

**GEOLOGICAL**  
**ASSESSMENT REPORT**

on the

**MONASHEE CLAIM GROUP**  
**YEOWARD MOUNTAIN AREA**  
**VERNON MINING DIVISION**

by

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**CLAIMS:** Monashee 1-4 (21 units)

**LOCATION:** The Monashee Claim Group is situated at the headwaters of Yeoward Creek near the top of Yeoward Mountain, 45 km southeast of Lumby, B.C.  
Lat. 50°09'; Long. 118°24';  
N.T.S: Map 82-L-1W

**OWNER:** M. S. Morrison

**OPERATOR:** M. S. Morrison

**DATE STARTED:** July 6, 1999

**DATE COMPLETED:** July 21, 1999

Kelowna, B.C.

GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT

October 15, 1999

26,055

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## SUMMARY

The Monashee Claim Group is located on the southwestern slope of Yeoward Mountain within the Monashee Mountain Range, forty-five kilometres southeast of Lumby, British Columbia. The 21 contiguous units comprising the claim group cover the headwaters of Yeoward Creek.

The mineral claims, owned by the writer, M. Morrison, of Kelowna, B.C. were staked to cover a portion of ground lying between the NUGGET and DNA prospects which feature gold-bearing mesothermal quartz veins that cut metasedimentary rocks of the Permian Cache Creek Group. The St. Paul mine, which lies just 3 kilometres to the southwest of the Monashee Claim Group, also produced a small amount of silver, lead and zinc mineralization from quartz veins occurring within rocks of the Cache Creek Group.

During 1998, and this year, preliminary geological mapping programs were conducted on the eastern and western sides of the property, respectively, in an attempt to evaluate the mineral potential of the property for either epigenetic gold-bearing quartz veins or syngenetic massive sulphide deposits.

Although the mapping programs have covered only 20 percent of the property, there are three types of hydrothermal mineralization that have been identified, so far. The first type involves mesothermal quartz veins; the second type includes quartz stockwork veins which are associated with feldspar porphyry dykes; and the third type is represented by a permeable agglomerate unit.

Large angular pieces of quartz float have been found on both the eastern and western sides of the property; feldspar porphyry dykes with small stockwork quartz veins occur on the northwestern corner of the property; and a well fractured vuggy andesitic agglomerate occurs near the west-central side of the property. Limonite, which most probably represents weathered sulphides, is present at several of the showings.

**SUMMARY** (continued)

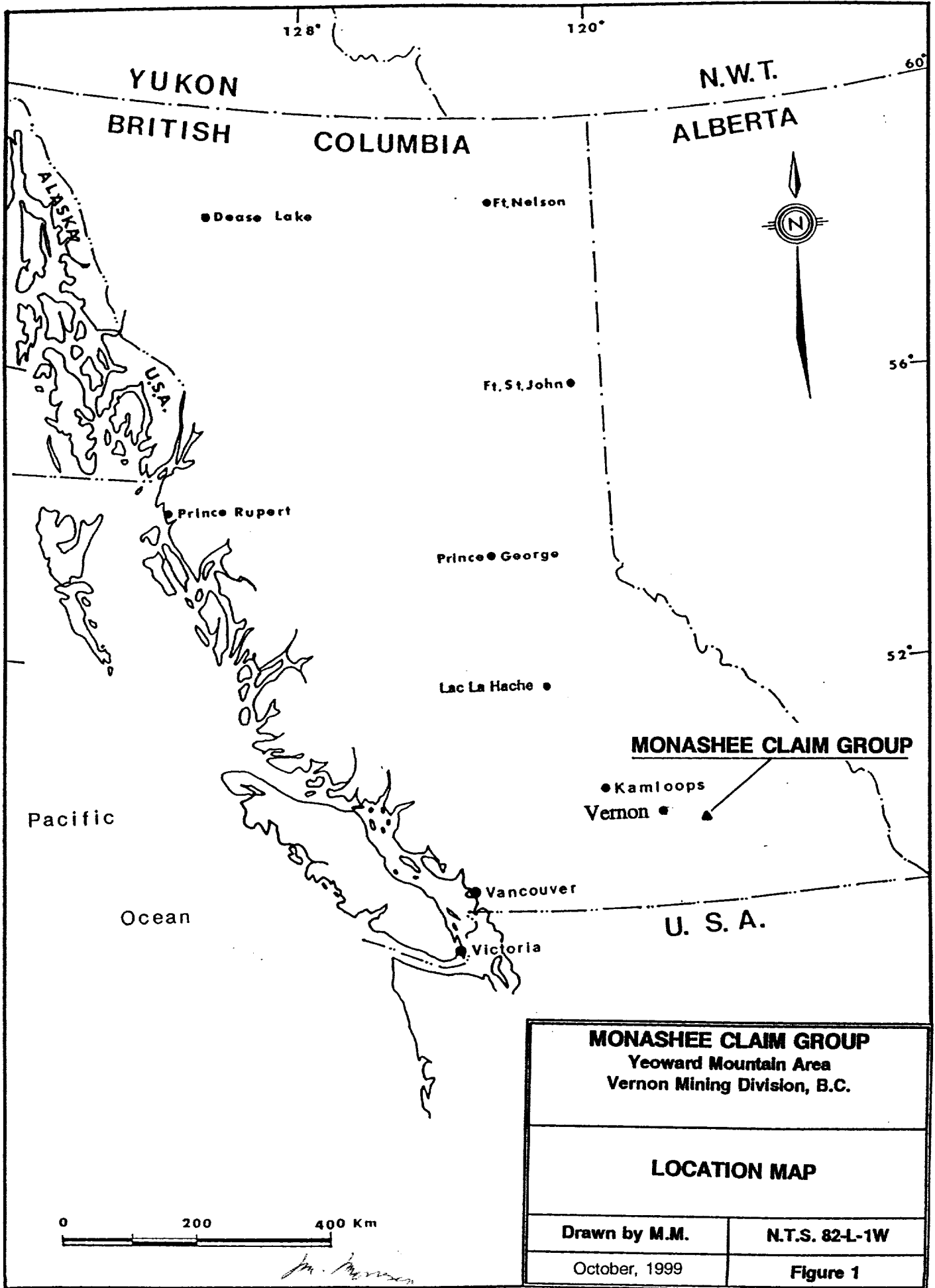
The limonite consists of blebs within some of the large quartz float and within the stockwork quartz veins. Limonite also fills vugs and fractures within the agglomerate unit.

None of the limonitic mineral showings found to date are of a size to be of economic interest, but they do indicate that hydrothermal solutions have invaded the metasediments and metavolcanics over a widespread area on the property.

It is believed, that somewhere within the property boundaries, there could be a quartz vein, stockwork zone or agglomerate unit that is of a size and/or grade to be of economic interest.

None of the limonitic zones have been sampled for analysis, but workers on neighbouring properties (i.e. NUGGET and DNA) have reported assays in excess of 30 g/tonne gold from quartz veins.

A continuation of the geological mapping program at a scale of 1: 2500 is recommended in an effort to locate either epigenetic gold-bearing quartz veins, or syngenetic massive sulphides on the Monashee Claim Group.



**MONASHEE CLAIM GROUP**  
 Yeoward Mountain Area  
 Vernon Mining Division, B.C.

**LOCATION MAP**

Drawn by M.M.

N.T.S. 82-L-1W

October, 1999

Figure 1

## **INTRODUCTION**

This report, written for government assessment work requirements, discusses the results of a preliminary geological mapping program conducted over the northwest corner of the Monashee 1 mineral claim by the writer during July, 1999.

The Monashee 1 mineral claim is one of four mineral claims which comprise the Monashee Claim Group. The Monashee Claim Group covers five square kilometres on Yeoward Mountain situated in the Monashee Mountain Range, 45 km southeast of Lumby, B.C.

The Monashee Claim Group was staked by the writer, M. Morrison, of Kelowna, B.C. in July, 1997, to cover a belt of Permian Cache Creek Group metasediments that underlie Yeoward Mountain and the headwaters of Yeoward Creek. The mineral claims were located to cover open ground lying between the NUGGET mineral claim situated on the top of Yeoward Mountain and the DNA mineral claims which cover the lower southern slope of Yeoward Mountain. Gold bearing quartz veins have been explored on both the NUGGET and DNA properties over a period of several years.

This year's preliminary geological mapping is a continuation of a long term program that was begun last year. The main purpose of the program is to evaluate the economic potential of the Monashee Claim Group with respect to gold-bearing quartz veins and/or syngenetic massive sulphide deposits.

The region selected for mapping this year is in a forested area where natural outcroppings are few and much of the bedrock illustrated on the 1: 2500 geology map (Map M-99-1), which accompanies this report, has been exposed by recent road building or other logging activities

## **LOCATION and ACCESS**

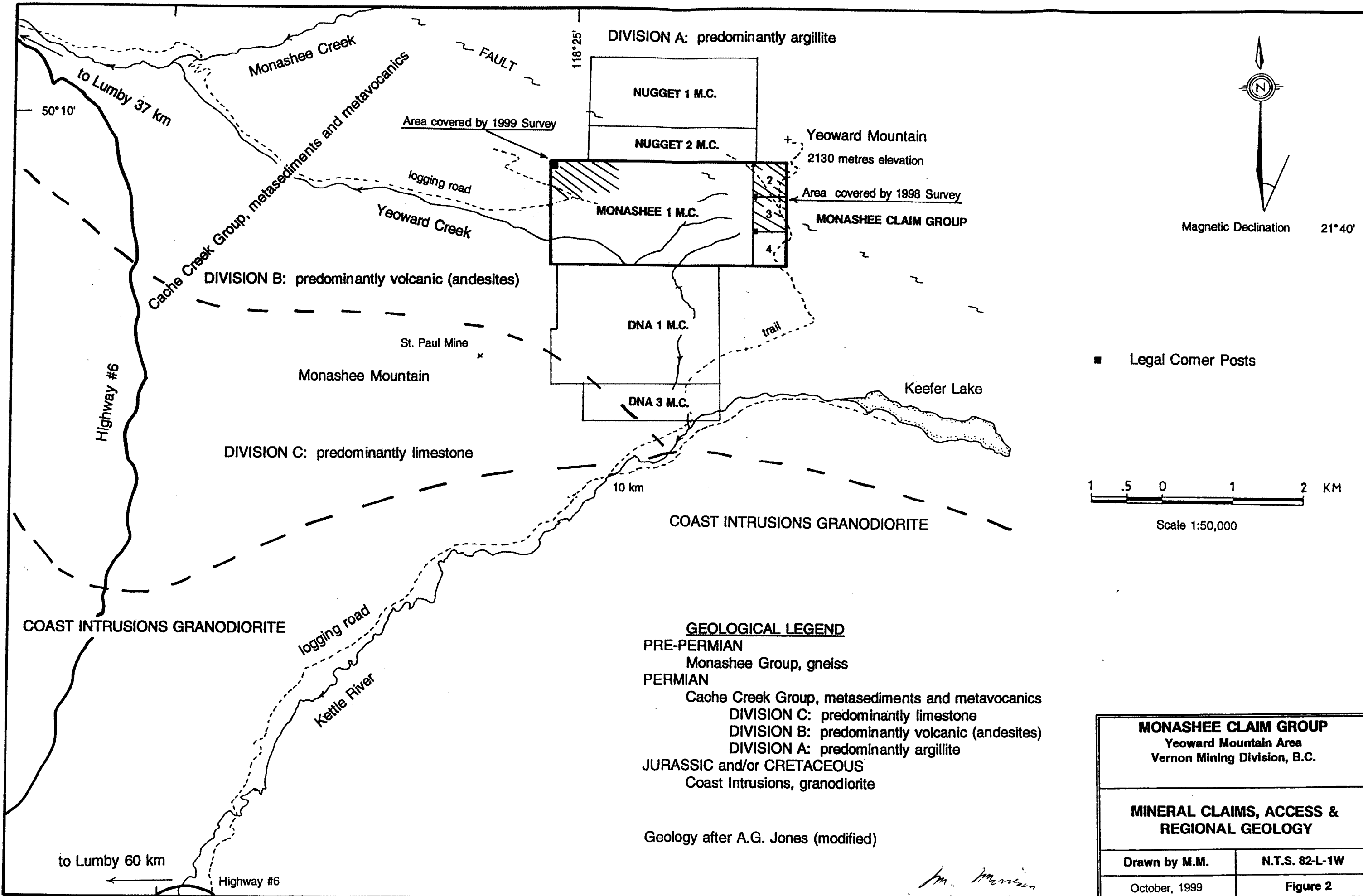
The Monashee Claim Group covers the headwaters of Yeoward Creek near the top of Yeoward Mountain 45 kilometres southeast of Lumby, B.C. in the Monashee Mountain Range (Lat. 50°09'; Long. 118°24', N.T.S. Map 82-L-1W).

The Yeoward Creek logging road gives access to the western side of the property as illustrated on Figure 2. The logging road leaves Highway 6, 36.5 kilometres southeast of Lumby and climbs from Monashee Creek to the property over a distance of 12 kilometres. The road is generally in good condition during summer months.

Access to the eastern side of the property is via the Keefer Lake Road which leaves Highway 6, sixty kilometres southeast of Lumby. This road is followed 10 km to a point where a bush road branches to follow the northwestern side of the Kettle River. The bush road is then followed 2 km to a creek. Beyond the creek the old road is narrow and badly washed and is suitable only for a dirt-bike or an all-terrain vehicle for the 6 km trip to the top of Yeoward Mountain and the Monashee property.

There are no roads or trails on the very steep central portion of the Monashee property, but recent flagging by forestry workers suggests that some new logging roads are planned for this area.





DIVISION A: predominantly argillite

NUGGET 1 M.C.

NUGGET 2 M.C.

MONASHEE 1 M.C.

DNA 1 M.C.

DNA 3 M.C.

Yeoward Mountain  
2130 metres elevation

Area covered by 1998 Survey  
MONASHEE CLAIM GROUP

DIVISION B: predominantly volcanic (andesites)

DIVISION C: predominantly limestone

COAST INTRUSIONS GRANODIORITE

**GEOLOGICAL LEGEND**

PRE-PERMIAN

Monashee Group, gneiss

PERMIAN

Cache Creek Group, metasediments and metavocanics

DIVISION C: predominantly limestone

DIVISION B: predominantly volcanic (andesites)

DIVISION A: predominantly argillite

JURASSIC and/or CRETACEOUS

Coast Intrusions, granodiorite

Geology after A.G. Jones (modified)



Magnetic Declination 21°40'

■ Legal Corner Posts



Scale 1:50,000

**MONASHEE CLAIM GROUP**  
Yeoward Mountain Area  
Vernon Mining Division, B.C.

**MINERAL CLAIMS, ACCESS & REGIONAL GEOLOGY**

Drawn by M.M.

N.T.S. 82-L-1W

October, 1999

Figure 2

*M.M.*

## PHYSICAL FEATURES AND CLIMATE

The Monashee Claim Group covers the upper southern and southwestern slopes of Yeoward Mountain at the headwaters of Yeoward Creek. Yeoward Mountain at 2130 metres elevation is situated near the southwestern corner of the Monashee Mountain Range just 4 km north of the headwaters of the Kettle River at Keefer Lake (elevation 1360 metres). The Fraser River - Columbia River divide, in part, crosses Yeoward Mountain. Yeoward Creek drains westward into the Fraser River System, while the Kettle River drains southerly into the Columbia River System.

A series of sharp peaked ridges called "The Pinnacles" lie 10 km to the northeast of Yeoward Mountain. These jagged peaks rise above 2140 metres to as high as 2570 metres and indicate that the depth of Continental Ice probably did not exceed 2140 metres in the region.

Yeoward Mountain at 2130 metres elevation, however, was glaciated. The north side of the Mountain falls away in several steep-sided cirques. Cirques also occur on the southwest and eastern flanks of the Mountain. The southern slope of the Mountain, by contrast, is very gentle for 3 km, before breaking away into the Kettle River Valley.

Elevations on the Monashee Claim Group range from 1680 m in the main valley of Yeoward Creek to 2030 m near the top of Yeoward Mountain. The western one-third of the property has moderate relief and is forested with a mix of mature balsam, spruce and pine, some of which has been recently clear-cut logged. The central portion of the property is also forested, but is very steep with 400 metres of relief over a distance of just 1 kilometre. The headwaters of Yeoward Creek originate with the cirques on this portion of the property. Above the cirques on the eastern one-third of the property, the mountain has a gentle southerly slope that is covered with alpine meadows and spotty groves of alpine balsam.

Rock outcroppings are numerous in the meadow area, and all of the mountain exhibits the effects of glaciation.

**PHYSICAL FEATURES AND CLIMATE** (continued)

The Monashee Mountain Range receives snow from October until early May and the snowpack on the top of Yeoward Mountain reaches 2 metres. Deep snowdrifts in the open alpine region linger until mid-July and feed several small streams on top of the mountain.

Temperatures on the mountain range from 10 to 25° C during summer, and probably drop as low as -30° C on occasional winter nights.

**CLAIM STATUS**

The Monashee Claim Group is comprised of the Monashee 1-4 mineral claims that were staked by the writer, M. Morrison of Kelowna, B.C., in July, 1997.

The mineral claims are all located in the Vernon Mining Division, and they are all recorded in the writer's name.

The Monashee 1 is a 4-post mineral claim comprised of 18 units. The Monashee 2-4 mineral claims which adjoin the Monashee 1 on the east are all 2-post mineral claims (see Figure 2).

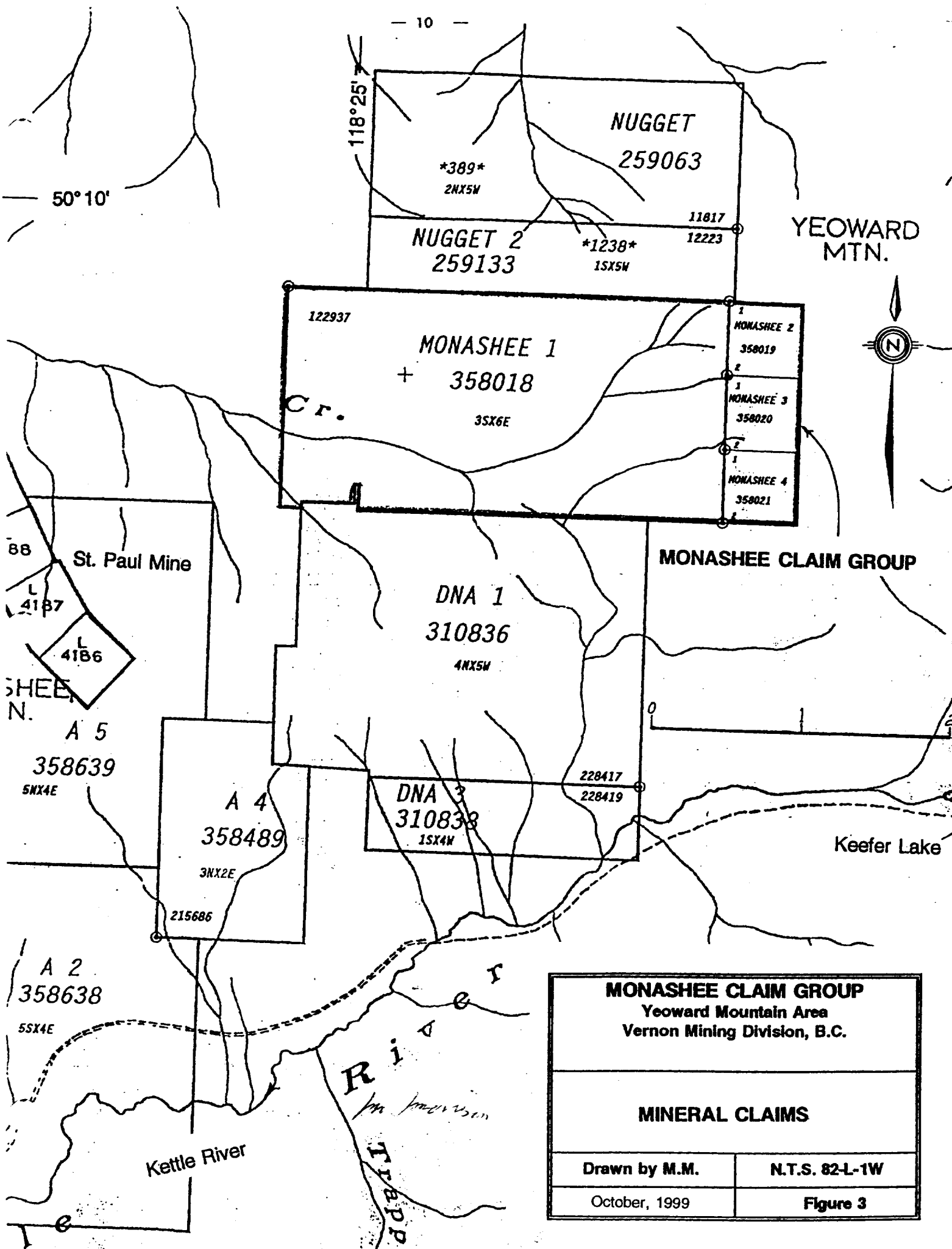
Specifics on the mineral claims are listed below:

<b><u>CLAIM NAME</u></b>	<b><u>UNITS</u></b>	<b><u>TENURE NUMBER</u></b>	<b><u>DATE OF RECORD</u></b>	<b><u>EXPIRY* DATE</u></b>
Monashee 1	18	358018	July 25, 1997	July 25, 2000
Monashee 2	1	358019	July 23, 1997	July 23, 2002
Monashee 3	1	358020	July 23, 1997	July 23, 2002
Monashee 4	1	358021	July 23, 1997	July 23, 2001

\* **Note:** The Expiry Dates are based on the acceptance of this report for assessment work credits.

**CLAIM STATUS** (continued)

The Monashee mineral claims have not been surveyed, but it is possible that the Monashee 1 mineral claim could overlap the NUGGET 2 mineral claim and the DNA 1 mineral claim by as much as 100 metres on the north and south boundaries, respectively.



<b>MONASHEE CLAIM GROUP</b> Yeoward Mountain Area Vernon Mining Division, B.C.	
<b>MINERAL CLAIMS</b>	
Drawn by M.M.	N.T.S. 82-L-1W
October, 1999	Figure 3

## **HISTORY & PREVIOUS WORK**

There is no evidence that previous exploration work has been conducted on the Monashee Claim Group. The old roads that cross the top of Yeoward Mountain are believed to have been made for access to the NUGGET property which lies immediately north of the Monashee property (see Regional Geology and Mineralization).

During July, 1998, the writer mapped the geology of the Monashee 2 & 3 mineral claims at a scale of 1: 2500 (Morrison, 1998).

## **REGIONAL GEOLOGY & MINERALIZATION**

The geology of the Yeoward Mountain area at a scale of 1" = 4 miles is illustrated on G.S.C. Map 1059A by H.M.A. Rice and A.G. Jones (1945-51). The map shows a belt of Carboniferous (?) and Permian Cache Creek Group metasediments and metavolcanics that is 30 km long by 20 km wide and centred over Yeoward Creek. The Cache Creek Group rocks are in fault contact with Pre-Permian Monashee Group gneiss to the north, east and west, and they have been intruded on the south by granitic rocks of the Jurassic and/or Cretaceous Coast Intrusions.

Three divisions of the Cache Creek Group are differentiated on Map 1059A: one that is predominantly comprised of argillite, another that is predominantly comprised of volcanic (andesite) rock, and a third that is comprised predominantly of limestone. These divisions have been traced on to Figure 2 of this report.

Several bedding directions are illustrated on Map 1059A and it can be assumed that the Cache Creek Group has undergone a good deal of deformation.

There are three mineral properties of note in the immediate vicinity of the Monashee Claim Group. They are the historic St. Paul Mine, situated 3 km to the southwest, the old Fox or

**REGIONAL GEOLOGY & MINERALIZATION** (continued)

NUGGET property which lies immediately to the north, and the old Dona or DNA property which lies just to the south. Exploration has been sporadic on all three properties, but over the years quartz veins bearing precious metals and galena, sphalerite, chalcopyrite, stibnite and arsenopyrite mineralization have been found. The quartz veins invade the metasediments of the Cache Creek Group on all properties and diorite sills or dykes are present and possibly significant at both the St. Paul and DNA properties.

Although some good precious metal assays have been obtained from grab samples, the mineralization has proven to be spotty on all properties so far.

A 2 metre quartz vein was discovered on the old Fox prospect, but it is poorly exposed.

A total of 19 tons of partially selected ore from the St. Paul Mine yielded 21 ounces of gold, 424 ounces of silver, 854 pounds of lead and 153 pounds of zinc (G.E.M. p.23, 1973).

All of the mineralization uncovered to date in the district appears to be closely associated with mesothermal quartz veins and the massive sulphide potential of the Cache Creek Group has been overlooked.

It is thought that the Monashee Claim Group has the potential to host both epigenetic and syngenetic mineralization.

Monashee and Yeoward Creeks have a history of minor placer gold production (Holland, 1980).

## **GEOLOGICAL MAPPING PROGRAM - 1999**

### **Grid**

A Baseline was measured south (180 degrees) from the Legal Corner Post of the Monashee 1 mineral claim and five flagged grid lines, spaced at 100 metre intervals, were then measured east (090 degrees) for up to 1000 metres, as illustrated on Map M-99-1. Stations were marked at every 25 metres along each line to facilitate the geological mapping. In all, 400 metres of Baseline and 4.3 km of flagged grid line were established using a Silva Ranger compass and a Topoline belt chain.

### **General Comment**

Pleistocene drift and till, ranging from 1 to 15 metres deep, blankets much of this year's map area and there is a general scarcity of natural outcrop. In fact, much of the rock that is visible has been exposed by recent road building or other logging activities. The scattered data does not allow for firm geological conclusions, but some general comments will be stated in the paragraphs that follow.

### **Summary**

It appears that much of the northwest corner of the Monashee 1 mineral claim is underlain by andesitic and dacitic flows and tuffs which are interbedded with greywackes, sandstones, siltstones and argillites derived from the volcanics. Bedding directions are variable and locally distorted by faulting, but they generally range from 040/50SE to 060/80SE.

The metavolcanics and metasediments (greenschist facies) are intruded by narrow discordant white to light green feldspar porphyry dykes of intermediate composition at widely scattered locations across the map area. The intruded rocks are often limonitic or pyritic for a few metres on either side of the dykes. Locally, the dykes contain up to 5% stockwork quartz veins.



**GEOLOGICAL MAPPING PROGRAM - 1999** (continued)**Summary** (continued)

The rocks have been divided into five mappable units (1a, 1b, 1c, 1d and 2b) on map M-99-1 and these will be described under the titles that follow.

**Permian-Cache Creek Group Metavolcanics and Metasediments****Unit 1a - Interbedded Metavolcanics and Metasediments**

Unit 1a rocks underlie much of the northwest corner of the Monashee 1 mineral claim. The rocks of unit 1a include: dark green augite andesite flows, light green dacitic flows, both andesitic and dacitic tuffs, greywackes of andesitic composition, medium and fine grained green to grey sandstones, siltstones and argillites. The abundance of the rock types is in the order that they have been listed. The rock exposures are poor, but it is believed that most of the flows and sedimentary beds measure just a few metres in thickness.

The dark green andesite contains 10 to 15% augite phenocrysts (1-2 mm) that are set in a fine grained groundmass. The augite crystals are also a notable constituent of the andesite tuffs and greywackes.

**Unit 1b - Andesite Agglomerate**

Only one outcrop of andesite agglomerate occurs in the map area. It is exposed by a road cut at grid 9+90N, 30+60W over a distance of 15 metres. The rock is comprised of 50% volcanic clasts (bombs) of predominantly augite andesite that are set in a very fine to medium grained black andesitic groundmass. There is up to 5% limonite filling vugs and fractures in the outcrop. The agglomerate appears to underlie andesite flow rocks (unit 1c).

**GEOLOGICAL MAPPING PROGRAM - 1999** (continued)**Permian-Cache Creek Group Metavolcanics and Metasediments** (continued)**Unit 1c - Augite Andesite**

A massive green augite andesite occurs as scattered outcrop for 90 metres southeast of the andesite agglomerate described above. The andesite has up to 20% augite phenocrysts of 1-4 mm that occur within a fine grained groundmass.

**Unit 1d - Andesite Flows (or Diorite Dykes?)**

Near L15N at 33 + 70W, there are outcroppings of medium grained, green to grey, equigranular rocks that look like diorite. However, the rock may simply represent the slower cooling core zones of some of the thicker andesite flows.

There is no pyrite associated with these rocks, whereas pyrite does occur with diorite dykes elsewhere on the property.

**Post-Permian(?)Dykes****Unit 2b - Feldspar Porphyry Dykes**

Light green to white feldspar porphyry dykes intrude the Permian metavolcanics and metasediments at four locations on Map M-99-1 (L15N at 35+05W; L14N at 32+65W; L12N at 35+05W; and L12N at 25+70W). In each case, there is a limonitic or pyrite halo for 1 to 4 metres into the country rock. The dyke on L12N at 35+05W is cut by a 5% stockwork of quartz veins up to 2 cm in thickness. Vugs with 5% limonite (after sulphides?) occur in the veins.

**GEOLOGICAL MAPPING PROGRAM - 1999** (continued)**Post-Permian(?) Dykes** (continued)**Unit 2b - Feldspar Porphyry Dykes** (continued)

The dyke material contains 20% plagioclase and 2% quartz phenocrysts and is of intermediate composition.

**Pleistocene**

One to 15 metres of glacial till and drift covers most of the map area. The drift increases in depth towards the bottom of the Yeoward Creek valley, and completely conceals the bedrock geology.

The last ice movement is believed to have been from the northwest in the map area.

**Structural Geology**

The metavolcanics and metasediments, underlying the map area, strike northeast and dip moderately to steeply southeast (040/50SE to 060/80SE) The bedding is locally distorted by faulting, and this is particularly true near the road cuts at 11+60N, 35+00W. It is believed that the rocks are not overturned and that unit 1b and 1c rocks overlie unit 1a rocks.

Slickenside fault planes at the road cuts at 11+30N, 34+75W are 120 to 130/40SW.

Evidence of strong regional faulting was not seen in the map area.

**GEOLOGICAL MAPPING PROGRAM - 1999 (continued)****Alteration**

The only notable alteration of the Permian rocks is limonite staining adjacent feldspar porphyry dykes. The dykes have deposited pyrite into the country rock for up to 5 metres. Much of the pyrite has weathered to limonite.

**Mineralization****Quartz Veins**

Large angular pieces of quartz vein material (10 to 60 cm) occur at several locations in this year's map area. Similar quartz vein material was also found in last year's map area on the eastern side of the property. The quartz is white and barren for the most part, but occasionally contains 1 to 2 cm blebs of limonite (after sulphides?). A bleb of silver mineral, believed to be stibnite, was seen in one piece of float this year (see Map M-99-1).

Minor quartz veins cut the Permian rocks at several sites on the property, but the origin of the large pieces of quartz has not been located.

It is considered that there is some potential for finding a large gold-bearing quartz vein on the Monashee Claim Group. Gold-bearing quartz veins occur on both the NUGGET and DNA properties located immediately north and south of the Monashee property, respectively.

**GEOLOGICAL MAPPING PROGRAM - 1999** (continued)**Mineralization** (continued)**Stockwork Veining Associated Feldspar Porphyry Dykes**

Stockwork quartz veinlets, equalling up to 5% of the rock, cut the feldspar porphyry dyke on L12N at 35+05W. The quartz veins are up to 2 cm wide and contain 5% limonite (after sulphides?). None of the quartz has been sampled, but it could conceivably contain some gold values, and this mode of mineralization should not be overlooked during future mapping programs. Somewhere, within the boundaries of the property, there could be a much larger dyke with a stronger quartz stockwork system.

**Permeable Andesite Agglomerate**

The permeable andesite agglomerate, at grid 9+90N, 30+60W, contains up to 5% limonite (after sulphides?). The limonite fills vugs and fractures in the rock which is exposed over 15 metres in a road cut. The true thickness of the unit is unknown, but it could be a significant target if the sulphides(?) it once contained carried gold values.

No samples of the agglomerate were submitted for analysis this year.

**Massive Sulphide Deposits?**

The mix of volcanics and sediments in a marine depositional environment suggest that the property has the potential to host massive sulphide mineralization.

## **DISCUSSION**

The remarks under the previous title, Mineralization, suggest that four types of potential economic ore deposits might be expected to occur on the Monashee Claim Group.

These are:

- (a) large gold-bearing quartz veins,
- (b) gold-bearing stockwork quartz veins that occur with feldspar porphyry dykes,
- (c) mineralization hosted by permeable volcanoclastic rocks, and,
- (d) syngenetic massive sulphide deposits.

Although no economic mineralization has been defined on the twenty percent of the property that has been geologically mapped, it is recommended that the mapping program (at a scale of 1: 2500) be continued on to the unmapped central area of the property in an attempt to locate a sizeable ore deposit. All of the aforementioned mineral possibilities should be considered during the course of future mapping programs.

Based on the present status of knowledge, there are some geological observations that may assist in further work programs. For instance, it is believed that the Permian Cache Creek Group sequence underlying the property has been folded into a broad anticline with an axis that probably crosses the top of Yeoward Mountain. The older "core rocks" of the anticline are predominately metasediments, and these occur on the top of Yeoward Mountain and along the mountain's western ridge. Metavolcanics increase with respect to metasediments towards the top of the Cache Creek Group sequence, and as a consequence, occur as the southern limb of the anticline which dips under the drift-filled valley of Yeoward Creek.

Evidence suggests that the more prospective ground for locating large gold-bearing quartz veins or large gold-bearing quartz stockworks is, that which is underlain by the metasedimentary component of the Cache Creek Group at the top of Yeoward Mountain and along the mountain's western ridge. The metavolcanic component of the sequence, which has

**DISCUSSION** (continued)

the greatest potential to host massive sulphide deposits, unfortunately, lies under the drift-filled valley of Yeoward Creek.

The gold-bearing quartz veins on the NUGGET property occur near the top of the western ridge of the Yeoward Mountain, immediately north of the Monashee Claim Group. These veins cut the metasedimentary component of the Cache Creek Group.

There are no examples of syngenetic massive sulphide deposits in the region, but this potential type of deposit should not be overlooked.

## CONCLUSIONS AND RECOMMENDATIONS

Although the 1998 & 99 geological mapping programs have covered only twenty percent of the Monashee Claim Group, the results of the mapping continue to support the hypothesis that the Permian Cache Creek Group metavolcanics and metasediments that underlie the property could host either epigenetic or syngenetic economic mineralization (see Discussion).

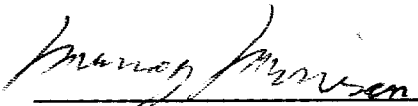
It is thought that epigenetic gold mineralization could be found in large quartz veins or with stockwork quartz veins associated with feldspar porphyry dykes which cut through the metasediments near the top of Yeoward Mountain. The gold-bearing quartz veins on the neighbouring NUGGET property, located immediately north of the Monashee 1 mineral claim, are an example of such mineralization.

It is also believed that the metavolcanics which outcrop on the lower slopes of Yeoward Mountain have the potential to host syngenetic massive sulphide deposits. Unfortunately, much of the area believed to be underlain by the metavolcanics is covered by heavy drift in the valley of Yeoward Creek on the Monashee 1 mineral claim.

It is recommended that the entire property be geologically mapped at a scale of 1: 2500 and that prospecting be conducted in an attempt to locate sizeable gold-bearing quartz veins, gold-bearing quartz stockworks, volcanoclastic hosted mineralization and massive sulphide mineralization.

The logging operations that continue to expand into the headwaters of Yeoward Creek are expected to give better access to the Monashee Claim Group over the next few years.

October 15, 1999  
Kelowna, B.C.

  
\_\_\_\_\_  
Murray Morrison, B.Sc.



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- G.E.M. = The Geology, Exploration and Mining Series of Volumes published  
by the Ministry of Energy, Mines and Petroleum Resources of British  
Columbia.
- Annual Report = Annual Report published by the Minister of Mines in British  
Columbia


APPENDIX A

STATEMENT OF QUALIFICATIONS

I, Murray Morrison, of the City of Kelowna, in the Province of British Columbia, do hereby state that:

1. I graduated from the University of British Columbia in 1969 with a B.Sc. Degree in Geology.
2. I have been working in all phases of mining exploration in Canada for the past thirty years.
3. During the past thirty years, I have intermittently held responsible positions as a geologist with various mineral exploration companies in Canada.
4. I have conducted several geological, geochemical, and geophysical surveys on mineral properties in Southern British Columbia during the past thirty years.
5. I conducted the Geological Mapping Program on the Monashee 1 mineral claim.
6. I own a 100% interest in the Monashee 1 - 4 mineral claims.

October 15, 1999  
Kelowna, B.C.

  
\_\_\_\_\_  
Murray Morrison - B.Sc.

**APPENDIX B****STATEMENT OF EXPENDITURES - ON THE MONASHEE CLAIM GROUP**

Statement of Expenditures in connection with a Geological Mapping Program carried out on the Monashee Claim Group, located 45 km southeast of Lumby, B.C. in the Vernon Mining Division (N.T.S. Map 82-L-1W) for the year 1999.

**GEOLOGICAL MAPPING (50 hectares)**


M. Morrison, geologist	5 days @ \$300.00/day	\$1,500.
Truck, 4 x 4 (including gasoline and insurance)	5 days @ \$75.00/day	375.
Meals and Lodging	no charge	
Flagging and belt chain thread		<u>20.</u>
	Sub-total	\$1,895.

**REPORT PREPARATION COSTS**

M. Morrison, geologist	1½ days @ \$300.00/day	\$ 450.
Drafting		53.
Typing		86.
Copying Reports		<u>20.</u>
	Sub-total	\$ 609.
	<b><u>GRAND TOTAL</u></b>	<b><u>\$2,504.</u></b>

I hereby certify that the preceding statement is a true statement of monies expended in connection with the Geological Mapping Program carried out July 6-21, 1999.

October 15, 1999  
Kelowna, B.C.

  
Murray Morrison, - Geologist

