

84-1049-13061

GEOLOGICAL  
ASSESSMENT REPORT

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

13,061

on  
THE MIKE 1-5 MINERAL CLAIMS  
of  
VAL D'OR EXPLORATIONS LTD.

MONASHEE PASS AREA  
VERNON MINING DIVISION

by  
MURRAY MORRISON, B.Sc.

CLAIMS: Mike 1-5 (totalling 72 units)

LOCATION: The Mike property is situated at Monashee Pass, 60 km southeast of Vernon, B.C.  
Lat. 51° 00'; Long. 118° 34';  
N.T.S. 82-L-2, 82-E-15.

OWNER: Val d'Or Explorations Ltd.

OPERATOR: Val d'Or Explorations Ltd.

DATE STARTED: August 27, 1984

DATE COMPLETED: September 7, 1984

Kelowna, B.C.

October 15, 1984

*Copy forward to file 13061 III*

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SUMMARY

The Mike property, comprised of the Mike 1-5 mineral claims, totalling 72 units, is situated at Monashee Pass 60 km southeast of Vernon, B.C. The property was staked in 1983 to cover what was believed to be the southern extension of the gold-bearing "Brican Fault". At the request of the present operator, Val d'Or Explorations Ltd., the economic potential of the property was appraised by the writer.

In order to evaluate the property, a programme of stream sediment sampling, lithogeochemical sampling and geological mapping was carried out during August and September, 1984.

The results of the sampling and mapping programmes proved discouraging, and no further work is recommended on the property.

## INTRODUCTION

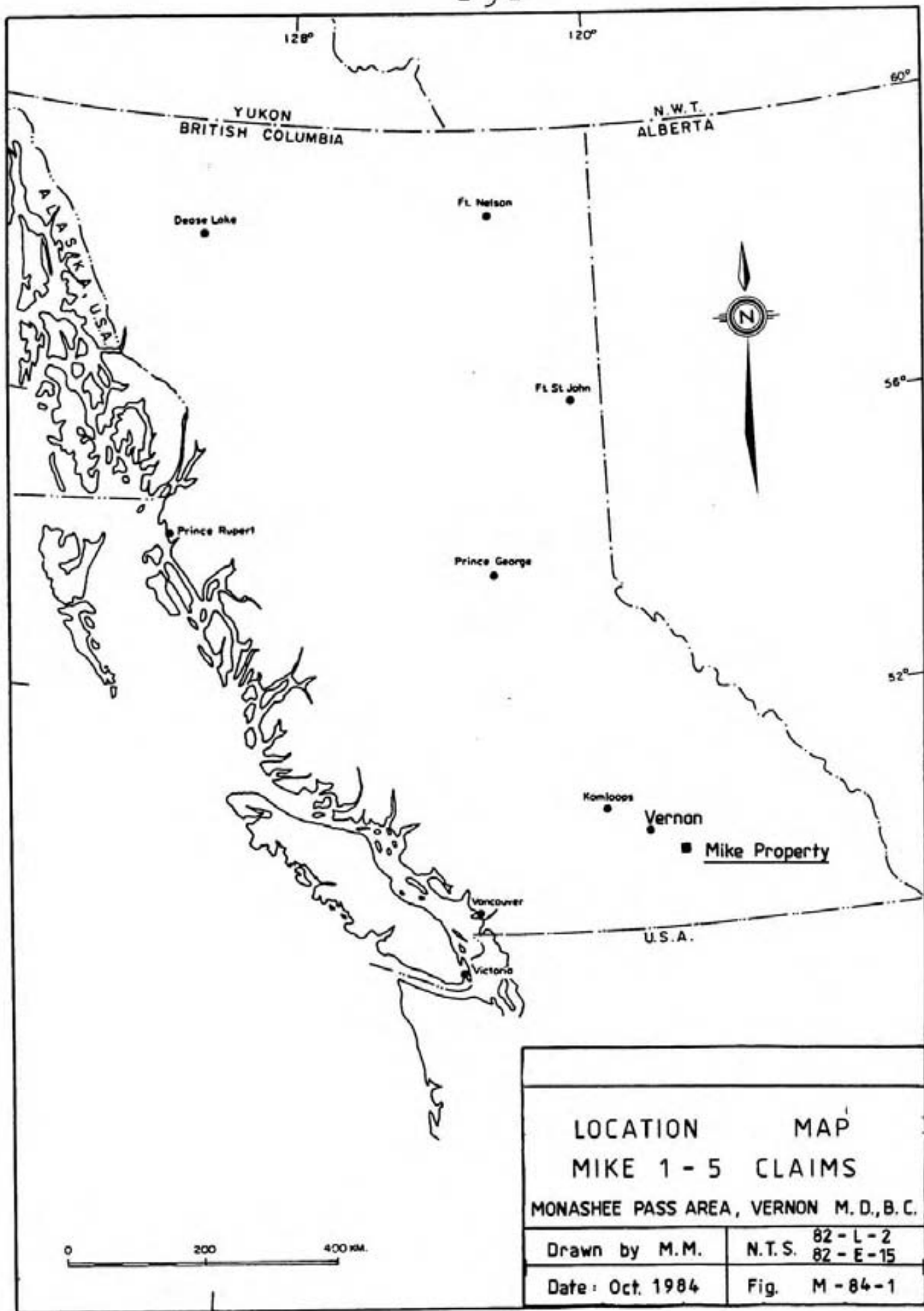
The Mike "gold" property situated at Monashee Pass, 60 km southeast of Vernon, British Columbia is comprised of the Mike 1-5 mineral claims, totalling 72 units. The property was examined by the writer during August and September at the request of Val d'Or Explorations Ltd. of Vancouver. The Company instructed that the economic potential of the property be evaluated in the course of conducting assessment work for one year's credit.

It was felt that a work programme combining stream sediment sampling and lithochemical sampling would provide the quickest means of evaluating the large property. The geology of the property was mapped at a scale of 1:10,000 during the course of conducting the geochemical surveys.

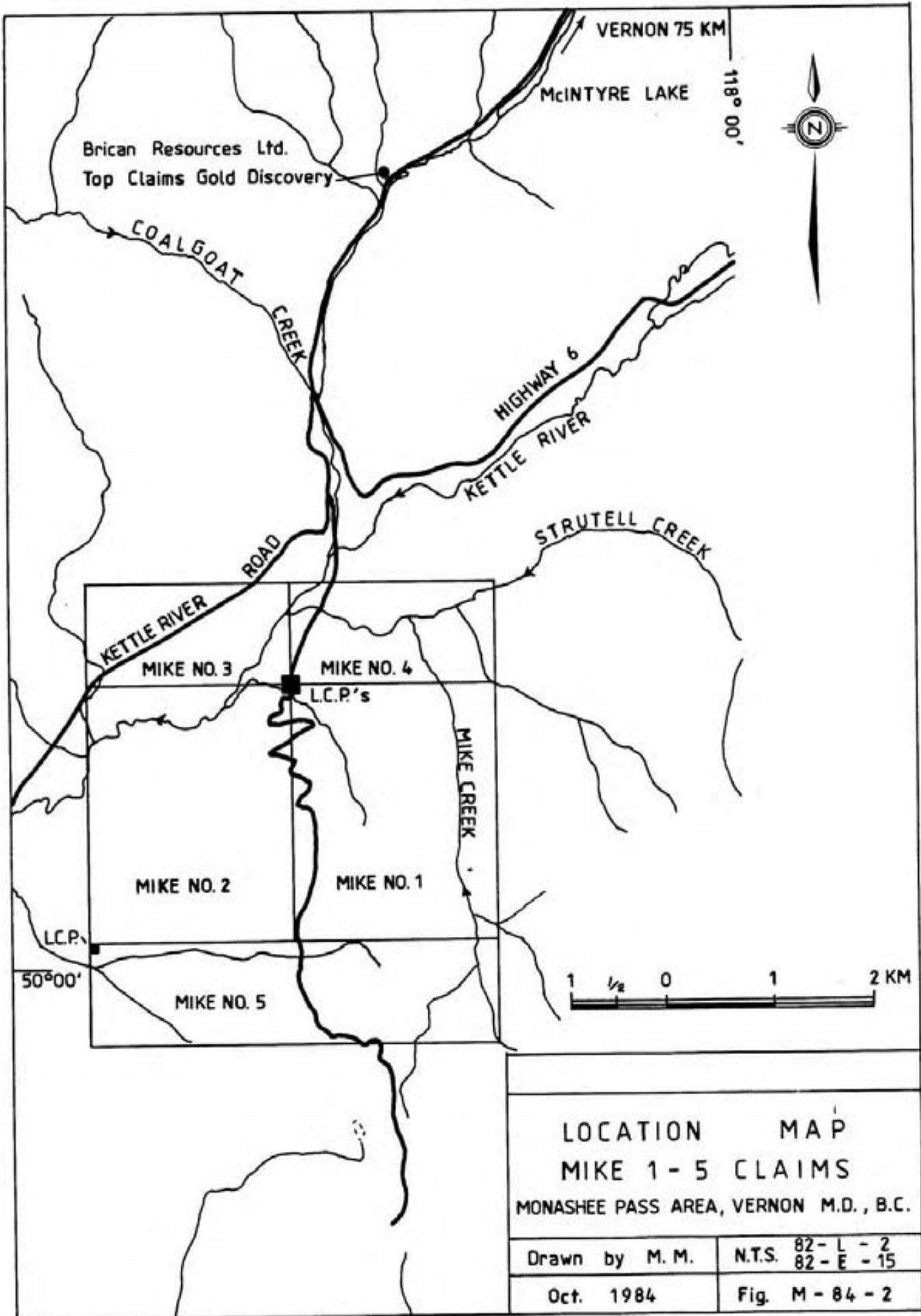
A discussion of the results of the mapping and sampling programmes makes up the text of this report, while the geology and sample sites (with their geochemical analyses) are illustrated on Map M-84-4 accompanying this report.

## LOCATION AND ACCESS

The Mike property is situated in the Monashee Pass region of British Columbia, 60 km directly southeast of the city of Vernon. (Lat. 51° 00'; Long. 118° 34'; N.T.S. 82-L-2 + 82-E-15). The property, covering the northwest flank of an unnamed mountain 1 to 5 km south of the "horseshoe" on Highway #6 at Monashee Pass, may be reached from Vernon via Highway #6 (75 km), and the Kettle River road (1 to 4 km). The main Kettle River road passes through the northwest corner of the property, while a good secondary logging road, leaving the Kettle River road at 0.6 km passes through the centre of the claim group. Branch logging roads provide access to the Mike #2, 4 & 5 mineral claims (please see Map M-84-4).



LOCATION MAP	
MIKE 1 - 5 CLAIMS	
MONASHEE PASS AREA, VERNON M.D., B.C.	
Drawn by M.M.	N.T.S. 82-L-2 82-E-15
Date: Oct. 1984	Fig. M-84-1



### PHYSIOGRAPHY

The Monashee Pass region represents an area of subdued topography within the Monashee Range of mountains. The Kettle River flows through the region at an elevation of 1100 metres and ground covered by the Mike property rises from the Kettle River Valley up a northwest mountain slope to the 1600 metre elevation. Much of the main Kettle River Valley is covered with thick accumulations of glacial-fluvial gravels, and many of the upland creek valleys have been deeply filled with glacial drift. A mantle of drift covers many of the ridges also, and good rock exposures on the property are often restricted to logging road cuts. Although the total outcrop exposure is less than 10% the nature of the logging road cuts spread out across the property allow for fairly comprehensive mapping.

Winter snows in the pass are often heavy (1 to 2 metres), and it may be early June before the higher elevations on the Mike property become free of snow.

The property features a mixed forest of lodgepole pine, balsam fir, larch, mountain hemlock and spruce. Lodgepole pine is the dominant species up to the 1500 metre elevation and then the balsam fir becomes more prevalent. Approximately one-fifth of the forest has been strip-logged from the property in recent years.

### CLAIM STATUS

The Mike 1-5 mineral claims, located in the Vernon Mining Division of British Columbia, were staked and recorded by the writer, M. Morrison, of Kelowna, B.C., in the autumn of 1983. An option agreement on the exploration and development of the claims, and on the conditional transfer of 100% interest in

Continued...



CLAIM STATUS - Continued

the claims, was signed between M. Morrison and Cat Enterprises Ltd. of Vancouver, August 22, 1983. By an agreement dated January 27, 1984 the interests of Cat Enterprises Ltd. have been reassigned to Val d'Or Explorations Ltd.

Particulars on the five Mike mineral claims are given below:

<u>CLAIM NAME</u>	<u>UNITS</u>	<u>DATE OF STAKING</u>	<u>DATE OF RECORDING</u>	<u>RECORD NO.</u>	<u>EXPIRY DATE</u>
Mike 1	20	Aug. 20-21/83	Aug. 24/83	1577	Aug. 24/85
Mike 2	20	Aug. 26-27/83	Sept. 8/83	1589	Sept. 8/85
Mike 3	8	Aug. 27-28/83	Sept. 8/83	1590	Sept. 8/85
Mike 4	8	Aug. 28-29/83	Sept. 8/83	1591	Sept. 8/85
Mike 5	16	Aug. 30-31/83	Sept. 8/83	1592	Sept. 8/85

The expiry dates shown above for the Mike 2-5 mineral claims are conditional upon this report being accepted for assessment work purposes by the Department of Mines.

HISTORY

Exploration in the Monashee Pass region has been carried out intermittently since 1890. Quartz veins cutting Nelson plutonic rocks and Cache Creek Group metasedimentary and metavolcanic rocks have been explored at several sites. In many cases the quartz veins were found to contain good gold and silver values associated with pyrite, galena, pyrrhotite, sphalerite, chalcopyrite, arsenopyrite and stibnite near surface, but subsequent work indicated that the grades faded quickly with depth. The quartz veins were also found to be highly faulted and discontinuous.

The most successful early mining venture in the region was that carried out at the St. Paul Mine where over 3000 tons of

Continued...

HISTORY - Continued

ore yielded 500 ounces of gold. The gold and silver values at this mine included the above assemblage of minerals, plus magnetite and jamesonite. These minerals were contained in discontinuous quartz veins cutting Cache Creek Group metavolcanics and metasediments.

In 1973 a new zone of mineralization near McIntyre Lake, 6 1/2 km southwest of the St. Paul Mine, was explored for gold by New Cinch Uranium Ltd. of Toronto. A strong, persistent zone of brecciation 1 to 40 feet wide was traced for over 550 feet on the Top mineral claims. Gold and silver mineralization was found to accompany pyrite, arsenopyrite and sulphosalts in a shear zone marked by fault gouge, quartz, carbonate and intensely altered granite. Mapping and trenching were carried out by the company on the Top claims in 1973, and this work was followed up with 306 metres of diamond drilling in four BQ drill holes in 1974.

The property was not drilled again until 1983 when Brican Resources Ltd. of Vancouver drilled eight NQ diamond drill holes. A very significant intersection of 10 metres of 10.26 g/T gold (which included 4.7 metres of 19.16 g/T gold) was encountered from a depth of 6 to 21.6 m in one hole, while a second hole cut 4.45 m of 3.08 g/T gold, and a third hole cut 6.25 m of 3.42 g/T gold.

During January 1984 Kerr Addison Mines of Vancouver followed up the Brican drilling with several diamond drill holes. Apparently the results were not encouraging as Kerr Addison dropped their option on the property later in the year.

The Mike property covers what is believed to be the extension of the "Brican Fault". No previous exploration work has been carried out on the Mike property.

## REGIONAL GEOLOGY

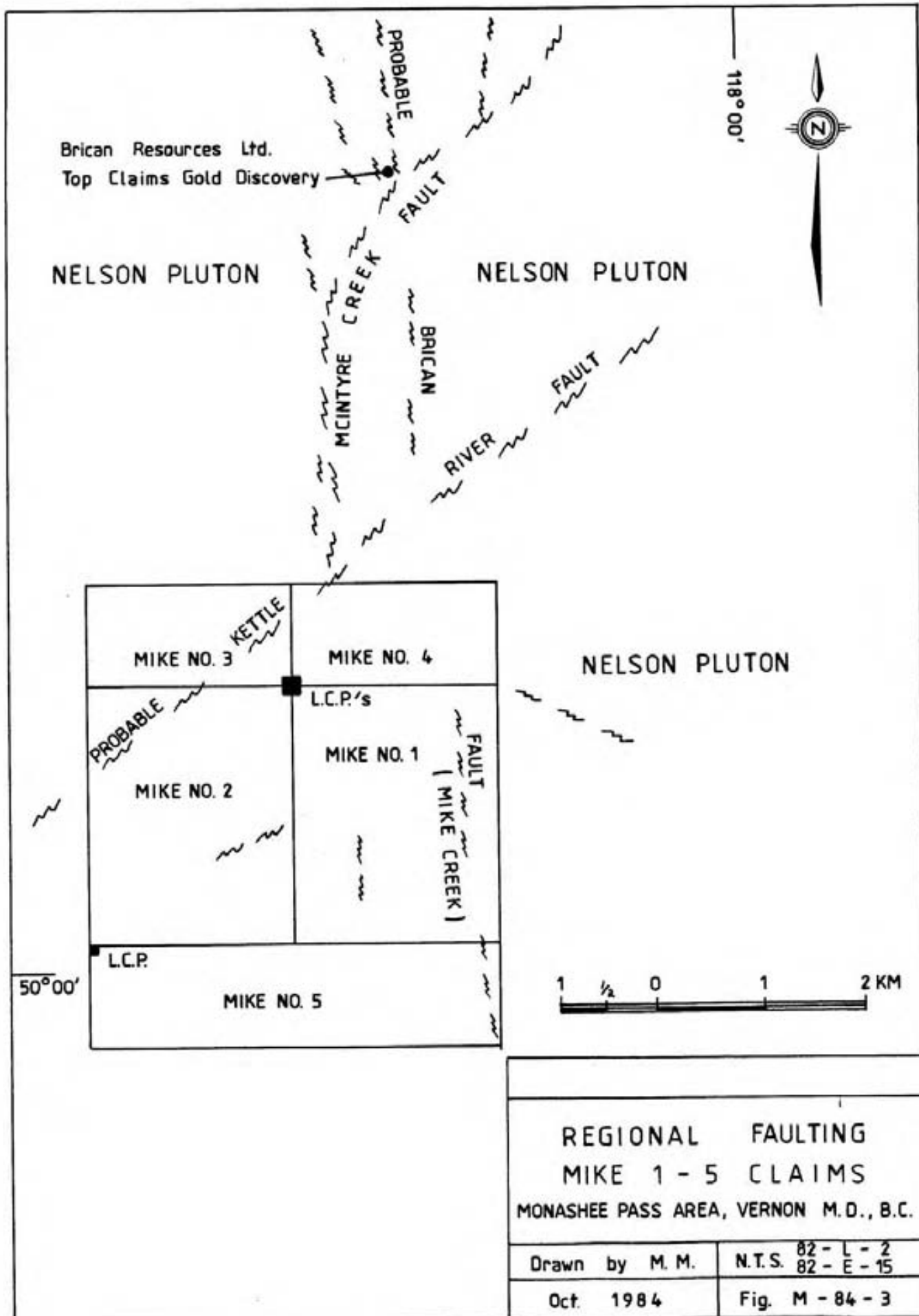
The Kettle River area of Monashee Pass is underlain by a large batholith of Nelson (Cretaceous ?) rock that has intruded volcanic and sedimentary rocks of the Cache Creek Group (Permian) to the north. Extensive flows of Tertiary volcanic rocks cover the Nelson batholith from the west to within 7 km of Monashee Pass (G.S.C. Map 1059 A, Vernon, by A.G. Jones).

The St. Paul Mine described under the History section of this report occurs in Cache Creek Group rocks within 1 km of the Nelson plutonic contact, while the main body of the Nelson batholith underlies both the Top claims and the Mike claims.

The Nelson rocks of the Monashee Pass region vary in composition from granodiorites to granites that are generally medium to coarse grained. Much of the rock is massive and fresh, but throughout the valleys of McIntyre Creek and the Kettle River the rock is highly faulted and locally kaolinized. Occasionally the faulted rocks are cut by mafic, alkaline, or quartz porphyry dykes.

Much of the historical exploration was conducted on mineralized quartz veins found cutting the granites as described earlier. However, the mineralization on the Top claims is associated with a strong shear zone cut by alkaline dykes, and the amount of gold encountered in 1983 drill holes cutting this shear zone was very notable as outlined earlier in this report.

The Mike claims were staked to cover what appears to be the southern extension of the "Brican Fault" cutting through Nelson plutonic rocks along Mike Creek (see figure M-84-3).



1984 STREAM SEDIMENT AND LITHOGEOCHEMICAL SAMPLING PROGRAMME

Twenty-seven stream sediment samples were collected from the creeks traversing the Mike property during late August and early September 1984. The most intensive sampling was conducted along Mike Creek, because it was thought to mark the position of the gold bearing "Brican Fault" mentioned earlier in this report. Samples were collected at 500 to 600 metre intervals along Mike creek and at strategic points along other creeks on the property. The samples were composed of silt or sand collected from the centres of the streams. The samples, weighing approximately 400 grams, were placed in kraft envelopes and sent to Chemex Laboratory in North Vancouver for gold, silver and arsenic analyses.

The samples were dried and sieved through a -80 mesh screen. The gold content was established using Fire Assay preconcentration and then Atomic Absorption analysis. Aqua regia was used as the dissolving agent for the silver sample analyses. The results of the stream sediment analyses are plotted on map M-84-4 accompanying this report.

Samples for lithogeochemical analysis were collected from areas believed to be of economic interest that were encountered during the course of geological mapping. In most cases the samples showed some evidence of introduced mineralization, and a detailed description of these samples is given in Appendix "A". The samples consisted of 2 kg of rock chips of 2 cm size that were chipped at 1/2 metre intervals from the outcrop being studied. These samples were also sent to Chemex Laboratory in North Vancouver for gold, silver and arsenic analyses. These samples were crushed and a subsample ring pulverized to approximately minus 100 mesh. The samples were then treated chemically in the same manner as the stream sediment samples described earlier. The results of the lithogeochemical analyses are also plotted on Map M-84-4.

### 1984 GEOLOGICAL MAPPING PROGRAMME

Air photographs and measured road traverses were used as guidelines for the geological mapping on the Mike property. A Topolite belt chain and Silva Ranger compass were used for some off-road measurements and traverses.

Natural rock exposures are limited to only the sharper ridges on the property, and geological mapping was largely restricted to logging roads where the 1 to 3 metres of glacial till has been stripped away. Most Creek valleys on the property have been filled in with up to 30 metres of glacial drift. The lack of exposed rock in the Mike Creek drainage basin within the property boundaries, prompted the geological mapping of the Mike creek area to the south of the property where rocks were exposed.

The geological mapping was designed to concentrate upon areas that appeared to be of economic interest. Such areas were identified as having: (a) strong fracturing, (b) pyrite or limonite mineralization, and (c) evidence of hydrothermal alteration. The lithogeochemical samples that are listed in Appendix "A" came from areas believed to be of economic interest. The geology mapped during the 1984 programme is shown on Map-84-4 accompanying this report.

### DISCUSSION OF THE RESULTS OF THE STREAM SEDIMENT SAMPLING PROGRAMME

The analytical results show that none of the stream sediment samples collected from the Mike property were anomalous by Western Cordilleran standards with respect to gold, silver or arsenic. The gold values in samples were all less than 5 ppb (parts per billion), with the exception of one sample with 5 ppb. These values compare with a Cordilleran threshold value of 10 ppb. The silver values of the Mike property samples ranged from 0.1 to 0.4 ppm (parts per million) compared with a

Continued...

DISCUSSION OF THE RESULTS OF THE STREAM SEDIMENT SAMPLING PROGRAMME - Continued

Cordilleran threshold value of about 1.0 ppm. The arsenic values of the 1984 samples ranged from 3 to 9 ppm., all under the Cordilleran threshold value of about 10 ppm.

Considering the local background values the southwest branch of Mike creek is slightly anomalous with respect to arsenic and silver. The arsenic builds from 4 ppm to 6 ppm to 9 ppm over a distance of 1500 metres, along with a buildup of silver from 0.1 ppm to 0.2 ppm to 0.3 ppm over the same distance. However, these values are of such low magnitude that it is doubtful that they originate from an economic concentration of mineral.

DISCUSSION OF THE RESULTS OF THE LITHOGEOCHEMICAL SAMPLING PROGRAMME

Excluding samples MR-14 and MR-16 that came from just south of the Mike property boundary, and sample MR-17 that came from near the north boundary, all other samples collected during the 1984 programme contained uniformly low geochemical values -- (gold, less than 5 ppb, silver 0.1 - 0.4 ppm, and arsenic 3-4 ppm). Many of the samples collected contained up to 3% limonite (after pyrite), up to 2% pyrite, and up to 5% quartz veining, and evidence of good hydrothermal alteration. It was considered that they might contain precious metals.

Sample MR-17 was collected from a highly kaolinite altered, limonitic (pyritic) shear zone of 2 metres width near the north boundary of the property. Although the 0.9 ppm silver and 19 ppm arsenic values are slightly anomalous the showing is not considered to be economically important.

Sample MR-16 was selected from quartz vein material containing 2% pyrite. The irregular vein reaching widths of 15 cm occurs

Continued...

DISCUSSION OF THE RESULTS OF THE LITHOGEOCHEMICAL SAMPLING PROGRAMME - Continued

in a 1 metre wide shear zone. Although the geochemical values (gold 85 ppb, silver 2.8 ppm, and arsenic 110 ppm) are anomalous they are far below economic concentrations in the quartz vein. Sample MR-14 was collected from well-fractured granite with 1% quartz veining, a trace of pyrite, and 3% limonite that is adjacent a 2 metre wide minette dyke. The sample definitely contains geochemically anomalous silver (30.0 ppm), but does not appear to represent an economic concentration of silver.

DISCUSSION OF THE 1984 GEOLOGICAL MAPPING PROGRAMME

A. GENERAL

The Mike property is entirely underlain by granite of a Nelson Cretaceous (?) Batholith that extends for several kilometres to the south of the property, as shown on the Vernon G.S.C. map by A.G. Jones. The granite is for the most part medium grained, massive, and homogeneous, but locally a finer grained, slightly porphyritic phase appears to intrude the medium grained granite. A late phase of aplite also intrudes the granite near the northern boundary of the property. Late basalt and andesite dykes of probable Tertiary age cut through the granite at widely separated locations.

Kaolinite and sericite alteration zones are widespread, but of limited extent on the Mike property and are probably related to late magmatic solutions derived from the granite intrusive.

B. CRETACEOUS (?) NELSON MEDIUM GRAINED GRANITE

The dominant rock on the Mike property is a white, medium grained, equigranular granite with the following mineral

Continued...



DISCUSSION OF THE 1984 GEOLOGICAL MAPPING PROGRAMME - Continued

B. CRETACEOUS (?) NELSON MEDIUM GRAINED GRANITE - Continued

composition: 50% orthoclase, 0.5-3 mm crystals, with 2%  
phenocrysts up to 1 cm.  
25% quartz, 0.5-2 mm crystals  
15% plagioclase, 0.5-2 mm crystals  
5% hornblende, 1 mm crystals  
3% biotite, 1 mm crystals

The granite which is massive and fresh, underlies all claims on the property.

C. CRETACEOUS (?) NELSON FINE GRAINED GRANITE

The Nelson fine grained granite is a pink to brown rock having the same mineral composition as the medium grained granite, but a noticeably different crystal size. All crystals are 0.5% to 1 mm in size with the exception of some rounded quartz phenocrysts that are up to 4 mm in size and equal up to 5% of the rock. The quartz phenocrysts are a readily recognizable feature of this rock.

The fine grained granite is massive and appears to have gradational contacts with the medium grained granite. It occurs at two widely separated regions on the property. A large body of this granite appears to underlie the northern half of the Mike #4 mineral claim, and a second large body has been mapped on the south-central portion of the Mike #5 mineral claim.

The brown coloration of the rock appears to be caused by limonite that is widespread in low concentrations throughout the rock.

DISCUSSION OF THE 1984 GEOLOGICAL MAPPING PROGRAMME -  
Continued

D. CRETACEOUS (?) APLITE

A fine grained white aplite occurs at the northwestern corner of the Mike #4 mineral claim near the Kettle River, and at Mike Creek 500 metres south of the Mike #5 mineral claim. The rock is well fractured and limonite stained on fractures at both locations. The aplite, composed predominantly of orthoclase and quartz is most probably a late intrusive phase related to the Nelson granite. Occasional aplite dykes cut the granite elsewhere on the property.

E. TERTIARY DYKES

A 10 metre wide fine grained andesite dyke cuts through Nelson granite at 30 degrees near the south central portion of the Mike #2 mineral claim, and a series of 1 metre wide fine grained basalt dykes cut through the Nelson granite at 290 degrees near the northwest corner of the Mike #1 mineral claim. These dykes are thought to be related to the Tertiary volcanism that is well represented elsewhere in the region.

F. FAULTING

Although the Mike property was staked on the premise that Mike Creek marked the trace of the "Brican Fault", no evidence within the property boundaries could be found to substantiate this assumption due to lack of rock exposures. However, 500 metres south of the property, at sample site MR-12, rock exposures on both sides of Mike Creek are well faulted and intruded by late aplite dyking. Although the evidence is scanty it appears that Mike Creek may follow a major fault.

Rock near the mouth of Strutell Creek and near the Kettle River at the northwest corner of the Mike #4 mineral claim is

Continued...

DISCUSSION OF THE 1984 GEOLOGICAL MAPPING PROGRAMME -  
Continued

F. FAULTING - Continued

highly disturbed and faulted and again intruded by aplite intrusions. This faulting possibly relates to the (probable) Kettle River Fault.

A fault near the east-central region of the Mike #2 mineral claim which shows up sharply on air photographs, displays no outstanding geology on the ground.

At several localities on the Mike property the granite is well fractured or jointed. Slickenside surfaces are common, and best developed on northeast trending fractures. Small zones of fault gouge cut the granite in several different directions across the property. Chlorite is common on fracture surfaces and sericite is well developed in some fault zones. Quartz veining equals up to 10% over limited areas, but sulphide mineralization is rare. The lithogeochemical samples listed in Appendix "A" represent rock collected from many of the well fractured zones on the property.

G. ALTERATION

Weak chlorite alteration is common on fracture surfaces of the granite, but the alteration doesn't pervade unbroken rock. Sericitization and weak kaolinization occur near narrow fault zones at several widely separated areas on the property, and are well developed near Strutell Creek and to the north of Strutell Creek on the Mike #4 mineral claim. The alteration is sometimes accompanied by pyrite, but generally sulphide mineralization is weak. The sericite and kaolinite alteration was probably brought about by late magmatic solutions emanating from the cooling granite magma.

Continued...

DISCUSSION OF THE 1984 GEOLOGICAL MAPPING PROGRAMME -  
Continued

H. MINERALIZATION

The samples collected for lithochemical analyses and shown on Map M-84-4 were selected from mineralized areas on the Mike property, and a detailed description of the samples is given in Appendix "A". The dominant economic mineral on the property is limonite (after pyrite). Pyrite at one time equalled 1 to 3% of the mineralized rock, filling tight fractures and accompanying quartz veinlets. The pyrite has been entirely replaced by limonite in most specimens, but does equal up to 2% in some samples. The mineralized fractures occur in both the medium grained granite and the fine grained granite. Areas of intense sericitization sometimes contain pyrite, but more commonly are devoid of sulphide minerals.

CONCLUSIONS AND RECOMMENDATIONS

Although the 1984 work programme yielded some evidence that Mike Creek may follow a portion of the "Brican Fault" the geochemical data collected from Mike Creek did not indicate that this segment of the fault is gold-bearing. In fact, none of the streams crossing the Mike property yielded anomalous values with respect to gold, silver, or arsenic. Lithochemical sampling of limonitic (pyritic) mineralized areas, likewise, yielded no anomalous values for gold, silver or arsenic within the property boundaries. Only one sample of the 1984 programme, collected from a lamprophyre (minette) dyke south of the property, yielded anomalous silver (30.0 ppm). This sample is significant in that similar dykes on the Brican "Top" property have a close association with gold mineralization. Unfortunately, no lamprophyre dykes have, so far, been found on the Mike property.

Continued...

CONCLUSIONS AND RECOMMENDATIONS - Continued

The 1984 geological and prospecting coverage of the Mike property was admittedly light. Large portions of the property are drift covered, and therefore not thoroughly explored. However, neither the stream sediment nor lithogeochemical sampling results pointed to any direction in which further exploration work might be concentrated. Unless there are other developments of promise in the district no further work is recommended on the Mike property.

October 15, 1984

  
Murray Morrison, B.Sc.

REFERENCES

B.C. Airphoto Library

1976, 1977: Photos: 7691 - 13, 28  
7733 - 64, 141, 175, 176, 211.

B.C. Department of Mines and Petroleum Resources

1973, 1974: Geology, Exploration and Mining in  
British Columbia, Top Property, 1973,  
pp. 98, 99; 1974, pp. 88, 89.

Cross, G.

1983: George Cross Newsletter, Brican Resources  
August 19, 1983.

Jones, A.G.

1960: Vernon Map Area, British Columbia, G.S.C.  
Memoir 296.  
1960: Geology, Vernon, Map 1059 A.

APPENDIX "A"

LITHOGEOCHEMICAL ROCK SAMPLES

All sample sites are plotted on map M-84-4.

- MR-01 well fractured and faulted, fine to medium grained, granite with 1% limonite staining, and less than 1% quartz veinlets. The sample was selected from above average material containing 3% quartz veining and 0.5% pyrite.
- MR-02 angular float, highly silicified (50%) granite with 5% late quartz veins, and 1% pyrite, and 1% limonite after pyrite.
- MR-03 well fractured, fine to medium grained granite with 0.5% limonite on tight fractures.
- MR-04 15 cm shear zone in medium grained granite with 0.5% limonite.
- MR-05 angular float, medium grained granite with 20% quartz veining, 1% pyrite, and 3% chlorite.
- MR-06 sample collected over 10 metres from well fractured and faulted, medium grained granite with 1% quartz veinlets and 1% limonite after pyrite.
- MR-07 collected over 10 metre outcrop immediately south of MR-06, similar rock with 3% quartz veinlets.
- MR-08 angular float of white aplite with clusters of 4% limonite with 3% sericite and 1% pyrite.
- MR-09 fractured, moderately sericitized, medium grained granite with 10% quartz veinlets and 0.5% pyrite.
- MR-10 well fractured, faulted, medium grained granite with 1% limonite, trace pyrite, trace quartz veinlets.
- MR-11 25 metre wide zone of highly sericitized, faulted, granite with 10 to 15% quartz veinlets 0.5 to 3 cm, trace pyrite and 1% limonite after pyrite.
- MR-12 well fractured and faulted, highly sericitized aplite with 1% quartz veinlets and a trace of limonite.
- MR-13 aplite 40% replaced by quartz.

Continued...

APPENDIX "A" - Continued

LITHOGEOCHEMICAL ROCK SAMPLES

- MR-14 collected from well fractured, medium grained granite for 1 metre adjacent lamprophyre dyke; 1% quartz veinlets, 3% limonite, trace pyrite.
- MR-15 10 metre wide zone of faulted, sericitized white ap-  
lite, trace limonite.
- MR-16 1 metre wide irregular shear zone in medium grained  
granite with irregular quartz vein up to 15 cm.  
Sample selected from sericitized granite and quartz  
vein material with 2% pyrite.
- MR-17 2 metre wide shear zone in fine grained, kaolinite  
altered granite, 2% limonite after pyrite.





APPENDIX "B"  
**Chemex Labs Ltd.**

Analytical Chemists • Geochemists • Registered Assayers

Page 22  
 212 Brooksbank Ave.  
 North Vancouver, B.C.  
 Canada V7J 2C1  
 Telephone: (604) 984-0221  
 Telex: 043-52597

**CERTIFICATE OF ANALYSIS**

TO : MARK MANAGEMENT LIMITED

1500 - 675 WEST HASTINGS ST.  
 VANCOUVER, B.C.  
 V6B 1N2

684 Balsam Rd  
 Kelowna BC  
 V1W 1B9

CERT. # : A8416046-001-  
 INVOICE # : I8416046  
 DATE : 20-SEP-84  
 P.O. # : NONE  
 VAL D'OR-MIKE

✓ CC: M. MORRISON

Sample description	Prep code	Ag ppm Aqua R	AS ppm	Au ppb FA+AA			
MR-01	205	0.3	4	<5	--	--	--
MR-02	205	0.4	3	<5	--	--	--
MR-03	205	0.1	3	<5	--	--	--
MR-04	205	0.2	2	<5	--	--	--
MR-05	205	0.1	3	<5	--	--	--
MR-06	205	0.1	3	<5	--	--	--
MR-07	205	0.1	3	<5	--	--	--
MR-08	205	0.1	3	<5	--	--	--
MR-09	205	0.1	3	<5	--	--	--
MR-10	205	0.1	3	<5	--	--	--
MR-11	205	0.4	3	<5	--	--	--
MR-12	205	0.1	3	<5	--	--	--
MR-13	205	0.1	3	<5	--	--	--
MR-14	205	30.0	19	<5	--	--	--
MR-15	205	0.1	4	<5	--	--	--
MR-16	205	2.8	110	85	--	--	--
MR-17	205	0.9	19	<5	--	--	--

Lithogeochemical samples - Mike Property



Certified by Haut Buchler



APPENDIX "C"  
**Chemex Labs Ltd.**

Analytical Chemists • Geochemists • Registered Assayers

Page 23  
212 Brooksbank Ave.  
North Vancouver, B.C.  
Canada V7J 2C1  
Telephone: (604) 984-0221  
Telex: 043-52597

**CERTIFICATE OF ANALYSIS**

TO : MARK MANAGEMENT LIMITED  
  
1500 - 675 WEST HASTINGS ST.  
VANCOUVER, B.C.  
V6B 1N2

CERT. # : A8416045-001-A  
INVOICE # : 18416045  
DATE : 20-SEP-84  
P.O. # : NONE  
VAL D'OR-MIKE

✓ CC: M. MORRISON

Sample description	Prep code	Ag ppm Aqua R	AS ppm	Au ppb FA+AA			
M-01	201	0.3	4	<5	--	--	--
M-02	201	0.2	4	<5	--	--	--
M-03	201	0.3	4	<5	--	--	--
M-04	201	0.3	4	5	--	--	--
M-05	201	0.4	3	<5	--	--	--
M-06	201	0.1	4	<5	--	--	--
M-07	203	0.2	6	<5	--	--	--
M-08	203	0.3	4	<5	--	--	--
M-09	203	0.2	4	<5	--	--	--
M-10	201	0.4	4	<5	--	--	--
M-11	203	0.2	4	<5	--	--	--
M-12	201	0.3	4	<5	--	--	--
M-13	203	0.1	3	<5	--	--	--
M-14	203	0.1	3	<5	--	--	--
M-15	203	0.1	5	<5	--	--	--
M-16	203	0.2	4	<5	--	--	--
M-17	203	0.3	3	<5	--	--	--
M-18	203	0.1	3	<5	--	--	--
M-19	203	0.1	3	<5	--	--	--
M-20	201	0.3	9	<5	--	--	--
M-21	203	0.2	6	<5	--	--	--
M-22	203	0.1	4	<5	--	--	--
M-23	203	0.2	4	<5	--	--	--
M-24	203	0.1	3	<5	--	--	--
M-25	203	0.1	3	<5	--	--	--
M-26	201	0.1	3	<5	--	--	--
M-27	203	0.1	3	<5	--	--	--
M-28	201	0.2	3	<5	--	--	--

Stream sediment samples - Mike Property



Certified by ..... *Hart Bechler*

APPENDIX "D"

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 fourteen years.
3. During the past fourteen years, I have intermittently held responsible positions as a geologist with various mineral exploration companies in Canada.
4. I have been familiar with the geology of the Monashee Pass region for ten years.
5. I personally carried out the geological mapping, stream sediment sampling and lithogeochemical sampling outlined in this report.
6. I retain an interest in the Mike mineral claims in conjunction with Val d'Or Explorations Ltd.

October 15, 1984

Kelowna, B.C.

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

Appendix "E"

COSTS STATEMENT  
VAL D'OR EXPLORATIONS LTD.  
GEOCHEMICAL SURVEY  
MIKE CLAIMS  
26 August to 7 September 1984

SALARIES & WAGES

1 person 12 mandays @ \$200

\$ 2,400.00

BENEFITS @ 20%

480.00

FOOD & ACCOMMODATION

Food 12 days @ \$23

\$ 276.00

Lodging 12 days @ \$30

360.00

636.00

SUPPLIES

50.00

SHIPPING & POSTAGE

15.20

RENTALS

MORRISON PU 12 days @ \$60

720.00

ASSAYS/ANALYSES - Chemex Labs

28 Soils for Ag, Au, As @ \$12.99

\$ 363.70

17 Rocks for Ag, As, Au @ \$14

238.00

Shipping

12.85

614.55

CONSULTANTS

ARCHEAN ENGINEERING

1,395.00

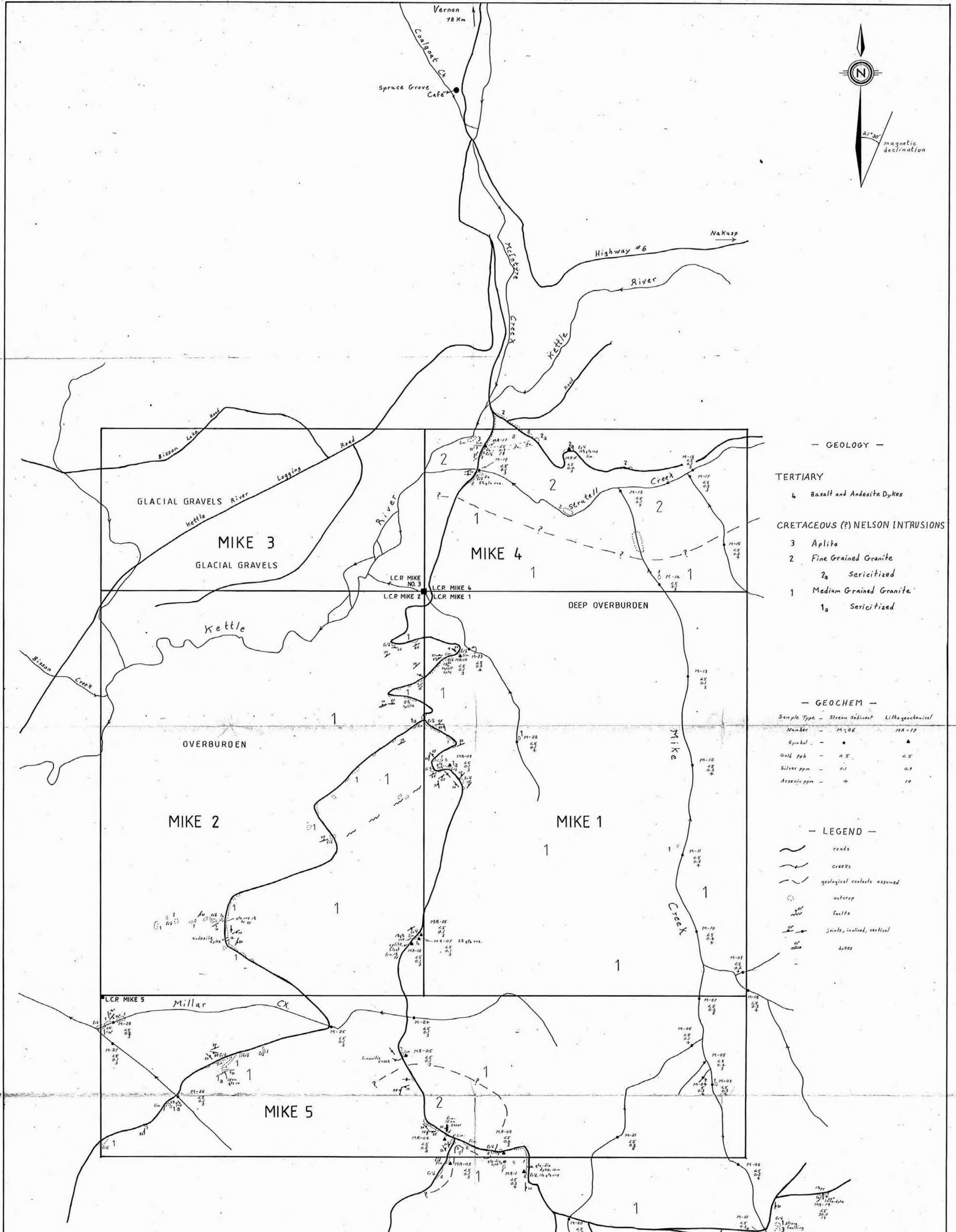
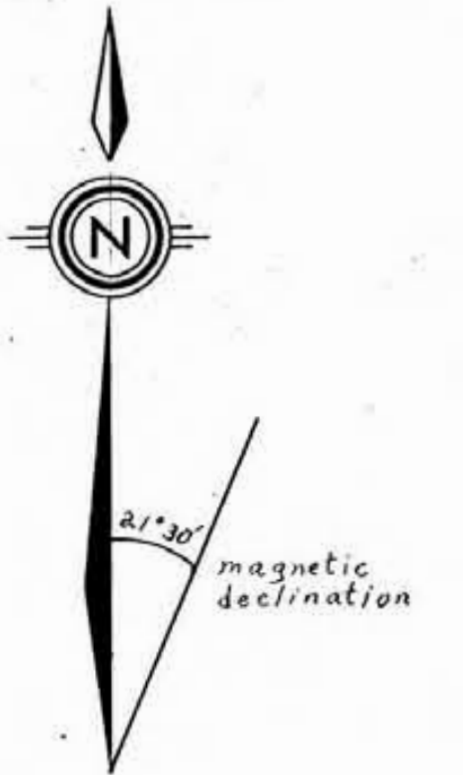
REPORT PREPARATION

2,700.00

TOTAL COST

\$ 9,010.75

=====



— GEOLOGY —

- TERTIARY  
 4 Basalt and Andesite Dykes
- CRETACEOUS (?) NELSON INTRUSIONS  
 3 Aplite  
 2 Fine Grained Granite  
   2a Sericitized  
 1 Medium Grained Granite  
   1a Sericitized

— GEOCHEM —

Sample Type	Stream Sediment	Lithogeochemical
Number	MR-06	MR-17
Symbol	•	▲
Gold ppb	45	45
Silver ppm	0.1	0.9
Arsenic ppm	4	10

— LEGEND —

- roads
- creeks
- geological contacts assumed
- outcrop
- faults
- joints, inclined, vertical
- dykes

— Abbreviations —

- chl chlorite alteration
- dis diorite
- frd well fractured
- lasp langsoyphre
- lin limonite > 1%
- ppr pyrite
- qtz quartz
- tr trace
- vas veins, veinlets



Legal Corner Posts Tied-In With Compass and Belt Chain.

To Accompany A Geological Report by M. Morrison,  
*Murray Morrison*

GEOLOGICAL BRANCH ASSESSMENT REPORT

**13,061**

VAL D'OR EXPLORATIONS LTD.

MIKE PROPERTY  
 MONASHEE PASS AREA, VERNON, M.O., B.C.

GEOLOGY AND STREAM SEDIMENT  
 AND LITHOGEOCHEMICAL SAMPLING  
 MIKE 1 - 5 MINERAL CLAIMS

GEOLOGY BY M.M.	OCTOBER 1984	N.T.S. 82-1-2
M.M. / A.H.	SCALE 1:10,000	MAP M-84-4