GEOLOGICAL REPORT ON THE SOUTH KIT GROUP

SKEENA MINING DIVISION
NTS: 103 P/11

LATITUDE: 55° 35' LONGITUDE: 129° 25'

OWNER AND OPERATOR
DOLLY VARDEN MINERALS INC.
6TH FLOOR - 45 CHARLES STREET EAST
TORONTO, ONTARIO

BY
W. D. MELNYK, P.Eng.
TECUCOMP GEOLOGICAL INC.

APRIL, 1990

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,888
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A. INTRODUCTION

B.1 Location and Access

The SOUTH KIT GROUP (Figure 1) is located in west central British Columbia, 820 km northwest of Vancouver and 13 km north of the village of Alice Arm. The SOUTH KIT GROUP is situated in the Kitsault valley at longitude 129° 25', latitude 55° 35', and immediately east of the Kitsault River.

Air access to the property is 40 km south by helicopter from Stewart, and 160 km north from Prince Rupert. Road access to the SOUTH KIT GROUP is not possible; however, good road access is present from Terrace and Provincial Highway 37 to the town of Kitsault on the east side of Alice Arm Inlet. The village of Alice Arm is located on the northwest side of Alice Arm Inlet and is not linked by road with Kitsault. A gravel road requiring minor repairs, trends northerly from Alice Arm, up the Kitsault River, and approaches to within 200 m of the property at a point 16 km north of Alice Arm.

A.2 Property Definition

The SOUTH KIT GROUP (Figure 2) consists of three contiguous claims totalling 56 modified grid units. The claims are situated at longitude 129° 25', latitude 55° 35' in the Skeena Mining Division, NTS: 103P/11.
The SOUTH KIT GROUP claims are owned by Dolly Varden Minerals Inc. of Toronto. The exploration work was funded by Dolly Varden Minerals Inc. of Toronto, and the technical work was supervised by Tecucomp Geological Inc., 630 - 1199 West Pender Street, Vancouver, B.C.

Table A lists the claim names, record numbers, units and expiry dates.

<table>
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<th>Record No.</th>
<th>No. Units</th>
<th>*Expiry Date</th>
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<td>7513</td>
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A.3. Work Done

A two-man crew conducted four traverses on the KIT claims on August 24 to 26 inclusive, and September 4, 1989. Work consisted of reconnaissance geological mapping, rock sampling, and prospecting. A total of 18 select rock samples were submitted for analysis to ACME Analytical Laboratories, 852 East Hastings Street, Vancouver, B.C. The rock samples were assayed for gold, using a 1 assay-ton sample, and analyzed for 30 additional elements by ICP analysis.

* Expiry date shown assuming this report is accepted for assessment credit.
Although field activities were conducted on KIT 1, 2, 3, and 4; and SOUTHERN GOLD #2 CLAIMS (Map 1), and this report is submitted for assessment credits for the SOUTH KIT GROUP (KIT 2, 3, 4 claims), all the geological and assay date collected is presented for completeness and clarity. However, applicable field costs are apportioned and only those costs directly related to evaluating KIT 2, 3, and 4 claims are submitted for assessment credits. The work was conducted by Walter Melnyk, P.Eng., and Audie Kriberg.
B. DETAILED TECHNICAL DATA AND INTERPRETATION

B.1. REGIONAL GEOLOGY

The regional geology of the Kitsault River Area was most recently mapped by D. J. Alldrick and G. L. Dawson in 1986.

The SOUTH KIT GROUP lies near the western margin of the Intermontane Belt and is underlain by lower to middle Jurassic Hazelton Group rocks which consist of a thick widespread assemblage of basaltic to dacitic volcanics, pyroclastics, and sediments.

Alldrick and Dawson have separated the Hazelton Group into six basic units in the Kitsault Valley. The lower most unit, Unit 1, consists of black siltstone, argillite, wacke, sandstone, and limestone. Unit 2 consists of porphyritic basalt flows, pyroclastic rocks, conglomerates and minor sediments. Unit 3 consists of sediments including limestone, siltstone, sandstone, conglomerate, wacke, and minor volcanic breccia. Unit 4 is an intermediate volcanic unit consisting of green and maroon andesite pyroclastic rocks, porphyritic andesite, and maroon siltstone, sandstone, limestone, and chert. This unit hosts most
of the mineral showings in the area. Unit 5 is a felsic volcanic-epiclastic unit containing greenish-grey dacitic pyroclastic rocks, feldspar porphyritic flows and sediments. Unit 6, the upper most unit, is a sedimentary unit consisting of basal fossiliferous wacke, siltstone, shale, conglomerate, and limestone.

The Hazelton Group rocks have been intruded by three intrusive events in the Kitsault River area, including quartz monzonite and granodiorite of the Coast Range Batholith; quartz monzonite, biotite or sericite quartz monzonite of the Alice Arm Intrusions; and younger diorite, microdiorite and lamprophyre dikes.

The Hazelton Group rocks are folded into three major folds in the Kitsault River area including Varden Glacier anticline, Kitsault River Syncline and the Mount McGuire anticline.

A belt of quartz-sericite-pyrite alteration, approximately 1 km wide and 15 km long, trends 330° Azimuth and closely parallels the Kitsault River Syncline. The alteration zone extends from the Kitsault Glacier to the Miner Creek-Kitsault River junction. A second zone of quartz-sericite-pyrite alteration occurs 4 km southwest of Mount McGuire. The KIT 1 to 4 claims were staked on the assumption that the alteration zone was continuous between the two zones of alteration, a distance of 12 kilometres.
B.2. PROPERTY GEOLOGY

The KIT 1-4 claims (Map 1), are underlain by porphyritic andesite flows with lesser intercalated siltstone, sandstone, limestone, and chert. The northeast corners of KIT 1, 2, 4 are underlain by black siltstone.

Reconnaissance geology traverses were conducted to examine previously mapped quartz-sericite-pyrite alteration zones and contingent upon the nature of these zones further evaluation could ensue. The alteration zone 3 km southwest of Mount McGuire, on the KIT 4 claim was examined first. An area near East Creek was examined next and finally, a ridge top traverse was run from KIT-4 to KIT-1.

KIT-4 TRAVERSE

A geological traverse was run from the northern claim boundary of KIT 4 (Map 1), to the southern end in an attempt to determine the nature of the mapped quartz-sericite-pyrite alteration zone as indicated by D. J. Alldrick, et al, on map Open File 1986/2, Geology of the Kitsault River Area, B.C.MEMPR.

Abundant outcrop occurs at elevation 1200 m ASL. The rock is uniform hornblende-feldspar andesite porphyry altered weakly to chlorite which may reflect regional metamorphic effects. Several 1 to 1.5 m wide brown carbonate altered zones were observed trending northwesterly.
Topographic relief is subdued in the central portion of the claim and outcrop is sparse. Observed exposures are of porphyritic, unaltered, unmineralized andesite.

Dolly Varden type alteration, quartz-sericite-pyrite, was not discovered on the KIT-4 claim nor was any mineralization of economic significance.

No rock samples were submitted for analysis as no sulphide mineralization was found.

KIT-1 TRAVERSE

Two geological traverses were conducted in the vicinity of East Creek (Map 1), in an area on trend with the assumed strike of the Dolly Varden quartz-sericite-pyrite alteration zone.

A one kilometre chained, flagged baseline was established from east Creek to the northwest. Numerous rock outcrops were examined and 10 rock samples were collected for analysis.

The area is underlain by andesitic flows and pyroclastics. The rocks exhibit weak sericite (?)-pyrite alteration with variable chlorite. Sulphides consist of weak disseminations of pyrite (1%). The rock is moderately jointed, weakly gossanous, and homogeneous. Veining is restricted to late stage, widespread barren, narrow bull quartz veinlets.
At a distance of 800 m northwest from East Creek a prominent carbonate altered rock outcrop in a streambed represents fault related alteration.

The moderate quartz-sericite-pyrite alteration observed on the Dolly Varden property to the northwest is not present on the SOUTHERN GOLD 2 and KIT-1 claim. The weak alteration effects observed near East Creek may represent regional metamorphic effects.

A traverse run along the eastern and northern claim boundaries of KIT-1 extended down to an area southeast of East Creek, opposite the area examined to the northwest. The area is underlain by andesitic flows and pyroclastics exhibiting weak chlorite-pyrite alteration. Five representative rock samples were collected and submitted for gold assay and 30 element ICP analysis.

The intense quartz-sericite-pyrite alteration zone present on the Dolly Varden property, northwest of the Kistsault River, does not continue to the southeast.

A ridge-top traverse was conducted along the eastern boundary of claims KIT 2 and 3 (Map 1). Andesite flows and black siltstones
underlie the eastern portion of the claims. Irregular patches of carbonate altered volcanics and narrow (<1 m to 1.5 m) zones of pyrite shearing were the only features of interest. Three grab samples of pyritic volcanics were submitted for gold assay and 30 element ICP analysis.
B.3. PURPOSE

The purpose of this work was to evaluate the economic precious metal potential of the KIT 1 to 4 claims. The claims are staked along the assumed trend of a quartz-sericite-pyrite alteration zone which is present on the Dolly Varden property and is gold-bearing. A smaller zone of similar alteration is located 13 km to the south-southeast near Mount McGuire.

B.4. RESULTS AND INTERPRETATION

Analytical data from 18 rock samples submitted for 30 element ICP analysis and gold assay is attached as Appendix B. With the exception of sample #33114, values for base and precious metals reflect background levels.

Gold assays are uniformly low, ranging from 0.01 to 0.12 g/t for all 18 rock samples while silver values, with the exception of sample #33114, range from 0.1 to 4.7 ppm.

Copper, lead, and zinc results are low or at best weakly geochemically anomalous. The upper limit for each element is 231, 68, and 165 ppm respectively. Rock sample #33114 was collected from a pyritic shear in argillite from KIT #2 claim. The best analytical results for silver, lead, and zinc were obtained from this sample including 10.9, 254, and 2313 ppm respectively.
All rocks with the exception of sample #33114 are unaltered porphyritic andesites.

With the exception of sample #33114, the andesitic volcanics sampled do not exhibit any metal enrichment, nor are there any hydrothermal alteration characteristics present that might suggest an environment suitable for metal deposition in the near vicinity.
B.5. CONCLUSIONS

Based on geological field observations, on the KIT 1 to 4 claims, the moderate quart-sericite-pyrite alteration zones present on the Dolly Varden property and near Mount McGuire are not components of a single continuous band of alteration. Geological traverses conducted on the KIT 1 to 4 claims did not discover zones of alteration.

Analytical values obtained from 18 rock samples for base and precious metals resulted in low background values.

The possibility of discovering economic precious and/or base metal deposits on the KIT 1 to 4 claims is unlikely based on the analysis of geological and geochemical data collected during the 1989 field season.
C. COST STATEMENT

Salaries

Consulting Geologist 2 days @ $450.00 $ 900.00
Geological Assistant 2 days @ 110.00 220.00

Transportation

Mob/demob Vancouver to Smithers return
2 men @ $453.00 906.00
Charter helicopter 1.50 hours @ $500.00 750.00
Fuel 150 litres @ $0.90 135.00

Food and Accommodation

4 man-days @ $50.00 200.00

Analytical

30 element ICP; Mo, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, U, Au, Th, Cd, Sb, Bi, V, Ca, P, La, Cr, Ba, Ti, B, Al, Na, K, W, and Au Fire assay from 1 A.T.

3 rock samples @ $19.95 57.75

Freight

25.00

Reproduction and Printing

75.00

Equipment and Supplies

75.00

Report Preparation 2 days @ $450.00 900.00
Drafting 1 day @ $450.00 450.00

Total Expenditures $4,693.75

PAC WITHDRAWAL (19.3%) $906.25

TOTAL ASSESSMENT CREDITS $5,600.00
D. CERTIFICATE OF QUALIFICATIONS

I, Walter D. Melnyk, of 2185 Badger Road, North Vancouver, B.C.,
do hereby certify that:

1. I graduated from the University of Saskatchewan, Saskatoon,

2. I am a member of the Association of Professional Engineers
   of British Columbia and Ontario.

3. I am a consulting exploration geologist.

4. I have been practising my profession since graduation.

5. I have not received, nor do I expect to receive any interest
   directly or indirectly in Dolly Varden Minerals Inc.

6. I personally conducted the exploration activities on the KIT
   1 to 4 claims during the 1989 field season.

W. D. Melnyk, P.Eng.
E. REFERENCES

ALLDRICK, D. J.

DAWSON, G. L., and Alldrick, D. J.

DEVLIN, B.D.

KIRKHAM, R. V., Editor

OHMOTO, H. and Skinner, B. J. Editors

PEARSON, W. N. and Wahl, D. G.
APPENDIX A

ACME Analytical Laboratories Procedures
ICP - .5 gram sample is digested with 3 ml 3:1:2 HCl-HNO₃-H₂O at 95 deg.C for one hour and is diluted to 10 ml with water. This leach is partial for Mn, Fe, Sr, Ca, P, La, Cr, Mg, Ba, Ti, B, W and limited for Na, K, Al.

Au* - 10 gram samples are ignited at 600 deg.C, digested with aqua regia at 95 deg.C for one hour, 50 ml aliquot is extracted into 10 ml MIBK, analysed by graphite furnace AA.
Gold & Silver by Fire Assay

1/2 A.T. samples is mix in dry reagent flux with 1 Ag inquart and fused for 45 - 60 mins. The resulting bead from cupellation is dissolved in aqua regia. Analysis by A.A/ICP.

- For Au > 1 oz/t, determination by gravimetric finished.
- Wet acid leached for Ag is also ran. (Procedure same as below).

Determination of Cu, Pb, Zn and Ag

In 100 ml volumetric flask, 1 g sample is digested in 50 ml 3-1-2 HCl-HNO₃-H₂O at 95°C for one hour, dilute to 100 ml with demineralized water, analyze by ICP.
APPENDIX B

Assay and Geochemical Data
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*Note:* The values listed are in ppm, with some values in percentage (%). The table includes various elements and their concentrations, noted in parts per million (ppm) or percentage (%).