

ASSESSMENT REPORT

on

GEOLOGICAL MAPPING, ROCK GEOCHEMISTRY  
&  
VLF-EM GEOPHYSICS

INTREPID & TICK CLAIMS

Angus Creek Area

FORT STEELE MINING DIVISION

NTS 82 F/9 E  
TRIM 82F.060

Latitude 49° 33' N  
Longitude 116° 08' W  
UTM 5,489,000 N 563,000 E

By

Peter Klewchuk, P. Geo.

**GEOLOGICAL SURVEY BRANCH**  
January, 2001 ASSESSMENT REPORT

26,472

## TABLE OF CONTENTS

	Page
1.00 INTRODUCTION	1
1.10 Location and Access	1
1.20 Property	1
1.30 Physiography	1
1.40 History of Previous Exploration	1
1.50 Purpose of Work	4
 2.00 GEOLOGY	 4
2.10 Regional Geology	4
2.20 Property geology	4
 3.00 GEOLOGICAL MAPPING	 6
 4.00 ROCK GEOCHEMISTRY	 8
 5.00 VLF-EM GEOPHYSICS	 9
5.10 Introduction	9
5.20 Instrumentation and survey procedure	9
5.30 Discussion of results	10
 6.00 CONCLUSIONS	 11
 7.00 REFERENCES	 11
 8.00 STATEMENT OF EXPENDITURES	 13
 9.00 AUTHOR'S QUALIFICATIONS	 13

## LIST OF ILLUSTRATIONS

Figure 1. Property Location Map	2
Figure 2. Claim Map	3
Figure 3. Geology of the Intrepid / Tick property area Part of GSC Map 15-1957	5
Figure 4 Intrepid & Tick claims, Geology, showing location of rock geochemistry & VLF-EM geophysics	In pocket
 Appendix 1. Rock geochemistry, sample descriptions	 14
Appendix 2. Rock Geochemical Analyses	15

## 1.00 INTRODUCTION

This report describes a program of geological mapping, rock geochemistry and VLF-EM geophysics completed on the Intrepid and Tick claims in the Angus Creek drainage south of St. Mary Lake in 2000.

### 1.10 Location and Access

The Intrepid and Tick claims are located approximately 28 kilometers southwest of Kimberley, B.C., and 6 kilometers southeast of St. Mary Lake, on the east side of Angus Creek at about 1850 meters elevation (Figs. 1 and 2). The claims are centered near 49° 33' N latitude and 116° 08' W longitude / UTM 5,489,000N, 563,000E.

Access to the property is via forest access roads from Kimberley or Cranbrook along the St. Mary River and up Angus Creek.

### 1.20 Property

The Intrepid and Tick claims are a contiguous block of 13 two-post claims owned by the author (Fig. 2).

### 1.30 Physiography

The Intrepid and Tick claims are within the Moyie Range of the Purcell Mountains, in ~~moderately rugged mountainous terrain on the eastern slopes of Angus Creek. Mountains in the~~ immediate vicinity of the claims range up to about 2300 meters. Forest cover is a mixed assemblage of mostly pine, fir and larch, with portions of the property clear-cut logged.

### 1.40 History of Previous Exploration

A narrow north to northeast trending gold- and copper-bearing quartz vein on the Intrepid 1 mineral claim has been the focus of a number of previous exploration programs. Geological Survey of Canada Memoir 76 (1915) refers to the property as the Mascot and Eclipse. B.C. Ministry of Mines reports for 1915 (p.113), 1936 (p.102) and 1950 (p.155) describe work on the property. The claims which formerly covered this area were the Wellington and Leader and the vein is commonly referred to by either of those names. A thorough review of the available assessment reports has not been made; work on the claims has included soil geochemistry, ground geophysics (VLF-EM and magnetics), road building, trenching, and diamond drilling (eg. Assessment Reports 661, 4459, 8163, 12,421, 13,011, 14,079, 14,112, 14,571, and 16,009).

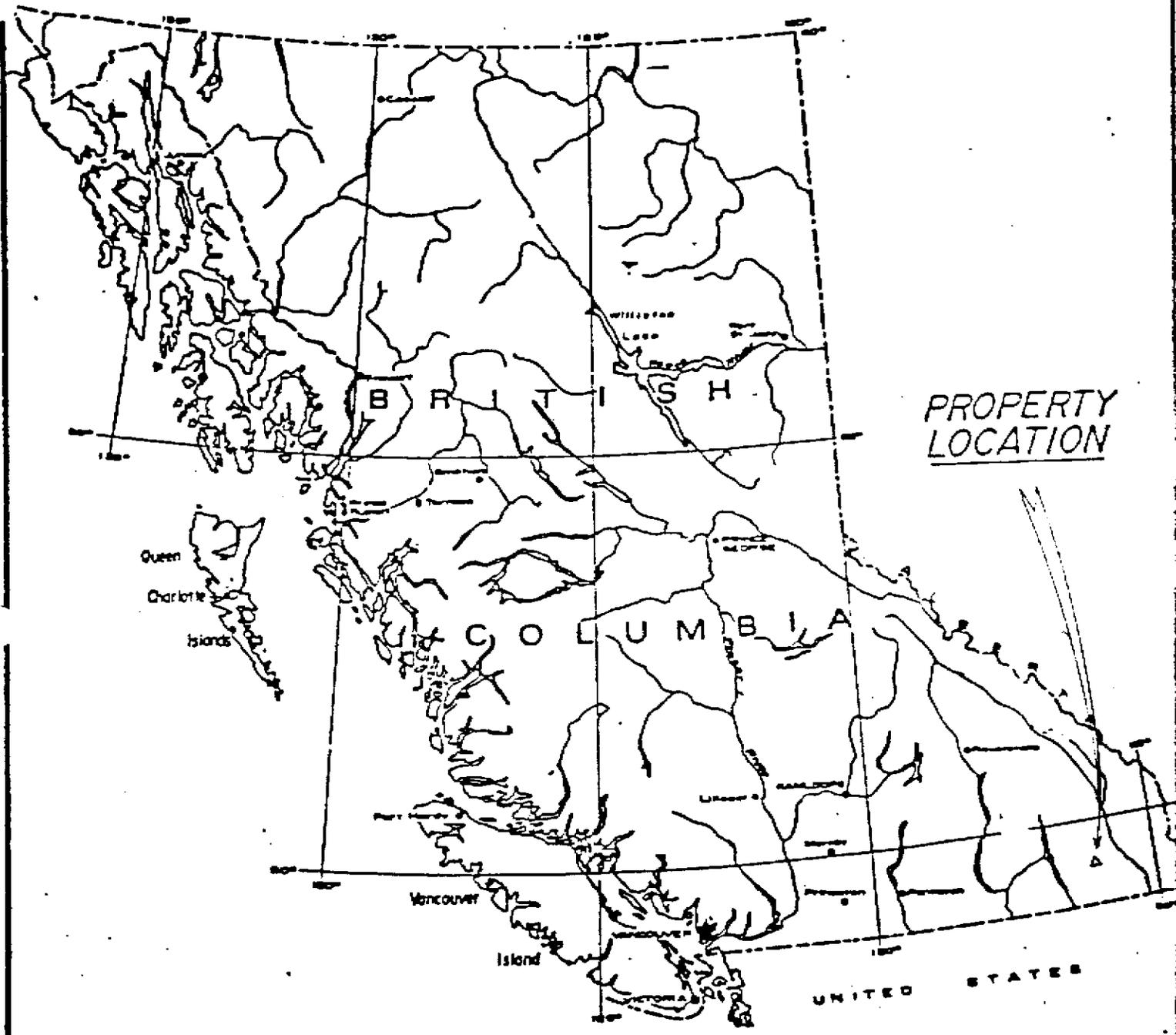
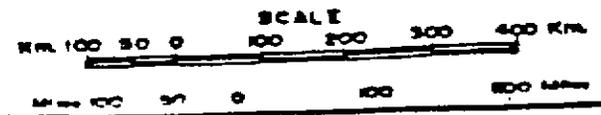


Figure 1.  
INTREPID & TICK CLAIMS  
PROPERTY LOCATION MAP



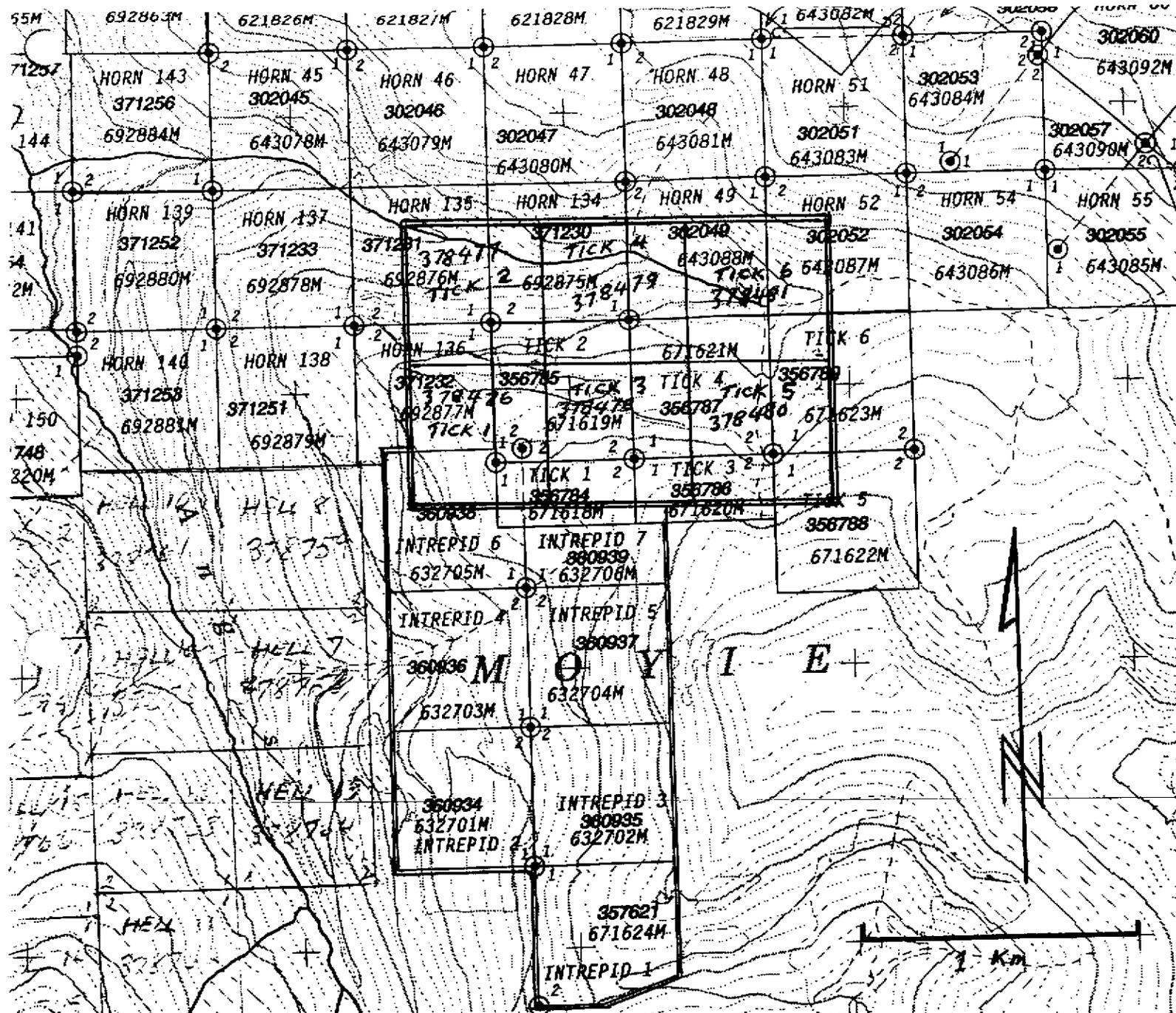


Figure 2.  
INTREPID & TICK CLAIMS  
CLAIM MAP  
Scale 1:20,000 82 F.060

### 1.50 Purpose of Work

The 2000 work program focused on the northern portion of the claims where the St. Mary Fault crosses the property. Mapping, rock geochemistry and geophysics were conducted to evaluate the possibility of anomalous gold, rare metals and rare earth elements being present in rocks within the fault zone.

## 2.00 GEOLOGY

### 2.10 Regional geology

The Intrepid and Tick claims are underlain by Precambrian age Purcell Supergroup rocks of the Aldridge, Creston and Kitchener Formations. The oldest rocks in the region are of the Aldridge Formation and consist predominantly of thick basinal turbidites. They are progressively overlain by shallower water quartzites and siltstones of the Creston Formation and siltstones and silty carbonates of the Kitchener Formation.

These formations are intruded by Precambrian gabbroic sills and dikes, pegmatite and aplite dikes related to the Precambrian Hellroaring Creek stock and a Cretaceous granitic stock and its associated syenitic dikes.

The regional east-west oriented St. Mary Fault is offset along a NNW trending fault which parallels Angus Creek (the 'Angus Creek Fault'; Fig. 3) a short distance west of the claim group. The pegmatitic Hellroaring Creek stock which contains rare metals such as beryllium, rubidium, cesium and tantalum, occurs immediately northwest of this fault intersection. Leech (1957) mapped the felsic intrusives of the area; later age dating has shown that the Hellroaring Creek stock is Precambrian (Ryan and Blenkinsop, 1971) while the granodiorite / quartz monzonite stocks are Cretaceous (Hoy and van der Heyden, 1988). The Cretaceous stocks typically have associated magnetic anomalies while the Precambrian, pegmatitic stocks are non-magnetic.

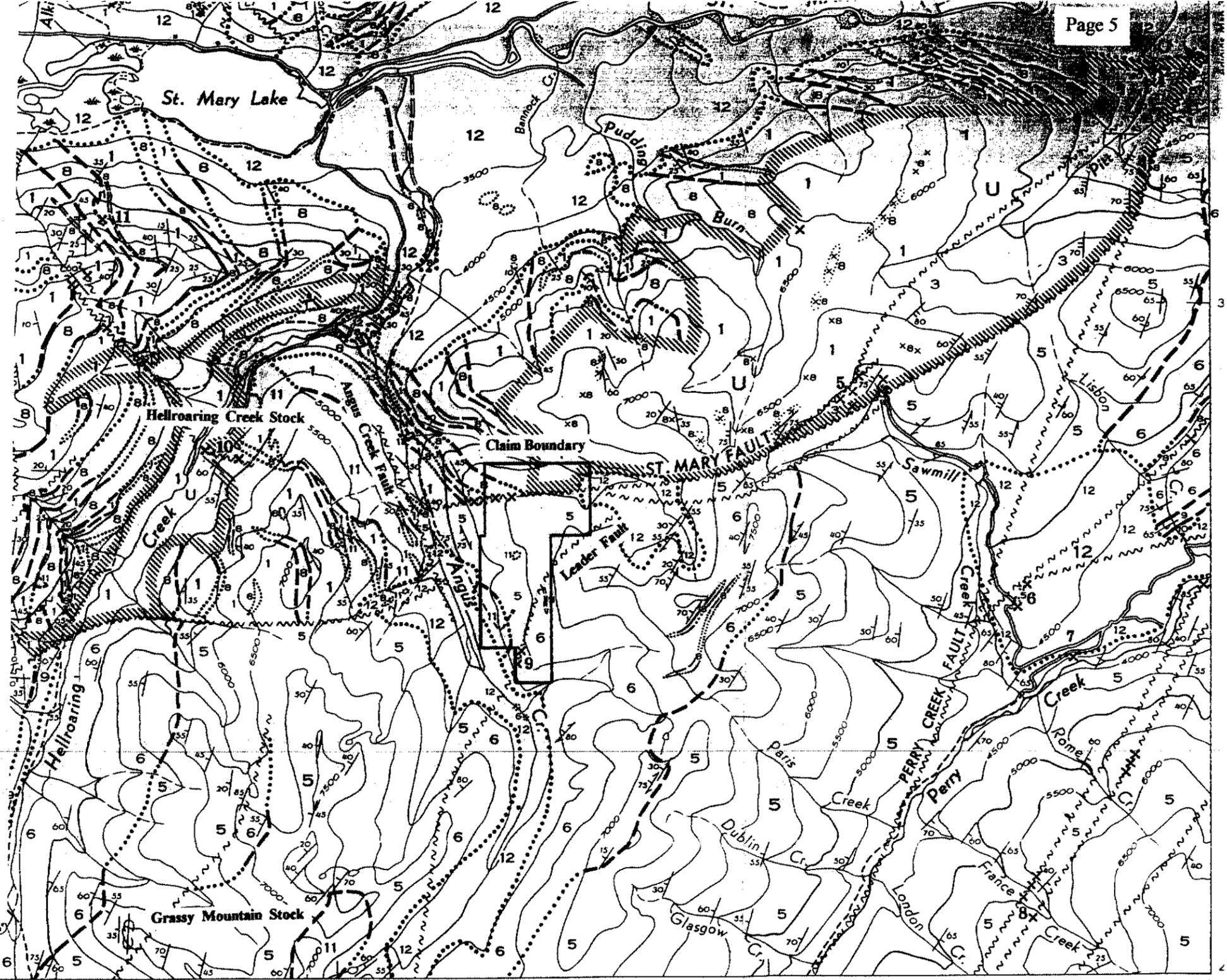
### 2.20 Property Geology

The area of the Intrepid and Tick claims is included in Geological Survey of Canada Map 15-1957 (Leech, 1957), part of which is reproduced here as Figure 3. The claims are cut by three faults with middle Aldridge Formation occurring north of the east-striking St. Mary Fault and Creston and Kitchener Formations to the south, separated by the northeast-oriented 'Leader Fault' (Figs. 3 and 4).

A narrow, northerly-striking, gold, copper and lead-bearing quartz vein exposed on the Intrepid 1 claim has been the main focus of exploration activity on the claim group. According to assessment reports, the gold-bearing quartz vein has near-surface widths of 15 cm to 1 meter and

LEGEND

- QUATERNARY  
PLEISTOCENE AND RECENT**  
12 Till, gravel, sand, silt, alluvium
- MESOZOIC  
OR (?)  
CENOZOIC**  
11 Granodiorite, quartz monzonite, pegmatite
- PALAEZOIC**  
**CAMBRIAN**  
**LOWER CAMBRIAN**  
10 **EAGER FORMATION:** dark argillite, grey argillite; grey limy argillite, brown weathering sandy limestone  
9 **CRANBROOK FORMATION:** siliceous quartzite, grit, and conglomerate
- PURCELL OR (?) LATER**  
8 **MOYIE INTRUSIONS:** meta-diorite and meta-quartz diorite
- PURCELL**  
7 **DUTCH CREEK FORMATION:** laminated black argillite, green argillite; quartzite, dolomite  
6 **KITCHENER-SIYEH FORMATION:** varicoloured argillites and dolomitic argillites, mostly buff and brown weathering; buff and brown weathering dolomite, commonly sandy  
5 **CRESTON FORMATION:** green and grey weathering green, grey, and purplish argillaceous quartzite, quartzite and argillite; 5a, grey weathering grey argillite and silty argillite, mud-cracked dark argillite
- PROTEROZOIC**  
1 2 4 **ALDRIDGE FORMATION (1-4)**  
1. Lower Division: rusty weathering grey quartzite, siltstone, and argillite; grey weathering massive quartzite; metamorphosed equivalents  
2. Middle Division: grey weathering massive grey quartzite and siltstone with argillite partings; rusty weathering quartzite, siltstone, and argillite  
4. Upper Division: rusty weathering laminated argillite and siltstone; quartzite  
3 Middle and Lower Divisions undivided



MAP 15-1957

**ST. MARY LAKE**  
KOOTENAY DISTRICT  
BRITISH COLUMBIA

Scale: One Inch to One Mile =  $\frac{1}{63,360}$   
Miles

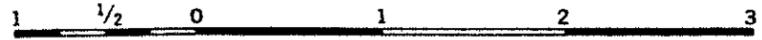


Figure 3  
GEOLOGY of the  
TICK / INTREPID  
PROPERTY AREA  
(Leech, 1957)

has been traced for about 600 m along strike. It has been exposed by a series of open cuts and subsequently by a long vein-parallel trench. An old shaft tested the vein to a depth of 16 meters and a 38 meter long adit is reported. Samples analyzed have values up to 4.8 oz/ton gold, 6.8 oz/ton Ag, 57.8% Pb, and 4.12% Cu. Diamond drilling done by Donnex Resources Ltd. in 1985 (258.5 meters in 5 holes; A.R. 14,112) tested the vein to a depth of about 50 meters with gold values up to 0.338 oz/ton over 60 cm reported.

### 3.00 GEOLOGICAL MAPPING

Bedrock exposure on the property is quite poor and is estimated at less than 5%; most of this is as sparse road cuts.

Creston Formation siltstones are only very poorly exposed on the claims; bedding attitudes seen are east-west striking with shallow to moderate south dips. Kitchener Formation dolomitic siltstones and quartzites are only marginally better exposed; attitudes tend to be northerly-striking with steep east dips. The 'Leader Fault' which separates Creston and Kitchener Formation rocks on the property was not seen in outcrop; its location is inferred on Figure 4. No outcrops of middle Aldridge Formation sediments were observed on the claim block north of the St. Mary Fault.

#### **St. Mary Fault**

A part of the St. Mary Fault is exposed along the road immediately west of the Tick claims. It is a composite zone of altered sedimentary rock and quartz veining. The southern exposed edge of the fault zone is a more massive quartz, brecciated with mauve-red limonitic streaks and irregular thin (up to 1 cm wide) wavy light gray quartz veins. Sericite alteration is present. Some of the zone includes foliated to vaguely banded, vuggy quartz-sediment layers - a texture which indicates extensive hydrothermal fluid movement. The altered sediments are commonly siliceous and phyllitic. Extensive float of vuggy quartz and limonitic, altered sediments is present along the road which sub-parallel the Tick claim line, for almost one kilometer east of the western claim boundary.

A gabbro dike (?), about 70 m thick, occurs on the immediate north side of the fault. The gabbro is medium-grained, epidote-altered and contains scattered rose-colored quartz veins. The presence of this gabbro associated with the fault zone shows that the St. Mary Fault was active in the Precambrian and thus may have influenced emplacement of the Hellroaring Creek stock as well as the Cretaceous Angus Creek stock.

VLF-EM surveying along grid lines crossing the St. Mary Fault all readily detected the structure.



### Angus Creek Stock

The 'Angus Creek stock' was mapped by Leech (1957; Fig. 3) as a small NNW-aligned elongate intrusion, parallel to the 'Angus Creek Fault'. It occurs less than one kilometer SE of the Precambrian pegmatitic Hellroaring Creek stock (Fig. 3).

The Angus Creek stock occurs within a small triangular-shaped, fault-bounded block of Creston Formation sedimentary rock, with the St. Mary Fault to the north, the 'Leader Fault' to the east and the 'Angus Creek Fault' to the west. The intrusive is poorly exposed on the Intrepid claims, with scattered roadcuts roughly defining an elongate northerly trend. The western edge of the stock is the most poorly defined due to more extensive overburden at lower elevation toward Angus Creek. The 'Leader Fault' strikes into the stock and may have been a factor in its emplacement (the Grassy Mountain stock occurs close to this structure about 5 km to the south).

Two government airborne geophysical surveys, in 1969-70 and 1995, have covered the Angus Creek stock area and both defined magnetic anomalies in the vicinity of the stock. This magnetic character is typical of many of the Cretaceous stocks in the district (eg. Hoy and van der Heyden, 1988).

The Angus Creek stock appears to be of granodiorite - quartz monzonite composition. Both hornblende and biotite are present with hornblende more common. Plagioclase feldspars are white to very pale gray-green and commonly have a sericitic sheen, probably due to alteration. White potassium feldspars locally are up to 4 cm across. Minor magnetite is common and magnetite within the intrusive is probably the main cause of the magnetic anomalies associated with the stock. Disseminated pyrite is present in places and in some samples is moderately abundant.

~~A central western (?) portion of the intrusive is quite strongly altered. The texture and mineralogy appear unchanged but the rock is quite friable and can be crumbled by hand. A suite of quartz (-pegmatite?) dikes with minor magnetite criss-cross this altered phase of the intrusive and may be part of the alteration process. Very thin light gray glassy quartz veins also cut through the intrusive here. The alteration appears to be deuteric in nature but may be a later event. The Angus Creek stock is the only felsic intrusive in the district known to be altered in this manner.~~

A few narrow porphyritic dikes occur within a short distance of the Angus Creek stock and are evidently related to the stock.

### Leader Vein

Since it was first discovered, the Leader vein has seen considerable exploration including trenching and diamond drilling. It has been exposed by trenching for more than 500 meters and has an arcuate trend, NNW at its northern exposure and NNE at its southern exposure.

The vein is conformable with its host Kitchener Formation sediments and dips steeply to the west. The 'Leader Fault' is present not far to the west (Fig.4) and may have been a controlling factor. A relatively thin gabbro sill (?) is exposed by trenching, in the footwall stratigraphy, not far below the vein; the gabbro may have played a role in development of the mineralized vein.

At its northern exposure the vein is about 20 to 30 cm wide and has a ribboned texture with limonitic weathering. Width increases toward the south to about one meter and a pinch and swell character is typically evident. Sulfides are irregularly distributed within the milky-white quartz and include coarse galena, locally oxidized to pyromorphite, chalcopyrite with malachite staining, and pyrite. Adjacent sediments are chloritic, micaceous and siliceous, with limonite spots. In places the vein contains trains of vugs which are aligned parallel to the strike. In places darker and thicker bands of limonite are present; these evidently represent higher concentrations of sulfides and/or iron carbonate which have weathered. Early workings on the vein include an adit near the southern extent of the vein exposure (reported to be 38 m long but now caved at surface) and a small shaft about 150 meters north of the adit.

Small peripheral quartz veins are common near the Leader Vein. These are typically less than 3 cm thick but can get up to 20 cm thickness and tend to be parallel or sub-parallel to stratigraphy. A few of these smaller quartz veins carry disseminated pyrite with a tendency for the pyrite to be concentrated along vein margins. A few of these white quartz veins are cut by thin (3-5 mm wide) light gray glassy quartz veins.

#### 4.00 ROCK GEOCHEMISTRY

Eleven rock samples, representing different rock types and alteration on the property, were shipped to Acme Analytical Laboratories Ltd. at 852 East Hastings Street, Vancouver, B.C., V6A 1R6. Four of the samples were analyzed for a 30 element ICP package and seven samples of intrusives were analyzed for a rare metal, rare earth element package as well as a metallics suite. In addition, all samples were analyzed for geochemical gold. Field sample sites are shown on Figure 4; Appendix 1 is a description of the rock samples and Appendix 2 is the complete geochemical analysis. A previous analysis of the Angus Creek stock (sample B57982 is included in Appendix 2 with the rock geochem data. This single sample contained appreciable magnetite (Fe 23.89%) and has anomalous lead (373 ppm) and gold (56 ppb).

#### Results

Gold values are generally low in all samples; the highest values (19.9 and 31.0 ppb) are from brecciated, pyritic aplite dikes which also have high rare earth element values.

Copper is the most anomalous base metal with the highest values coming from quartz veins.

One pegmatite sample, T-00-8, has anomalous barium and strontium; this dike may be related to the Hellroaring Creek stock.

Two samples of sub-cropping, brecciated, pyritic aplite dike material returned anomalous yttrium and rare earth elements. This dike is probably within the St. Mary Fault zone.

## 5.00 VLF-EM Survey

### 5.10 Introduction

Because of poor bedrock exposure on the claim block, a program of VLF-EM geophysics was conducted to define structures that may have controlled the migration of mineralizing hydrothermal fluids and influenced the deposition of mineralization.

Initial surveying was done along roads as a first pass to establish whether any anomalous structures were present. Subsequently, grid lines were surveyed to further define anomalies. Surveyed grid lines are oriented north-south; they were run by compass, measured by hip-chain, with readings taken at 25 meter spacings.

A total of 9.325 kilometers of line was surveyed; Figure 4 shows the location of the VLF-EM survey lines along with the Fraser Filter data.

### 5.20 Instrumentation and Survey Procedure

The VLF-EM (Very Low Frequency Electromagnetics) method uses powerful radio transmitters set up in different parts of the world for military communication and navigation. In radio communication terminology, VLF means very low frequency, about 15 to 25 kHz. Relative to frequencies generally used in geophysical exploration, the VLF technique actually uses very high frequencies.

A Crone Radem VLF-EM receiver, manufactured by Crone Geophysics Ltd. of Mississauga, Ontario was used for the VLF-EM survey. Seattle, Washington, transmitting at 24.8 kHz and at an approximate azimuth of 246° from the survey area, was used as the transmitting station.

In all electromagnetic prospecting, a transmitter produces an alternating magnetic (primary) field by a strong alternating current usually through a coil of wire. If a conductive mass such as a sulfide body is within this magnetic field, a secondary alternating current is induced within it, which in turn induces a secondary magnetic field that distorts the primary magnetic field. The VLF-EM receiver measures the resultant field of the primary and secondary fields, and measures this as the tilt or 'dip angle'. The Crone Radem VLF-EM receiver measures both the total field strength and the dip angle.

The VLF-EM uses a frequency range from about 15 to 28 kHz, whereas most EM instruments use frequencies ranging from a few hundred to a few thousand Hz. Because of its relatively high frequency, the VLF-EM can detect zones of relatively lower conductivity. This results in it being a useful tool for geologic mapping in areas of overburden but it also often results in detection of weak anomalies that are difficult to explain. However the VLF-EM can also detect sulfide bodies that have too low a conductivity for other EM methods to pick up.

Results were reduced by applying the Fraser Filter; values for which are shown in plan in Fig. 4.

The Fraser Filter is essentially a 4-point difference operator which transforms zero crossings into peaks, and a low pass operator which induces the inherent high frequency noise in the data. Thus the noisy, often non-contourable data are transformed into less noisy, contourable data. Another advantage of this filter is that a conductor which does not show up as a zero crossover in the unfiltered data quite often shows up in the filtered data.

### 5.30 Discussion of Results

Reconnaissance and grid VLF-EM surveying on the Tick claims in 2000 identified a number of moderately strong anomalies.

The St. Mary Fault is a fairly consistent, east-west oriented anomaly which is wider along the road immediately west of the grid but is more distinct and quite linear across the grid lines from 2800E to 3400E (Fig. 4). A short section of the main Angus Creek road, about 1 km west of the claims, was surveyed across the St. Mary Fault to define the location of the fault and to provide a comparison in geophysical responses. On the Angus Creek road the St. Mary Fault has a similar VLF-EM response to the Tick grid. A gabbro dike (?) occurs immediately north of the fault on the main road, also similar to the Tick claims.

At the south end of Road 3 a VLF-EM anomaly coincides closely with the SE contact of the Angus Creek stock; similarly at the southern end of Line 2800E a VLF-EM anomaly may reflect the north edge of the stock; further surveying detail is required to substantiate this interpretation.

Two weak anomalies on Road 1 are close to the inferred projection of the 'Leader Fault'; to the northeast an anomaly at the southern end of Line 3400E may also reflect the fault.

Two WNW-trending anomalies are defined on the grid but are not fully delineated; they may represent structures subordinate to the St. Mary Fault.

## 6.00 CONCLUSIONS

1. Although overburden covers a considerable portion of the Intrepid and Tick claims and allows only a rudimentary knowledge of the geology, the claims cover part of an area of complex geology with intersecting faults, different ages of felsic intrusions and extensive hydrothermal alteration, providing an area favorable for both gold and rare metal / rare earth element mineralization.
2. Anomalous gold is present in some of the samples collected as float and from bedrock from the area of the St. Mary Fault on the property. Anomalous gold is also present in the sample of altered Angus Creek stock.
3. Anomalous yttrium and REE are present in samples taken of aplite dike material associated with the St. Mary Fault zone.
4. Late stage alteration, possibly deuteric in nature, has resulted in a physical decomposition of part of the Angus Creek stock; this alteration may be favourable for gold mineralization within the stock and within its host sedimentary rocks.
5. VLF-EM surveying clearly picks up the St. Mary Fault zone and possibly detects the Leader Fault and contacts of the Angus Creek stock. Other VLF-EM anomalies detected by the survey may reflect structures related to the St. Mary Fault zone and should be further delineated.

## 7.00 REFERENCES

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 1932 p162  
 1950 p155

## 8.00 STATEMENT OF EXPENDITURES

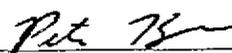
10 man-days, geologic mapping, geophysics, rock geochemistry, drafting and report @ \$300/day	\$3000.00
4X4 truck 7 days @ \$75.00/day	525.00
VLF rental 5 days @ \$30.00/day	150.00
Rock geochemistry: Analyses 11 samples	302.49
Freight	17.29
Field and report supplies	43.00
<b>TOTAL EXPENDITURE</b>	<b><u>\$4037.78</u></b>

## 9.00 AUTHOR'S QUALIFICATIONS

As author of this report I, Peter Klewchuk, certify that:

1. I am an independent consulting geologist with offices at 246 Moyie Street, Kimberley, B.C.
2. I am a graduate geologist with a B.Sc. degree (1969) from the University of British Columbia and an M.Sc. degree (1972) from the University of Calgary.
3. I am a Fellow of the Geological Association of Canada and a member of the Association of Professional Engineers and Geoscientists of British Columbia.
4. I have been actively involved in mining and exploration geology, primarily in the province of British Columbia, for the past 24 years.
5. I have been employed by major mining companies and provincial government geological departments.

Dated at Kimberley, British Columbia, this 20<sup>th</sup> day of January, 2001.

  
Peter Klewchuk  
P. Geo.



## Appendix I

## Rock Geochemistry Sample Descriptions

- T-00-1 Pegmatite, possible dike. Coarse-grained (quartz-feldspar-muscovite); few grains of oxidized, limonitic mineral (pyrite?).
- T-00-2 Limonitic quartz breccia, vuggy. Quartz blebs common.
- T-00-3 Pyritic felsic dike; white weathering, albitic. Light gray (bleached) to pale gray-green on fresh surface. Fine-grained pyrite is disseminated throughout. Fine-grained sericite is common on some surfaces. Thin hairline limonitic fractures.
- T-00-4 Pyritic, siliceous, brecciated felsic dike (aplite). Albite clasts with pyrite-rich fine-grained matrix.
- T-00-5 Brecciated pyritic, chloritic felsic dike (aplite). Bleached white albitized clasts. Locally very abundant fine-grained pyrite.
- T-00-6 Limonitic weathered, pyritic and chloritic, fine-grained felsic dike (aplite). Fine-grained disseminated magnetite common. Some reddish oxidized grains may be pyrite. Looks siliceous - may be quartz with the feldspar.
- T-00-7 Quartz-chlorite-pyrite rock, may be altered felsic dike (aplite). Fine-grained mixture of quartz-chlorite-pyrite- (feldspar?). Gray-green color, non-magnetic.
- T-00-8 ~~Pegmatite (dike?)~~ With narrow cross-cutting quartz veins.
- T-00-9 Quartz vein, to 10 cm wide. Limonitic streaks and patches - oxidized pyrite? Commonly vuggy with oxidized patches.
- T-00-10 Composite sample of thin quartz veins cutting Kitchener Fm seds. with epidote and oxidized pyrite. QV are oblique to bedding.
- T-00-11 Quartz breccia cut by quartz veins. Pyritic, limonitic, quartz vein / shear zone material. Some sheared, bleached limonitic sedimentary material with small, elongate, shear-parallel vugs.
- B 57982 Granodiorite, crumbly, with magnetite.





GEOCHEMICAL ANALYSIS CERTIFICATE



Klewchuk, Peter File # A004820  
246 Hoyie St., Kimberley BC V1A 2N8 Submitted by: Peter Klewchuk

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
TK-02	1	29	6	22	<.3	59	87	630	30.22	11	<8	<2	17	1	<.2	<3	4	34	<.01	.101	6	23	.01	9	<.01	<3	.61	.01	.07	2	4.8
TK-09	120	99	<3	12	<.3	5	6	51	3.40	14	12	<2	4	1	<.2	<3	<3	10	<.01	.020	5	23	.06	26	.01	<3	.24	.01	.10	6	2.5
TK-10	12	116	13	31	<.3	8	17	427	4.97	2	<8	<2	6	129	.4	<3	<3	38	1.28	.037	14	25	.23	202	.10	<3	.84	.02	.10	4	.6
TK-11	5	7	22	69	.5	63	71	151	7.73	23	<8	<2	2	2	<.2	<3	<3	22	.01	.024	6	44	.28	27	<.01	<3	.37	.01	.06	7	2.3
RE TK-11	5	7	23	69	.4	63	70	151	7.70	21	<8	<2	3	2	.2	<3	<3	22	.01	.024	6	43	.28	27	<.01	<3	.37	.01	.06	7	2.9
STANDARD C3/DS2	29	67	41	168	5.8	39	12	801	3.38	59	23	2	22	29	24.2	17	25	78	.58	.087	18	180	.63	147	.09	21	1.90	.04	.16	17	190.0
STANDARD G-2	2	2	5	41	<.3	8	4	551	2.04	<2	<8	<2	4	71	<.2	<3	<3	38	.64	.094	7	78	.61	229	.14	<3	.91	.08	.45	2	.

GROUP 10 - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.  
UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.  
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB  
- SAMPLE TYPE: ROCK R150 60C AU\* BY ACID LEACHED, ANALYZE BY ICP-MS. (10 gm)  
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: DEC 1 2000 DATE REPORT MAILED: Dec 14/00 SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



GEOCHEMICAL ANALYSIS CERTIFICATE



Peter Klewchuk PROJECT GUS File # 91-2022  
246 Hoyie St., Kimberley BC V1A 2N8

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
B 57982	1	3	373	79	.3	3	12	211	23.89	4	8	ND	3	91	.2	2	6	541	.04	.025	7	5	.03	85	.01	2	.42	.05	.20	1	56

Appendix 2. Rock Geochemical Analyses

ACME ANALYTICAL LABORATORIES LTD.  
(ISO 9002 Accredited Co.)

852 E. HASTINGS ST. VANCOUVER BC V6A 1R6

PHONE (604) 253-3158 FAX (604) 253-1716



GEOCHEMICAL ANALYSIS CERTIFICATE



Klewchuk, Peter File # A004818 (a)  
246 Moyle St., Kimberly BC V1A 2N6 Submitted by: Peter Klewchuk

SAMPLE#	Ba	Be	Co	Cs	Ga	Hf	Nb	Rb	Sn	Sr	Ta	Th	Tl	U	V	W	Zr	Y	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
TK-01	251	6	15.4	8.0	22.7	4.7	53.6	213.2	55	10.6	14.6	8.9	.6	2.7	58	13	151.8	17.2	22.0	48.0	5.56	21.5	4.4	.73	3.54	.51	3.18	.60	1.87	.27	2.00	.30
TK-03	109	1	37.5	1.7	13.8	4.6	10.6	77.2	3	4.9	1.0	8.2	.4	1.8	54	7	150.0	30.7	24.5	55.4	6.30	26.2	5.5	1.21	4.60	.76	4.69	1.00	3.23	.46	3.32	.46
TK-04	32	11	40.2	.4	18.4	6.9	94.3	9.0	8	16.2	1.4	39.3	.3	5.0	63	12	251.7	786.6	36.0	77.4	8.95	36.9	11.2	3.47	20.66	8.06	79.74	22.90	84.93	14.53	89.33	11.14
TK-05	38	12	39.8	.4	20.5	5.1	44.1	9.5	17	24.3	1.2	24.0	.2	2.8	85	10	179.7	178.2	54.5	120.3	13.36	50.8	10.1	2.14	8.70	2.51	22.54	5.66	20.06	3.30	20.14	2.49
TK-06	46	7	15.4	.2	21.3	5.1	26.1	1.7	2	22.1	1.0	11.1	.2	2.7	167	8	178.5	60.7	27.9	59.9	6.89	27.7	6.1	1.65	5.56	1.17	8.99	2.06	6.94	1.10	6.94	.91
TK-07	18	1	28.4	.4	16.5	4.9	20.9	3.7	2	22.4	.9	10.3	.2	2.4	162	7	157.3	60.6	16.9	38.4	5.13	21.1	5.7	2.01	6.01	1.34	10.21	2.28	7.36	1.16	7.89	1.00
TK-08	4144	3	1.4	2.0	17.7	2.0	8.7	88.2	1	936.0	.5	6.1	.4	3.0	19	6	62.4	3.4	8.5	16.1	1.33	4.6	.8	<.05	.71	.09	.74	.11	.37	.06	.42	.08
RE TK-08	4419	2	1.4	2.0	18.4	2.3	8.6	92.4	2	975.1	.5	6.2	.6	3.2	18	6	66.4	3.2	8.3	15.2	1.28	4.6	.8	<.05	.73	.10	.81	.11	.35	.05	.44	.07
STANDARD SO-15	2093	4	22.6	3.1	18.0	25.6	31.6	65.8	17	387.3	1.8	24.0	.9	21.2	147	20	1068.4	22.5	28.7	61.6	6.15	23.6	4.7	1.02	4.00	.59	3.81	.77	2.44	.34	2.56	.42

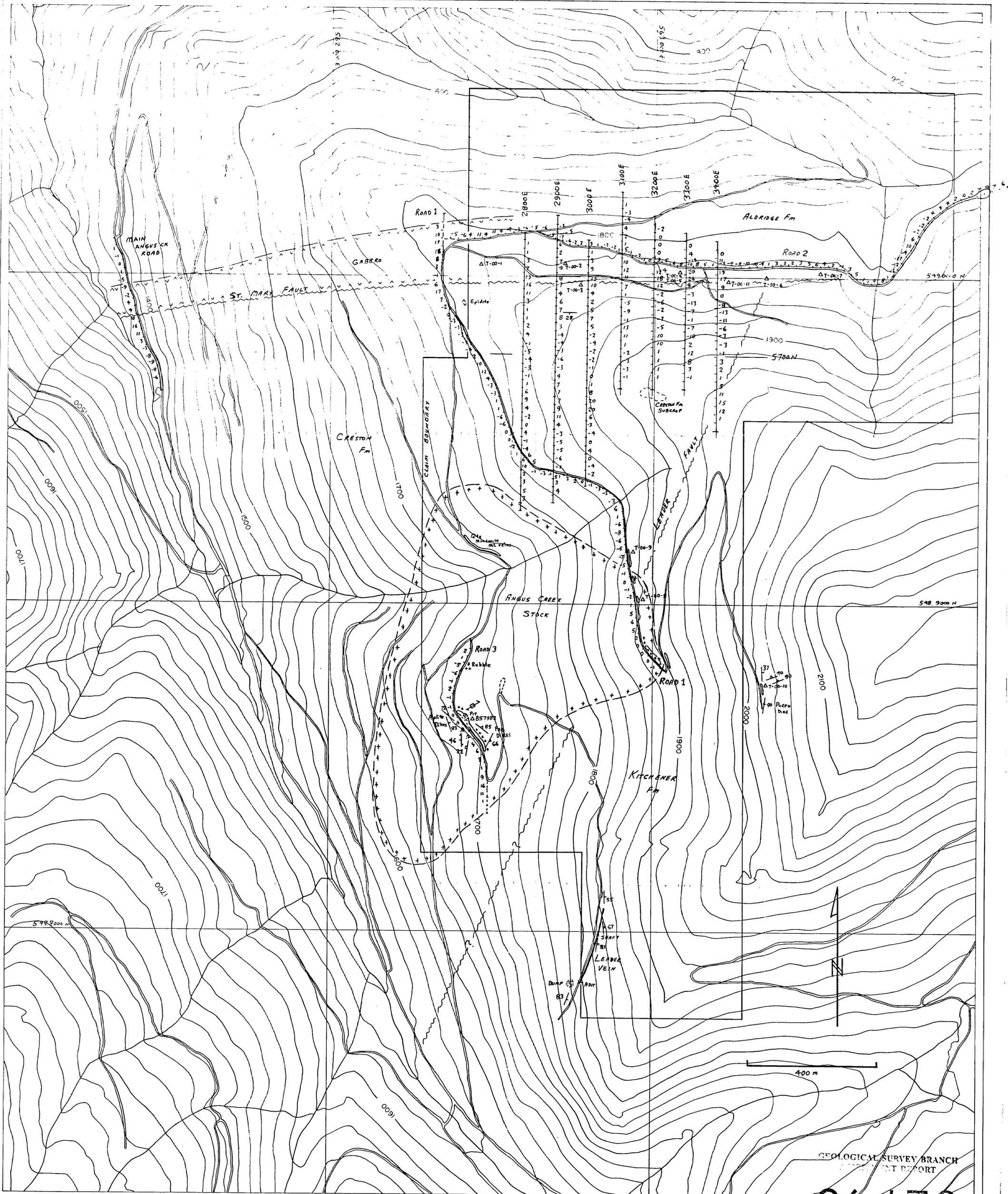
GROUP 48 - REE - LIBOZ FUSION, ICP/MS FINISHED.  
- SAMPLE TYPE: ROCK R150 60C  
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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SAMPLE#	Mo	Cu	Pb	Zn	Ni	As	Cd	Sb	Bi	Au*
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb
TK-01	3	4	6	25	10	<2	<.2	<.5	.6	1.3
TK-03	2	6	7	11	18	8	<.2	<.5	2.0	3.5
TK-04	4	11	11	6	21	45	<.2	<.5	2.4	19.9
TK-05	3	18	19	15	40	72	<.2	.8	6.1	31.0
TK-06	2	9	12	81	10	6	<.2	<.5	.5	6.2
TK-07	2	9	4	43	11	8	<.2	.6	<.5	5.2
TK-08	3	85	9	5	2	6	<.2	<.5	<.5	1.9
RE TK-08	3	86	9	6	3	6	<.2	<.5	<.5	1.7
STANDARD C3/DS2	28	67	37	168	38	59	24.7	15.3	23.2	192.2
STANDARD G-2	1	2	<3	41	7	<2	<.2	<.5	<.5	-

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.  
UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.  
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB  
- SAMPLE TYPE: ROCK R150 60C AU\* BY ACID LEACHED, ANALYSIS BY ICP-MES. (10 gm)  
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: DEC 1 2000 DATE REPORT MAILED: Dec 14/00 SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



SEATTLE 24.8 kHz

- LEGEND
- BEDDING
  - QUARTZ VEIN
  - FRACTURING
  - JOINTING

VLF-EM: FRASER FILTER VALUES SHOWN

GEOLOGICAL SURVEY BRANCH  
 REPORT

26,472

Figure 4  
 INTREPID & TICK CLAIMS  
 GEOLOGY  
 Showing location of  
 Rock Geochemistry &  
 VLF-EM Geophysics  
 Scale 1:5,000 TRIM 82F.060 Jan. 2001