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SUMMARY

The <u>BEAVER II</u> and <u>BEAVER IV</u> mineral claims are situated on Sandifer Ridge about 14 kilometers southeast of Kemano, British Columbia. The two adjacent claims comprise 40 units. Portions of the two claims have been overstaked, in contravention, with more recent claim blocks. Work on the known mineralization dates to 1952 when George Smith and Fred Nash were reported to have first sighted and staked the quartz veins. Published records concerning work on the veins are scanty but indicate that only one large quartz vein was sampled. Examination of the vein during 1981 suggested that little or no work has been done on the main vein since 1952.

The main vein or <u>Smith-Nash vein</u> has now been sampled several times by different groups showing the presence of significant gold values. The vein is completely exposed on the steep bluff where it outcrops between elevations 1,430 meters and 1,500 meters and swells to widths of up to 6.5 m (15 feet). Further surface sampling of the vein entails hazards and would not provide any further information on size and grade. Diamond core drilling from cut-out platforms is required to evaluate the prospect. The cost of a drill program in this location is expected to be high and is estimated at about \$160,000.

INTRODUCTION

The BEAVER II and BEAVER IV claims lie about fourteen. kilometers southeast of Kemano on the steep southerly facing slope of Sandifer Ridge above a tributary of Seekwyakin Creek. The main mineral showings on the two adjacent claims consist of at least three large quartz veins that stand out as light coloured vertical gashes on the steep grey bluffs. Only one of these veins has been accessed (with difficulty) for surface sampling.

The veins were first located and staked in 1952 by George Smith and Fred Nash who were able to land nearby with a helicopter. They took several samples which reportedly returned assays as high as 6 ounces gold per ton (Duffell, 1959). Stuart (1959) visited the property for the B.C. Department of Mines and reported that the vein (one sample) assayed 0.39 ounces per ton gold. No further work has been reported in the public literature regarding the Smith-Nash prospect.

At the request of Mr. W. Heyman of Bristol Resources Corporation the writer visited the BEAVER claims on July 27, 1981 and again on August 26, 1981 in order to sample the one auriferous quartz vein and to make a preliminary appraisal. The writer has worked as a field geologist in the general area and has considerable experience with gold deposits.

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GEOLOGY

The basic regional geology was compiled by Duffell (1959); and the detailed geology of a portion of the area between Kemano and Tahtsa Lake, north of Sandifer Peak, was completed by Stuart (1960).

The Sandifer Ridge area lies just east of the main exposures of the extensive Coast Plutonic Complex in a succession of variably layered metavolcanic and metasedimentary country rocks. These have been assigned to the Hazelton Group but both Duffell and Stuart suggested these units could be pre-Middle Jurassic or older - possibly Triassic or Paleczoic. These layered rocks have been intruded by a number of granitic to dioritic plutons once called the Coast Intrusions and are probably Tertiary in age.

In the BEAVER claims area on Sandifer Ridge the meta-sediment/volcanic sequence forms a thick succession of generally thinly layered strata having an apparently overall undulating to flat structure. This corresponds to Stuart's structural interpretation which suggests broad, open, northerly trending folds. In detail, structural complexities such as faults, shears, and recumbent folds abound. On the basis of the writer's two quick field trips to the ridge, the writer suggests that the country rock succession may include two separable units. A lower unit, mainly fairly uniform cherty

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Aerial view of main quartz vein. Heliport at upper right.

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metasediments, extending to about 1,500 meters, and an upper unit forming the ridge crest and comprising a mixed metavolcanic sequence marked by numerous thin porphyritic sills, pegmatic lenses and layers, and thin quartz lenses. At the base of the south side of the ridge the metasedimentary sequence appears to have been intruded by a dioritic pluton only recently exposed by the Kemano-Tahtsa road. If extensive, this low level diorite may be a parallel feature to the Horetzky Dyke mapped by Stuart. Obviously with better access and more mineral exploration in the area the geology of the area will become much better understood.

MINERALIZATION

The only known mineralization on the BEAVER II and BEAVER IV claims consists of quartz veins of which one has been shown to be auriferous. This has generally been reported at the Smith-Nash Group located in 1952 by prospectors George Smith and Fred Nash. Stuart (1952, p. 97-98) reported that assays on pyritic material taken from the main vein by the prospectors showed a gold content as high as 6 ounces in one sample. Stuart's 1952 report on the vein deposit follows:

> "This group of fourteen claims and one fractional claim was located by G. Smith and F. Nash, of Vancouver, in September, 1952. It is on the steep south slope of a ridge extending southwest from Sandifer Peak. The ground is 10 miles east of Kemano and can most easily be reached from Sandifer Lake.

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"Several limonite-stained quartz veins have been seen on the claims from the air, but only one has been examined. The veins are near the eastern contact of the Coast Range batholith on an anticlinal structure. The country rock on the east side of the group consists of interbedded greenstone and gneissic quartzite; on the west, nearer the batholith, it consists of granitic gneisses containing numerous pegmatite bands and dykes and occasional barren quartz veins.

"The only vein examined occupies a shear zone striking northwest and dipping steeply southwest. It outcrops continuously between elevations of 4,500 feet and 5,000 feet in a steep shear-controlled gully on the northeasternmost claim of the group. At the top of the gully, the vein, which is here about 4 feet wide, disappears beneath talus on a small bench and could not be located in the bluffs above. At the 4,500foot elevation, the only place where the vein is accessible, it swells to a width of about 15 feet, then pinches out abruptly. The sheared zone, about 8 feet in width, continues below the pinch-out of the quartz, but flattens in dip and swings to a more easterly strike.

"The only visible metallic mineral is pyrite, which occurs as disseminated blebs and stringers in the quartz. Several stringers of massive granular pyrite from 2 to 6 inches wide occur at the hangingwall and footwall of the lowest seen part of the vein, and in the sheared zone below the quartz pinch-out. The sheared wallrock is only slightly mineralized.

"The following type samples were taken:

	V 1 U	Silver	
(Oz.)	per Ton) (Oz.	per Ton)	
1. Mineralized vein guartz	.39	0.2	
2. Massive pyrite from 5-inch stringer 2.	.9	1.5	
3. Sheared rock from footwall0	.09	0.1"	

While sampling the vein the writer found one corroded rock piton rusted into the steep face of the vein near the bottom. This and the remnants of camp gear on a small flat to the east appear to confirm work by Smith and Nash in 1952.

The vein is located in a deep cut on the steep slope of Sandifer Ridge between elevations 1,430 meters and 1,500 meters. It is a lens-like body swelling to a width of at least

3 51 23 haliport possible drill site À 16blocky metasectiments Byan 5 metasediments + 145°/45°NE See vain 2 0 110-120°/65-70°sw j 2 10) scale FIG 4 SKETCH 3 3fault 120°/65°SW 0 1 VEIN

12.5 meters and appears to average about 2 meters. The attitude of the vein is somewhat variable because of faulting within the vein and along the footwall. The general vein attitude appears to be about $110-120^{\circ}/65-70^{\circ}$ SW within the deformed metasediments, but does not appear to extend upwards across the overlying metavolcanic unit. The vein has a slightly rusty to creamy appearance from a distance. Massive coarse grained white quartz and some calcite form the bulk of the vein with coarsely crystalline pyrite as discrete cubes and streaks comprising from two to three per cent overall and somewhat higher in the footwall zone.

Assay results from face chip samples at various levels of the vein are as follows (see Appendix I):

SMITH-	-NASH	VEIN
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Sample No.	Site	<u>Gold (oz/ton)</u>	Silver (oz/ton)
7984	H.W. 2 m -4730'	0.004	0.02
7985	F.W. 4.5 m-4730'	0.58	0.30
7986	F.W. 4.5 m-4750'	0.50	0.21
7987	H.W. 2 m -4750'	0.056	0.06
UV-1	H.W. 2 m 4730'	0.001	0.01
UV-2	" 2 m 4730	0.001	0.01
V-1	6 m 4720'	0.045	0.02
V-2	6 m 4710'	0.083	0.02
V-3	4 m 4700'	0.140	0.04

The above assay results on the accessible lower portion of the vein essentially confirm the one assay result reported by Stuart (0.39 ounces gold per ton). It is possible that if selected samples of the pyritic footwall portion of the vein were assayed results approaching the 6 ounces gold per ton reported by prospectors Smith and Nash could be attained.

As indicated, the assay results so far suggest a variable but significant gold content in the vein, particularly in the pyritic footwall portion. The apparent large size of the vein combined with the reasonably significant gold values together indicate that the vein should be sampled in more detail. The attitude of the vein and its location in the gully on the steep cliff face and the hazards associated with surface sampling indicate a limited drill program.

CONCLUSION

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Work on the main gold bearing vein on the BEAVER property has so far indicated the potential for a deposit of reasonable grade. A potential tonnage based on the available information is difficult to estimate. The continuity of the vein over a vertical distance of about one hundred meters and an average width of about two meters indicate a minimum of about 20,000 tonhes.

Confirmation of the continuity of the vein and the grade to allow consideration of an underground exploration

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and development program will involve surface diamond core drilling. A limited drilling program to test the extent and grade of the northwesterly extension of the upper and lower portions of the vein would require two cut-out platforms. Water would have to be piped to the drill sites. Servicing of the project would probably be from Terrace and radio communication would be required. It would also be advisable to make a foot trail from the vein area to the nearby road for safety. A good trail would also allow camp set up near the road rather than on the cramped bluffs and road access to Kemano.

RECOMMENDATION

Evaluation of the auriferous quartz vein on the BEAVER II claim has proceeded to the point where further surface sampling which entails rock fall hazards because of the steep face will probably be redundant. The next stage in the exploration of this prospect should consist of diamond core drilling from two platforms to determine continuity of gold mineralization and of the vein. The drill program is estimated to cost about \$160,000.00.

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