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REPORT ON THE HCF CLAIM GROUP
ATLIN MINING DIVISION, B.C.
BY W.T. IRVINE, P.Eng.

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INTRODUCTION

The H C F claims were staked on outcropping gold quartz veins. The writer was commissioned to submit this report by Mr. H.C. Fromme of Whitehorse, president of Golden Empire Mines Ltd. to which the claims will be transferred.

SUMMARY

- (1) Two steeply dipping gold-bearing quartz veins are exposed along a hillside on these claims.
- (2) Tunneling and shaft sinking has been done on the veins in two locations. This work was done early in this century.
- (3) Picked samples of vein material assayed several ounces per ton in gold, but the average grade is reported to be in the vicinity of .4 oz.Au. per ton.
- (4) At today's price of gold, these veins represent an attractive exploration target and deserve further investigation.
- (5) A program of surface trenching is recommended that would expose the veins for further sampling and test their continuity.
- (6) With success in the first stages of this work, a program of short hole drilling should be done to test the vertical continuity of the vein structures.

THE PROPERTY

Location

The H C F claims are near the extreme west end of Surprise Lake, Atlin District, B.C. and extend up the north

slope of the valley of Pine Creek, along Birch Creek.

Access is by a 15 mile road from Atlin, B.C. The connecting Birch Creek road goes through the claim.

History

The showings were originally staked about the turn of the century in two claim groups—the White Star and the Lake View. A total of 270 feet of underground development was done on the two groups, along veins from 2 to 5 feet in width at grades of about .4 oz.Au./ton, but at the then low prevailing price of gold and due to the remote locality, no further work was justified, and the claims were allowed to lapse. They were more or less forgotten until the recent staking.

Tenure

The present claims have been located in four blocks as follows:-

BLOCK			LOCATION		DATE	RECORDING		DATE
H C F 1 732	(7) 10 U	Inits	July	12,	1979	July	17,	1979
H C F 2 733	(7) 18	11	July	12,	1979	July	17,	1979
H C F 3 735	(7) 18	n .	July	11,	1979	July	26,	1979
H C F 4 736	(7) 15	11	July	11,	1979	July	26,	1979

Geology and Development

The veins occur in schistose rocks of the Mt. Stevens group. The old White Star showings consist of two separate veins about 400 feet apart. The upper one, in schistose amphibolite, is 4 to 5 feet in thickness, strikes N.70 W., and dips steeply to the south west. It outcrops 1,650 feet above the level of Surprise Lake. The vein is mainly quartz, sparsely mineralized with galena, pyrite, and occasional particles of native gold. A tunnel 58 feet long has been driven on the vein. Hand samples from the tunnel, where the vein is 5 feet wide, ran from nil to about .4 oz.Au./ton. Another exposure of quartz, probably a second vein, outcrops 400 feet down slope from the upper vein, but it has been incompletely exposed by trenching so that its attitude and width are not known. This quartz contains sparse pyrite only.

The <u>Lake View</u> showings consist of two veins, also 400 feet apart, and from their strike it may well be that these represent the extension of the two veins of the White Star showings.

The upper vein is from 3 to 4 feet in thickness and the lower one is 30 inches thick. The quartz in both veins is weakly mineralized with galena, pyrite and sparse native gold. The veins have been traced for a length of several hundred feet, and have been developed by a 150 foot tunnel, two shafts totalling 63 feet in depth, and a number of trenches and open cuts. Large average samples from this development work ran .4 oz.Au./ton, mainly free gold.

RECOMMENDED FURTHER WORK

Although the veins are narrow, if the grade of .4 oz. Au./ton can be confirmed, and the vein structures are extensive, this property can be considered for production. Further work is therefore recommended.

- (1) As a first step the present workings should have any necessary rehabilitation done, and be systematically mapped and sampled.
- (2) Extensions and a possible link-up of the White Star and Lake View showings should be tested by surface trenches.
- (3) If this work demonstrates continuity along strike, and continued good grade, a program of surface drilling should be contemplated to test for vertical continuity.
- (4) Further development will depend on the results of the above work.

May 22, 1980

Submitted by W.T. Irvine, P.Eng.

Reports Consulted:

1. Geological Survey of Canada

Atlin Mining District, B.C. by D.D. Cairnes, 1911

2. B.C. Minister of Mines Reports, 1904. p.G76.

CERTIFICATE

I, W.T. IRVINE of 715 Parkside Road, West Vancouver, B.C. do hereby certify that:

- I am a graduate of the University of B.C.,
 B.Ap. Science, 1937, with post graduate work in geology at the University of Toronto, 1947 to 1949.
- 2. I am registered as a Professional Engineer in the Province of British Columbia as a Geological Engineer, and am a Life Member of the Canadian Institute of Mining and Metallurgy.
- 3. I have practised geology professionally from
 1937 to 1946 at Britannia Mines, B.C. and
 from 1946 to 1977 with Cominco Ltd. At
 Cominco I was Chief Geologist Mines from
 1961 to 1968 and Manager Exploration Western
 District from 1968 to my retirement in 1977.
- 4. The accompanying report is based on/information given to me by the owners, and derived from the listed reports as references.
- 5. I have not, nor do I expect to receive any interest, direct or indirect in these properties or any of their securities.

DATED at West Vancouver, British Columbia, this twenty-second day of May, 1980.

MAT. IRVINE, P. Eng.

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Hathorne, R. N., and the Lake View group' (Ding. 3) of three claims owned by Jos. Clay have been the most explored. Other claims between and adjoining these groups are also being held, and on some of them the same veins are supposed to outcrop that are found on the Lake View and White Star properties.

The formation in the vicinity of these claims consists of the members of the Mt. Stevens group of rocks, mainly the amphibolites, sericitic schists, quartzites, and limestones.

The White Star Group.—On the White Star group two veins have been discovered; of these, the upper one occupies a fissure in finely-textured schistose amphibolite, is from 4 to 5 feet in thickness, strikes N. 70° W., dips to the southwest at angles ranging from 50° to 55°, and outcrops at an elevation of 1,650 feet above the lower end of Surpriso lake. This vein consists mainly of quartz which is sparsely mineralized with galena, pyrite, and occasional particles of native gold. A tunnel 58 feet long has been driven on the ore.

Approximately 400 feet down the mountain slope from this upper vein is an exposure of quartz across which a trench 30 feet long has been dug without coming to its edges, so that the dip, strike, etc., of this deposit are not known. The quartz contains occasional particles of pyrite and iron oxide, but has not been found to carry any other metallic minerals.

The Lake View Group. On the Lake View group two veins have also been discovered that are about 400 feet apart and strike approximately in the direction of the White Star group. These are thought by the owners to be probably the same veins as those found on the White Star property, but sufficient work has not yet been performed to justify this conclusion.

The upper vein on the Lake View group is from 3 to 4 feet, and the lower one is about 30 inches, in thickness. The quartz of both is sparsely mineralized with galena, pyrite, and rare specks of native gold. A tunnel over 150 feet in length has been driven, two shafts about 35 and 27 feet deep respectively have been sunk, and a number of trenches and open-cuts have been dug on this

Robertson, W. F., Report of the Minister of Mines, B.C., 1904, p. 76. Gwillim, J. C., Ann. Rep., Geol. Surv., Can., Vol. XII, 1899, p. 70A.

p' (Diag. 3) of ost explored. Other lso being held, and o outerop that are erties.

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s from 3 to 4 feet, kness. The quartz ite, and rare specks th has been driven, ely have been sunk, been dug on this group of claims, with the result that the two veins thereon have been traced for several hundred feet.

General Values.—A few samples have been obtained from these Boulder Mountain deposits that assayed from \$100 to \$300 per ton and one or two are even claimed to have given higher results, but an average of the veins would probably not exceed \$10 and might be somewhat less. From the various tests that have been made, however, it is hoped that some of this quartz will pay for mining when such can be conducted economically. In all probability, numerous other veins will be discovered in this vicinity, as the mountain is in most places covered with a mantle of superficial materials that hide the bed-rock and whatever ores it contains.

THE LAVERDIERE GROUP.

General.—The Laverdiere group is owned by three brothers, Messrs. Noel, Frank, and Thomas Laverdiere, and consists of six claims, three of which are crown-granted, and two fractional claims. This property is situated on the west side of Hoboe creek, about 2 miles from where it runs into West bay which forms the upper end of Torres channel, an arm of Atlin lake. The principal ore-body on the Laverdiere group, or at least the one most highly valued and that on which the bulk of the development has been expended, is described under 'contact-metamorphic deposits.' In addition two fissure-veins have been discovered on the Alvine and Brothon claims respectively, that appear from the limited amount of work that has been performed on them, to belong to the 'gold-silver quartz veins' and so will be here described. It is possible, however, that they would be more appropriately classed under 'high-grade silver veins.'

The Alvine Claim.—The vein on the Alvino claim strikes approximately N. 30° W., has an average thickness of about 2 feet, and occurs in the Coast Range granitic rocks. This deposit consists almost entirely of a gangue of quartz which is in most places somewhat stained with iron-oxide, and with which is associated a small amount of white calcite. Disseminated through this gangue is nearly everywhere more or less argentiferous tetrahedrite (grey copper containing silver); occasional small particles and flakes of native silver also occur. It is not known what this ore will assay,

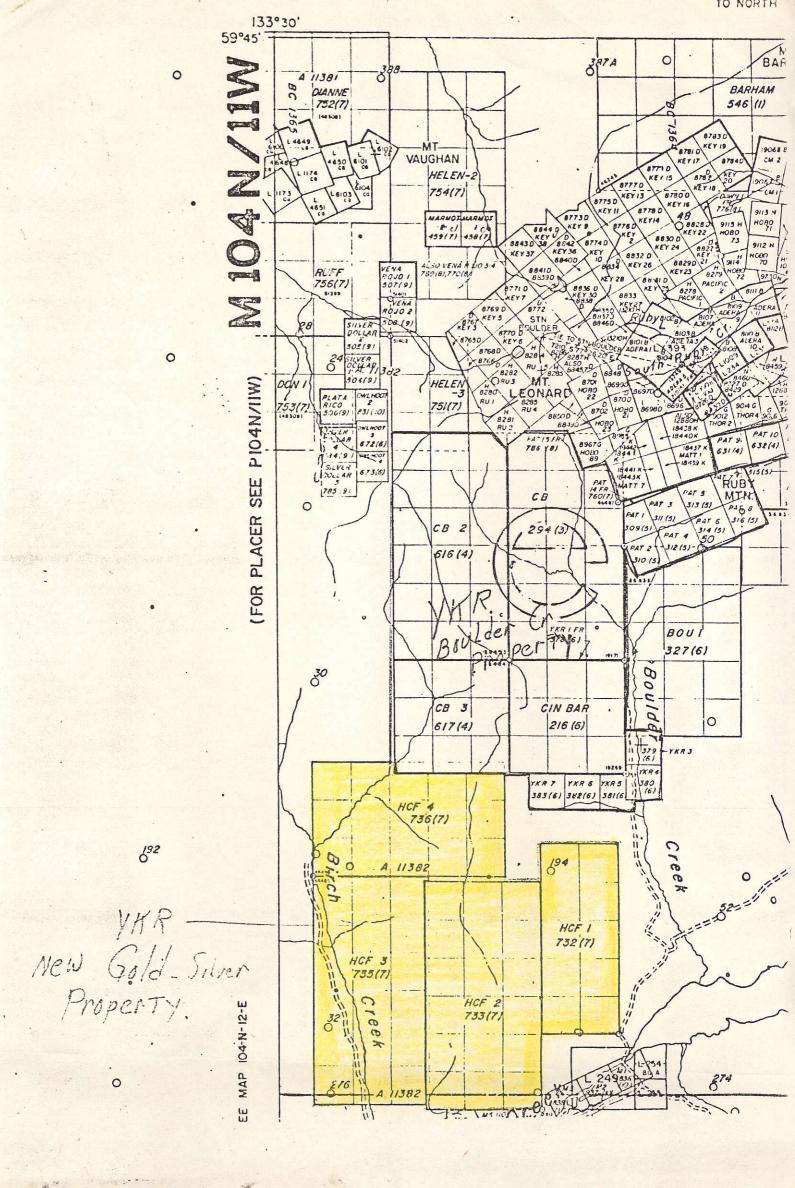
NII, 1899, p. 70A.

ASSAY SMMIKES HCF, Laheview, upper-uditaling 5 pes gtz, specks

py 0.15 Au 2.12 Ag

" gtz. brown dyellow stain

0.06 Au 0.74 Ag " " four lbs. gtz., pres. V.g.-in Two pieces (?) 0.47 Au 6.48 Ag mineral, w. by, miner grey gts., no 1.9. 0.88 Au 12.1 Ag. 1700 m) 1 - SPECIMEN SYMPLE. Some specs V.Gold. 2.49 AU - 42.0 Ag. Au - Gold. " · Ag - Silver. A



YUKON REVENUE MINES LIMITED HCF Claim Group ATLIN, B.C.

SURFACE PLAN

Scale: 1:5,000 NTS Map 104N-11W

1227

Date: Sept. 1980 drawn by: A.G.

" Lakeviere, visible Au on dump Middle Lakeriew

White Stare 85 workings 1904 vein 5' wilder, free gold, silver

80/11/2 0140

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