

REPORT ON THE
DOLLY VARDEN GOLD BELT
KITSAULT RIVER AREA, BRITISH COLUMBIA
PREPARED FOR
GOLDEN DOLLY MINERALS INC.

DERRY, MICHENER, BOOTH & WAHL

W. N. Pearson, Ph.D.

D. G. Wahl, P.Eng.

Toronto, Ontario
April 15, 1987

Ref.: 87-20

This report may not be reproduced, in whole or in part, without the written permission of Derry, Michener, Booth & Wahl.

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	(i)
INTRODUCTION	1
PROPERTY, LOCATION AND OWNERSHIP	1
EXPLORATION HISTORY	2
REGIONAL GEOLOGY	5
PROPERTY GEOLOGY	7
Lithology	7
Structure	8
Gold Mineralization	8
Red Point	9
Red Point Extension	11
Combination	12
Surprise	12
"V" Vein	13
Maud McPhee	14
Dan Patch/Fisher	14
GEOCHEMISTRY	15
Gold	16
Silver	16
Arsenic	17
Copper	17
Discussion of Results	17
RECOMMENDATIONS	19
Table 1: Budget - Proposed Exploration Program	20
REFERENCES	25
CERTIFICATES OF QUALIFICATION	
W.N. Pearson	26
D.G. Wahl	27
APPENDIX: LIST OF DOLLY VARDEN REPORTS	A - 1

TABLE OF CONTENTS
(Continued)

After Page

LIST OF FIGURES

Figure 1:	Location Map	1
Figure 2:	Claim Map	2
Figure 3:	Geology and Mineral Occurrences in the Kitsault Valley	5
Figure 4:	Geological Cross-Section, Kitsault Valley	5
Figure 5:	Geology of the Gold Belt Area	7
Figure 6a	Gold Belt: Red Point Surface Geology/ Rock Chip Sampling	9
Figure 6b:	Gold Belt: Red Point 1400' Level/ Geology and Rock Chip Sampling	9
Figure 7:	Gold Belt: Red Point Diamond Saw Channel Sampling	10
Figure 8:	Gold Belt: Red Point Extension North Surface Geology/Rock Chip Sampling	11
Figure 9:	Gold Belt: Red Point Extension North Diamond Saw Channel Sampling	11
Figure 10:	Gold Belt: Red Point Extension South Diamond Saw Channel Sampling	11
Figure 11:	Gold Belt: Combination Surface Geology/ Rock Chip Sampling	12
Figure 12:	Gold Belt: "V" Vein Surface Geology/ Rock Chip Sampling	13
Figure 13:	Au Soil Geochem Results	15

SUMMARY

The Dolly Varden mining camp, near Alice Arm, British Columbia, is well known for its many rich silver ore deposits. Two of these deposits, the Dolly Varden and Torbrit mines, produced a total of 1,414,400 tons of ore that averaged 14 oz. Ag/ton. Mining of these two deposits took place between 1919 and 1959.

Claims in the Dolly Varden mining camp were also staked by prospectors in the early 1900s to cover copper mineralized showings situated northwest of the Dolly Varden and Torbrit mines. This area became known as the Copper Belt. Subsequent exploration in the following years showed that gold mineralization found in this area had a much greater significance than the small and sporadic occurrences of copper. Hence, the area was renamed the Dolly Varden Gold Belt. Previous exploration work on the Gold Belt took place between 1913 and 1978, with most of the activity focused on the Red Point, Red Point Extension, Combination, Surprise, "V" Vein, Maud McPhee, Dan Patch and Fisher showings. The majority of these showings were explored by trenches and short adits, with the exception of a 700 ft. long adit driven on the Red Point showing. Other exploration work on the Gold Belt included geological mapping, geophysical and geochemical surveys and a limited amount of surface diamond drilling.

During July and August, 1986 a field program was carried out by Dolly Varden Minerals Inc. to explore the Dolly Varden Gold Belt. This program involved surface and underground geological mapping, rock and soil geochemical sampling and channel sampling of old trenches and gold showings with the aid of a gasoline-powered diamond saw. A northwest trending gold zone, approximately 2,000 ft. in length, was defined by this program. In addition, diamond saw channel sampling at the Red Point, near the south end of the gold zone, outlined a mineralized showing that measured 125 ft. long and 15 ft. wide, grading 0.165 oz. Au/ton. One of the samples taken across this showing assayed 0.452 oz. Au/ton over 6.4 ft. At the north end of the gold zone the Red Point Extension prospect was also sampled with the diamond saw and a mineralized showing measuring 165 ft. in length, 12 ft. in width, and grading 0.106 oz. Au/ton was discovered. Significant gold values were also discovered at the Combination and Surprise showings.

(ii)

An exploration program involving extensive surface work, particularly diamond drilling, is recommended for the Dolly Varden Gold Belt. This work will focus on three priority target areas which include:-

Priority 1: Red Point and Red Point Extension
Priority 2: Combination
Priority 3: Surprise.

The objective of the program will be to establish reserves for a milling grade, open pit-type, bulk tonnage gold deposit, with possibilities existing for a higher grade "bonanza-type" epithermal precious metal-quartz vein deposit.

The budget for this program is estimated to be \$1,318,380 as detailed in the following pages and summarized below:-

Budget Summary
Proposed Exploration Program
Golden Dolly Minerals Inc.

Prefield Planning	\$ 11,700
Phase I - Field Program	\$ 446,130
Phase II - Field Program	<u>\$ 861,550</u>
TOTAL	<u>\$1,318,380</u>

(iii)

BUDGET

PROPOSED EXPLORATION PROGRAM

GOLDEN DOLLY MINERALS INC.

PREFIELD PLANNING (60 days)

Personnel

Senior Geologist, 3 days @ \$280/day	\$ 840	
Project Geologist, 30 days @ \$150/day	4,500	
Assistant Geologist, 15 days @ \$110/day	<u>1,650</u>	\$ 6,990

Expenses

Office Expenses, maps, reproduction, telephone, etc.	<u>2,500</u>	\$ 9,490
Contingency - 10%		<u>949</u>
Subtotal		\$ 10,439
DMBW Management Fee (12.2%)		<u>\$ 1,261</u>
TOTAL		<u>\$ 11,700</u>

(iv)

BUDGET
(Continued)

PHASE I

FIELD PROGRAM (45 days) - 1 Drill

Personnel

Senior Geologist, 10 days @ \$280/day	\$ 2,800	
Project Geologist, 45 days @ \$150/day	6,750	
Assistant Geologist, 45 days @ \$110/day	4,950	
Field Assistants, 45 days @ \$160/day x 2 men	7,200	
Cook and Helper, 45 days @ \$200/day	<u>9,000</u>	\$ 30,700

Expenses

Mobilization		
- General Travel	10,000	
- Equipment to Kitsault	10,000	
Drilling		
5,000 ft. @ \$30/ft.	150,000	
Helicopter		
- 35 hrs. @ \$550/hr.	19,250	
- Fuel, 35 hrs. @ \$100/hr.	3,500	
Surface Work		
- Tree Faller, 5 days @ \$250/day	1,250	
- Blaster & Helper, 10 days @ \$500/day	5,000	
- Materials	3,000	
Shipping	3,000	
Analyses		
- Rock, 1,000 samples @ \$17/sample	17,000	
- Soil, 200 samples @ \$12/sample	2,400	
- Gold Fire Assay, 300 samples @ \$13/sample	3,900	
Food, 450 man-days @ \$30/day	13,500	
Equipment Purchase/Rental	35,000	
Surveying	5,000	
Miscellaneous	7,500	
Demobilization		
- General Travel	10,000	
- Equipment from Kitsault	10,000	
Supervisory Travel	<u>4,000</u>	\$ 313,300
		\$ 344,000

(v)

BUDGET
(Continued)

PHASE I

Balance Carried Forward \$ 344,000

REPORT PREPARATION

Personnel

DMBW Partner, 2 days @ \$440/day	\$ 880		
Senior Geologist, 5 days @ \$280/day	1,400		
Project Geologist, 20 days @ \$150/day	3,000		
Assistant Geologist, 10 days @ \$110/day	1,100		
Draftsperson, 5 days @ \$120/day	600		
Secretarial, 20 hrs. @ \$25/hr.	<u>500</u>	\$ 7,480	

Expenses

Office Expenses, Maps, reproduction, telephone, etc.	2,000		
Computer Processing	<u>8,000</u>	<u>\$10,000</u>	<u>\$ 17,480</u>

Subtotal \$ 361,480

Contingency - 10% 36,150

Subtotal 397,630

DMBW Management Fee (12.2%) \$ 48,500

TOTAL \$ 446,130

BUDGET
(Continued)

Phase II

FIELD PROGRAM (60 days) - 2 Drills

Personnel

DMBW Partner, 5 days @ \$440/day	\$ 2,200	
Senior Geologist, 20 days @ \$280/day	5,600	
Project Geologist, 60 days @ \$150/day	9,000	
Assistant Geologist, 60 days @ \$110/day	6,600	
Field Assistants, 60 days @ \$160/day x 2 men	9,600	
Cook & Helper, 60 days @ \$200/day	<u>12,000</u>	\$ 45,000

Expenses

Mobilization		
- 2nd Drill to Kitsault	\$ 5,000	
Drilling, 15,000 ft. @ \$30/ft.	450,000	
Helicopter		
- 60 hrs. @ \$550/hr.	33,000	
- Fuel, 60 hrs. @ \$100/hr.	6,000	
Surface Work		
- Tree Faller, 5 days @ \$250/day	1,250	
Shipping	7,500	
Analyses		
- Rock - 3,000 samples @ \$17/sample	51,000	
- Gold Fire Assay, 1,000 samples @ \$13/sample	13,000	
Food, 840 man-days @ \$30/day	25,200	
Equipment Purchase/Rental	5,000	
Surveying	10,000	
Miscellaneous	10,000	
Demobilization (Included in Phase I)	-	
Supervisory Travel	<u>6,000</u>	<u>\$ 622,950</u> \$ 667,950

(vii)

BUDGET
(Continued)

PHASE II

Balance Carried Forward

\$ 667,950

REPORT PREPARATION

Personnel

DMBW Partner, 3 days @ \$440/day	\$ 1,320		
Senior Geologist, 10 days @ \$280/day	2,800		
Project Geologist, 40 days @ \$150/day	6,000		
Assistant Geologist, 20 days @ \$110/day	2,200		
Draftsperson, 15 days @ \$120/day	1,800		
Secretarial, 40 hrs. @ \$25/hr.	<u>\$ 1,000</u>	\$ 15,120	

Expenses

Office Expenses, Maps, reproduction, telephone, etc.	\$ 3,000		
Computer Processing	<u>12,000</u>	<u>\$ 15,000</u>	<u>\$ 30,120</u>

Subtotal \$ 698,070

Contingency - 10% 69,800

Subtotal 767,870

DMBW Management Fee (12.2%) \$ 93,680

TOTAL \$ 861,550

INTRODUCTION

The following report was prepared by Derry, Michener, Booth & Wahl (DMBW) at the request of Mr. W.F. Christensen, President of Golden Dolly Minerals Inc. and is based on our intimate knowledge of the Dolly Varden mining camp obtained over a decade of exploration in the camp on behalf of Dolly Varden Minerals Inc. Dr. W. Pearson has visited the Gold Belt, which is the subject of this report, on two separate occasions. The first was in 1985 during a reconnaissance mapping in the Dolly Varden area by Mr. B. Devlin as part of his M.Sc. thesis at U.B.C. In the following year, Dr. Pearson reviewed on site the detailed geological mapping and sampling program carried out by Dolly Varden Minerals Inc. on the Gold Belt.

Golden Dolly Minerals Inc. subsequently acquired an option to earn a 50% working interest in the Gold Belt claims from Dolly Varden Minerals Inc.

PROPERTY, LOCATION AND OWNERSHIP

The Golden Dolly optioned property comprises ^{add additional - see p. 2} 33 crown grants that cover the historic Copper Belt of the Dolly Varden mining camp. The property is located 525 miles north-northwest of Vancouver and 16 miles north of the community of Alice Arm, British Columbia (Figure 1). Topography in the area is steep, ranging in elevation from 1,300 ft. to 3,600 ft. above sea level, with most of the known gold showings occurring below 2,200 ft. in elevation. Present access to the area is by helicopter either from Stewart, 25 miles to the north, or Prince Rupert, 100 miles to the south. A gravel road from Alice Arm comes within 2 miles of the Gold Belt and could be used for access to the area providing repairs were carried out. Road access from the mainland to Alice Arm is not possible; however, there is a road from the Terrace/Stewart highway to the town of Kitsault on the other side of the Alice Arm inlet from which a 2-mile barge or ferry trip is required to reach the town of Alice Arm.

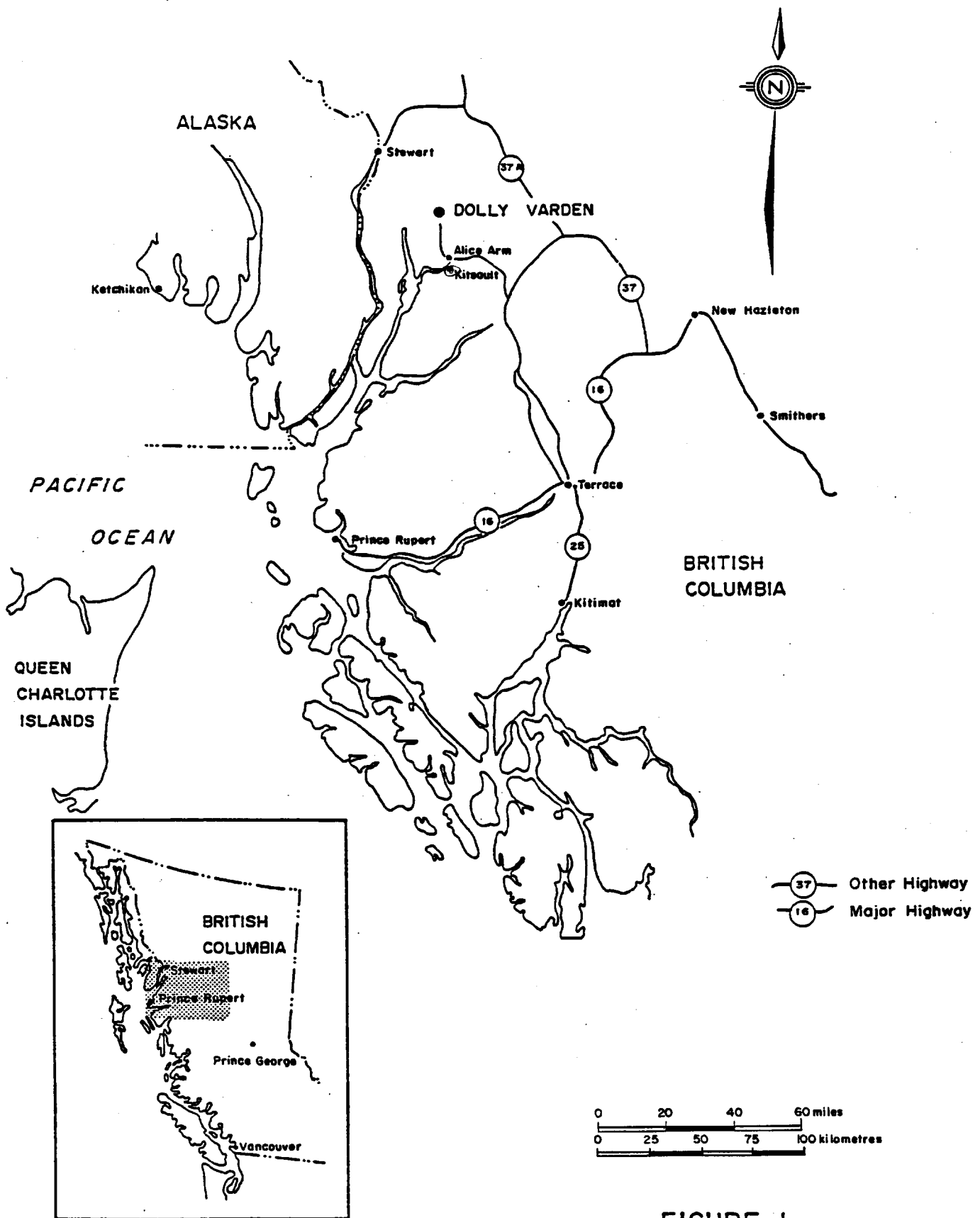


FIGURE 1
 Location map of Dolly Varden Property,
 Alice Arm, British Columbia.

The claims and crown grants which comprise the optioned property are as follows (Figure 2):-

Golden Dolly Claim Group

Crown Grants and Leases

✓Maud McPhee	C.G. 3817	✓Sunset No. 1	C.G. 3818
✓Red Point	C.G. 3809	✓Sunset No. 2	C.G. 3819
✓Red Point Extension	C.G. 3810	✓Roan Antelope	15347
✓Roan Antelope No. 1	15348	✓Lou Dillon	C.G. 3827
✓Sable Fraction	28828	✓Dan Patch	C.G. 3825
✓Maud S.	L39-3828	✓Nancy Hanks	C.G. 3826
✓Polly Fraction	28827	✓MIDGET Bear Fraction	28824
✓Dana No. 1	35410	✓Dana No. 2	35411
✓Dana No. 3	35412	✓Dana No. 4	35413
✓Dana No. 5	35414	✓Dana No. 6	35415
✓Copper Cliff No. 3	C.G. 3798	✓Copper Cliff No. 4	C.G. 15806
✓Copper Cliff No. 2	C.G. 3808	✓Copper Cliff No. 5	15807
✓Copper Cliff No. 1	C.G. 3807	✓Copper Cliff No. 6	15808
✓Copper Cliff	C.G. 3806	✓Copper Cliff No. 7	15809
✓Bosun Fraction	28825	✓Bluejay Fraction	28823
✓Mink	28821	✓Marten	28822
✓Bear	28826.		

Silver Swan 1-2-3
add Barite Snow 1-2
Southern Gold 1-2

DMBW has not verified the titles to these claims for which no opinion is expressed.

EXPLORATION HISTORY

Claims in the Dolly Varden Gold Belt were originally staked by prospectors in the early 1900's to cover copper mineralized showings. Recent developments, however, indicate that in addition to these copper occurrences, significant gold and silver mineralization is present in this area.

The Dolly Varden Gold Belt has not seen any production during its exploration history. Production from the Dolly Varden mining camp, however, has

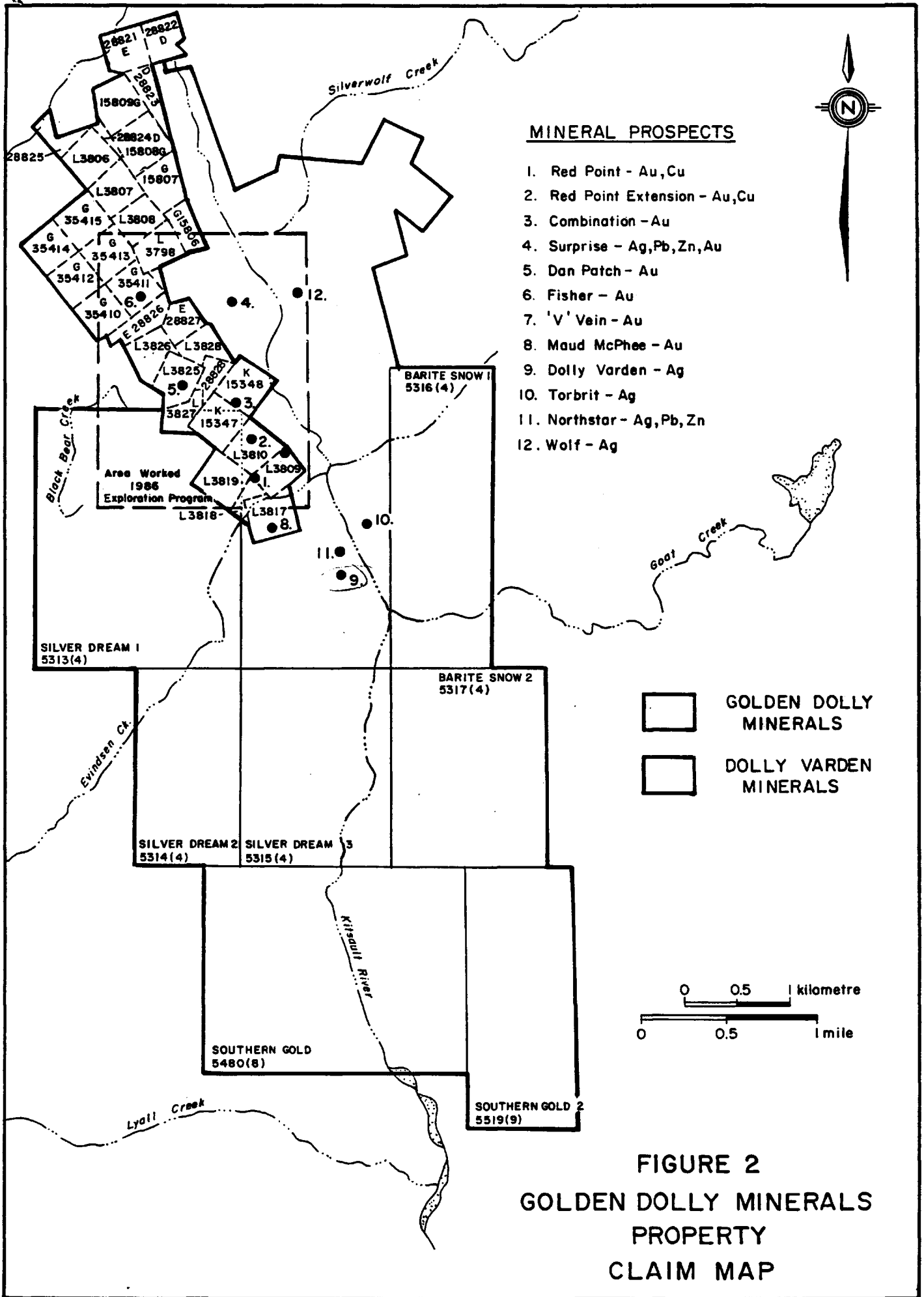


FIGURE 2
GOLDEN DOLLY MINERALS
PROPERTY
CLAIM MAP

taken place from the silver-base metal Dolly Varden and Torbrit mines, situated to the south of the Gold Belt (Figure 2). Total production, which took place from 1919 to 1921 at the Dolly Varden mine and between 1949 and 1959 at the Torbrit mine, totalled 1,414,400 tons of ore that averaged 14 oz. Ag/ton, 0.40% Pb and 0.02% Zn. Estimated proven and probable reserves reported by DMBW for two other deposits in the Dolly Varden camp, the Wolf and North Star (Figure 2), are 468,350 tons (diluted) averaging 9.94 oz. Ag/ton with additional reserves possible from the former Torbrit and Dolly Varden mines.

Exploration work on showings within the Gold Belt was carried out intermittently from 1913 to 1973. Between 1913 and 1918, the Combination, Dan Patch and Surprise showings (Figure 2) were explored by a series of trenches and short adits but results of this earlier work were not well documented.

In 1916, Granby Consolidated Mining, Smelting and Power Company, Ltd. diamond drilled three flat holes totalling 600 ft. on the Red Point showing. It was reported that drill core from these holes showed disseminated pyrite and lesser amounts of chalcopyrite mineralization, more or less all through the core. Assay results of this drilling, however, were not available. Ten years later, V. Spencer and Associates, Vancouver, drove a 700 ft. long adit in a northwesterly direction on the Red Point. No data, other than a report of sparse chalcopyrite mineralization being encountered in the adit, was available from this work. Results from recent sampling of the Red Point adit will be discussed later in the text.

A self potential survey covering the Surprise showing was conducted by Noranda Exploration Company Ltd. during 1954. This work indicated several anomalies in the vicinity of old workings but no further work was done at that time.

From 1969 and 1973, Dolly Varden Mines Ltd. carried out exploration work on the Gold Belt which consisted of geological mapping, geochemical soil surveys, trenching and diamond drilling. Surface diamond drilling by Dolly Varden

Mines Ltd. included 1,373 ft. in 8 holes on the Surprise Showing and 200 ft. in 4 holes on the Red Point Extension Showing. Assay results from drilling on the Surprise showing will be discussed later in the text and data from drilling on the Red Point Extension was not available.

A field program of geochemical exploration and prospecting was carried out by DMBW, on the Dolly Varden property during 1978. This survey covered a small portion of the Gold Belt area but did not result in any new discoveries and no further work was carried out.

Showings within the Dolly Varden Gold Belt that have experienced only limited exploration activity include the Fisher, Maud McPhee and "V" Vein (Figure 2). Previous work on these showings, as well as on the Dan Patch discussed above, is poorly documented. Two other important showings within the Gold Belt, located north of the Dolly Varden properties and currently held by interests other than Dolly Varden Minerals Inc., include the Homestake and Vanguard properties. These showings have been explored by trenches and short adits along with various geological, geochemical and geophysical surveys. A reserve estimate of 10,000 tons grading 0.07 oz. Au/ton, 4.1 oz. Ag/ton and 8.6% Cu has been reported for the Vanguard showing. The dimensions of the Vanguard mineral deposit are not known.

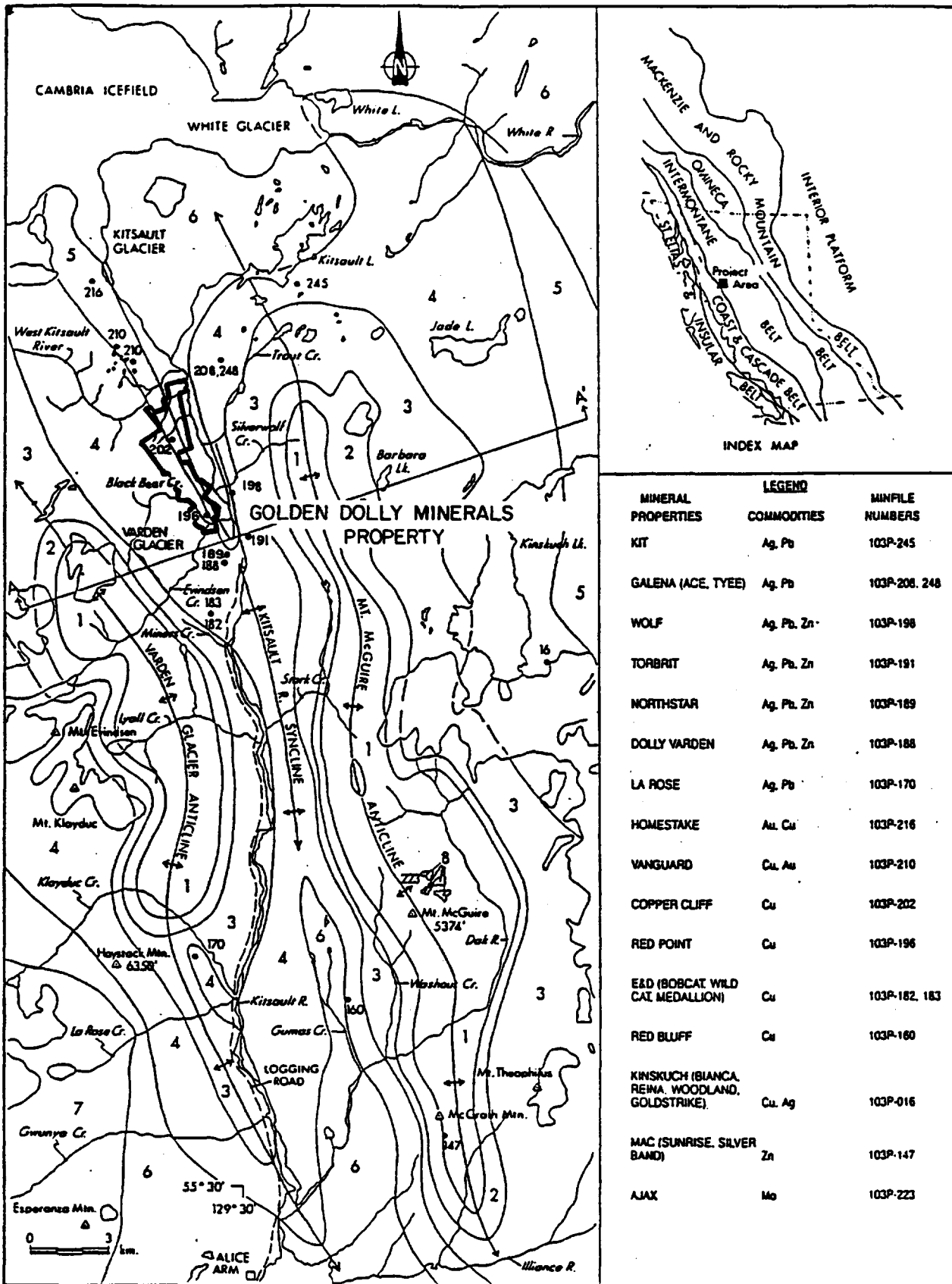
From July 2 to August 29, 1986, an exploration program on the Dolly Varden Gold Belt was carried out by a four-man field crew contracted to Dolly Varden Minerals Inc., Toronto. The aim of the program was to evaluate the gold and silver potential of the claims and Crown Grants in the Gold Belt area (Figure 2). Field work included surface and underground geological mapping, rock and soil geochemical sampling and channel sampling of old trenches and gold showings with the aid of a gasoline-powered diamond saw. A total of 582 soil samples, 193 rock chip samples and 32 channel samples were collected and sent to Min-En Laboratories Ltd., Vancouver, for geochemical analysis and fire assaying. Results from this program are discussed in detail in this report.

REGIONAL GEOLOGY

The Dolly Varden mining camp lies at the western margin of the Intermontane Belt (Figure 3). Rocks underlying the camp are correlative with the Lower to Middle Jurassic Hazelton Group which is a thick and widespread assemblage of basaltic to rhyolitic volcanic flow rocks, their tuffaceous equivalents and sedimentary rocks.

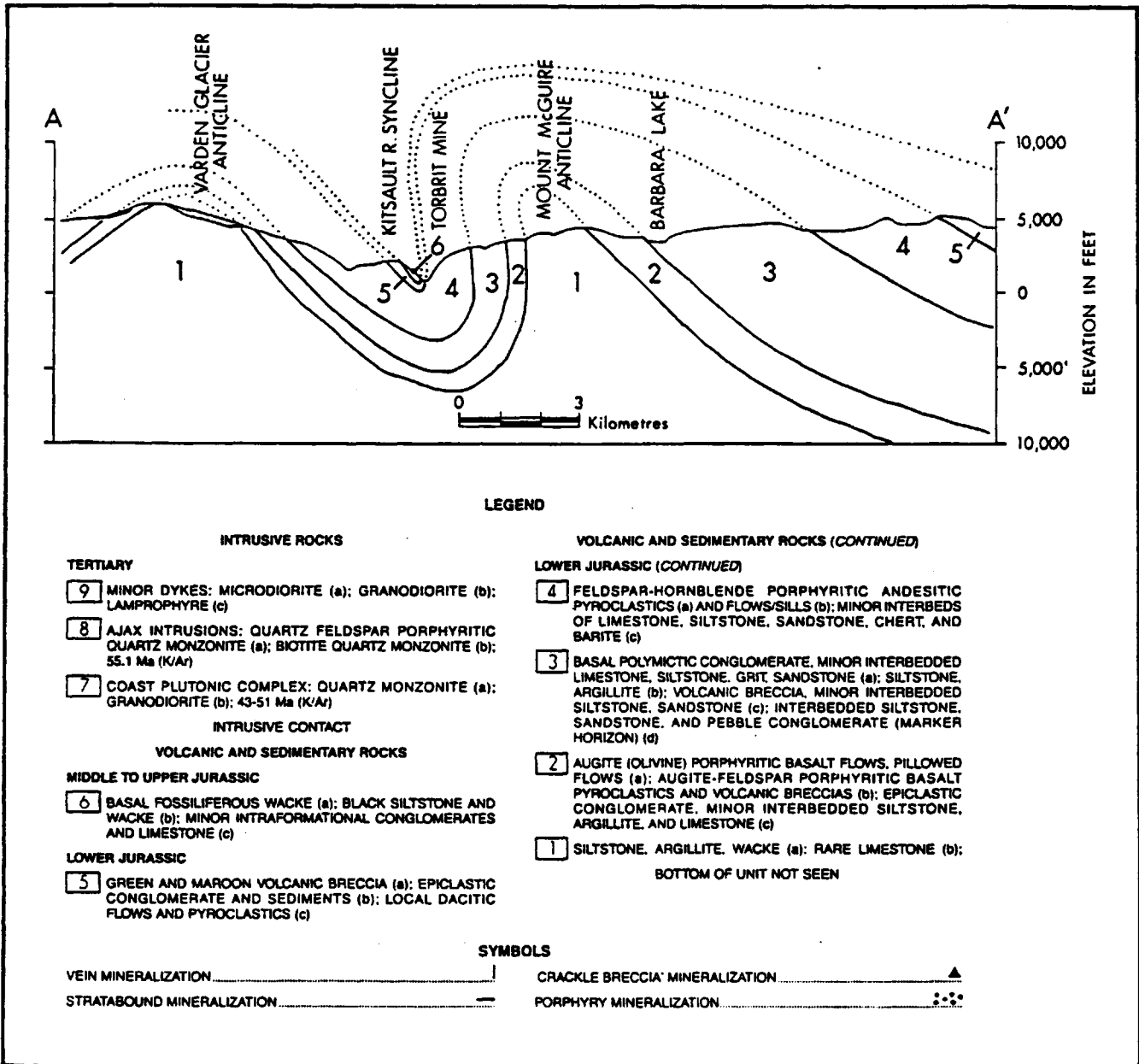
Regional geology of the Kitsault River area was previously described by McConnell (1913), Turnbull (1916), Hanson (1921) and Black (1951). Property scale geological mapping, which includes a description of the geology of the Gold Belt area, has been reported by both Carter (1970) and Mitchell (1973). Despite all of this earlier mapping, the geology of the area was not completely understood and therefore was remapped by Dawson and Alldrick (1986). This mapping showed that the Kitsault River valley is underlain by six volcanic-sedimentary rock units and three intrusive rock units (Figures 3 and 4). Unit 1 is the lowermost sequence exposed in the area and consists of interbedded, finely laminated black siltstone, argillite and minor wacke. The base of this unit is not exposed in the Kitsault River valley but it is at least 3,900 ft. thick. Overlying Unit 1 are mixed mafic volcanic and epiclastic rocks of Unit 2. This unit consists of augite, feldspar and olivine porphyritic basalt flows, pyroclastics and derived conglomerates. It ranges from 500 ft. to 2,300 ft. in thickness. Unit 3 is a sedimentary and minor volcanic sequence of siltstone, sandstone, wacke, grit, pebble to cobble conglomerate and volcanic breccia. This unit varies in thickness from 1,300 ft. to 6,600 ft. and the basalt contact is gradational.

Andesitic pyroclastic rocks, together with either flows or subvolcanic sills of similar composition, comprise Unit 4. This unit ranges from 1,600 ft. to 6,600 ft. in thickness and hosts the majority of the gold and silver occurrences in the Kitsault River area. Unit 4 grades upward into Unit 5 which consists of a marine assemblage of alternating green and maroon volcanic breccias and conglomerates, with lesser dacite flows and pyroclastics, and minor black siltstones and limestones. The thickness of this unit varies from less than 300 ft. to a maximum



(After G.L. Dawson and D.J. Aldrick, 1986.)

FIGURE 3
GEOLOGY AND MINERAL OCCURRENCES
IN THE KITSULT VALLEY



(After G.L. Dawson and D.J. Aldrick, 1986.)

FIGURE 4
GEOLOGICAL CROSS-SECTION,
KITSULT VALLEY

of 5,000 ft. thick. Unit 6, the uppermost sequence exposed in the area, is a marine assemblage of sedimentary rocks consisting of black siltstone, shale and wacke with lesser amounts of sandstone, limestone and intraformational conglomerate.

All rock units of the Hazelton Group in the Kitsault River area have been intruded by various intrusive rock units. Quartz monzonite to granodiorite of the Early to Middle Eocene Coast Range batholith (Unit 7) is exposed in the southwest corner of the map area. Early to Middle Eocene Ajax intrusions (Unit 8), now called Alice Arm intrusions because of their proximity to Alice Arm, occur as small stocks of quartz feldspar porphyritic quartz monzonite and biotite quartz monzonite. Other intrusive rocks include numerous Tertiary microdiorite, granodiorite and lamprophyre dykes (Unit 9) which have been observed to crosscut all rock units in the Kitsault River area.

Volcanic and sedimentary beds in the map-area are folded into three parallel regional scale folds (Figures 3 and 4). These folds, which are all doubly plunging, include the Varden Glacier anticline, Kitsault River syncline and the Mount McGuire anticline. Two major sets of faults also transect the area, with earlier faults trending northwest and younger faults trending northeast. Many of the Tertiary dykes intrude the later northeast trending faults. An extensive hydrothermal alteration zone hosting the precious metal occurrences of the Dolly Varden Gold Belt is subparallel to the earlier northwest fault trend (Figure 3). This alteration zone measures nearly 9 miles in length and is characterized by sericitization, silicification and pyritization. The Hazelton Group rocks in the Kitsault River area have been subjected to greenschist facies metamorphism.

PROPERTY GEOLOGY

Lithology

The Dolly Varden Gold Belt is restricted to Hazelton Group volcanic rock Units 4 and 5 mapped by Dawson and Alldrick (1986). Within the Gold Belt map-area (Figure 5), six rock units were recognized which, from oldest to youngest, include: maroon andesite tuff, light green andesite ash tuff, green porphyritic andesite and a coarser grained diorite phase, a capping sedimentary unit and crosscutting Tertiary dykes. Typical gold, silver and copper mineralization of the Gold Belt occurs primarily in silicified, chloritized and pyritized zones within the green porphyritic andesite.

The lowermost maroon andesite tuff (Unit 1) exposed in the southwest corner of the map area consists of maroon coloured, moderately bedded, lapilli and feldspar crystal tuff of andesitic composition. Unit 2, only positively recognized at the Surprise showing in the northeast part of the map-area, is a light green coloured, andesite ash tuff with a minor epiclastic component. From observations made elsewhere in the Dolly Varden camp, this unit is found to rest conformably upon Unit 1 and grades upward into the sedimentary rocks of Unit 4. Unit 2 may be present in more places within the Gold Belt map-area but hydrothermal alteration makes recognition difficult. The pyroclastic rocks of Unit 1 and possibly Unit 2 in the south and western part of the map-area are intruded by green, massive, fine-grained feldspar porphyritic andesite (Unit 3a). In the north and eastern sections of the map-area, the same rock unit is characterized by a medium to coarse-grained dioritic phase with both feldspar and hornblende phenocrysts (Unit 3b). The andesite and diorite units probably represent either stocks or subvolcanic sills within the andesitic pile. Well bedded sedimentary rocks of Unit 4 overlie the volcanic rocks and consist of black siltstone, shale, calcareous wacke, with lesser amounts of sandstone. Fossils collected from calcareous wacke beds indicate a Lower Jurassic, Toarcian age. Basalt, andesite and lamprophyre dykes (Unit 5) intrude all rock units in the map-area. A whole rock K-Ar date of 22.3 ± 0.8 Ma for a basaltic dyke from the North Star area, south of the Gold Belt, indicates emplacement during Tertiary, Miocene time.

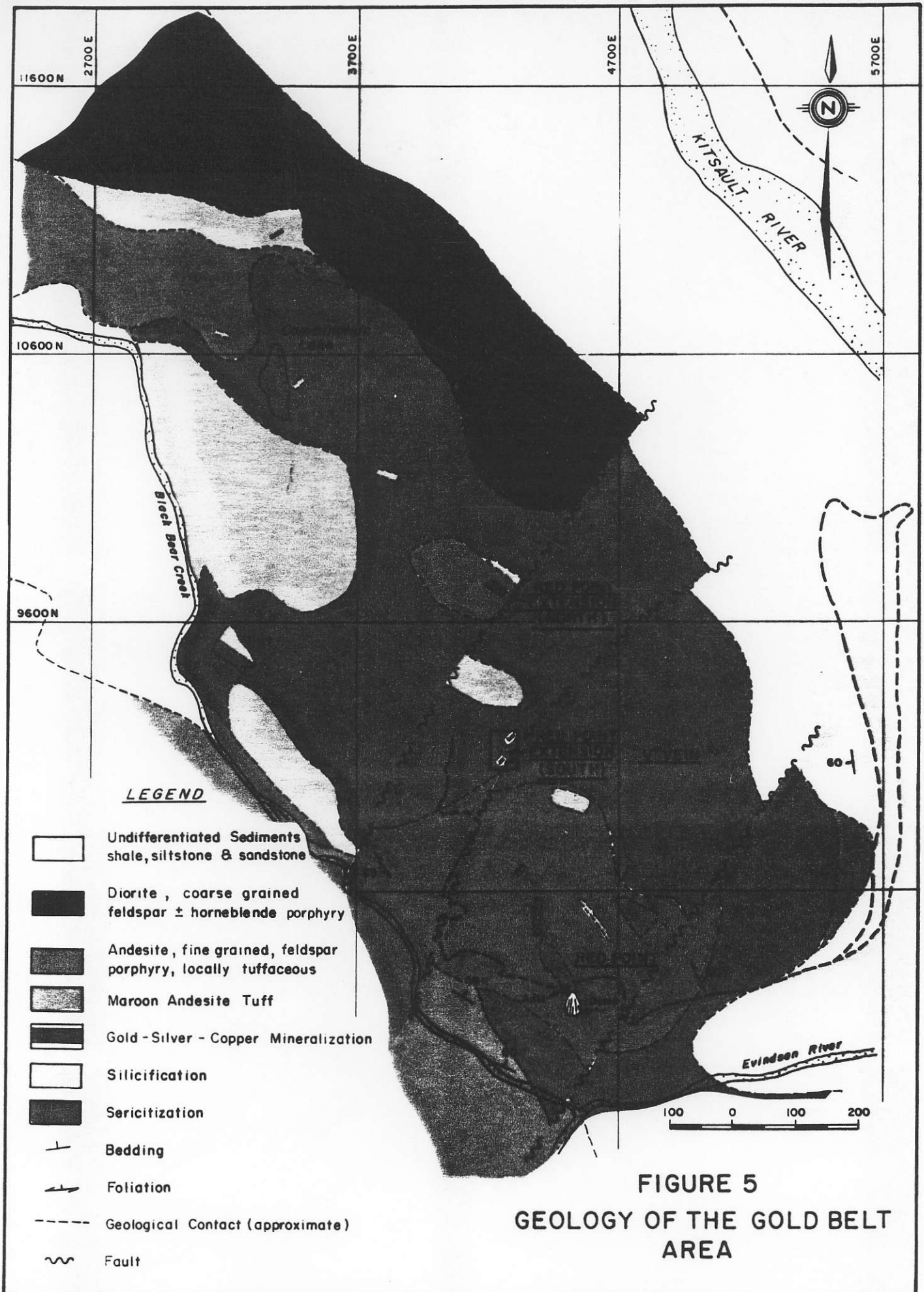


FIGURE 5
GEOLOGY OF THE GOLD BELT AREA

Structure

Volcaniclastic and sedimentary beds in the Gold Belt map-area appear to be synformal with a shallow northwesterly plunge. On the west side of the map-area, beds in the maroon tuff unit (Unit 1) strike northwest with a moderate dip to the northeast. To the east, sedimentary strata of Unit 4 exhibit the same northwest strike but have a moderate southwest dip. In the southern part of the map-area the sedimentary beds of Unit 4 dip gently to the northwest and represent the core of the synform. Measurements of axial plane cleavage indicated the axial plane of the synform is nearly vertical and the fold upright. Two major sets of fractures and faults dominate the structure of both mineralization and Tertiary dykes. The Gold Belt and structure-related precious metal occurrences within this belt follow a general northwest trend which has been offset by later northeast trending faults. Tertiary dykes and minor quartz-barite veins with only locally significant gold and silver values are subparallel to the northeast faults.

Gold Mineralization

Gold showings within the Dolly Varden Gold Belt are vein occurrences hosted by Hazelton Group volcanic rocks. These veins carry significant gold and silver values and occur within an area characterized by a very prominent gossan which is related to hydrothermally altered feldspar porphyritic andesite. The veins or vein systems generally strike northwest with steep northeasterly dips and range in width from a few inches to tens of feet. Veins typically contain pyrite and locally abundant chalcopyrite within a silicified and chloritized gangue. Typical mineralized zones are stockworks or vein-fillings exhibiting open space fracture filling textures. The best examples of this type of mineral occurrence includes the Red Point, Red Point Extension and Combination showings (Figure 5). Silicification and chloritization with minor sericitization are the main expressions of wallrock alteration associated with the veins; but, in general, hydrothermal alteration in the Gold Belt is dominantly characterized by sericitization. An

intensely silicified zone in the north-central part of the map-area possibly represents the uppermost levels of the hydrothermal system, often referred to as a silica cap (Figure 5).

The gold occurrences appear to be of the epithermal type, related to intrusion of the Gold Belt porphyritic rocks. The intrusion of these rocks eventually resulted in emergence of the volcanic pile along with subsequent shallow submarine and possibly subaerial pyroclastic eruptions. After crystallization and brittle fracturing along northwest structures, the hydrothermal circulation localized in the fractures and precipitated the epithermal vein gold-silver-copper mineralization. Strong structural control, open space fracture filling textures and the discordant nature of the mineralization suggest it is of epithermal origin. Examples of other epithermal precious and base metal deposits hosted by Lower Jurassic volcanic rocks of the Canadian Cordillera include the Silbak Premier property in the Stewart mining camp and the Lawyers property in the Toodoggone River area.

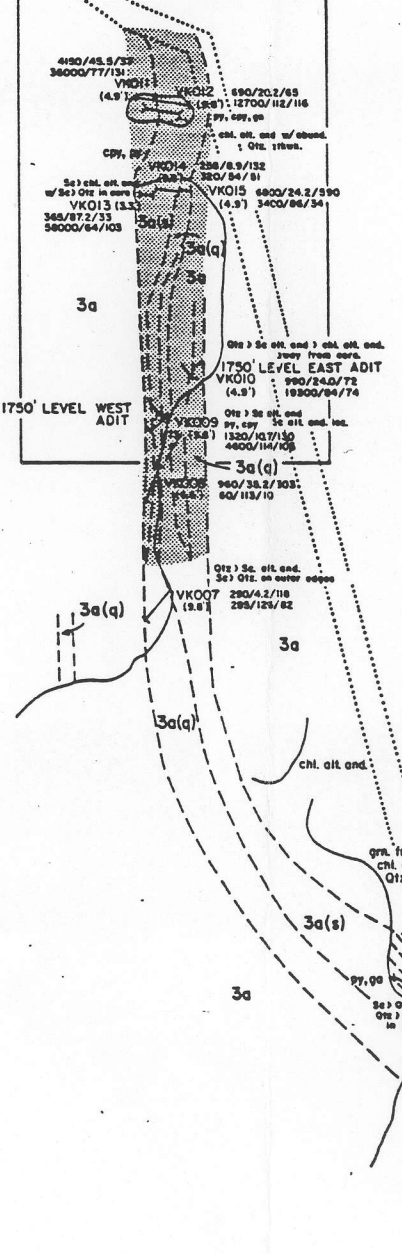
The principal precious metal prospects within the Dolly Varden Gold Belt include the Red Point, Red Point Extension (North and South), Combination, Surprise, "V" Vein, Maud, McPhee, Dan Patch and Fisher; these gold showings are discussed in more detail in the following sections.

Red Point

The Red Point prospect, situated near the south end of the map-area at an elevation of 1,750 ft. (Figure 5), is the most significant precious metal occurrence located to date within the Dolly Varden Gold Belt. Mineralization is characterized by local concentrations of pyrite, chalcopyrite and minor galena occurring in northwest trending, vertically dipping, chloritized and silicified zones crosscutting massive and porphyritic andesite (Figures 6a and 6b). These zones appear to be continuous and vary in width from a few inches up to 20 ft. across.

1400' Level Adit

DIAMOND SAW SAMPLE LOCATION MAP
(FIGURE 7)



ASSAY Au			
sample no.	G/Tonne	oz./Ton	width(ft.)
VK008	1.06	0.031	6.6'
VK009	1.54	0.045	9.8'
VK010	1.20	0.035	4.9'
VK011	5.60	0.163	4.9'
VK012	0.79	0.023	9.8'
VK015	8.40	0.245	4.9'

LEGEND

ROCK UNITS

- 5 Tertiary Dykes - Basalt, andesite and lamprophyre
- 4 Undifferentiated Sediments - Shale, siltstone and sandstone
- 3b Diarite - coarse grained, feldspar & hornblende porphyry
- 3a Andesite - fine grained, feldspar porphyry, locally talciferous
- 2 Light Green Andesite Ash Tuff
- 1 Marine Andesite Tuff

MINERALIZATION

- Gold-Silver-Copper Mineralization

ALTERATION

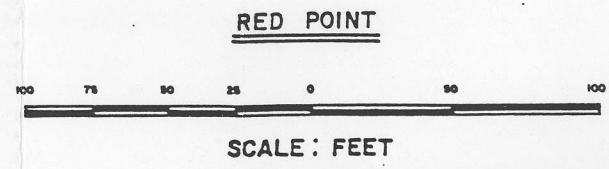
- 4 Silicification
- 3 Sulfidation

SYMBOLS

- bedding
- jointing
- foliation
- geological contact (defined, approximate, assumed)
- fault (defined, approximate)
- shear zone
- outcrop boundary
- creak
- trail
- trench
- cave
- sample number and width
- sample results
- Au ppm/Ag ppm/As ppm
- Cu ppm/Pb ppm/Zn ppm

ABBREVIATIONS

Au	Gold	SA	Sarite
Ag	Silver	SC	Sulfite
Cu	Copper	Chl	Chlorite
Py	Pyrite	Fl	Feldspar
Ch	Chalcopyrite	Hb	Hornblende
Sp	Sphalerite	And	Andesite
Sh	Shale	Dar	Diarite
Tt	Tetrahedrite	Bas	Basalt
Qtz	Quartz	P	Porphyry
Ca	Calcite		



RED POINT

SCALE: FEET

GOLDEN DOLLY MINERALS INC.

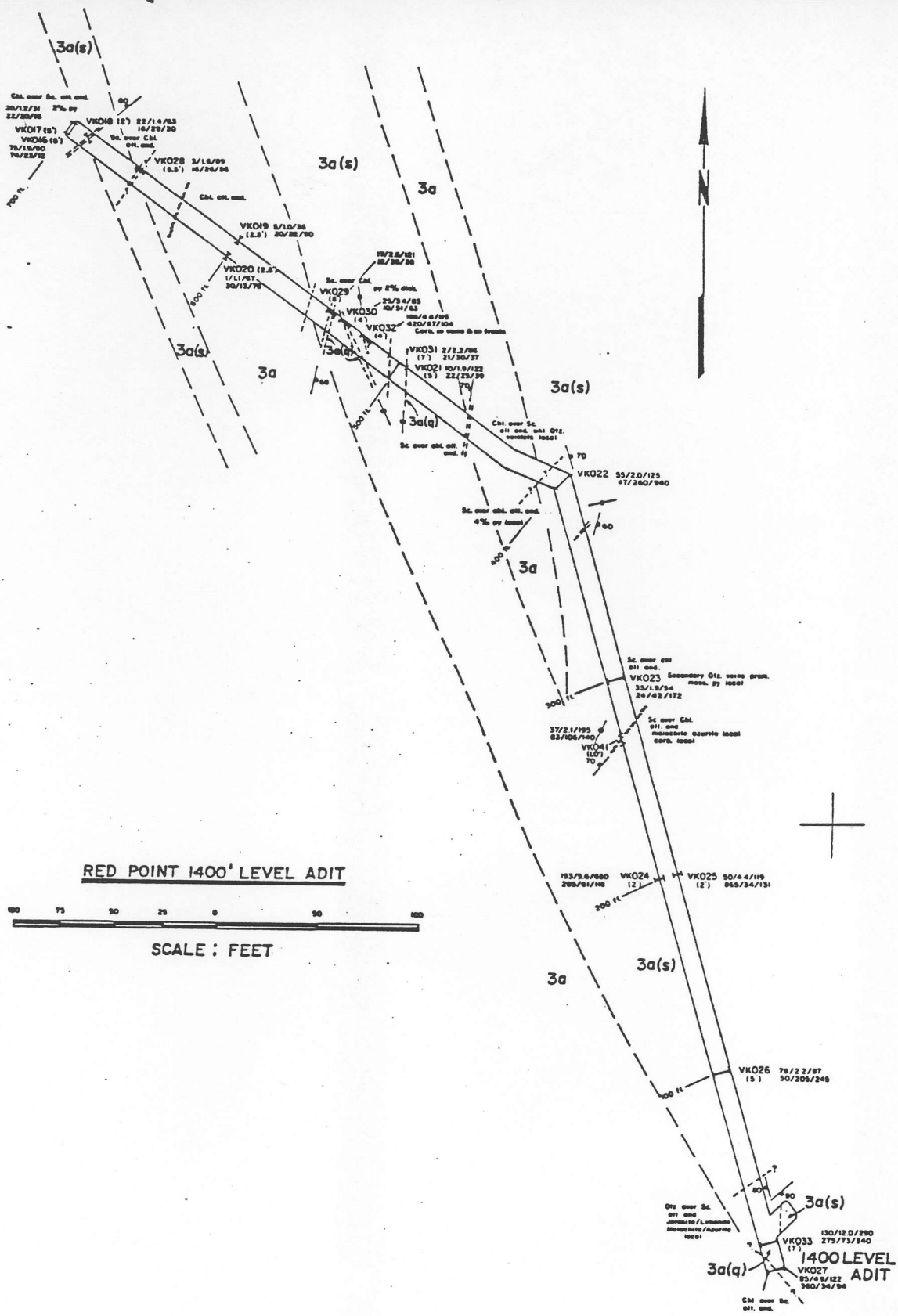
LOCATION: GOLD BELT: RED POINT

TYPE OF MAP: SURFACE GEOLOGY/ROCK CHIP SAMPLING

NTS NO.: 103P/12 SCALE:

DRAWN BY: V. KOYANAGI FIG. NO.: 6a

DATE: OCTOBER 1986



RED POINT 1400' LEVEL ADIT



SCALE : FEET

GOLDEN DOLLY MINERALS INC.	
LOCATION: GOLD BELT - RED POINT 1400' LEVEL	
TYPE OF MAP: GEOLOGY AND ROCK CHIP SAMPLING	
N.T.S. NO.: 103 P/12	SCALE:
DRAWN BY: V. KOYANAGI	FIG. NO.:
DATE: OCTOBER 1986	6b

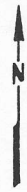
DMBW

Diamond saw channel sampling of surface workings carried out during the 1986 summer field program outlined a mineralized zone at the Red Point showing that measured 125 ft. in length and 15 ft. across, averaging 0.165 oz. Au/ton (Figure 7). Spot highs along this length include sample RPDC005 grading 0.452 oz. Au/ton, 1.65 oz. Ag/ton and 3.8% Cu over a 6.4 ft. width and sample RPDC008, which ran 0.321 oz. Au/ton, 1.45 oz. Ag/ton and 1.0% Cu over 3.6 ft. Another sample, RPDC003, located 70 ft. south of the aforementioned samples, yielded a value of 0.158 oz. Au/ton and 1.4% Cu over a 9.8 ft. width.

The Red Point surface workings were previously sampled by M. A. Mitchell of Dolly Varden Mines Ltd. in 1970 and by R. Calich of Torbrit Silver Mines Ltd. in 1952. Mitchell obtained a value from one of the trenches that ran 0.110 oz. Au/ton and 1.5% Cu over 3.0 ft. Other samples taken by Mitchell were lower in grade but generally in the 0.01 to 0.03 oz. Au/ton range. Calich reported values of 0.520 oz. Au/ton, 1.08 oz. Ag/ton and 15.4% Cu over 3.5 ft. for one sample and another sample that ran 0.080 oz. Au/ton and 1.16 oz. Ag/ton across 36 ft. at the Red Point.

In addition to surface trenches, the Red Point showing has been explored by a 700 ft long adit situated at an elevation of 1,400 ft. and two shorter adits both occurring at an elevation of 1,750 ft. (Figures 6A and 6B). Rock chip samples collected along the walls of the 1,400 level adit during the 1986 summer mapping program did not yield any significant precious metal values. This adit was also sampled by N. C. Carter of the Ministry of Energy, Mines & Petroleum Resources during 1970. The average of these samples, taken at 10 ft. intervals from the portal to the face of the adit, was trace gold, trace silver and 0.025% Cu. Samples taken from the 1750 level adits yielded similarly low values. These low values, especially at the 1,400 level, possibly indicate that only a small portion of the mineralized zone present at the surface was intersected by the underground workings.

RPDC011 (4.8')
900/11.8/76
3980/36/168



RPDC006 (6.4')
11800/56.4/83
37500/69/122

RPDC007 (7.3')
1000/20.0/126
12900/104/143

RPDC008 (6.8')
1000/18.7/148
2200/173/150

RPDC009 (7.0')
7000/48.7/123
9900/372/368

BL2000S 400W
SOIL SAMPLE
Au ppb 700,000 / Ag ppm 834 / As ppm 810
RE-SAMPLE
Au ppb 1,000,000 / Ag ppm 900 / As ppm 2450

H
HELICOPTER
PAD

ASSAY RESULTS Au

Sample No.	Width (ft.)	g/tonne	oz/ton
RPDC003	9.8'	5.41	0.158
RPDC004	6.0'	4.82	0.141
RPDC005	6.4'	15.50	0.452
RPDC006	6.8'	1.20	0.035
RPDC007	7.3'	1.06	0.031
RPDC008	3.6'	11.02	0.321
RPDC011	4.8'	0.82	0.024

RPDC002 (8.0')
248/3.4/140
35/48/48

RPDC003 (9.8')
300/21.5/250
14200/89/98

RPDC001 (4.3')
164/15.8/250
640/67/84

RPDC004 (6.0')
3750/22.8/116
2800/11/73

SAMPLE DATA:
SAMPLE NO. WIDTH (ft.)
Au ppb / Ag ppm / As ppm
Cu ppm / Pb ppm / Zn ppm

1750 LEVEL WEST ADIT

RPDC009 (6.0')
348/10.0/160
3880/85/87

RPDC010 (6.0')
482/9.3/250
1880/44/94



GOLDEN DOLLY MINERALS INC.	
Location: GOLD BELT : RED POINT	
Type of map: DIAMOND SAW CHANNEL SAMPLING	
Date: OCTOBER 1986	FIG. NO. 7
Drawn by: V. KOYANAGI	

Red Point Extension

Approximately 1,000 ft. north of the Red Point are two separate gold showings, the Red Point Extension (North), situated at an elevation of 2,050 ft., and the Red Point Extension (South), at an elevation of 1,980 ft. (Figure 5). Mineralization at the Red Point Extension (North) consists primarily of pyrite and minor chalcopyrite occurring in a silicified zone crosscutting an intensely chloritized andesite (Figure 8). Quartz veins within this zone strike northwest, dip steeply to the east and vary in width from several inches to 16 ft. across.

Gold values were discovered in both the silicified zone and the adjacent chlorite and sericite altered wallrocks of the Red Point Extension (North) showing. Diamond saw channel samples taken during the 1986 summer mapping program from this showing averaged 0.106 oz. Au/ton over a width of 12 ft. and a length of 165 ft. (Figure 9). Along this length, spot highs included sample EXDC003 assaying 0.303 oz. Au/ton over 7.9 ft., sample EXDC001 with a value of 0.176 oz. Au/ton across 10.4 ft. and sample EXDC008 which ran 0.170 oz. Au/ton over a width of 6.1 ft.

Rock chip sampling of trenches at the Red Point Extension (North) by Mitchell returned values of 0.430 oz. Au/ton over 5.0 ft. for one sample and another that ran 0.285 oz. Au/ton over 4.0 ft. Calich reported a value from the same area that ran 0.200 oz. Au/ton over 3.0 ft. Current and previous sampling at this showing indicated that both silver and copper values are generally low.

Mineralized quartz veins discovered at the Red Point Extension (South) are similar to those of the Red Point Extension (North). Gold values, however, tend to be lower at the Red Point Extension (South) and the veins occur in a sericite rather than chlorite altered andesite. The best assays, obtained from diamond saw samples GHDC006 and GHDC007 located at the south end of the Red Point Extension (South) showing, yielded a weighted average of 0.046 oz. Au/ton over a width of 9.0 ft. Silver and copper values were also low at this locality (Figure 10).

EXDC016 (13.2')
820 / 2.9 / 81
76 / 26 / 53

BLK006 2006
SOIL SAMPLE
As 820000/Ag 6.2 ppm
As 8 ppm

EXDC014 (4.3')
700 / 3.9 / 81
88 / 37 / 52

EXDC008 (10.3')
1090 / 11.4 / 46
2290 / 90 / 56

EXDC013 (8.0')
1460 / 2.5 / 85
62 / 28 / 330

EXDC02 (8.7')
380 / 2.4 / 20
200 / 21 / 21

EXDC06 (6.1')
300 / 12.2 / 36
7300 / 36 / 84

EXDC02E (6.9')
180 / 1.9 / 30
62 / 26 / 38

EXDC001
3800 / 13.0 / 48
860 / 37 / 46

EXDC005 (7.9')
690 / 18.8 / 11
14000 / 56 / 148

EXDC004 (7.9')
380 / 7.8 / 14
1850 / 54 / 82

EXDC005 (8.3')
880 / 9.8 / 34
840 / 81 / 47

EXDC006 (8.4')
880 / 4.2 / 47
91 / 82 / 24

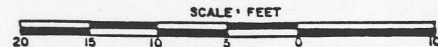
EXDC007 (7.2')
840 / 4.0 / 32
60 / 31 / 88

EXDC011 (10.9')
380 / 3.2 / 21
750 / 32 / 110

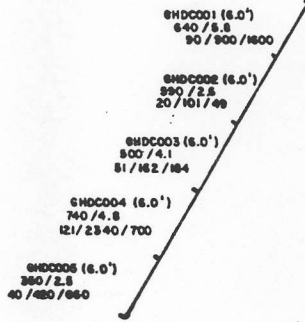
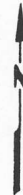
SAMPLE DATA:
SAMPLE NUMBER, WIDTH (ft.)
Au ppb / Ag ppm / As ppm
Cu ppm / Pb ppm / Zn ppm

ASSAY RESULTS Au

Sample No.	Width (ft)	g/tonne	oz/ton
EXDC001	10.4'	6.05	0.176
EXDC003	7.9'	10.40	0.303
EXDC004	7.9'	0.76	0.022
EXDC005	8.3'	1.18	0.034
EXDC006	8.4'	0.86	0.025
EXDC007	7.2'	0.72	0.021
EXDC008	6.1'	5.84	0.170
EXDC009	10.3'	1.62	0.047
EXDC010	13.2'	1.88	0.055
EXDC013	8.0'	1.90	0.055
EXDC014	4.3'	0.81	0.024

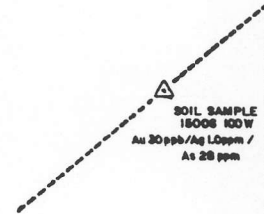


GOLDEN DOLLY MINERALS INC.	
location GOLD BELT : RED POINT EXTENSION (NORTH)	
type of map DIAMOND SAW CHANNEL SAMPLING	
date OCTOBER 1986	fig. no. 9
drawn by B. DEVLIN	



ASSAY RESULTS Au

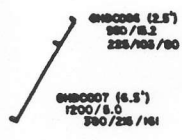
Sample no.	Width (ft.)	g / tonne	oz / ton
GHDC001	6.0'	0.68	0.020
GHDC002	6.0'	0.62	0.018
GHDC003	6.0'	0.60	0.018
GHDC004	6.0'	0.94	0.027
GHDC005	2.5'	1.43	0.042
GHDC007	6.5'	1.60	0.047



SAMPLE DATA

SAMPLE NO. (WIDTH ft.)
Au ppb / Ag ppm
Cu ppm / Pb ppm / Zn ppm

SCALE : FEET



GOLDEN DOLLY MINERALS INC.

Location GOLD BELT : RED POINT EXTENSION (SOUTH)	
Type of map DIAMOND SAW CHANNEL SAMPLING	
Date OCTOBER 1986	Fig. no. 10
Scale	
Drawn by V. KOYANAGI	

Combination

The Combination showing is situated 300 ft. north of Combination Lake at an elevation of 2,200 ft. (Figure 5). Mineralization is characterized by pyrite, chalcopyrite and minor arsenopyrite in quartz veins that have a different trend than those of the Red Point and Red Point Extension (North and South) prospects (Figure 11). The quartz veins strike nearly east-west and dip steeply to the south. The length of the mineralized zone is approximately 230 ft. but the width is smaller compared to the other showings, averaging less than 10 ft. across. Host rock for the veins is either a chloritized and silicified andesite or diorite.

Standard rock chip samples were taken during the 1986 summer mapping program from the Combination showing and the most noteworthy values were obtained from sample BD018 which assayed 0.029 oz. Au/ton, 3.1 oz. Ag/ton and 1.5% Cu over a 11.5 ft. width and sample BD019, located 50 ft. due west and along strike from BD018, which assayed 0.025 oz. Au/ton, 1.90 oz. Ag/ton and 1.7% Cu across 14.8 ft.

A previous sample by Mitchell, from the Combination showing, returned a value of 0.033 oz. Au/ton, 3.24 oz. Ag/ton and 2.3% Cu over 2.5 ft. Carter also reported a value of 0.020 oz. Au/ton, 2.40 oz. Ag/ton and 4.0% Cu over 4.0 ft. for a sample from the same area.

Surprise

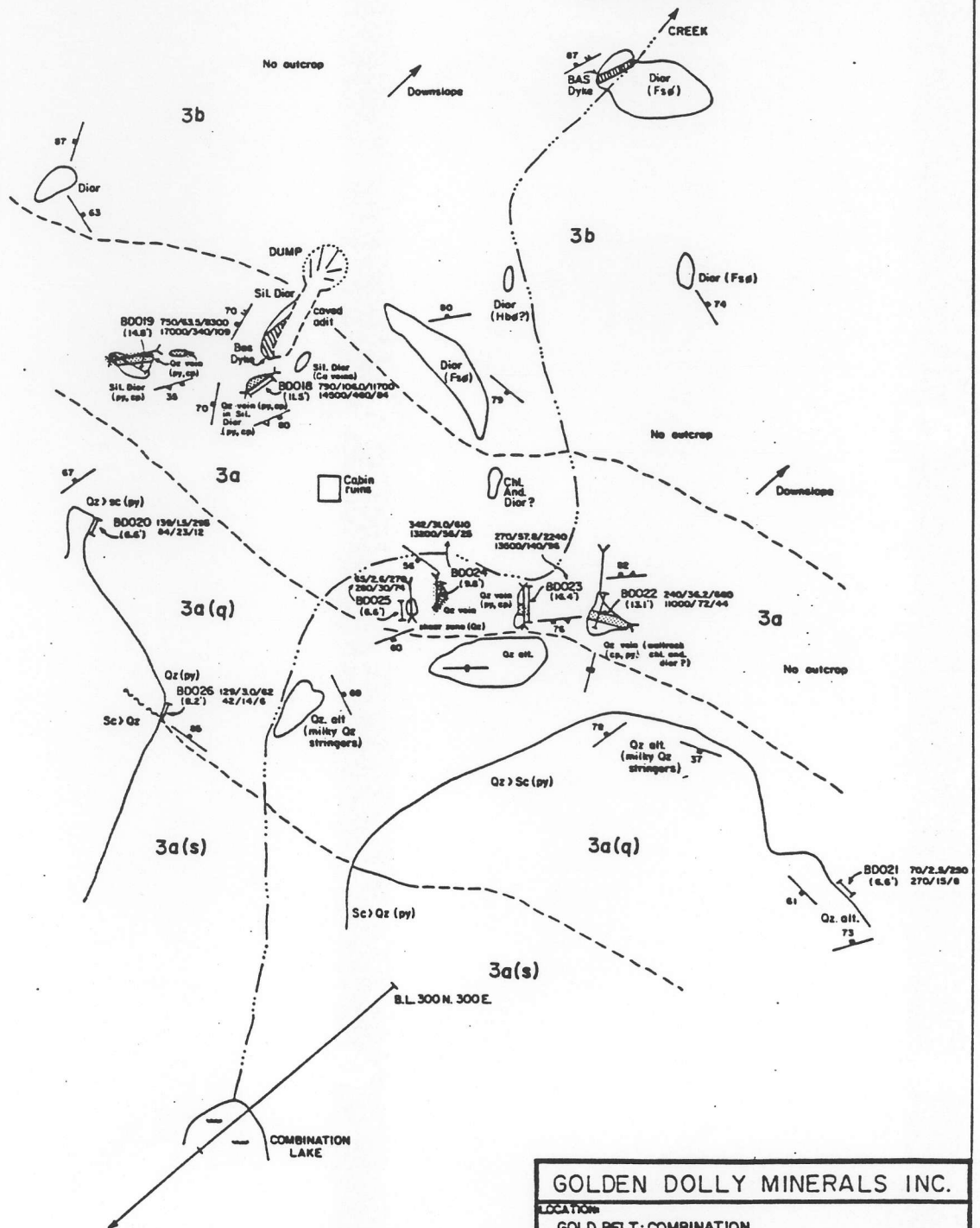
The Surprise showing is located in the northeast corner of the map-area at an elevation of 1,550 ft. (Figure 5). Mineralization occurs primarily in northeast trending, steep northwesterly dipping veins within green andesite tuff. These veins bear striking resemblance to the veins of the Wolf deposit located across the Kitsault River to the east (Figures 2 and 3). Mineralogy consists of pyrite and chalcopyrite, with lesser amounts of sphalerite and galena in a quartz, carbonate and barite gangue.

ASSAY Au			
sample no.	G/Tonne	Oz/Ton	width (ft)
BDO18	0.99	0.029	11.5'
BDO19	0.87	0.025	14.8'

COMBINATION

100 75 50 25 0 50 100

SCALE : FEET



GOLDEN DOLLY MINERALS INC.	
LOCATION: GOLD BELT: COMBINATION	
TYPE OF MAP: SURFACE GEOLOGY / ROCK CHIP SAMPLING	
NTS NO.:	SCALE:
103P/12	
DRAWN BY:	FIG. NO.:
B.DEVLIN	11
DATE:	
OCTOBER 1986	

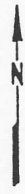
Exposures at the Surprise showing were not sufficient for determining the extent of the mineralized zone but standard rock chip samples taken across several showings during the 1986 summer mapping program indicated significant precious and base metal values (Figure 5). Selected assays include sample BD077 which graded 0.042 oz. Au/ton and 1.6 oz. Ag/ton over 9.8 ft., sample BD075 assaying trace gold, 9.3 oz. Ag/ton and 0.6% Cu over 9.8 ft., and sample BD078 which ran trace gold, 4.6 oz. Ag/ton and 2.5% Cu across 11.5 ft.

Sampling of surface trenches at the Surprise showing by Noranda Exploration Company Limited in 1954 returned a value of 0.4 oz. Au/ton, 3.5 oz. Ag/ton and 2.3% Cu over 5.0 ft. for one sample, while another yielded 0.070 oz. Au/ton, 4.95 oz. Ag/ton and 6.1% Cu over 3.5 ft. A sample taken by Mitchell from the same area ran 0.006 oz. Au/ton, 18.80 oz. Ag/ton and 1.6% Cu over 5.0 ft. Sampling by Carter at the Surprise showing yielded one value grading 0.030 oz. Au/ton over a distance of 25 ft.

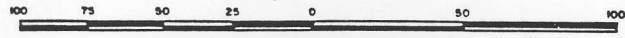
Diamond drilling was also carried out at the Surprise showing by Mitchell during 1972. Samples of drill core, however, were not analysed for gold and the best drill intersections included a 1.4 ft. section grading 6.71 oz. Ag/ton and 1.1% Cu and another 4.0 ft. section grading 3.90 oz. Ag/ton and 0.3% Cu.

"V" Vein

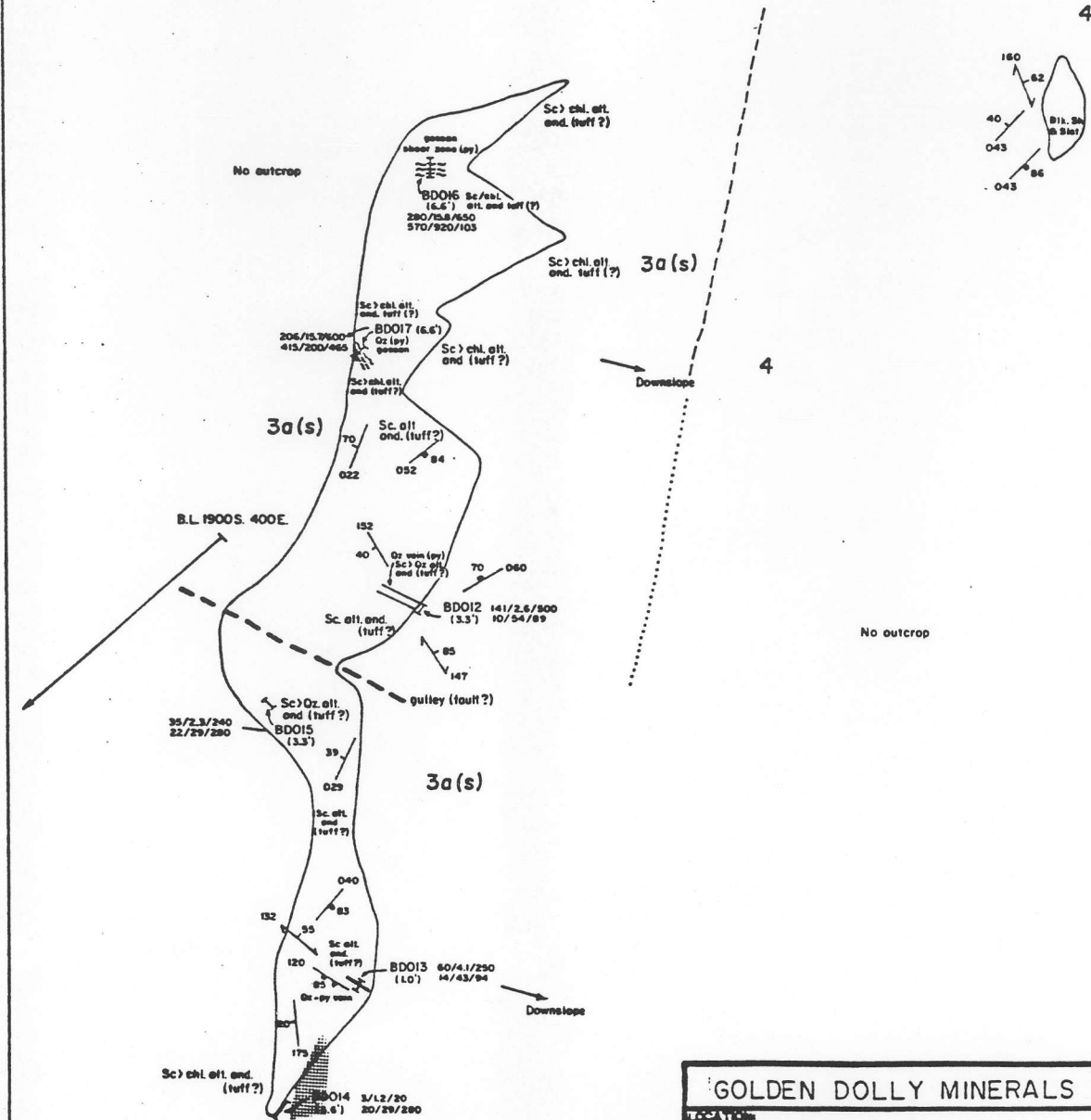
Several northwest and northeast trending shear zones and quartz veins were observed at the "V" Vein prospect located in the southeast corner of the map-area, at an elevation of 1,690 ft. (Figure 5). These veins and shear zones, however, appear to be small and discontinuous with very few significant gold and silver values (Figure 12). Host rocks for mineralization appear to be sericite altered andesite but many planes measured within the andesite are parallel to bedding planes observed in the sedimentary rocks to the east. This could indicate that the host rock is possibly a tuff and the style of mineralization similar to that of the Surprise showing described previously.



"V" VEIN



SCALE : FEET



GOLDEN DOLLY MINERALS INC.	
LOCATION: GOLD BELT : "V" VEIN	
TYPE OF MAP: SURFACE GEOLOGY / ROCK CHIP SAMPLING	
PTS. NO.:	SCALE:
103 P/12	
DRAWN BY:	FIG. NO.:
B. DEVLIN	12
DATE:	
OCTOBER 1986	

Only one sample taken during the 1986 program, from the "V" Vein, VK091, yielded a noteworthy assay which was 0.022 oz. Au/ton and 9.9 oz. Ag/ton across a 3.3 ft. width (Figure 5). A previous sample taken by Mitchell from this showing returned a value of 0.083 oz. Au/ton and 38.90 oz. Ag/ton over 4.0 ft.

Maud McPhee

The Maud McPhee showing is situated near the south end of the map-area, south of Evindsen Creek, at an elevation of 1,530 ft. (Figure 5). Mineralization occurs in a 75 ft. long and 10 ft. wide vein striking north-northwest and dipping steeply to the northeast. The vein consists primarily of quartz and pyrite with lesser amounts of galena and sphalerite hosted in either a sericitized and silicified andesite or andesite tuff. Style of mineralization at the Maud McPhee is similar to other occurrences in the Dolly Varden Gold Belt with the exception of lower gold values. Only one sample, BD104, taken during the 1986 mapping program, showed a significant silver assay of 4.7 oz. Ag/ton over a 9.8 ft. width. A grab sample taken by Calich, grading 0.20 oz. Ag/ton, is the only data available from previous work at the Maud McPhee showing.

Dan Patch/Fisher

Showings at the Dan Patch and Fisher prospects are situated between the 3,000 and 3,150 ft. elevations, on the western margin of the map-area (Figure 5). Several northwest trending quartz veins and silicified shear zones, mineralized with pyrite and lesser chalcopyrite, and crosscutting a chloritized andesite, were observed during the 1986 summer mapping program at both showings. At the Dan Patch, the mineralized zone extends nearly 700 ft. in length; however, precious and base metal values are low with only one significant assay obtained from sample VK070 which ran 0.041 oz. Au/ton and 0.73 oz. Ag/ton over a 1.6 ft. width. Gold values were also low at the Fisher showing located 2,500 ft. due north of the Dan Patch (Figure 5). Two standard rock chip samples taken from

the Fisher, however, did yield significant silver and copper values which included 2.83 oz. Ag/ton and 0.3% Cu across 4.8 ft. for sample VK078, and 2.57 oz. Ag/ton and 0.6% Cu over 5.0 ft. for sample VK079. Previous sampling by Mitchell at the Dan Patch and Fisher showings indicated generally low gold and silver values, with the exception of one sample at the Fisher that ran 0.056 oz. Au/ton over 3.0 ft.

GEOCHEMISTRY

Soil geochemical sampling carried out on the Dolly Varden Gold Belt during the 1986 field season outlined several areas with anomalous concentrations of gold, silver and arsenic. For this survey, a soil grid was established using a baseline extending 1,000 ft. northwest and 2,800 ft. southeast of Combination Lake, located in the central part of the map-area (Figure 13). Sample tie-lines were run northeast and southwest from the baseline, with samples of B-horizon soils taken at 100 ft. spacings. A total of 582 soil samples, analysed for gold, silver and arsenic, were collected from an area approximately 3,600 ft. long and 1,600 ft. wide.

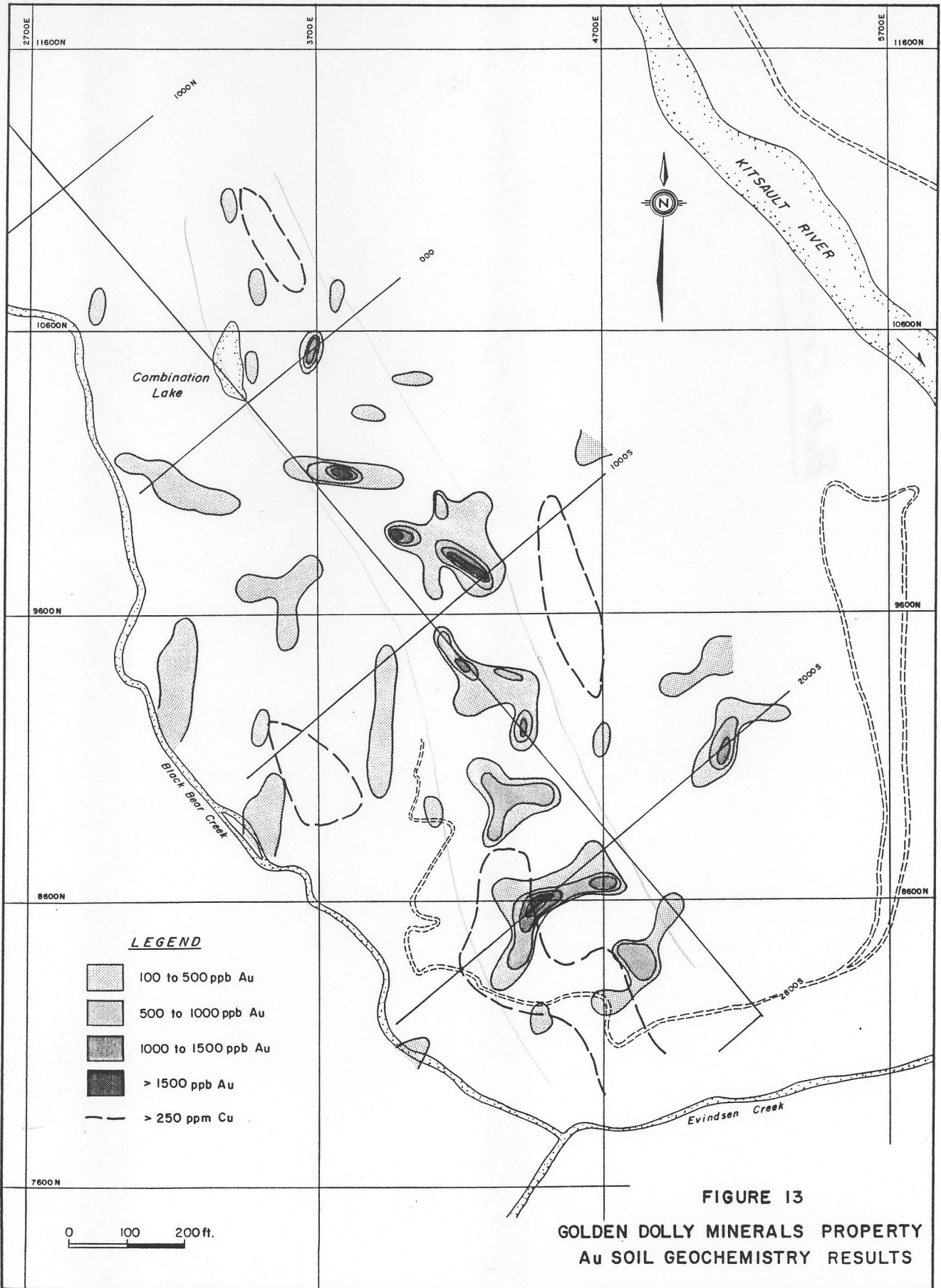
A statistical evaluation of the geochemical data was carried out and threshold anomalous values determined by employing the standard geostatistical method of adding two standard deviations to the mean as follows:-

STATISTICAL DATA

(Number of Samples = 565)

	<u>Gold (ppb)</u>	<u>Silver (ppm)</u>	<u>Arsenic (ppm)</u>
Mean	108	3.6	98
Standard Deviation	439	16.4	331
Threshold	986	36.4	760

(Mean + 2 Standard Deviations)



Geochemical values from soil sample 2000S and 400W, however, were omitted from the geostatistical calculations because of the extraordinarily high values obtained for each element. Each element was then contoured on geochemical maps using contour intervals equal to the mean and the mean plus one, two and three standard deviations. In addition to the 1986 survey, M. A. Mitchell of Dolly Varden Mines Ltd. conducted a copper and molybdenum soil geochemical survey covering the entire Dolly Varden Gold Belt during the 1970 field season. Copper anomalies determined by Mitchell are included on the gold, silver and arsenic geochemical maps for comparison. Geochemical values for molybdenum were not considered useful and, therefore, were not included on the geochemical maps.

Gold

Geochemical values for gold range from 2 ppb to 1,000,000 ppb with 13 samples exceeding 986 ppb, the threshold anomalous value. Seven distinct anomalies have been pinpointed, with six of the anomalies aligned along a northwest trend in the south-central part of the map-area (Figure 13). This major trend defines an anomalous zone measuring 2,100 ft. long and 550 ft. wide. The seventh anomaly is located about 500 ft. east of the anomalous zone described above, and appears to be isolated from the other anomalous areas.

Silver

Distribution of silver geochemical values are less regular than gold values, making recognition of distinct patterns difficult. Silver values range from 0.2 ppm to 934.0 ppm and five samples exceed the 36.4 ppm threshold limit. Evaluation of the data indicated only five significant anomalous areas. Three of these anomalies coincide with areas anomalous for gold. Two of them are separate anomalies one of which is situated in the southeast corner of the soil survey area, whereas the other anomaly occurs at the extreme north end of the

soil survey area. The most significant pattern apparent from the distribution of these silver anomalies is a northeast trending anomalous zone, measuring 1,600 ft. by 600 ft., located in the south and southeast part of the map-area.

Arsenic

Arsenic geochemical values have a distribution similar to that of silver and display many irregular patterns. These values range from 1 ppm to 2,500 ppm, with 6 samples exceeding the 760 ppm threshold value considered anomalous for soil. Only four significant arsenic anomalies were identified; two of which correspond with gold and silver anomalies, and one coincident with a silver anomaly. The fourth arsenic anomaly, located on the eastern boundary of the map-area, was found to be isolated from all other anomalous areas and is significant for arsenic values only.

Copper

Mitchell outlined four anomalous areas of copper within the present soil survey area (Figure 13). These anomalies have copper geochemical values greater than 250 ppm which Mitchell determined to be "high level" anomalies for copper. All four copper anomalies display northwest trends but only three of them coincide with areas considered anomalous for either gold, silver or arsenic. The remaining copper anomaly located near the western boundary of the soil survey area does not appear to correspond with any of the gold, silver and arsenic anomalies.

Discussion of Results

Evaluation of the soil geochemistry indicated that the distribution of anomalous values is not entirely random and starts to follow regular patterns.

The most significant of these is the northwest trending anomalous zone outlined by the anomalies, in the south-central part of the map-area. This zone is highly anomalous in gold and also encompasses the three principal gold showings which include the Red Point, Red Point Extension (South) and Red Point Extension (North). Outcrops that were rock chip and diamond saw channel sampled in the vicinity of these showings yielded many significant gold values thus substantiating the validity of this anomalous zone. The zone itself is actually comprised of six separate anomalous areas which probably represent the same mineralized structure offset by later northeast trending block faults.

has been checked

In the southeast corner of the soil survey area a northeast trending anomalous zone is recognized for all three of the elements analysed. The zone appears to link the Red Point and "V" Vein showings and may reflect a mineralizing event that took place along later northeast structures, particularly the southernmost fault (Figure 5). This zone also displays the most significant silver geochemical values which correspond with higher silver values obtained from rock chip and diamond saw channel samples at the Red Point and "V" Vein showings.

The small, isolated silver and arsenic anomaly, located at the north end of the soil survey area, is traceable to one of the trenches of the Combination showing (Figures 5). Veins in this trench were found to contain significant silver and anomalous gold values. The remaining arsenic anomaly does not correspond with any anomalous gold or silver values obtained from outcrop samples. It does, however, appear to align with the northernmost of the northeast trending block faults which separates the Red Point Extension (South) from the Red Point Extension (North) (Figure 5).

Evaluation of Mitchell's copper geochemical data indicates that anomalous copper values are not always coincident with anomalous gold and silver values. Copper geochemistry, however, did pinpoint areas, such as the Red Point and Combination showings, where abundant chalcopyrite is present.

RECOMMENDATIONS

A detailed exploration program involving extensive surface work, particularly diamond drilling, is recommended for the Gold Belt of the Dolly Varden mining camp. The objective of the program will be to establish reserves for a milling grade, open pit-type, bulk tonnage gold deposit, with possibilities existing for a higher grade "bonanza-type" epithermal precious metal-quartz vein deposit similar to those occurring in the western U.S.A. and Mexico.

Results from the 1986 exploration program established three priority target areas which include the Red Point, Red Point Extension (South) and Red Point Extension (North) showings (Priority 1), the Combination showing (Priority 2), and the Surprise showing (Priority 3). Surface diamond drilling, with all holes expected to be less than 500 ft. in length, is recommended to test the extent of the mineralized zones of the Red Point, Red Point Extension (North), and the Red Point Extension (South). Underground exploration at the 1,400 ft. level adit of the Red Point is not recommended until a better understanding of the nature of the mineralized zones has been established from surface drilling. On the Combination and Surprise showings, diamond saw channel sampling of old trenches is required before diamond drilling is initiated on either of these showings. Detailed geological mapping is also required for a better understanding of the mineralization at the Surprise showing.

On a regional scale, an IP survey covering geochemical soil anomalies would serve to better define both the mineralized and offsetting structures. Subsequent blasting and trenching of any coinciding geochemical and geophysical anomalies, especially in areas with reported precious metal values in outcrop, may result in the discovery of new showings which could be tested by diamond drilling.

It is possible that this program may run into a second summer season, as snowfall and terrain are limiting factors for winter work.

Table 1

BUDGET

PROPOSED EXPLORATION PROGRAM

GOLDEN DOLLY MINERALS INC.

PREFIELD PLANNING (60 days)

Personnel

Senior Geologist, 3 days @ \$280/day	\$ 840	
Project Geologist, 30 days @ \$150/day	4,500	
Assistant Geologist, 15 days @ \$110/day	<u>1,650</u>	\$ 6,990

Expenses

Office Expenses, maps, reproduction, telephone, etc.	<u>2,500</u>	\$ 9,490
Contingency - 10%		<u>949</u>
Subtotal		\$ 10,439
DMBW Management Fee (12.2%)		<u>\$ 1,261</u>
TOTAL		<u>\$ 11,700</u>

Table 1
(Continued)

PHASE I

FIELD PROGRAM (45 days) - 1 Drill

Personnel

Senior Geologist, 10 days @ \$280/day	\$ 2,800	
Project Geologist, 45 days @ \$150/day	6,750	
Assistant Geologist, 45 days @ \$110/day	4,950	
Field Assistants, 45 days @ \$160/day x 2 men	7,200	
Cook and Helper, 45 days @ \$200/day	<u>9,000</u>	\$ 30,700

Expenses

Mobilization			
- General Travel	10,000		
- Equipment to Kitsault	10,000		
Drilling			
5,000 ft. @ \$30/ft.	150,000		
Helicopter			
- 35 hrs. @ \$550/hr.	19,250		
- Fuel, 35 hrs. @ \$100/hr.	3,500		
Surface Work			
- Tree Faller, 5 days @ \$250/day	1,250		
- Blaster & Helper, 10 days @ \$500/day	5,000		
- Materials	3,000		
Shipping	3,000		
Analyses			
- Rock, 1,000 samples @ \$17/sample	17,000		
- Soil, 200 samples @ \$12/sample	2,400		
- Gold Fire Assay, 300 samples @ \$13/sample	3,900		
Food, 450 man-days @ \$30/day	13,500		
Equipment Purchase/Rental	35,000		
Surveying	5,000		
Miscellaneous	7,500		
Demobilization			
- General Travel	10,000		
- Equipment from Kitsault	10,000		
Supervisory Travel	<u>4,000</u>	\$ 313,300	\$ 344,000

Table 1
(Continued)

PHASE I

Balance Carried Forward \$ 344,000

REPORT PREPARATION

Personnel

DMBW Partner, 2 days @ \$440/day	\$ 880		
Senior Geologist, 5 days @ \$280/day	1,400		
Project Geologist, 20 days @ \$150/day	3,000		
Assistant Geologist, 10 days @ \$110/day	1,100		
Draftsperson, 5 days @ \$120/day	600		
Secretarial, 20 hrs. @ \$25/hr.	<u>500</u>	\$ 7,480	

Expenses

Office Expenses, Maps, reproduction, telephone, etc.	2,000		
Computer Processing	<u>8,000</u>	<u>\$10,000</u>	<u>\$ 17,480</u>

Subtotal \$ 361,480

Contingency - 10% 36,150

Subtotal 397,630

DMBW Management Fee (12.2%) \$ 48,500

TOTAL \$ 446,130

Table 1
(Continued)

Phase II

FIELD PROGRAM (60 days) - 2 Drills

Personnel

DMBW Partner, 5 days @ \$440/day	\$ 2,200	
Senior Geologist, 20 days @ \$280/day	5,600	
Project Geologist, 60 days @ \$150/day	9,000	
Assistant Geologist, 60 days @ \$110/day	6,600	
Field Assistants, 60 days @ \$160/day x 2 men	9,600	
Cook & Helper, 60 days @ \$200/day	<u>12,000</u>	\$ 45,000

Expenses

Mobilization		
- 2nd Drill to Kitsault	\$ 5,000	
Drilling, 15,000 ft. @ \$30/ft.	450,000	
Helicopter		
- 60 hrs. @ \$550/hr.	33,000	
- Fuel, 60 hrs. @ \$100/hr.	6,000	
Surface Work		
- Tree Faller, 5 days @ \$250/day	1,250	
Shipping	7,500	
Analyses		
- Rock - 3,000 samples @ \$17/sample	51,000	
- Gold Fire Assay, 1,000 samples @ \$13/sample	13,000	
Food, 840 man-days @ \$30/day	25,200	
Equipment Purchase/Rental	5,000	
Surveying	10,000	
Miscellaneous	10,000	
Demobilization (Included in Phase I)	-	
Supervisory Travel	<u>6,000</u>	<u>\$ 622,950</u> \$ 667,950

Table 1
(Continued)

PHASE II

Balance Carried Forward \$ 667,950

REPORT PREPARATION

Personnel

DMBW Partner, 3 days @ \$440/day	\$ 1,320		
Senior Geologist, 10 days @ \$280/day	2,800		
Project Geologist, 40 days @ \$150/day	6,000		
Assistant Geologist, 20 days @ \$110/day	2,200		
Draftsperson, 15 days @ \$120/day	1,800		
Secretarial, 40 hrs. @ \$25/hr.	<u>\$ 1,000</u>	\$ 15,120	

Expenses

Office Expenses, Maps, reproduction, telephone, etc.	\$ 3,000		
Computer Processing	<u>12,000</u>	<u>\$ 15,000</u>	<u>\$ 30,120</u>

Subtotal \$ 698,070

Contingency - 10% 69,800

Subtotal 767,870

DMBW Management Fee (12.2%) \$ 93,680

TOTAL \$ 861,550

REFERENCES

- Black, J. M.
1951: Geology and Mineral Occurrences of the Upper Kitsault Valley, B.C. Ministry of Energy, Mines and Petroleum Resources, Annual Report, 1951, p. A76-A83.
- Carter, N. C.
1970: Red Point, Copper Cliff, Dan Patch, Surprise. B.C. Ministry of Energy, Mines and Petroleum Resources, GEM, 1970, p. 81-86.
- Dawson, G. L. and Alldrick, D. J.
1986: Geology and Mineral Deposits of the Kitsault Valley (103 P/11, 12), B.C. Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork, 1985, Paper 1986-1, p. 219-224.
- Hanson, G.
1921: Upper Kitsault Valley, British Columbia, Geological Survey of Canada, Summary Report, Part A, p. 7-21.
- McConnell, R. G.
1913: Portland Canal District, Geological Survey of Canada, Memoir 32.
- Mitchell, M. A.
1973: Geology of Dolly Varden Mines, unpublished company report.
- Turnbull, J. M.
1916: Alice Arm District, B.C. Ministry of Energy, Mines and Petroleum Resources, Annual Report, 1916, p. 53-84.

CERTIFICATE OF QUALIFICATION

I, William N. Pearson, of 55 Bradbeer Crescent, Thornhill, Ontario, do hereby certify that:-

1. I am an exploration geologist and associate of Derry, Michener, Booth & Wahl, Consulting Geologists and Engineers of Toronto.
2. I am a graduate of the University of British Columbia in Honours Geology with the degree of B.Sc. in 1974, and of Queen's University, Kingston, Ontario with the degree of M.Sc. in 1977 and Ph.D. in 1980.
3. I have been practising my profession since graduation.
4. I have not received, nor do I expect to receive, any interest, directly or indirectly, in Golden Dolly Minerals Inc.
5. This report, and the conclusions and recommendations made, are based on examination of all available data. I have visited the properties.
6. I hereby consent to the use of this report in a Statement of Material Facts of the Company and for the preparation of a prospectus for submission to the British Columbia Securities Commission and other regulatory authorities.

W. N. Pearson, Ph.D.

Toronto, Ontario
April 15, 1987

CERTIFICATE OF QUALIFICATION

I, David G. Wahl, residing at 3 McKay Cres., Unionville, Ontario, do hereby certify that:-

1. I am a consulting engineer and President of W. G. Wahl Limited which is a partner in the firm Derry, Michener, Booth & Wahl.
2. I am a graduate of the Colorado School of Mines, with a degree of Engineer of Mines (1968) and have been practising my profession since graduation.
3. I am a registered Professional Engineer in the Province of Ontario and have been designated Consulting Engineer with specialization granted in exploration and development.
4. I am past Chairman of the Board of Regulations, Association of Professional Engineers of the Province of Ontario.
5. I have no interest, nor do I expect to receive any interest, direct or indirect, in Golden Dolly Minerals Inc.
6. This report, and the conclusions and recommendations made, are based on examination of all available data. I have not visited the properties.
7. I hereby consent to the use of this report in a Statement of Material Facts of the Company and for the preparation of a prospectus for submission to the British Columbia Securities Commission and other regulatory authorities.

D. G. Wahl, P.Eng.
Consulting Engineer

Toronto, Ontario
April 15, 1987

APPENDIX

LIST OF DOLLY VARDEN REPORTS

LIST OF DOLLY VARDEN REPORTS

1980 to 1987

1980

80-10 - February 28, 1980

Report on the Property of Torbrit Silver Resources Ltd., Kitsault River Area, British Columbia.
(O.E. Leigh, J.K.B. Booth).

80-11 - March 25, 1980

Kitsault Valley Silver Deposits - Reserves of the North Star, Wolf #1 and Wolf #2 Deposits at a Cut-off of 4 oz. Ag/ton.
(D.J. Archer, I.S. Thompson).

80-12 - March 26, 1980

Letter Report to Dolly Varden Minerals Inc. re Kitsault Valley Silver Properties.
(I.S. Thompson, D.J. Archer).

1981

81-05 - February 15, 1981

Ore Reserves of the North Star and Wolf Deposits Held by Dolly Varden Minerals Inc. (in 4 volumes).
(I.S. Thompson, W.N. Pearson).

81-17 - June 10, 1981

Report on the Property of Torbrit Silver Resources Ltd., Kitsault River Area, British Columbia.
(O.E. Leigh, I.S. Thompson).

1984

84-45 - September 11, 1984

Letter Report - Summary - Dolly Varden Minerals Inc.
(D.G. Wahl)

84-47 - October 9, 1984

Exploration Potential - Dolly Varden Minerals Inc., Alice Arm, British Columbia.
(DMBW, D.E. Smith & Associates)

1986

86-26 - April 25, 1986

Report on The Dolly Varden Property for Dolly Varden Minerals Inc.
(D.G. Wahl, and W.N. Pearson)

86-34 - August 8, 1986

Letter Report summarizes a thorough study of all known data on the Dolly Varden property near Alice Arm, B.C.
(Derry, Michener, Booth & Wahl)

1987

87-20 - February 27, 1987

Report on the Dolly Varden Gold Belt, Kitsault River Area, British Columbia,
Prepared for Golden Dolly Minerals Inc.
(W.N. Pearson and D.G. Wahl)