 tons/month of ore averaging 0.75 - 0.85%  $\text{MoS}_2$ . Variations can occur from 0.5  $\rightarrow$  1.0+ %.

The concentrate is marketed by Noranda. It is sent by truck to Vancouver for shipment and is a high grade concentrate with 58.2% Mo. The Japanese especially seem very interested in it. Total production costs are \$20/ton, but Fothergill reckoned that these could be reduced by \$5 if the situation of the mine had been more favourable, i.e. near the main highway, so that the heavy cost of maintaining the road, especially keeping it open in winter, as well as bunk house facilities etc, could be eliminated.

The ore is very high grade for a moly ore, often occurring as c. fr. nearly monomineralic masses in what are classified as the aplitic and pegmatitic phases of the ~~syenite~~ syenite gneisses of the area - which may be originally of magmatic origin. (See section DD in Fyles' monograph).

The southern adit has been driven in at an elevation of 6150 feet from a position on the north slopes of Hives Creek valley, under the Mt. Copeland Ridge. From here a raise 500' high has been driven ~~and~~ up under the ore zone and a drive to connect to the original north adit made.



Entered the mine via the South Adit (mine train - no chance of examining geology en route) and he raise to the 6550' level. Visited the decline E which is being driven in ore following the keel or trough of the main ore fold. This is here plunging E at 10 percent which indicates a flattening ~~to~~ from what it had been further to west.

The ore body here consists of a whitish pegmatite-aplite body with coarse gr. often abundant  $\text{MoS}_2$  flakes. The ore body is richest on the two walls, but centrally contains innumerable inclusions of the wall rocks.



CPD4 taken from the back about 10m from the face. High grade ore with greenish ? scapolite?

6600' level 200E exploration drift at section 250W.

CPD5. Specimen showing carbonate veining in the ore-pegmatite-aplite. Definitely late stage, connected with the faulting so prevalent in this area.

CPD6. Specimen of the FW transitional gneiss (syenitic) at drill hole site 50W.

CPD7. Face of the drift at section 50E. Rich  $\text{MoS}_2$ -Fe-S impregnation at almost the HW contact of the ore here.

The drift was driven to try to follow the H.W. contact, but it seems very difficult to tell what contact it is following as both are very irregular, folded etc.

The rich band (CPD 7) is only 1-2 feet wide. Beneath this comes a zone with very abundant inclusions.

Up ladder to 6620' 700FW Stope where I collected specimens of the really high grade massive  $\text{MoS}_2$  which has been mined out here. Some pillars still remaining and much loose ore on the footwall (CPD 8)

Further up to the N adit level and out to surface at portal of N adit. Ground completely covered by snow. Inside N adit level took specimen of the green chlorite bearing calc silicate gneiss (CPD 9) lying in the FW country of the ore zone. It is separated from the ore by a good thickness of so-called transitional granitic gneiss.