

+ Six Month Program Plan as Prerequisite To Carrying Out A Feasibility Study

+ New Financings To Provide \$997,750 For Silver Property Exploration & Oil Plays

Dolly Varden Minerals Inc., by April 10, 1980 agreement effective July 11, 1980, are offering 100,000 common shares at \$4.30 each on Vancouver Stock Exchange through Canarim Investment Corp. as agent on a best efforts basis through Aug. 22, 1980.

Canarim will buy 150,000 common shares at \$4.00 each and will offer them for sale to the public on the Exchange within 10 business days after completion of the best efforts offering at a fixed price yet to be set between a minimum of \$4.30 each and the market price on the day before the offering.

Dolly Varden have granted Canarim an option to buy at \$4.50 each, good through Oct. 9, 1980, a further 100,000 shares.

The estimated net proceeds from these share offerings is \$997,750 of which \$680,750 is to be used in the exploration of the ~~Dolly Varden silver property, 16 miles east of the head of Alice Arm, 85 miles north of Prince Rupert, B.C.~~ In a March 26, 1980 report Derry, Michener & Booth, mining geological consultants have recommended a program, expected to take six months, of exploration and development work, including 3,300 feet of development and test mining on the North Star deposit and 1,500 feet of confirmatory diamond drilling to substantiate the indicated reserves of the Wolf No. 1 deposit. In addition, work is planned on infrastructural items, such as accommodation facilities and the construction of bridges to provide access to the property. The total budget for the 1980 exploration and development programme is \$1,383,000.

The company's initial plans include development and subsequent mining of the North Star Wolf No. 1 and Wolf No. 2 deposits. In preparation for an application for a mining license the company has already commenced site and environmental studies.

Two ore reserve calculations are shown in the report, one at 253,000 tons with an average grade of 13.5 oz. silver per ton for a total of 3,414,000 oz. of silver using a cutoff grade of 8 oz. silver per ton and the second at 494,000 tons grading 10.4 oz. silver per ton for a total of 5,128,000 oz. silver using a cutoff of 4 oz. silver per ton.

It is envisaged that production will begin in 1981 with the mining of the North Star. The Wolf deposit would likely come on stream in late 1982. The Ore reserve estimates include the North Star, Wolf No. 1 and Wolf No. 2 zones. It is proposed that the ore will be treated at a mill to be constructed close to Alice Arm. Pilot metallurgical tests, completed at the Department of Mines and Resources in Ottawa in 1969, show that 85% of the silver can be recovered by flotation. The method of tailings disposal is still the subject of discussions.

Based on the preliminary development proposals and cost estimates, two sets of case studies to evaluate the proposed exploration of the North Star and Wolf deposits were completed. The first set, Case A, is based on exploiting the high-grade portions of the deposits by means of a low tonnage 150 tons per day operation. The second set, Case B, is based on exploiting a lower grade of reserves by means of a higher tonnage, 300 tons per day operation. In case A the operation is forecast to include six months mining at 300 tons per day and 12 months milling at 150 tons per day for a 4.5 year period. Case B contemplated mining and milling 300 tons per day 12 months per year, for 4.75 years.

The report states in part that, "From these cash flows and assuming a discount rate of 18%, the net present value of the proposed operation, as of Dec. 1, 1979, varies from \$24,783,000 to \$4,248,000." The calculations were done using silver prices per oz. of \$20, \$25, \$30, \$35, and \$40.

The report also recommends that the Torbrit should be re-opened and a program of drilling, mapping and sampling should be undertaken with the objective of delineating recoverable reserves of approximately 500,000 tons averaging 5 oz. silver or better per ton. The evidence supports the opinion that this is a realistic initial target to be established in preparation for commencing a mining operation. It is estimated that the cost of re-examining the Torbrit, together with a limited amount of prospecting on the adjacent veins, would be about \$1,200,000, excluding any expenditures on road building."

Prior to the present financing the company had 2,474,966 shares issued, plus 524,954 convertible, one for one into common shares, Class A shares issued, of the 6,000,000 shares authorized. (For some detail of share conversions from predecessor companies, see GCNL No. 121, page three, June 23, 1980)

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Dolly Varden reactivating famed B.C. silver camp

An adit is expected to be colared by **Dolly Varden Minerals** at its Alice Arm, B.C. silver property by month-end. In doing so, the company will be reactivating one of B.C.'s most famous silver mining camps. *N.M.*

From 1919-1921, the original Dolly Varden mine produced 1.3 million oz of silver from ore grading 35.6 oz silver per ton. The nearby Torbit mine yielded 18.7 million oz silver from 1949-1959. Average grades were 13.5 oz.

An assessment of the geological data available from the 9,000-acre property — which is essentially the entire camp — concludes that geological reserves total 887,556 tons grading 9.6 oz silver per ton. That translates into 8.5 million gross oz of silver. *103P187,188*

Dolly Varden plans to drive a drift which will access two areas of known silver mineralization — the Dolly Varden and the Northstar. Drifting and underground drilling

are required as the rugged geography of the Kitsault River valley precludes surface drilling, President W. F. Christensen explains to The Northern Miner.

The North Star and Dolly Varden mine areas host reserves of 141,577 tons grading 11.7 oz silver and 47,000 tons grading 22 oz silver respectively. According to Mr Christensen, a large part of the property remains untested. A review of several longitudinal sections of the Dolly Varden mine area by The Northern Miner showed large undeveloped sections with numerous economic drill intersections. These included 15 ft grading 10.7 oz silver, 25 ft grading 25 oz silver and 25 ft assaying 27 oz silver per ton. Areas such as this will be tested by underground drilling from the adit.

Financing for the project is coming from two private placements which raised \$1.5 million. Approximately 20,000 ft of drilling is planned for this year. *20*

May 1987 **DOLLY VARDEN MINERALS INC. (DVI-V) SCNL # 99**

LARGE PROGRAM WILL TEST THREE - Driving of 1,200 feet
TARGETS ON DOLLY VARDEN PROJECT of underground crosscut
103P187/188 (12E) will start in late June
1987 to bulk sample underground the proven and probable
reserves of 141,000 tons grading 11.71 oz.silver/t in the
North Star zone of the Dolly Varden Minerals property.
The property located 20 miles north up the Kitsault River
from the head of Alice Arm of Observatory Inlet, 100
miles north of Prince Rupert, on the north coast of B.C.
includes the Torbrit, Wolf and North Star. The combined
geological reserves in the four separate deposits are:
total proven and probable reserves 1,402,906 tons
containing 14,204,006 oz.silver.

The primary aim is to determine underground grades
in the North Star zone toward a production feasibility
study. The secondary aim is to give a location for an
underground drill program of 15,000 feet to test the
highly potential 1500-foot strike length of favorable
geology between the Dolly Varden ore zone and the North
Star ore zone. The Dolly Varden zone has proven and
probable reserves of 47,000 tons with 22.0 oz.silver/t.
The area between the two zones has never been tested
owing to the steepness of the mountain side. The
program is budgetted to cost \$1,500,000 and to take
about 80 days. The drill program will continue to year
end as results warrant.

The work will also include extensive exploration on
the geologically separate Red Point gold zone which is
about 5 miles long and 1/2 mile wide. Exploration in
1986 outlined a NW-trending gold zone some 2,000 feet
long which includes 3 significant gold showings. One,
near the south end of the zone, averaged 0.165 oz.gold/t
over a width of 15 ft. and a length of 125 ft. The best
values along this strike length include 0.452 oz.gold/t
over a 6.4 ft. width and 0.321 oz.gold/t across 3.6
feet. At the north end of the gold zone, a second gold
showing returned an average of 0.106 oz.gold/t over a 12
foot width for a strike length of 165 feet. The best
values at this showing included 0.303 oz.gold/t over 7.9
ft. and 0.170 oz.gold/t across 10.4 ft. A third gold
showing near the centre of the gold zone averaged 0.046
oz.gold/t over 9.0 ft.

To fund the program the company has agreed to sell
300,000 shares at \$2.50 each to Diversified Opportun-
ities Funds and C.M.P. with a warrant attached to buy
600,000 shares at a minimum of \$1.25 to provide a total
of \$1,500,000 and to bring the issued shares to
6,700,000 or 7,500,000 fully diluted shares. On 5Feb87,
Dolly Varden received regulatory approval to place
privately 650,000 shares and warrants at \$1.25 each to
Paramount Holdings Ltd. and Resource Capital Internation-
al. The warrants to purchase 650,000 shares at \$1.35
each are exercisable until Jan.31,1988.

W.F.Christensen, director of Dolly Varden, reported
the program will be directed by Dr. Mm. Pearson of Derry
Michener, Booth & Wahl. The contract for the crosscut
drive is expected to be let in the next few days.

NORTHSTAR
103P 187

RED POINT & RED POINT EXTENSION
(103P 196) (103P 010)

DOLLY VARDEN MINES LTD.

+ Long Known Copper Surface Showings Reveal Exceptional Potential

+ Detail 1970 Exploration Program Now Underway

For 10 years Dolly Varden Mines Ltd. has been working at its property, located 18 miles north of Alice Arm, 100 miles north of Prince Rupert in northwestern B.C. to prove sufficient silver ore to justify resumption of production. In the opinion of management and consultants

Property Silver Feasibility Review

The present ore reserves consist of the following:

Wolf Mine	- 534,968 tons at 9.86 oz
Torbrit Mine	- 367,000 tons at 7.6 oz
North Star Mine	- 252,300 tons at 7.77 oz
Dolly Varden Mine	- 50,000 tons at 20.00 oz
Total	1,204,268 tons at 9.15 oz

These reserves give five years of economical mining at a rate of 700 tons per day.

Geologically inferred ore potential, over and above the listed reserves, is as follows:

Wolf Mine	- 192,800 tons
North Star Mine	- 171,200 tons
Dolly Varden Mine	- 665,500 tons
Total	1,029,500 tons

This ore, when proven up will give an additional 4.2 years of mineable ore. The above calculations show nothing for outlying ore remnants and possibilities of new ore at the Torbrit mine, which have been variously calculated at several millions of tons. Calculations do not include anything for such claims as the Moose, Kitsol, Surprise, Silver Horde, Climax where silver ore of mineable grades is known, nor the Musketeer vein.

Metallurgical problems were solved by bench testing and then checked by a pilot plant mill run of 20 tons of fresh representative ore at the Department of Energy, Mines and Resources Pilot Plant in Ottawa. This test resulted in lead-silver concentrate with a silver content of 416.54 ozs. per ton and a lead content of 12.68%. This test also showed silver extraction of 87% with a flotation mill circuit. Drawings for a 700 ton per day plant have been prepared.

Mining plans have been prepared for the Wolf mine, using an economical blast hole mining method and for the North Star mine, using a top slice and benching method.

Total capital costs to production spread over 16 months, including \$185,000 of operating capital are \$4,427,470.

Updated, full operating costs of Wolf mine ore are \$9.33 per ton. The yearly production from the Wolf mine will amount to 2,138,700 ozs. of silver and 1,153,100 lbs. of lead and minor amounts of zinc and cadmium. The yearly production from the combined ores will be 1,683,600 ozs. of silver, 1,373,900 lbs. of lead, 2,783,200 lbs. of zinc, and 41,160 lbs of cadmium.

The net annual operating profits, using current prices for other metals and various projected silver prices, are as follows: at \$2.00 per oz. net operating profit would be \$1,906,649; at \$2.50 it is \$2,927,000 and at \$3.00 it is \$3,949,000. It can be seen that each 25¢ rise in the price of silver results in an additional net annual operating profit of \$510,620 or \$2.084 per ton mined or at 6,000,000 issued shs. net operating profit of 8.5¢ p/s. This is in addition to the 32¢ per share at \$2.00 p/oz. silver. Once in production, an additional source of income will be derived from the production of barites as a by-product.

this has been accomplished and production will be attained shortly following the time when silver prices make their next upward move.

(Such an upward move has been variously predicted by the experts as being likely to occur in the next six months to two years and being such as to carry the price from the current \$1.70 (Cdn.) range to the \$2.00 or \$3.00 range). See the adjoining box for a summary of silver ore reserves and a summary of feasibility studies. Exploration and development work will continue on these silver structures at a modest rate during the current year with particular attention directed to the Musketeer vein, which is on claims acquired by the company last December. This Musketeer vein has been explored on surface since it was acquired and has been traced over a vertical range of 850 feet, a length of 900 feet and a width of some 12 feet. There has been no average grade assigned to the vein as yet since there has only been a modest amount of work done but the values range between 0.01 oz. and 24.0 oz. silver per ton. Further surface trenching is planned for the Musketeer vein to be followed by diamond drilling to permit ore reserve estimates for the vein.

For the first time in the available history of the property, all of the considerable information on long-known copper showings has been assembled in one report. This compilation of data was carried out by G.A. Aaltonen, general manager, and Marvin Mitchell, company geologist, and included a search of all available private and government reports on the property and area. All of the showings noted in the records were plotted on geological maps of the area and are now in the process of being explored on the ground by company personnel. To facilitate the examination of these showings a new cable foot bridge has been constructed across the Kitsault River. The 1970 program is to include photogeologic study, soil sampling, geological mapping, sampling and diamond drilling.

The copper belt is feldspar porphyry intrusive heavily fractured throughout a length of 2.5 miles and across an average width of some 2,000 feet. The copper mineralization is within fracture filled veins several feet thick and up to several hundred feet long and grading from 2% to 10% copper all within a large area of lower grade dissemination of pyrite and chalcopyrite with a good possibility of extending to depth. The zone holds two real potentials for the company. First is a series of several higher grade smaller tonnage ore zones which could be processed in a concentrating plant capable of handling both copper ores and silver ores, and second is large tonnage low grade copper operation, supporting a big tonnage separate operation.

All copper belt showings are classified in five areas lettered A to E.

The A area is also called the Surprise area and is located 2,000 feet west of the Wolf Silver vein about 2 miles north of the Dolly Varden camp and mill site. Samples taken in 1926 gave gross values of \$3.48 and \$17.52

(Continued Page Three)

CONTINUED FROM PAGE TWODOLLY VARDEN MINES LTD.

per ton while an early assay showed 0.02 oz. gold, 1.3 oz. silver, 0.4% zinc, 0.4% lead and 0.7% copper. Work in 1954 by Noranda included samples from three pits which ranged 28 inches to 7 feet and from a trace to 0.40 oz. gold, 7.65 oz. silver and high of 6.1% copper. A sample across 25 feet taken in 1969 graded 0.6 oz. silver, 0.43% copper, low lead and zinc.

The B area is also called the Copper Cliff and work between 1916 and 1926 included a number of open cuts and a short tunnel and a drill hole which showed 6 feet of fairly good grade copper in one showing and several hundred feet of width of 1% disseminated copper over length of some 3,000 feet.

The C area, also called the Dan Patch area, has a 135-foot tunnel which cut 20 feet of vein material grading between 0.58 oz. silver to 2.60 oz. silver and from 0.52% to 1.84% copper. In 1926 it was noted that small low grade masses of pyrite and chalcopyrite can be traced over 3,000 feet. Samples taken in this area in 1969 returned 3.95% copper and 2.4 oz. silver across 15 feet plus lower grade copper and silver in adjoining samples.

D area, named the Red Point, had three diamond drill holes put down in 1916 which showed disseminated copper and a short tunnel showed 5% copper. The 1916 work showed values over 400 feet of vein length from open cut work ranging from 5 to 8.9 feet and grading from 2.3 to 7.54% copper plus significant values in gold and silver.

Results from a 1,020-foot tunnel are reported in 1930 as ranging between 2 and 10 feet and between 0.3 and 6.6% copper. This sampling also carried significant gold and silver values. Sampling of some of these workings and showings in 1966 tended to confirm these values.

E area, Starlight, was reported in 1913 as a 4-foot wide quartz vein yielding grab samples grading 10.9% copper and 20.7 oz. silver plus 0.3 oz. gold. Dolly Varden recently staked claims to cover this Starlight showing, renamed the Dana claims 1 to 6.

COPPER PROSPECT NOTES

- All following information is from valid records - M. of Mines Reports etc.
- Location is accurate as to claims but on claim location is liable to error.

GENERAL REMARKS -

- Various Gov. Geologists reporting in The Minister of Mines Reports, state the Copper Belt consists of fracture filled veins, several ft. thick and up to several hundred ft. long, grading from 2 to 10% Cu. within a large area of low grade dissemination of Pyrite and Chalco. with a good possibility of extension to depth.
- We have approx. 2.5 miles of the Copper Belt on our claims plus The Surprise (see below) which is in a separate structure.

SURPRISE **A**

1926 - Assays on this claim gave 1926 Dollar values of \$3.48, \$17.52, \$0.74

1951 - Gov. Geologists assay was .02 oz. Au., 1.3 oz. Ag., .4% Pb., .4% Zn., .7% Cu.

1954 - Noranda Exploration Co. Ltd. Assays

	Length	Au. oz.	Ag. oz.	Cu. %	Ph%	Zn%
Pit - 1	5'	.06	.60	1.45		
	5'	.03	.35	.85		
	3.5'	.07	4.95	6.10		
	5'	.04	.45	5.50		
	5'	.40	3.50	2.25		
	5'	.005	.40	.40		
	5'	.05	TR.	.05		
Pit - 2	34"	.015	1.05	.55	TR	
	44"	TR	TR	-	-	
	28"	.035	7.65	.60	.05	2.0
	7'	.025	5.6	1.55		
Pit - 3	6.5'	TR	.90	1.30	TR	TR

Field crew Recommended Drilling

1969 - N. Carter.

Sample across 25 ft. assayed

Au.-.03 oz., Ag.-.6 oz., Cu.-.43%,
Pb.-.02%, Zn.-.14%.

COPPER CLIFF **B**

1916 - Open cut at 2700' Elev. has 6' bunches of chalco. at joints of intersections.

- The tunnel is in 1% disseminated Cu.
- There is an immense surface showing.
- Rich float has been found in both Gash and Copper Creeks.
- Granby grab sample ran .03 oz. Au., .5 oz. Ag., 1% Cu.

1918 - 6' Fairly Good copper in open cut
- Granby drilled a hole N.W. of Tunnel.
- Good chalco float found.

1921 - Zone is several 100 ft. wide - disseminated chalco and Pyrite

1926 - Assays on this group gave 1926 dollar values of \$5.64, \$17.52, \$0.74 and \$3.46

DAN PATCH **C**

(1) - 1916 - 5' samples in tunnel ran from .01 to .03 oz. Au., .20 to 1.0 oz. Ag., .03 to .18% Cu.

- Open cut shows patches of chalco

1921 - There is a 10 ft. wide vein
(2) - 1916 - 4 samples in 125' Tunnel grade from .01 to .02 oz. Au. .58 to 2.60 oz. Ag., .52 to 1.84% Cu.

1921 - 135' tunnel crosses 20' of vein material.

Small low grade masses of pyrite and chalco. Can be traced 3000' to the North West.

1969 - N. Carter.

- In a 15 ft. wide zone - 4 ft. assayed. Au.- .02 oz., Ag.- 2.4 oz., Cu. 3.95% The adjacent 6 ft. assayed. Au.- Tr., Ag.- .4 oz., Cu.- .15%.
- 75 ft. North an open cut assayed. Au.- .01 oz., Ag.- 1.4 oz., Cu.- .67%
- Grab sample from Adit Dump assayed. Au.- .02 oz., Ag.- 1.2 oz., Cu.- .95%

RED POINT **D**

(1) - 1916 - 3-200' D.D. Holes cut 150' zone of disseminated chalco. and .03 oz. Au. These holes 125' below lowest outcrop
- Short tunnel shows 5% Cu.
- Zone extends N.W. to Dan Patch & S.E. of Evindsen Creek

(2) - 1921 - A broad band of pyrite, chalco, galena & zinc dissemination
1939 - A 1020' Tunnel was driven in sparce chalco mineralization open cut assays.

Length	Au. oz.	Ag. oz.	Cu. %
-	.36	1.08	5.15
3'	2.08	2.84	4.90
4.6'	.08	.82	1.60
5'	.04	.82	1.70
10'	.08	Tr.	.30
2'	.36	1.94	6.60

1916 - Assays over 400' of vein length.

5'	.04	3.56	7.54
5'	.08	.70	3.51
8.9'	.28	.50	3.28
8'	.12	.70	2.30
5'	.34	.90	2.92

(3) - 1966 - Chip samples in old upper tunnel gave Cu. values as follows - .75%, .19%, 1.75%, .63%, .09%, .07%, 1.52%, .43%
- The dump at the portal assayed .22 oz. Au., 2.2 oz. Ag., 2.1% Cu.
- Open cuts by the Tunnel gave Cu. values of 1.51%, -1.20%, 3.9%.

STARLIGHT **E**

1913 - A 4 ft. wide quartz ledge runs across the property and assays.

Cu. - 10.9%
Ag. - 20.7 oz.
Au. - .3 oz.

LOCATION MAP OF COPPER ZONES DOLLY VARDEN MINES LTD. ALICE ARM NORTH WEST, B.C.

