

825691 103P/12

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

JAN - 8 1973

103 P

To Dr. P. M. Kavanagh

From W. M. Sirola

attach to previous

Subject DOLLY VARDEN - NEW JERSEY ZINC AGREEMENT

Date January 4, 1973

| | |
|--------|---|
| J.H.S. | ✓ |
| P.M.K. | ✓ |
| G.M.H. | ✓ |
| R.D.S. | |
| B.C.B. | |
| I.D.B. | |
| M.D.R. | |
| J.H.F. | |
| E.C.J. | |

Ralph McDonald is out of town but will return on Monday.

The enclosed copy of the New Jersey Zinc deal implies that if New Jersey Zinc brought the property to the production stage, it would have 50% of the issued shares of Dolly Varden. There is nothing to indicate whether or not N.J.Z. could improve this position nor is any mention made of the capital cost of a 700 ton per day plan.

pretty rough deal. Mark

Our final ore reserve estimate was 1,216,665 tons of proven, probable and possible ore averaging 9.15 oz of Ag per ton and less than 1% combined lead zinc. Our capital cost estimate was \$5,860,000 which included 9% interest plus 3 months working capital. With silver at \$2.50 per oz we felt that a profitable operation could be maintained at 700 tons per day and that a profit of approximately \$3,000,000 would ensue from the existing ore reserve after return of capital.

I will get in touch with Ralph McDonald on his return and will advise you further regarding his version of the deal and the work completed by New Jersey Zinc.

WMS/ah

Opportunity 2 of the four zones drilled by N.J. Zinc showed some possibility of extension of Kans zones. However, a silver price of at least 2.50/oz. would be required to put the deposits as presently known in the viable range

W. M. Sirola

Jan. 11/73

WMS

JAN 15 1973

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

103 P

| | |
|-------------------------------------|-------------|
| <input checked="" type="checkbox"/> | J.H.S. |
| <input checked="" type="checkbox"/> | P.M.K. |
| <input checked="" type="checkbox"/> | G.M.H. |
| | R.D.S. |
| | B.C.B. |
| | I.D.B. |
| | M.D.R. |
| | J.H.F. |
| | <u>ECJ.</u> |

To P. M. Kavanagh

From W. M. Sirola *attach to previous*

Subject DOLLY VARDEN MINES, ALICE ARM AREA, B.C.

Date January 10, 1973

do not update

I talked with Ralph McDonald this afternoon about the reasons for New Jersey Zinc's failure to carry on exploration or development at Dolly Varden. He said that the decision had been made by the N.J.Z. Mining Department on the basis that mining costs in that environment made the profit possibilities rather marginal. He did imply, however, that the decision was close.

The surface diamond drilling was done in four areas with money provided by N.J.Z. and with the work being supervised by staff members of Dolly Varden Mines. Two or three drill holes were completed on the Musketeer, Surprise, Dolly Varden and Kitsault veins, and a cross-cut was contemplated into the north-west end of the North Star vein. Out of this work there was one good drill hole on the Musketeer and one on the Kitsault. McDonald felt that had the Mining Department taken a more optimistic view of mining costs, they would then have done more drilling on the Musketeer and on the Kitsault, and they would have driven a cross-cut into the North Star to facilitate drilling of that particular vein.

McDonald conceded that N.J.Z. would receive 50% of any profits after return of capital costs and that this division could only have been improved by purchasing shares on the open market. Cromie has, apparently, decided that he could not expect return of the \$3,000,000 which he alleges has been spent on the property to date and which he considers a Dolly Varden asset to be returned to Dolly Varden on a pro rata basis. Needless to say I never agreed with Mr. Cromie on this point.

The conclusion which we arrived at in this office in 1970-71 was that a silver price of \$2.50 per oz would be required before any profit would ensue from this operation. In as much as no real additional tonnage has been developed, we see no reason whatsoever for changing this conclusion.

We have not in the past dwelt on the fact that there would be four separate mining operations to feed one mill. Such an operation would certainly be costly compared with operating a single mine and the turnover of personnel (bearing in mind the case of B.C. Molybdenum Ltd.) would add materially to operating costs.

I do not recommend re-approaching Cromie unless we can look forward to a \$2.50 silver price one year hence. We could probably do a justifiable work programme next summer, but might have trouble finding targets which would keep us occupied for a longer period.

I agree
W.M. Sirola
 W. M. Sirola

I agree that we should let this one rest a while longer
PMK
Jan. 15/73

WMS/ah

cc: G. M. Hogg

JAN 29 1971

KERR ADDISON MINES LIMITED
405 - 1112 WEST PENDER STREET
VANCOUVER 1, B.C.

COPY

January 27, 1971.

103P

DOLLY VARDEN

attach to previous

| | |
|-------------------------------------|--------|
| <input checked="" type="checkbox"/> | J.H.S. |
| <input checked="" type="checkbox"/> | P.M.K. |
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| <input type="checkbox"/> | J.H.F. |
| <input checked="" type="checkbox"/> | E.C.J. |

Mr. Peter Cromie,
President,
Dolly Varden Mines Ltd.,
409 Granville Street,
Vancouver 2, B.C.

Dear Mr. Cromie:

We regret that our studies of the Dolly Varden data were not such as to enable us to make you a concrete offer for participation in the mining of these deposits. We appreciate that these properties are a valuable asset to your Company, and that they do constitute an important future reserve of silver ore.

We very much appreciate the cooperation we have had from yourself, George Altonen and Marvin Mitchell.

We have returned most of the data you loaned us, but still have a stack of reports which we will return today.

Again, our sincere thanks for your courteous cooperation.

Yours sincerely,

W.M. Sirola
W.M. Sirola.

WMS/jm

cc. - Dr. P.M. Kavanagh ✓
Mr. Glen Hogg

JAN 27 1971

103 P

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

attach to previous

| | |
|----------|---|
| J.H.S. | ✓ |
| P.M.K. | ✓ |
| G.M.H. | ✓ |
| R.D.S. | |
| B.C.B. | |
| I.D.B. | |
| M.D.R. | |
| J.H.F. | |
| (E.C.J.) | |

To Glen Hogg

From W.M. Sirola

Subject DOLLY VARDEN MINES

Date January 25, 1971.

This memorandum will comment on the copy of Peter Cromie's letter to Paul Kavanagh dated January 13, 1971.

Mr. Cromie seems rather dissatisfied with our efforts and appears to be waiting for us to make Dolly Varden some kind of proposition which would now be, presumably, quite different from the bargaining posture he assumed during our last meeting. He mentions for example a 65%-35% division of profits, but my notes indicate the following:

| <u>Mill Capacity</u> | <u>Division of Profits</u> | |
|------------------------|----------------------------|---------------------|
| | <u>Kerr Addison</u> | <u>Dolly Varden</u> |
| 700 - 1,500 T.P.D. | 51% | 49% |
| 1,500 - 14,900 T.P.D. | 53% | 47% |
| 15,000 - 24,000 T.P.D. | 61% | 39% |
| 24,000 - ? | 65% ? | 35% ? |

In essence then if we were to find the world's largest silver mine, or a very large porphyry-copper deposit, the division of profits might then be on a 65%-35% basis.

The other conditions stipulated by Mr. Cromie were:

- (1) Exploration expenditures of \$300,000 in the first year, increasing modestly for the next two years; ✓
- (2) \$3,000,000 to be repaid to Dolly Varden out of 20% of cash flow; and, ✓
- (3) Property to be placed in production when the price of silver reaches \$2.00, but this figure flexible to some degree. ✓

I mentioned to Paul Kavanagh during his brief visit here on Monday, January 18, that the only other effort which I consider worthwhile would be to get the final report (if indeed there is one) on Torbrit from the old Mining Corporation's files. This might give a more comprehensive review of the Torbrit picture than we have hitherto had access to. I imagine Dr. Brown of Noranda could quickly fill us in on that situation.

It is rather interesting to note that Mr. Cromie now feels that Dolly Varden might put up some of the money for capital expenditures. His prior attitude was that Dolly should have a free ride.

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To Glen Hogg

From W.M. Sirola

Subject Dolly Varden Mines - PAGE 2

Date January 25, 1971.

Unless something attractive emerges from the Mining Corporation's data on Torbrit, my conclusion remains that there does not appear to be any framework in which we could entertain an option on Dolly Varden at the present silver prices. Again this thinking is based on the fact that the best target which was the Wolf No. 2 vein, was found wanting by the Bralorne drilling and the next best target would be the Torbrit property.

*Dr. W. Brown -
negative
recommendation
Jan 20/71*

In this connection, Fred Chow has done more work on the Torbrit reserve since my report was submitted, and he has changed the reserve from the 367,000 tons averaging 7.6 ozs. of possible ore to 324,000 tons of proven ore, 288,410 tons of probable ore and 169,120 tons of possible ore, for a total of 781,530 tons. He does not, however, attempt to calculate grades for these categories, and we would have to assume that the average might be in the order of 7 to 8 ozs. of silver per ton. While the improved tonnage is helpful, the lower grade is a bit scary and does not change my overall thinking.

Cromie makes the comment that I liked the property but could not see an adequate margin of profit. The statement is true to the extent that a mineable reserve of silver does exist when that metal reaches a price of \$2.50-\$3.00 per pound. The problem is to keep Mr. Cromie satisfied in the interim.

WMS/jm
Encl. -

Ore Reserve Summary
Torbrit Silver Mines, B.C.

W.M. Sirola

W.M. Sirola.

*Advised W. Sirola Jan 26/71.
on negative decision
He will write a covering letter
to Mr. Cromie.*

Just Jan 27/71.

ORE RESERVE SUMMARY

Torbrit Silver Mines, B.C.

January 1971

Calculations Based on Mine Assay Sections.

(Sections by George Altonen? of Dolly Varden Mines)

| <u>RESERVES</u> Level Category | <u>Above 10^L</u> | | <u>Between 8^L-10^L</u> | | <u>Between 7^L-8^L</u> | | <u>Below 7^L</u> | | <u>TOTALS</u> <u>Each Category</u> | |
|--------------------------------------|-----------------------------|---------|---|---------|--|---------|----------------------------|---------|---------------------------------------|---------|
| | Tons | oz.Ag/T | Tons | oz.Ag/T | Tons | oz.Ag/T | Tons | oz.Ag/T | Tons | oz.Ag/T |
| Proven | 154,500 | | 164,500 | | 5,000 | | | | 324,000 | |
| Probable | 51,670 | | 181,190 | | 45,550 | | 10,000 | | 288,410 | |
| Possible | <u>75,900</u> | | <u>72,480</u> | | <u>19,490</u> | | <u>1,250</u> | | <u>169,120</u> | |
| <u>Totals</u> all categories | 282,070 | | 418,170 | | 70,040 | | 11,250 | | 781,530 | |
| Potential | 50,650 | | 124,420 | | 42,270 | | | | 217,340 | |

- Note: (1) Proven reserves are chiefly blocked out in about 6 ore shoots.
 (2) Probable reserves: about 2/6 in large bodies, 3/6 in medium and 1/6 in small body of known shoots.
 (3) Possible reserves: chiefly medium to small size segments and D.D.H. intersections.
 (4) Potential reserves: chiefly medium to small size zones extending from known shoots and/or D.D.H. intersections. Potential reserves are within 75' of known ore intersection.

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

J.H.S.
P.M.K.
G.M.H.
R.D.S.
R.C.B.
I.D.B.
M.D.R.
S.H.F.


To.....W. M. Sirola.....From.....G. M. Hogg.....
Subject.....Dolly Varden Mines Ltd.....Date.....January 25, 1971.....

E.C.J.

On checking the potential of the Torbrit vein of the Dolly Varden with Dr. Brown of Noranda (who directed Mining Corporation work on this particular vein system), it was found to have been very well tested. Results did not indicate much additional tonnage to be in prospect.

In view of the results of your extensive research of the property, and the negative observations of Dr. Brown on this one last remaining possibility, Mr. Cromie was advised by Paul Kavanagh that Kerr is not interested in pursuing the matter any further at present.

GMH:1fr


G. M. Hogg

JAN 15 1971



DOLLY VARDEN MINES LTD. (NPL)

Silver Mines
ALICE ARM, B.C.

1400-409 GRANVILLE STREET, VANCOUVER 2, B.C. PHONE 682-4296

January 13, 1971

Kerr-Addison Mines Ltd.
Attention: Dr. P.M. Kavanagh,
Vice President
Suite 1600
44 King Street, West
Toronto, Ontario

| | |
|--------|---|
| J.H.S. | |
| P.M.K. | ✓ |
| G.M.H. | ✓ |
| R.D.S. | |
| B.C.B. | |
| I.D.B. | |
| M.D.R. | |
| J.R.F. | |

(E.C.J.)

Dear Dr. Kavanagh,

It was interesting talking to you on the phone yesterday, and I thank you for discussing Dolly Varden's problem with me.

Bill Sirola, who I assume has done a fairly extensive study of most of our data, asked us on December 29th what kind of a deal we would be interested in. We told him what we thought would be fair to both sides; he made notes of this, and we heard no more about it until I phoned him yesterday, when he told me that after some study of return on investment, he could not recommend our deal to Kerr. It is my impression that he is enthusiastic about the property itself.

In addition to our known ore, the indications of additional ore bodies and possible extensions of present veins, exist on an unheard of scale for a non-producing property. We need money to develop the property. If the supplier of funds does not feel comfortable with the probable return from the known ore, his chances of increasing his return enormously can be assured by further exploration of known occurrences. We have no desire to sit and wait for the price of silver and copper to reach some arbitrary figure in the future; mines are not found this way. There could be enough treasures under the Surprise claim alone, for example, to justify the expenditure of \$5,000,000.

We have spent \$3,000,000 over 10 years on this property, most of which was spent in attempts to get it into production. Every single attempt failed because we ran out of money. In the course of this work, plus the large amount of drilling and drifting done by Torbrit Mines Ltd. in the Torbrit and North Star mines, a great deal of data has been accumulated. Never before has any attempt been made to assemble these findings in a meaningful way. Now, in these last few months, we have come a long way and the results are quite astounding: on the Copper Belt, the Surprise, and the silver veins, and in particular, the apparent relationship between them.

After talking further with Bill Sirola on Jan. 18th, I advised Dolly Varden that we would not be pursuing any further interest at present. cont'd. Jan. 21/71.

Kerr-Addison Mines Ltd.
Attn: Dr. P.M. Kavanagh
Page two

January 13, 1971

To suggest that this situation does not justify substantial exploration expenditures, simply denies the facts. You should remember that there has never been a serious exploration program carried-out on our over-all property, and yet, I repeat, the picture that is now evolving is quite outstanding.

As to the kind of deal that we want, we have suggested one which would give you up to 65% of the profits, and which we think is fair. There are two sides to every deal, and so we would be interested to explore with you what you think would be fair. We have been given no clue as to what kind of arrangement you would prefer. Perhaps rather than lend money to the venture, you could leave your money in and we would do likewise. Another alternative is for us to raise part of the money, say \$2,000,000, - etc., etc. But I think that to look for some pre-determined rate of interest-return based on presently known ore reserves is fiddling around by bookkeepers rather than underground mine-making.

IF Kerr-Addison is in a position to take on one more mine and is interested in considering our property, I would be pleased to discuss it with you next week either in Toronto or Vancouver.

Respectfully yours,



Peter Cromie, President

PC:vg

cc: Wm. Sirola
Kerr-Addison Mines Ltd.
Vancouver

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To..... P. M. Kavanagh..... From..... G. M. Hogg.....

Subject..... Dolly Varden Mines Ltd..... Date..... January 12, 1971.....

Attached are two memoranda from W. M. Sirola, and considerable data concerning the Dolly Varden Mines Ltd. property in the Alice Arm area of B.C.

As you are aware, Bill has done considerable research on the property from the standpoint of (a) acquiring a controlling interest in an attractive silver situation (silver being of excellent market potential), and (b) securing a live copper-molybdenum exploration area.

Briefly the findings are as follows:

1. The tonnage potential of the various Dolly Varden zones has been seriously limited by the work of Newmont and Bralorne, who held options on the property recently. Although silver grades are good, and vein systems large enough to allow easy mining, it is doubtful if the profit margin which could be generated by reasonably estimated available tonnage would be attractive to Kerr Addison on a joint venture basis.
2. The copper-molybdenum area, a part of the Dolly Varden claim group, is in theory of good potential. Exploration data, however, does not indicate much other than the irregular vein type of mineralized zone to be present. That is, there is little evidence to suggest that massive replacement or disseminated zones of copper and/or molybdenum may be present.
3. The Dolly Varden people have indicated that any option on the property would be under rather stringent terms - probably involving expenditures of at least \$200,000 annually on the part of the optioning company. In that any possible return from mining operations on the property would have to await a substantial increase in silver prices, the prospect is not attractive.

I fully agree with Bill Sirola's conclusions, and have instructed him to advise the Dolly Varden principals that Kerr Addison is not interested in negotiating an agreement on the Alice Arm property at this time.

GMH:lfr


G. M. Hogg

cc: W. M. Sirola

JAN 11 1971

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To Glen Hogg

From W.M. Sirola

DOLLY VARDEN MINES LIMITED

Subject Copper Belt Reports

Date January 8, 1971.

J.S.
P.M.K.
G.M.H.
R.O.S.
G.C.B.
I.O.B.
M.O.B.
J.H.F.

(E.C.J.)

You may recall from your brief skirmish with this material that adjacent to the Dolly Varden silver claims on the west side of the Kitsault River there occurs a porphyritic intrusion sometimes referred to as the "copper belt intrusion".

Dolly Varden Mines carried out geochemical surveys over this area during the past year and Peter Cromie has been quoted as saying that this area contains from zero to 500,000,000 tons of copper ore. He reaches this conclusion because there is no proof of any ore but because the area of the copper and moly. anomalies is equal to one square mile. Be that as it may, we have reviewed the information both old and new, and I now enclose three reports which we should at least have on file. These reports are:

- (a) A brief one by John Lund on the geochemistry;
- (b) A letter from Nick Carter of the Department of Mines and Petroleum Resources, describing his visit to the area, and
- (c) A geological report on the claims northwest of the Torbrit Mine, written in August 1952 by Rade Calich.

Unfortunately, the geochemical and trenching maps of this area are so large that we have no way of printing them, so I thought probably we could show those areas in which values have been found on John Black's geological map which we printed out of 1951 Minister of Mines reports. We have also enclosed that portion of the geochemical survey which covers the so-called "surprise" area. The surprise mineralization appears to be the most promising but as near as we can make out is entirely of the vein type and consequently not too interesting from our standpoint.

I think Calich probably has a reasonably good interpretation of the copper belt mineralization when he states that the intrusion is attractive from a distance. Without a personal examination of this area, I have to conclude that the likelihood of broad areas of disseminated mineralization are not good. Certainly very little indication of good dissemination has been found and the geochemical work does not suggest that such dissemination exists. Neither does it suggest that deposits of the Anyox type, which were large massive replacements,

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To Glen Hogg *From* W.M. Sirola
Subject Dolly Varden Mines Limited - PAGE 2
Copper Belt Reports *Date* January 8, 1971.

are likely to be found.

Since we were unable to find the basis for optioning the silver claims, and since our conclusions regarding the copper belt are what they are, we are unable to recommend work in this area.

WMS/jm


W.M. Sirola.

- Encls. - 1) Assessment of the Copper Belt by John Lund.
2) Geologic report on claims northwest of the Torbrit Mine by Rade Calich.
3) Geology of the upper Kitsault Valley area by John Black.



DEPARTMENT OF MINES AND PETROLEUM RESOURCES
VICTORIA

February 24th 1970

Mr. George Aaltonen,
General Manager,
Dolly Varden Mines Ltd.,
304 - 1033 West Pender Street,
VANCOUVER, B. C.

Dear George:

In response to your request during our 'phone conversation yesterday, here are a few of the results of my brief look at your Copper Belt properties last year.

I had an opportunity to examine four of the properties along the southern extension of the so-called "Copper Belt Intrusive", which everywhere is a light gray feldspar porphyry of uniform appearance, fractured by abundant disseminated pyrite. The rock may weather to a prominent gossan as above Red Point and in Gachq Creek. The intrusive is in contact with crumpled siltstones on the east and massive red to green fragmental volcanic rocks to the west.

The Red Point adit, 710 feet long, is at an elevation of 1500 feet. The first 400 feet were driven at 345° and the remainder at 310°. The feldspar porphyry seen in the adit is cut by numerous northeast striking shears and fractures. Minor malachite stain was noted. Chip samples collected at 10 foot intervals from the face to the portal averaged - gold, trace; silver, trace; copper, 0.025%. A sample taken from the bluffs above the adit assayed gold, trace; silver, 0.2 oz; copper, trace.

On the Combination claim, 250 feet northeast of a small lake, three trenches, 30 feet apart, cross a N80W shear zone in feldspar porphyry. The shear is variably mineralized with quartz, barite, pyrite and chalcopryrite in a zone which may be 15 feet wide. In the easternmost trench, a four foot zone of better than average grade assayed, gold, 0.02 oz; silver, 2.4 oz., copper, 3.95%. Six feet between this zone and the steeply dipping footwall assayed gold, trace; silver, 0.4 oz., copper, 0.15%. Seventy-five feet north of these trenches, on the opposite side of a prominent draw, an adit, now partly caved, was driven in a southerly direction below an east-west 8 ft. wide zone of similar mineralogy. A sample across this zone exposed in an

Mr. George Aaltonen

February 24th 1970

open cut assayed gold, .01 oz; silver, 1.4 oz; copper, 0.67% and a grab sample from the adit dump assayed gold, .02 oz; silver, 1.2 oz; copper, 0.95%. This zone may represent an offset of that exposed in the trenches.

A sample taken from the main trench 100 feet south of the Ouray cabin assayed gold, .03 oz; silver, 0.6 oz; copper, 0.43%; lead, .02%, zinc, 0.14%, across 25 feet.

On the Copper Cliff claims, in ^{Cash} ~~Cash~~ Creek at an elevation of 2540 feet, iron-stained feldspar porphyry contains some chalcopyrite, in old open cuts. A chip sample across 30 feet assayed gold, .01 oz; copper, 0.03%. At 2490' elevation, an adit was driven in a southerly direction for 110 feet. Random chip samples taken along the adit assayed gold, .01 oz; copper, trace.

The accompanying sketch map indicates that the intrusive is more or less confined to the Kitsault slope which would make an IP survey difficult but certainly not impossible. The most favourable area for the deposits appears to be along the eastern margin, near the contact with the sediments. The same is true for properties to the north, such as the Vanguard and the Homestake. In a few places, the intrusive appears to have a nearly horizontal contact with the sediments. A. D. York in Alice Arm remarked that Granby drilling at the Copper Cliff collared in feldspar porphyry but soon ran into sediments.

At any rate, the area should be looked at as a whole and I think an IP survey would be useful. A magnetometer survey would also be of value in defining structure. I didn't get to properties such as the Racehorse or Starlight but I hope to do so this field season.

I hope this material is of some use to you.

Best regards,



N. C. CARTER
Geologist

NCC:bg

Encl: Sketch map

JAN - 8 1971

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To Glen Hogg

From W.M. Sirola

DOLLY VARDEN MINES - SILVER DEPOSITS

Subject Alice Arm, B.C.

Date January 6, 1971.

J.H.S.
P.M.K. ✓
G.M.H. ✓
R.D.S.
B.C.B.
I.D.B.
M.D.R.
J.H.F.

E.C.J.

Fred Chow and I have reviewed all of the available technical data on Dolly Varden. These data consist of a Chapman, Wood and Griswold feasibility report, dated June 1969, the geology of the Dolly Varden, North Star and Wolf mines by Dr. A.C. Skerl, written in 1961 but revised to 1968, and information and maps supplied by Dolly Varden which reflect their views about these silver deposits. In addition, I have talked with Bob Sheldon of Newmont and Jim Thompson of Bralorne. Both Newmont and Bralorne held options on Dolly Varden at one time.

Having reviewed all this information, I felt that the simplest form of presentation to you would be to write the summary and conclusions, copy the more pertinent parts of some of the reports and present some illustrative maps and sketches which demonstrate what we have said in the summary and conclusions.

I found the study of the Dolly Varden deposits very intriguing because these are not the usual narrow veins that are found in many silver camps such as the Slocan, but rather are veins varying from 10 to 100 feet in width and which therefore are amenable to relatively cheap mining and which would justify a mill capacity in excess of 500 tons per day. Unfortunately, the future potential of the Dolly Varden deposits appears to have been limited by some of the work done by other companies such as Bralorne and by the fact that some of the bottom levels are becoming obviously more zincy, and this militates against down-dip possibilities.

If there were a really good target area, despite the work that has been done by others, I would have to suggest that we make Dolly Varden an offer. Unfortunately, we have not been able to find in any of the veins an area which we could drill with confidence, and feel that the ore reserve could be materially increased. Added to this fact is the problem of dealing with Dolly Varden on mutually acceptable terms. In short we have ✓

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To Glen Hogg

From W.M. Sirola

PAGE 2

Subject Dolly Varden Mines - Silver Deposits

Date January 6, 1971.

not been able to find a combination of factors which would enable us to recommend work on these properties. The reasons for this conclusion are spelled out in the enclosed summary and conclusions.

WMS/jm
Encl.

Bill
W.M. Sirola.

This is an excellent study of the potential of the Dolly Varden picture. I agree with W. Sirola's conclusion that the picture is not attractive to Kerr at this time - particularly in that it would be likely very difficult to negotiate a reasonable deal with the Dolly Varden people

Glen Hogg

Jan 8/71



Telecommunications

check _____ full rate **XXXX** day letter _____ night letter _____ tolls _____

company or individual **W. M. Sirola**

address and telephone **Room 319 - 409 Granville Street, Vancouver, B. C.**

time and date **November 9, 1962** charge acct. no. **37860**

Re. Dolly Varden Mine, B.C. (103-P)

We don't want to do anything more about Dolly Varden

| | | |
|---|--------|-------------------------------------|
| A | W.S.R. | |
| | K.C.G. | |
| | P.M.K. | <input checked="" type="checkbox"/> |
| | C.K.W. | |
| | G.H.M. | |
| | R.D.S. | |
| | B.C.B. | |
| | D.W.P. | |
| | G.P.P. | |
| | E.L.D. | |
| | J.L.B. | |
| | E.C.J. | |

RA

P. M. Kavanagh

**phoned
ry**

This wire was sent after I told Mr. Row about the situation by phone Friday morning Nov. 9th. I recommended to Mr. Row (after considerable thought after Sirola's call) that we decline further interest, because Buckland was involved & because of the small equity (25%) available. Mr. Row emphatically agreed. P.M.K.

send this message subject to the terms on back

8102

①

Dolly Varden Mine, Alice Arm District, B.C. (103-P)

- the following are notes taken during a phone call from Bill Sirola in the evening of Nov. 8/62 - Bill had spent an hour discussing the situation with Frank Buckland.

- Kerr could buy a 20% for \$350,000 (700,000 shs @ 50¢)

- there are 2.4 million shares ~~not~~ issued of the present 3 million share company, but Buckland intends to increase capitalization to 3 1/2 million.

- stock price closed at 59¢ on Nov. 8 - having risen about 9¢ that day based on encouraging reports released by Buckland

- Thayer Hindsley & George Tovar recently bought 200,000 shs @ 37 1/2¢

- Buckland estimates current positive reserves at 250,000 tons of 16% Ag. in 2 different segs: a) Wolf No. 1 & b) Dolly Varden.

- Skerl's est. is 200,000 tons @ \$15.00

- Buckland est. op. costs at \$10.00/ton leaving an op. profit of \$6.00 per ton.

- based on Buckland's figures, Kerr could get its \$350,000 ^{about} back from presently indicated tonnages; profit would have to come from new _{or.}

- presently developing new ore in Wolf No. 2

- 3 or 4 drill holes in it now

- had surf. trenching & previous drilling

- 19-20 foot widths indicated from previous work.

- 2 segs on Wolf No. 2 now indicated - each 240' long separated by a 240' gap in middle of which little or nothing is known.

- grade or surf. was 16% Ag.

- present drilling only in one vert section fan of 3 holes each with a section close to the collar

- 1) 30° dip - 5' - 59.9% Ag
- 2) 45° " - 4' - 25.5 " "
- 3) 75° " - 5' - 9.8%

- the following av. 73' length in each of the 3 holes has av. 11.12% Ag.

(2)

- bottom of deepest hole is 120' below surface.
- 1000 tons per cent. foot indicated - for 250,000 tons to 250' depth
- another drill hole on the Dolly Varden gave 26.6% Ag across 39' at 50' below the surface (50' west of old No. 2 glory hole).

DOLLY VARDEN MINES LTD. (N.P.L.)

(103-P)

GENERAL OUTLINE

In 1962, the Dolly Varden, Torbrit, North Star, and Wolf - all well-known mines, were brought together as one operation - Dolly Varden Mines Ltd. (N.P.L.).

Past production from this camp has been approximately 20,000,000 ounces of silver. Present reserves available are about 250,000 tons positively developed, plus 400,000 tons indicated by diamond drilling grading above 15 ounces silver per ton. In addition, large veins have unexplored sections on the continuation of the known orebodies and there are large areas of unexplored territory with geology very favorable for the occurrence of similar ore deposits. These recently united properties have excellent chances for the development of additional large tonnages of ore.

With the advent of the recent rise in the price of silver from 91-1/2¢ to over \$1.25 per ounce Canadian, and the distinct possibility that there will be a further price rise in the near future, the amalgamation of the famous Alice Arm silver camp in British Columbia under the control of one operating company presents a unique opportunity to participate in the growing demand for silver. Dolly Varden Mines now has one of the largest reserves of silver ore in Canada.

Much larger tonnages than the above are proven if a lower grade than 15 ounces silver per ton is used in calculations. Re-calculation of reserves since the very recent price rise has not yet been completed.

DESCRIPTION OF PROPERTIES HELD

DOLLY VARDEN MINE -

During the three years of its production - 1919 to 1921 - 36,620 tons of ore were mined, yielding 1,301,238 ounces of silver, a grade of 35.5 ounces of silver per ton. This was shipping-ore from the upper 250 feet of a 300-foot section of the main vein. The remaining 1,200 feet of known length on this vein only has been partially explored underground and has been probed by only a few diamond drill holes.

47,000 tons of ore averaging 22.0 ounces of silver per ton are indicated as remaining within and around the original shipping area and there are excellent possibilities that further ore can be found along the vein and on other horizons within it.

Vein widths are good, being in the neighbourhood of 10 to 20 feet; seldom much narrower, often wider.

The main vein continues across at least two claim lengths and, although not all of it is ore, geological considerations of rake and dip show that ore-shoots could be projectable for its entire length.

Following a decline in the price of silver in 1921 work was stopped and the mine lay abandoned until 1961 when the present new company outlined an option to purchase it; except a small leasing operation in the late 1930's.

TORBRIT MINE -

The Torbrit mine is immediately across the canyon valley of the Kitsault river from the Dolly Varden and North Star (see below) properties, and

apparently is part of the same general zone of silver mineralization.

A small mill was constructed in the middle 1920's on the Toric claim but this quickly closed due to lowering of silver prices and the mine was inactive from 1930 until 1946.

Torbrit Silver Mines Ltd. was formed in 1946 and a 400-ton mill was built and completed in 1949. Between then and 1957 the average grade of the ore was 17.2 ounces of silver and 0.42% lead per ton. Grade dropped off as stopes became worked out in 1958. The total production of the Torbrit mine was 1,377,832 tons, yielding \$16,797,057, giving the company a profit of \$3,489,352 in cash returned. At today's silver prices an additional operating profit of about \$9,000,000 would have been achieved.

Undoubtedly, ore remains in the Torbrit mine; tonnages of low grade are reported. No effort has been made by Dolly Varden Mines Ltd. to explore this property, as our option was not valid until February, 1962. Examinations will be made this year.

NORTH STAR MINE -

The North Star claim lies between the Dolly Varden and Torbrit ore-bodies and forms part of the same silver-bearing zone.

An adit tunnel was driven parallel to this mineralized zone and diamond drill holes were used to explore it from this working.

Twenty diamond drill holes indicated at least 75,000 tons of ore averaging 15 ounces of silver, 1% lead, and 3% zinc. Ore widths range around

ten to twenty-five feet. There are strong indications that at least 25,000 additional tons could be quickly outlined and that by continuing along the zone into the original Dolly Varden claims very large tonnages of ore may be developed. The Dolly Varden known-ore is 700 - 1,200 feet higher and rakes downward in the ore zone ahead of the present North Star workings. This large totally - unexplored area gives great promises for future development.

WOLF MINE -

The Wolf claims lie three miles along a trail up the Kitsault valley from the Dolly Varden and contain three veins which are separate in structure from the Dolly Varden - North Star - Torbrit ore zone, but very similar in occurrence.

The Wolf No. 1 vein has been explored by open cuts and short diamond drill holes. These holes show about 55,000 tons mineable by quarrying methods with additional tonnages to be worked from underground. Grade has been variously calculated with averages between 16 and 17 ounces per ton. Some very high-grade streaks made exact calculations difficult but an assumption of 16 ounces per ton has been made for this grade and tonnage. Almost no underground work has been done to date. As an example of the high-grade, one short cross-cut gave 51 feet of 25.5 ounces silver and 20 feet of 93.5 ounces of silver. Extremely high-grade streaks made averages difficult. The Wolf is noted for its large widths.

The No. 2 Wolf vein was explored at intervals for about 800 feet and has an average width of 10 feet. Eight open cuts show good values. Twelve old diamond drill holes, 1917, clustered mainly around the south end indicated a grade

there of about 13 ounces of silver per ton. The entire vein may be economic and should be tested.

The No. 3 Wolf vein has had little exploration but is 15 to 20 feet wide and has given some significant values in silver.

No tonnages have been placed in the estimates for the Wolf No. 2 and No. 3 veins. Considerably larger tonnages are available if the mineable grade is below 15 ounces per ton.

ECONOMICS -

At the time our tonnage estimates were made, silver was at 91-1/2¢ per ounce; recently it has gone over \$1.25 per ounce Canadian. In making up the estimates, an average grade for the deposits of 17 ounces of silver per ton, 0.5% lead, and 2% zinc, appeared economically reasonable as a basis of calculation. With the recent increase in the price of silver, much additional tonnage has become profitable but has not as yet been calculated into the company's ore reserves.

The widths, ranging generally from 10 feet upwards, are more generally between 15 and 30 feet for a large portion of the known ore and these widths together with sound wall rocks indicate good mining costs; perhaps about \$10 per ton overall.

Lolly Varden Mines Ltd. obtained an option to purchase for \$200,000 all the physical assets of Torbrit Silver Mines Ltd. in the Kitsault River area; including a complete 400-ton mill, campsite, shops, and equipment; \$45,000 has now been paid on this option price. This plant can be brought into prod-

uction rapidly.

Over 200,000 tons of ore necessary to feed the mill at capacity for the first two years are indicated as readily available in the Wolf, North Star, and Dolly Varden veins.

To build a new mill, townsite, shops, etc. would cost over \$2,000,000 today. The entire plant and camp is operated and heated by a 2,000 H.P. hydro-electric plant renovated in the summer of 1962.

PROGRAM -

Underground operations are being commenced in the North Star workings where about 100,000 tons can be mined following a relatively short preparation program.

At the same time, diamond drilling is being carried out on the Dolly Varden and Wolf No. 2 orebodies to increase the known tonnages.

These programs undertaken simultaneously, can be followed by preparation of the mill for production and early production can be achieved. Examining engineers reported a profit of \$600,000 (calculated at 91-1/2¢ silver) possible for the first year after commencement of milling. This is no criterion of what later profits may be. Depending on the grade of ore at the commencement, this figure could be doubled at today's prices.

With the commencement of production, extensions of the North Star and Wolf orebodies can be probed and geologically favorable areas, already recognized, can be investigated. Work in these areas should uncover large

tonnages of mineable ore. There are many possibilities in future development in this camp which has already been a very large silver producer.

SILVER OUTLOOK -

It is readily apparent that the outlook for silver is exceedingly good. Now that the United States has removed the artificial price ceiling to domestic industrial users, there is little doubt that the price of world silver will be governed by supply. Industrial use for photographic, electronic, and other purposes will increase at least at a rate of 5% per annum. It is difficult to forecast the ultimate price of the metal. If today's prices are any criterion, it is conceivable that a minimum price of \$1.25 per ounce will be a reality during the present year. Last year economic studies showed an excellent profit available. With this year's 25% increase in the price of silver, a large profit is assured.