Canadian Superior Exploration optioned the Big Onion property from Roy Woolverton who in turn has an option from Jack Hemmelspeck. The property is located about 12 miles east of Smithers and is situated on the southeastern flank of the Babine Range. Access to the property is by vehicle. Previous to Canadian Superior's present drilling program, the property has been drilled by Noranda (2 holes?) Texas Guld (7 holes?) and Cyprus (Blue Rock Mining) (25 holes). The Noranda core is apparently lost or has been dumped, as well as the Texas Gulf core? The Noranda data has also been misplaced by Jack, so it would be available at the Norada office probably. Jack has all the Cyprus data. Canadian Superior began diamond drilling in early May and completed 4 holes on May 23rd. The holes were mainly fill-in holes in overburden covered areas. They are all located not too far off the Smithers Landing road. The core was brought back to town and logged and shipped out for assay. All the core was split for assay.

Four main rock units were encountered in the present drill program. Two of the units are intrusive rocks - an early quartz feldspar porphyry and a later quartz diorite porphyry. The quartz feldspar porphyry is a white aphanitic rock with a few scattered quartz bipyramidal crystals. The quartz diorite porphyry is a medium-grained greyish-green rock. The quartz diorite is commonly very highly altered and is in some cases only recognized with difficulty. A third unit, the host rock, consists of massive green andesites of the Hazelton Group. Dykes of quartz feldspar porphyry are common in the andesites near the margin of the pluton. The fourth unit is a wide post-mineralization quartz monzonite dyke. It is a distinctive dark-grey medium-grained rock with prominent biotite plates.

From previous work, copper and molybdenum mineralization is known to be widely distributed in minor amounts in the Big Onion pluton, particularly near the contacts of the two phases and of the peripheral volcanic rocks. Ore minerals recognized were chalcopyrite, molybdenite and minor bornite. Pyrite is ubiquitous. The mineralization is contained both within a stockwork of quartz-filled fractures and as disseminations. In general, the best mineralization occurs in the intrusive rocks. It also occurs selectively along the intrusive-volcanic contact. The present drilling program further

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## BIG ONION PROPERTY

confirmed the above conclusions. An additional significant fact is the recognition of chalcocite which reperesents a secondary capping of up to 100 feet in depth. Below this capping chalcopyrite and minor bornite are the economic minerals. Native copper has been observed in some volcanic rocks. The possible existence of a chalcocite capping has not previously been mentioned. The ubiquitous presence of pyrite (1 to 15%) is also a significant fact.

Apparently the drill holes run in and out of the intrusive rocks into the volcanic rocks. Therefore, it will be important to determine the 3 dimensional geometrical design of any ore zone. This will probably necessitate the drilling of a couple more deep holes (up to 1000 or 1500 feet). Canadian Superior has made cash payments already - so they obviously intend to do follow-up work. They certainly plan to do some detailed geological mapping as soon as snow permits.

Tom Schroeter, District Geologist, Smithers, B.C. 24 May 1974

Note: vein of tetrahedrite
on read up to showings.