



NORMAN H. URSEL ASSOCIATES LIMITED
524, 550-6th Avenue Southwest, Calgary, Alberta T2P 0S2
Telephone (403) 263-7686

5345 Trafalgar Street, Vancouver, B.C. V6N 1B8
Telephone (604) 266-4216

800492
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Report on The Vancouver Vein
Kootenay Belle Property
Salmo, B.C.
Nelson Mining Division
by
Norman H. Ursel, P.Eng.

March 3, 1982



SUMMARY:

This report refers specifically to the Vancouver Vein on the former Kootenay Belle property. It does not differ in substance with the positive recommendations of exploration formerly submitted but points out that with some modification in approach directed at development of the very positive features of the Vancouver Vein a program may be initiated which provides protection to the investor while allowing exploration and development to proceed.

Probable reserves of 7,873 ounces gold exist within an easily accessible block measuring 225 ft. long and 150 ft. deep. Development ore won during exploration may recover ← ? 50% of this. With smelter facilities at Trail, recovery of metals may be easily attained.

This would not constitute a commercial mining venture but could assure a reasonably strong beginning base upon which further work directed at complete exploration and re-development of the property may proceed.

With modest increase in expenditure from \$325,000.00 previously recommended to \$400,000.00 this modified program could proceed together with mapping, sampling and trenching

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SUMMARY (cont'd)

on other sectors of the property. The modified program has the very pragmatic goal of achieving some early return from the property while exploration and development proceed.

The unique benefit of location, together with the positive features of the Vancouver Vein, make this a clear possibility.

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This report is an addendum to a Report on the Kootenay Belle Property submitted by G.H. Rayner, P.Eng. on behalf of Black Diamond Resources Ltd. It was requested in written form by Mr. J. Mackay following a meeting in which details were provided concerning the merits of the Vancouver Vein relative to a public financing of Black Diamond Resources Ltd. for which approval of the Vancouver Stock Exchange is being sought. This report does not purport to cover the full history of the property, its location and other details which were adequately covered in Mr. Rayner's report, nor does it differ in substance with the positive recommendations for exploration in that report. It seeks simply to point out that, with some modification in approach, the Vancouver Vein can support the financing program requested. This report also does not suggest that the property can attain full commercial production from the Vancouver Vein but because of the unique benefits of location providing access to custom milling on a neighboring property and/or the smelter at Trail, development ore from the Vancouver Vein can provide adequate return in gold to guarantee the financing formula proposed while exploration of other sectors of the property is underway.

On Page 6 of Mr. Rayner's report, he states "Several areas

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with good potential for developing ore remain unexplored on the property. Probably the most promising of these is the Vancouver Vein."

The details of the Vancouver Vein which were not included in the report are as follows:

Vancouver Vein

History:

The location of the Vancouver Vein relative to the productive veins "A" and "B" of the former Kootenay Bell property and the Hideaway vein and Queen shaft of the former Sheep Creek Gold Mines is shown on the air photo interpretation accompanying this report. It is quite evident that in the earlier years of development the Vancouver location was an orphan. A small amount of development work was undertaken during the years 1932-34 by the owners at the time with notably good results. In 1934 the property was taken into Sheep Creek Gold Mines Ltd.

The exact chronological order of production from the Vancouver Vein is difficult to trace but it is noted in British Columbia Department of Mines, Bulletin No. 31, p.52, that the tonnage mined from the Vancouver Vein was 350 tons yielding 960 ounces gold or an average of 2.74 ounces per

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ton. (The grade is important relative to recent sampling noted below.) This early beginning production was, according to the records, completed in the period 1932 to 1937. The Report of The Minister of Mines, 1932 (p.A193) "Total shipments for the year amounted to 113 dry tons containing 205.29 ounces of gold and 84 ounces of silver." (or 1.81 oz. Au/ton and 0.74 oz. Ag/ton.)

Beyond this explicit reference the only other published reference found is as noted above.

The Underground Plan of the Hideaway Adit and Section A-B accompanying Mr. Rayner's report offer factual data important to the concept here presented.

Section A-B presents the relative vertical positions of the early workings on the Vancouver Vein at elevation 4085 feet and the Hideaway Adit at 3518 feet undertaken by Sheep Creek Gold Mines. The section also notes that on the east face of the stope developed the values were as follows: 0.46 oz. Au/3.0 ft. in the hanging wall, 2.15 oz. Au/0.6 ft. and 3.86 oz. Au/0.6 ft. in the foot wall of the vein.

The western face is shown as 0.69 oz. Au/0.6 ft. and fines at the bottom of the drift, 2.01 oz. Au.

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This information, together with the plan of the Hideaway, are from the old Sheep Creek records and were provided to Arctex Engineering by the present owners of that property.

The plan provides accurate information concerning the time in which developments were completed in a logical sequence to properly develop the Vancouver Vein. The dates on this plan show that Station 111 was reached on November 16, 1938. From this point a drive to the southeast was undertaken and ended on June 1, 1939. The easterly direction of the adit was then resumed and Station 114 was reached at about June 16, 1939. The direction of further working then went north to Station 115 from whence it paralleled the workings at elevation 4085. The final date of work noted is November 1, 1939.

Two very important points emerge from this evidence:

- (i) The adit as developed and its change in direction northerly clearly put these workings in the foot wall of the Vancouver Vein. A continuation easterly from Station 114 would probably have been more successful.
- (ii) The time at which this work was stopped was shortly after the beginning of World War II when manpower and supply requirements commanded closure of nonessential mining operations. Indeed the con-

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tinuing operation of the Sheep Creek camp was on a declining basis until eventual closure in '41-'42. The Vancouver Vein was, therefore, a casualty of circumstances and not a lack of geological promise. The ambitious undertaking of developing the Hideaway Adit attests to the latter.

Present:

The former Kootenay Belle property which produced 108,925 ounces gold from ^{219,500} 277,000 tons of ore (³⁶⁵ 0.393 oz./ton) (B.C. Bulletin 31, p.52) and a number of additional claims were again brought together under one ownership in 1979.

Extensive exploration work including soil geochemistry surveys were completed. In 1981, under an agreement with Crow Equities Ltd., rehabilitation of the workings was undertaken.

The results important to this report are the assay values obtained from sampling of the Vancouver adit sector in 1981. The stope could not be entered because it is flooded.

The certificate of assay shows an arithmetic average, not including the single Trace amount, of 0.60 oz. Au. The results used in calculating probable reserves as shown on the plan accompanying this report average 0.736 oz. Au/ton over

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2 feet. This indicates reasonable agreement with the value noted in the west wall of the stope (Section A-B).

Equally important is the value obtained from Sample VL-V-80 which is the most easterly location accessible in the adit. This returned 2.560 oz. Au/ton, which is in very close agreement with average value of 2.74 oz/ton obtained in early mining.

Air Photo Interpretation:

The air photo interpretation accompanying this report shows the position of the Vancouver Vein relative to other former producing veins and its possible extensions.

From this it can be seen that the Vancouver Vein is an extension of the structure which hosted the Hideaway Vein on the Sheep Creek property. This structure continues eastward beyond the Vancouver adits where it appears to be displaced southerly by a north-south fault structure. The eastward extensions of this structure remain unexplored, but equally important, this structural interpretation clearly shows that the known sectors of the Vancouver Vein are part of a strong feature which has provided production in the past, i.e from the Hideaway on Sheep Creek ground and minor ton-

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nage but significant grade on the property now held.

Considering the location of the Vancouver relative to the Hideaway and the approximate difference in elevations the suggested dip of the vein structure is approximately 60° south.

This is further evidence that the Hideaway Adit at its most easterly sector of development is in the foot wall of the Vancouver Vein as developed at the 4050 elevation.

Conclusions:

The evidence clearly reveals that the rich sections of the Vancouver Vein developed in the early stages of the Sheep Creek camp is not an isolated occurrence. It is part of a strong structure which can be traced a distance of approximately 3,000 feet on the present property, the easterly extension being interrupted by a north-south fault. The westerly extension coincides with the Hideaway Vein which was productive on the former Sheep Creek property.

From this evidence it is reasonable to extend the dimensions of the stope on the Vancouver Vein 100 feet eastward and 100 feet downward.

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It is equally acceptable to extend the stope westward to a point 25 feet east of the adit entrance and downward to the same level below the existing stope.

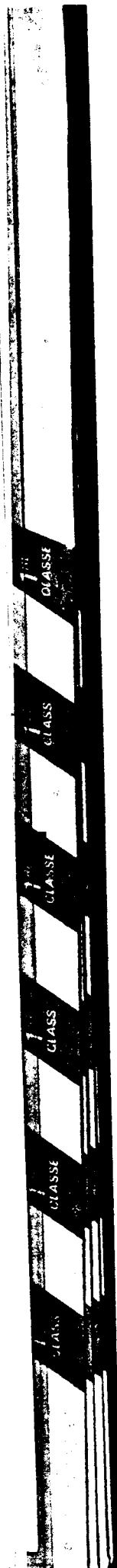
On this basis the following tonnage and grades in easily accessible sectors of the Vancouver Vein as shown on Section are:

<u>Block</u>	<u>Dimension</u>	<u>Tons</u>	<u>Grade</u>	<u>Oz. Au.</u>
A	$\frac{30 \times 55 \times 2}{12}$	275	0.736	202.4
B	$\frac{(120 \times 55 \times 3) - (20 \times 20 \times 3)}{12}$	1550	1.187	1,839.8
C	$\frac{150 \times 100 \times 3}{12}$	3750	1.187	4,451.25
D	$\frac{80 \times 100 \times 3}{12}$	2000	0.69	1,380.0
	Total	7575		7,873.5

Grade used for Blocks B and C is based on assay values in the F.W., H.W. and vein. It disregards the much higher value obtained in previous mining; the higher reported value of fines and reduces mineable width from 4.2 feet to 3.0 feet.

Grade for Block D is based on the lower value previously reported. Mineable width is taken as 3.0 feet from past records and evidence in the adit.

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Grade for Block A is taken from recent sampling results.

In the most strict technical definition this ore must be placed in the probable category. Although sectors could be placed in the proven category, the writer prefers to allow the total ounces of gold to remain in the probable category. Applying a factor of certainty of 1:2 the ounces of gold recoverable from the development stages would then be 3,936.

The unique location of the property and the siliceous character of the ore would allow this development ore to be shipped to Trail for smelting.

It is not the purpose of this report to suggest the above as a commercial production. Nor would the above reserves necessarily provide a totally profitable operation in the normal sense of mining. The above conclusions, however, do show that sufficient gold exists on this property to protect investors from loss and with modification to the exploration and development program, the gold which can be won is security against the proposed gold guaranteed debenture issue.

It is therefore recommended that the drilling program be

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modified to include 2,000 feet in the first phase to explore the downward continuation of the Vancouver Vein. On the basis of these results, locate workings to gain access to the ore between the 3,500 and 4,000 ft. level.

The estimated cost of this program would be:

2,000 ft. diamond drilling	\$ 60,000.00
Rehabilitate Hideaway Adit and Provide Track & Pipe	50,000.00
Raise 400 ft. @ \$425.00/ft.	170,000.00
Mining 1500 tons @ \$40.00/ton	60,000.00
	<hr/>
<i>Deewater</i>	Total \$340,000.00

This modified program would concentrate directly on the most positive feature on this property on the basis of present information. It would also allow, with some re-direction of funds, to carry out the basic proposals of mapping, sampling and trenching submitted by Mr. Rayner with the very pragmatic goal of gaining an early return from the property.

The total cost would therefore be \$340,000.00 plus \$50,000.00 previously recommended for a total of \$390,000.00 say \$400,000.00.

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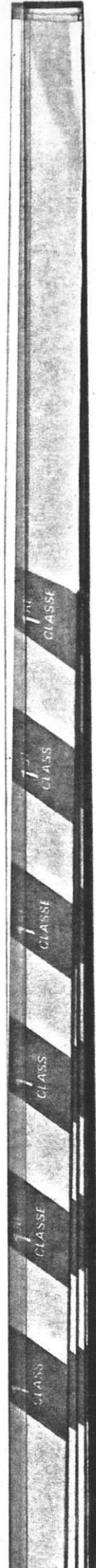
*What?
Kooleray Aes?*

In addition historical notes, locally gathered, which indicate ore above the six level may be quickly verified.

All of which is respectfully submitted by

Norman H. Ursel

Norman H. Ursel, P.Eng.



I, NORMAN H. URSEL, hereby certify that I am:

- 1.) A graduate of the University of Saskatchewan receiving a B.Sc. degree in 1949.
- 2.) A member in good standing of:
 - the Association of Professional Engineers of the Province of Ontario,
 - the Canadian Institute of Mining and Metallurgy,
 - the Prospectors & Developers Association,
 - the British Columbia and Yukon Chamber of Mines.

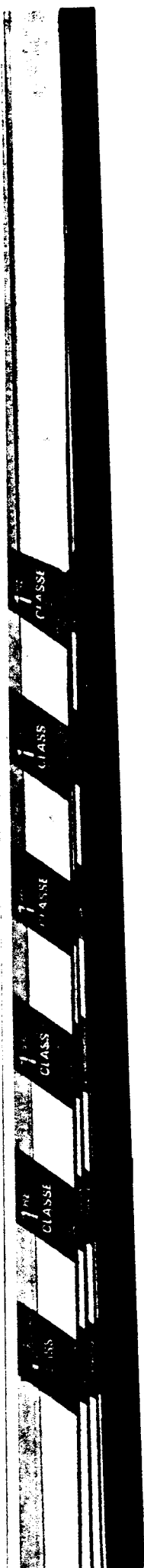
(I am making application for registration as in the Association of Professional Engineer of British Columbia).

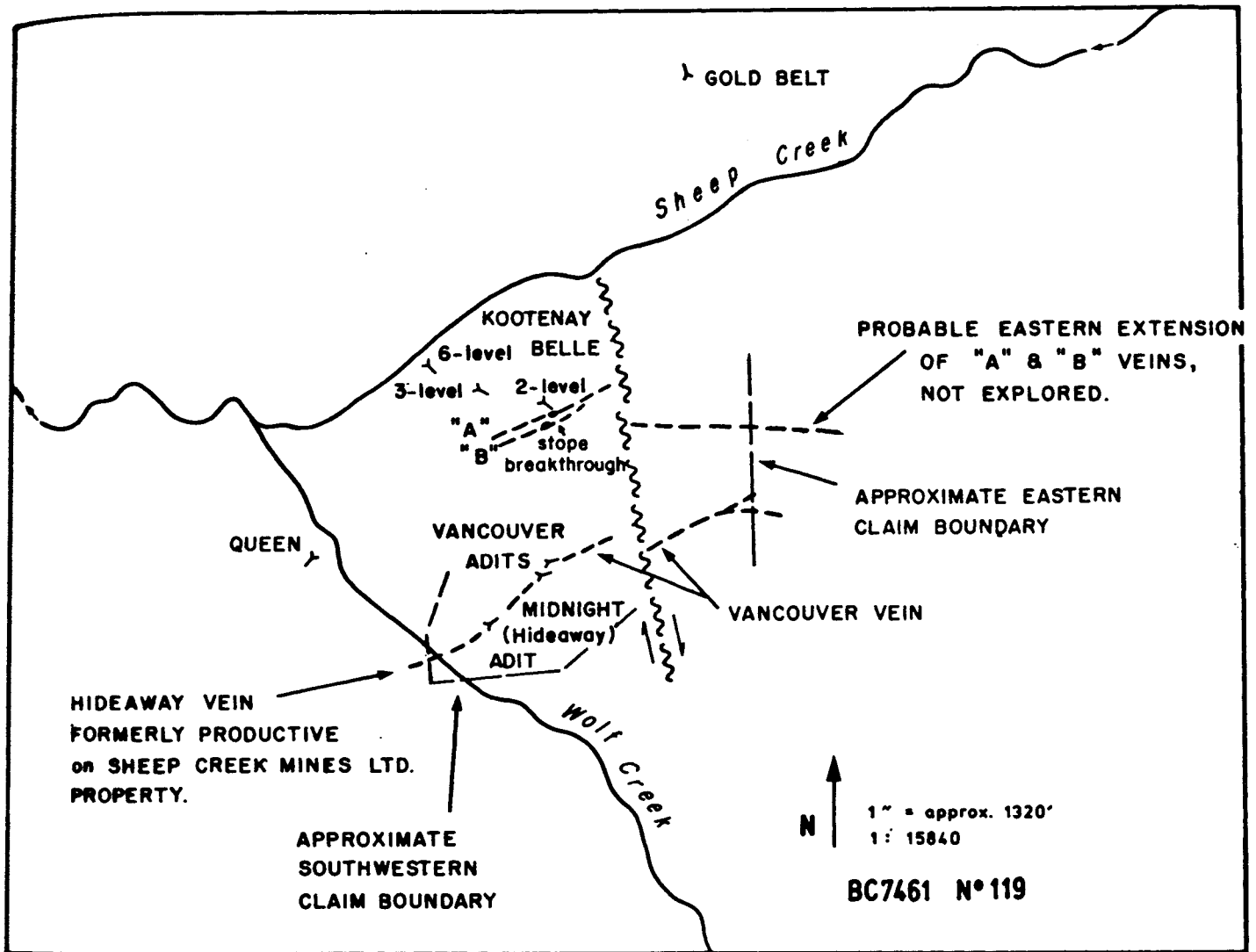
- 3.) A consulting mining engineer with offices at 5345 Trafalgar Street, Vancouver, British Columbia and have been active in mining exploration and development in a professional capacity for the past 28 years.

I further certify that:

- 4.) This report is based on field examinations and careful study of both historical and current data.
- 5.) I have no interest in Crow Equities Ltd., the Kootenay Belle Property, or Black Diamond Resources Limited.

Norman





BLACK DIAMOND RESOURCES LIMITED KOOTENAY BELLE PROPERTY

SHEEP CREEK, B.C.

NELSON MINING DIVISION

N.T.S. 82 F / 3 E

AIR PHOTO INTERPRETATION

TO ACCOMPANY REPORT BY NORMAN H. URSEL, P. Eng., Consulting Engineer.
ARCTEX ENGINEERING SERVICES
FEBRUARY, 1982.

