



exploration ltd. GEOLOGY • GEOPHYSICS
MINING ENGINEERING

Suite 214-850 WEST HASTINGS STREET, VANCOUVER, B.C.
TELEPHONE (604) 681-0191 V6C 1E1

Geo.
85-514-14061
6/86

RECEIVED

AUG 22 1985

GOLD COMMISSIONER
FORT STEELE MINING DIVISION
CRANBROOK, B.C.

GEOLOGICAL AND GEOCHEMICAL REPORT

on the

BAR PROPERTY

Fort Steele Mining Division - British Columbia

Lat. $49^{\circ} 30' N.$

Long. $115^{\circ} 58' W.$

N.T.S. 82G/5, 12

for

CHAPLEAU RESOURCES LTD.

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14,061

by

Donald G. Allen, P. Eng., (B. C.)

November 15, 1984

Vancouver, B. C.

TABLE OF CONTENTS

SUMMARY	1
CONCLUSION	2
RECOMMENDATION	3
ESTIMATED COST OF RECOMMENDATION	5
INTRODUCTION	6
LOCATION, ACCESS, PHYSIOGRAPHY	7
CLAIM DATA	7a
HISTORY	8
GEOLOGY	9
Regional Geology	9
Property Geology	10
Structure	11
Mineralization	12
1984 WORK PROGRAM	12
GEOCHEMICAL RESULTS	13
Rock Geochemistry	13
Soil and Silt Geochemistry	15
REFERENCES	
CERTIFICATE	

ILLUSTRATIONS

Figure 1	Location Map	1:10,000,000	After page	6
Figure 2	Access Map	1:250,000	After page	6
Figure 3	Claim Map	1:50,000	After page	6
Figure 4	Regional Geology Cranbrook Area		After page	6
Figure 5	Geology of the Moyie Lake Area	1:250,000	After page	8
Figure 6	Claims & Geology	1:50,000	After page	9
Figure 7a	Geochemical Map	1:5,000	In pocket	
Figure 7b	Geochemical Map	1:5,000	In pocket	

TABLE OF CONTENTS (cont.)

TABLES

Table 1 Sample Descriptions

After page 13

APPENDICES

Appendix I Analytical Results

Appendix II Sample Sites and Analytical Results
supplied by Cominco Ltd.

Appendix III Affidavit of Expenses

SUMMARY

Chapleau Resources Ltd. holds 48 claim units (BAR Property) in the Palmer Bar and Perry Creek area of southwestern British Columbia. The property is situated 14 kilometres west of Cranbrook, B. C. The claims were staked to cover (1) a float-train of quartz veins containing visible free gold, and (2) an area of quartz-veined and argillized sedimentary rocks.

The BAR property is underlain by argillite, siltstone, and quartzite of the Aldridge and Creston formations of Proterozoic age. These formations have been folded into moderately tight to open, north to northeast-trending folds that are outlined by gabbroic sills. Several northeast-trending faults, which dip steeply to the north and have net normal displacement cut across the claim area. A prominent alteration zone containing widespread quartz veining over an area of at least a kilometre in diameter may be related to one or more of these faults or possibly to an underlying intrusion.

The BAR property is one of a number of vein-type gold prospects which lie in the Moyie River-Perry Creek area. This area has a recorded gold production of over 8,000 ounces, mostly from placer workings. At least two companies have recently been involved with evaluating hard rock gold prospects in the area.

In 1984, Chapleau Resources Ltd. conducted an exploration program comprising prospecting, bulldozer trenching and geochemical sampling on the BAR property. Prospecting located and outlined a train of quartz vein material in float on the PALM claim. Assays of this material range up to 0.26 ounces per ton gold. Trenching was carried out on quartz veins and silicified zones mineralized with pyrite and minor amounts of galena in the alteration zone. Best assays from trenches are as follows: (1) 0.37 ounces per ton gold from the "quartz pit" trench on a grab sample of pyritic quartz vein material and (2) 57.6% lead and 16.4 ounces per ton silver on a grab sample from the "Horseshoe Vein".

A follow-up exploration program comprising detailed mapping, sampling, geophysical surveys and diamond drilling is proposed.

CONCLUSION

Preliminary exploration work on the BAR property indicates the BAR property has excellent potential for discovery of gold mineralization either of the vein type or of the large tonnage-low grade type, as indicated by the following:

1. Quartz veins carrying visible free gold have been found in float.
2. Several strong fault zones including the Palmer Bar and Cranbrook faults cut through the claim area.

3. Strong argillic alteration, widespread quartz veining and local silicification occur over an area of more than one kilometre in diameter. Possibly they are related to the Palmer Bar fault or to an underlying buried intrusion.
4. Anomalous copper, lead, zinc, gold and arsenic values and locally significant gold values occur in such rocks.
5. A prominent unexplained gold anomaly (26000 ppb) in a stream sediment sample remains to be followed up.
6. The property is in the Moyie River-Perry Creek placer area. Coarse gold in the placer workings of the area indicates a local source.

Not to be neglected as a potential target is stratiform lead-zinc mineralization of the Sullivan type which occurs at the base of the Middle Aldridge formation, or vein-type silver-lead-zinc mineralization of the St. Eugene Mine (1.46 million tonnes, 8% Pb, 1% Zn, 125 g/t Ag, on Moyie Lake which occurs in Middle and Upper Aldridge and Creston stratigraphy. The middle and upper units of the Aldridge formation outcrop over about one half of the claim area.

RECOMMENDATION

A two-phase exploration program is recommended to evaluate the BAR property. Phase I will be a program of geological and detailed geochemical sampling to follow-up

a 26000 parts per billion silt geochemical anomaly and to map and define the entire alteration zone. Test electromagnetic and induced polarization surveys should be undertaken to attempt to map structures such as the Palmer Bar fault and possible subsidiary faults and/or veins. Should results be favourable, then a Phase II project of further detailed geophysical surveys to aid in selecting drill targets, followed by diamond drilling, should be undertaken. Estimated costs of Phases I and II are \$32,000 and \$145,000, respectively, for a grand total of \$177,000.

Donald G. Allen

ESTIMATED COST OF RECOMMENDATION

PHASE I Detailed geological mapping, geochemical sampling,
preliminary geophysical surveys.

Salaries

Geologist	1 man mo. @ \$6,000	\$ 6,000
Assistants	1 man mo. @ \$4,000	4,000
Room and board	60 man days @ \$35	2,100
Vehicle rental		1,500
Electromagnetic surveys	6 days @ \$600 all incl.	3,600
Geochemical analyses		5,000
Material and supplies		1,500
Report and maps		2,000
Consulting, supervision		<u>3,000</u>
		\$ 28,700
	Contingencies	<u>3,300</u>
	TOTAL PHASE I	\$ 32,000

PHASE II Follow-up geophysical surveys, road and drill site
preparation, diamond drilling.

Electromagnetic and/or induced polarization surveys	20 days @ \$600	12,000
Bulldozer rental	50 hrs. @ \$80	4,000
Diamond drilling	1000 metres @ \$100	100,000
Assays		5,000
Engineering, supervision		<u>10,000</u>
		\$131,000
	Contingencies	<u>14,000</u>
	TOTAL PHASE II	\$145,000
	GRAND TOTAL	\$177,000

INTRODUCTION

Chapleau Resources Ltd. holds the PALM, BAR, BAR LODGE 1 to 3, and CRYSTAL claims totalling 48 claim units in the Palmer Bar-Perry Creek area near Cranbrook, British Columbia. For the purpose of this report, the property will be referred to as the BAR property. The claims were staked to cover an area of gold-bearing float and a large zone of faulted and altered sedimentary rocks of the Aldridge and Creston formations.

The property is situated 23 kilometres south of Cominco's Sullivan Mine, one of the world's largest lead-zinc deposits. It also lies in the Moyie River-Perry Creek placer area which up to 1945 has produced more than 8,000 ounces of gold (Holland, 1950).

A number of lode gold prospects occur in the area and at least two are currently being evaluated by Vancouver-based companies. Gallant Gold has defined the presence of northeast trending shears containing quartz veins with minor galena and low gold values on their Perry Creek claims and have also identified copper, lead, zinc, silver, gold and tin anomalies (Holcapek, 1982). Tunstall and Geotech Resources have undertaken exploration on their WELL property (Sookochoff, 1984; Geotech Resources, Sept. 19, 1984 News Release) on Angus Creek, 14 kilometres to the northwest. Other important mineral properties in the area are the

CHAPLEAU RESOURCES LTD.
BAR PROPERTY
 LOCATION MAP

SCALE 200 0 200 KILOMETRES MILES
 100 0 100

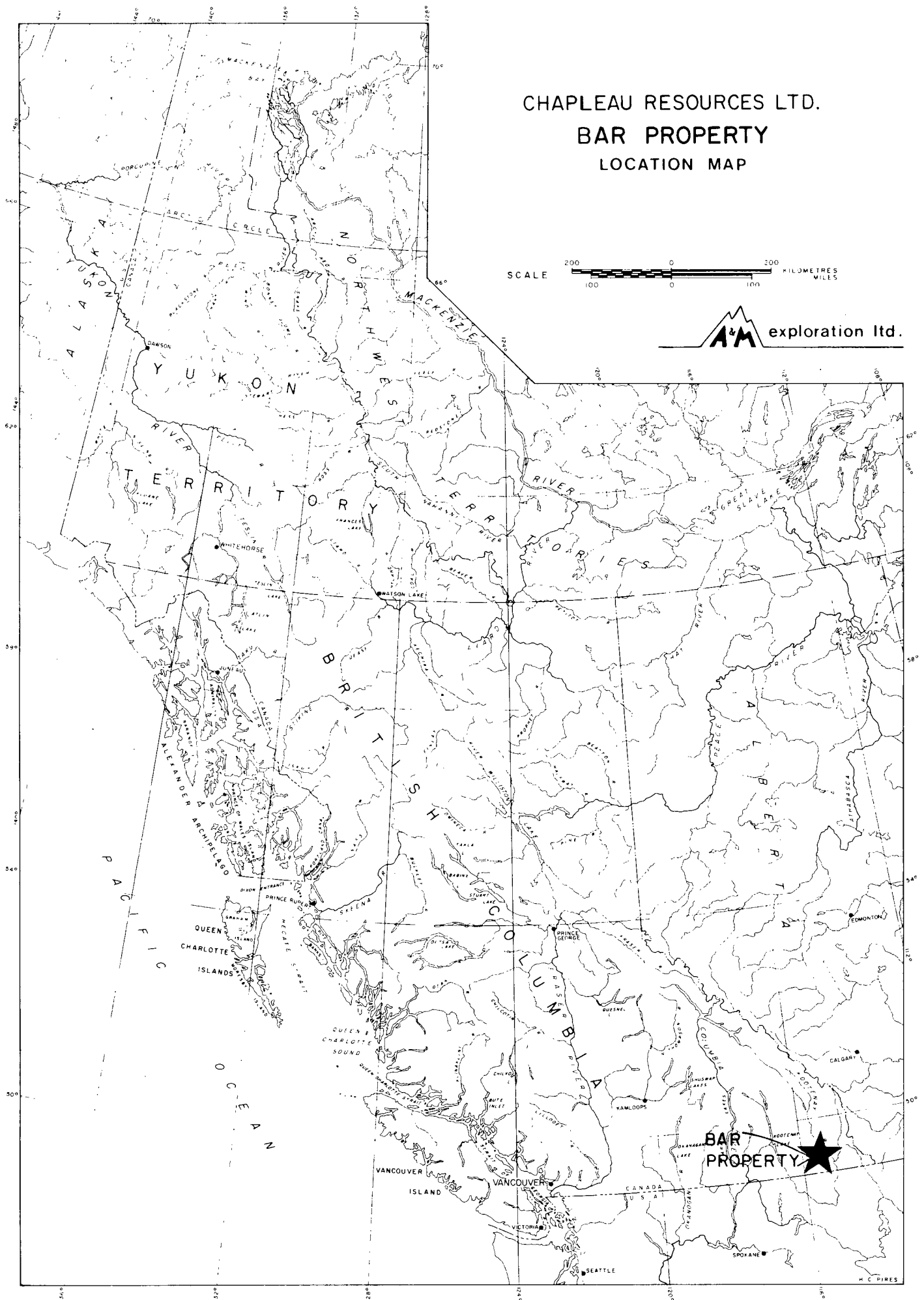
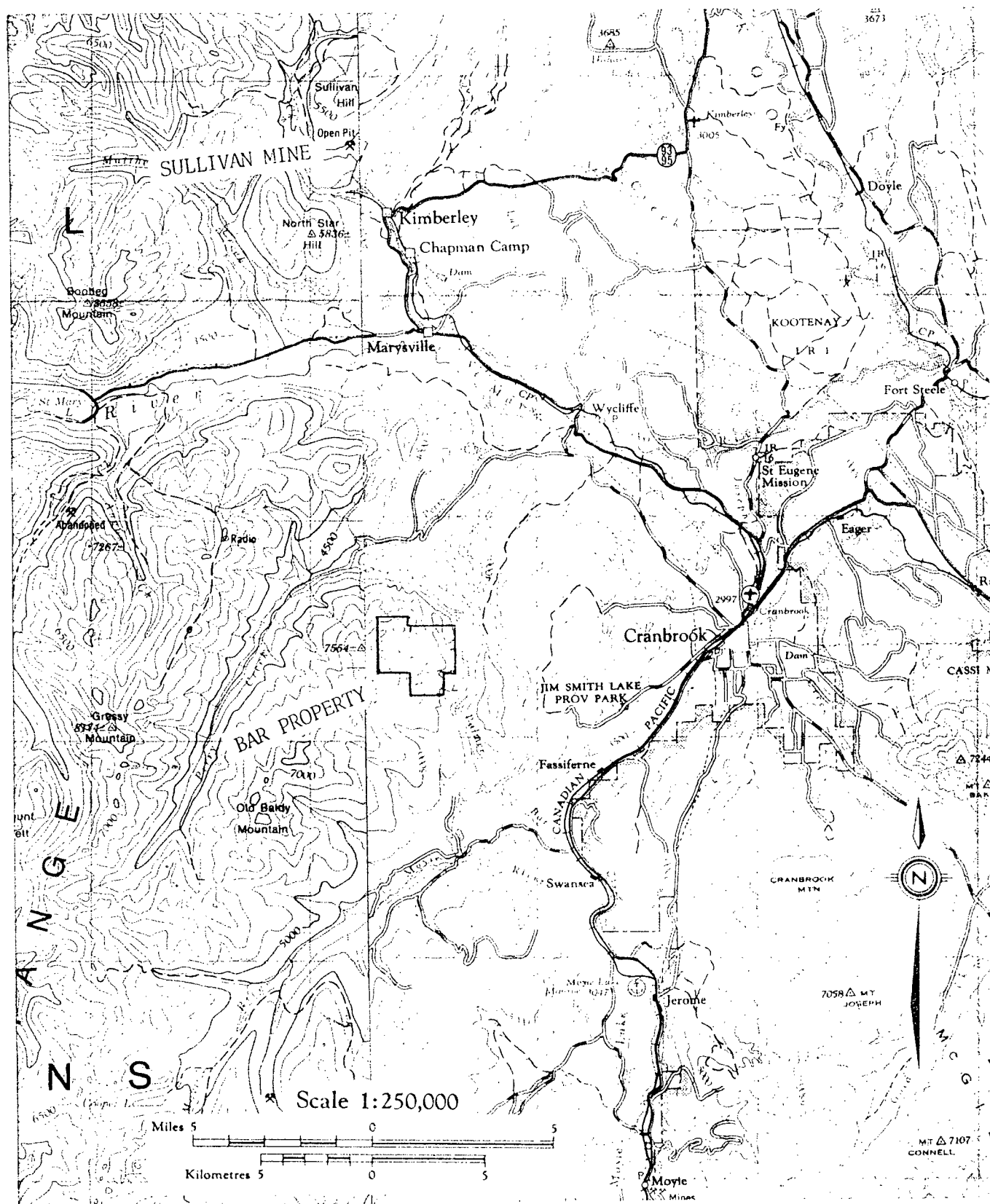


FIGURE - 1



CHAPLEAU RESOURCES LTD.

N.T.S. 82E, F

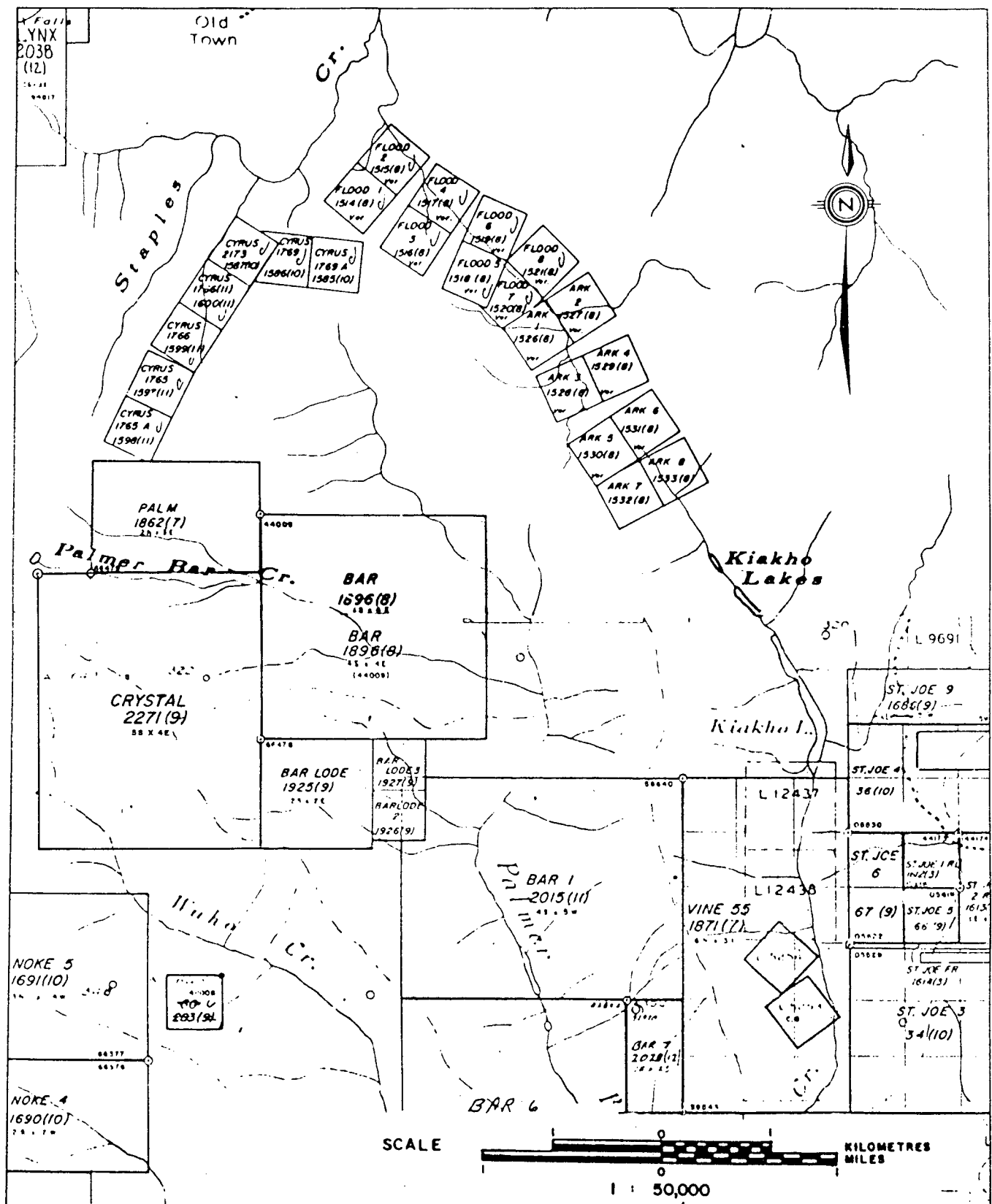
ACCESS MAP

BAR PROPERTY

Fort Steele Mining Division - British Columbia



exploration Ltd.



N.T.S. 82 F/5W,12W

CHAPLEAU RESOURCES LTD. CLAIM MAP

BAR PROPERTY

Fort Steele Mining Division - British Columbia



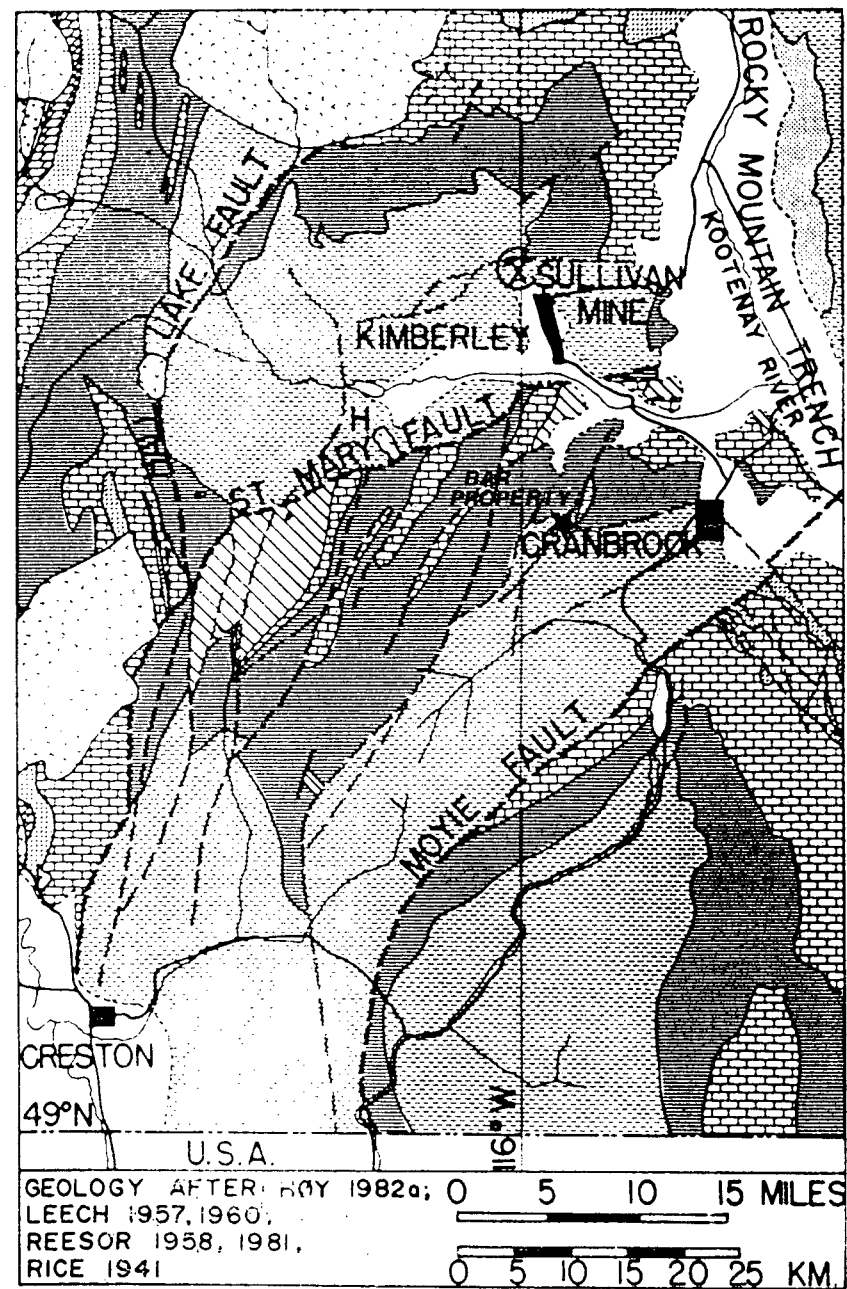
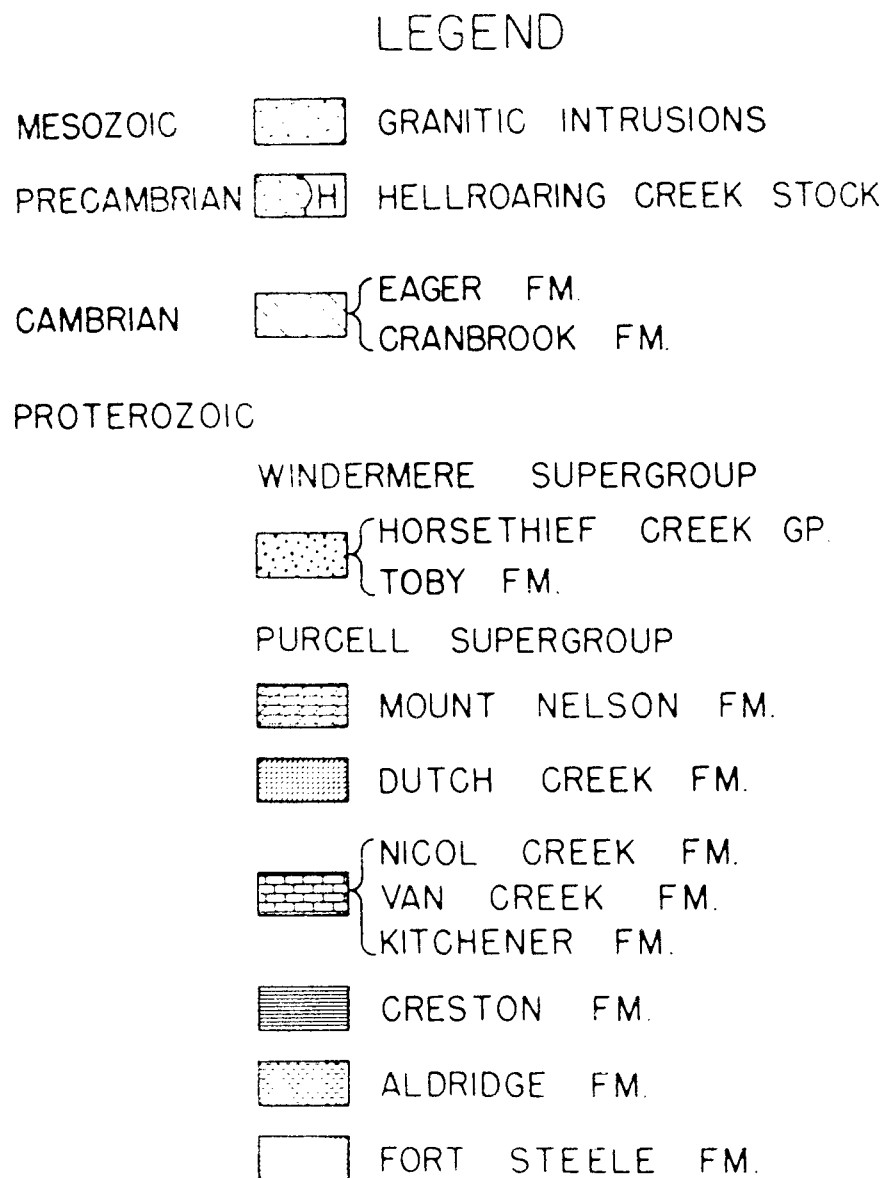


Figure 4. Regional Geology - Cranbrook Area
(after Hamilton et al, 1983)

Ronald G. Allen

St. Eugene Mine on Moyie Lake, which produced 1.46 million tonnes containing 8% lead, 1% zinc, 125 grams silver per ton and 0.5 grams gold per tonne up until 1929; and the VINE deposit near the north end of Moyie Lake, which is a recently discovered massive sulphide deposit (see Figure 5).

This report summarizes results of exploration work funded by Chapleau Resources Ltd. Work was conducted by C. Kennedy, M. Best, J. Moreau, and D. Martin of Chapleau Resources Ltd. during the period April 14 to October 21, 1984. This report is also based on a two-day examination by the writer. The latter part of the program was supervised by A & M Exploration Ltd. Work consisted of prospecting, preliminary geochemical sampling, road construction and trenching.

LOCATION, ACCESS, PHYSIOGRAPHY

The BAR property is situated 14 kilometres east of Cranbrook, British Columbia (Figure 1). The claims lie on the west side of Palmer Bar Creek, which is a tributary of the Moyie River. Access is by paved and good logging roads, about one half hour drive from Cranbrook (Figure 2).

The BAR claims cover part of a broad ridge between Palmer Bar Creek, Perry Creek and Moyie River. Elevations in the claim area ranges from 4,500 to 6,500 feet (1370 to 2100 metres). Slopes are gentle to moderately steep and

are covered with a virgin growth of larch, jack pine and Douglas fir which have been partly logged.

CLAIM DATA

The Bear Property comprises 48 claim units as follows:

<u>Claim Name</u>	<u>No. of Units</u>	<u>Record No.</u>	<u>Expiry Date</u>
PALM	6	1862	July 4, 1986
BAR	16	1896	August 12, 1986
BAR LODE	4	1925	September 8, 1986
BAR LODE 2	1	1926	September 8, 1986
BAR LODE 3	1	1927	September 8, 1986
CRYSTAL	20	2271	September 24, 1986

All claims are held by Chapleau Resources Ltd.

HISTORY

The early history of mining activity in the Cranbrook area dates back to the discovery of placer gold in the Wild Horse River and Perry Creek area in the 1860's and the lead-zinc deposit of the Sullivan and Stemwinder deposits at Kimberley in the early 1890's.

No record exists of any intensive exploration work on the BAR property, however, a number of old trenches and pits exist on the claim. Placer gold production has been recorded (Holland, 1950) in rivers and creeks surrounding the claim area as follows:

<u>Drainage</u>	<u>Ounces of Gold</u>
Moyie River	4786
Perry Creek	3335
Kiakho Creek	180

There has also been placer activity on Negro Creek and Palmer Bar Creek but no production records are available.

Placid Oil carried out geophysical and geological surveys on their CAT claims (Buckley, 1966) in the Palmer Bar and Kiakho Creek area, immediately to the southeast of the BAR, and are reported to have undertaken some work in the area now covered by the BAR claims. Exploration was designed to search for Sullivan type orebodies.

LEGEND

- Pleistocene and Recent - till and alluvial deposits
 - D Upper Devonian - grey fossiliferous limestone
Middle Devonian - polymictic conglomerate, dolomitic sandstone, dolomite
 - PROTEROZOIC PURCELL SUPERGROUP
 - Metagabbro sill
 - R Roosville - grey-black argillite, green siltstone; dolomitic
 - P Phillips - maroon argillite, siltstone, quartzite
 - G Gateway - middle and upper - green, grey and purple siltstone and sandstone with green argillaceous interbeds; - lower - polymictic conglomerate; dolomite, commonly stromatolitic; green and purple siltstone and sandstone
 - Nicol Creek - green and purple amygdaloidal basalt; tuff; volcanoclastic sandstone
 - V Van Creek - green and purple argillite and siltstone; minor grey argillaceous limestone
 - K Kitchener - silty dolomite, dolomitic argillite, grey argillaceous limestone
 - C Creston - grey, green and minor purple tinged siltstone and quartzite; minor dark argillite and massive grey quartzite
 - UA Upper Aldridge - dark grey argillite, grey siltstone
 - MA Middle Aldridge - grey to buff quartz wacke beds, interlayered laminated siltstone and argillite
 - LA Lower Aldridge - rusty-weathering siltstone and quartzite, minor argillite
- SYMBOLS
- bedding attitude
 - geological contact - defined, approximate
 - fault
 - mineral deposit or occurrence
1 - St. Eugene, 2 - Midway, 3 - Vine
 - anticline
 - syncline

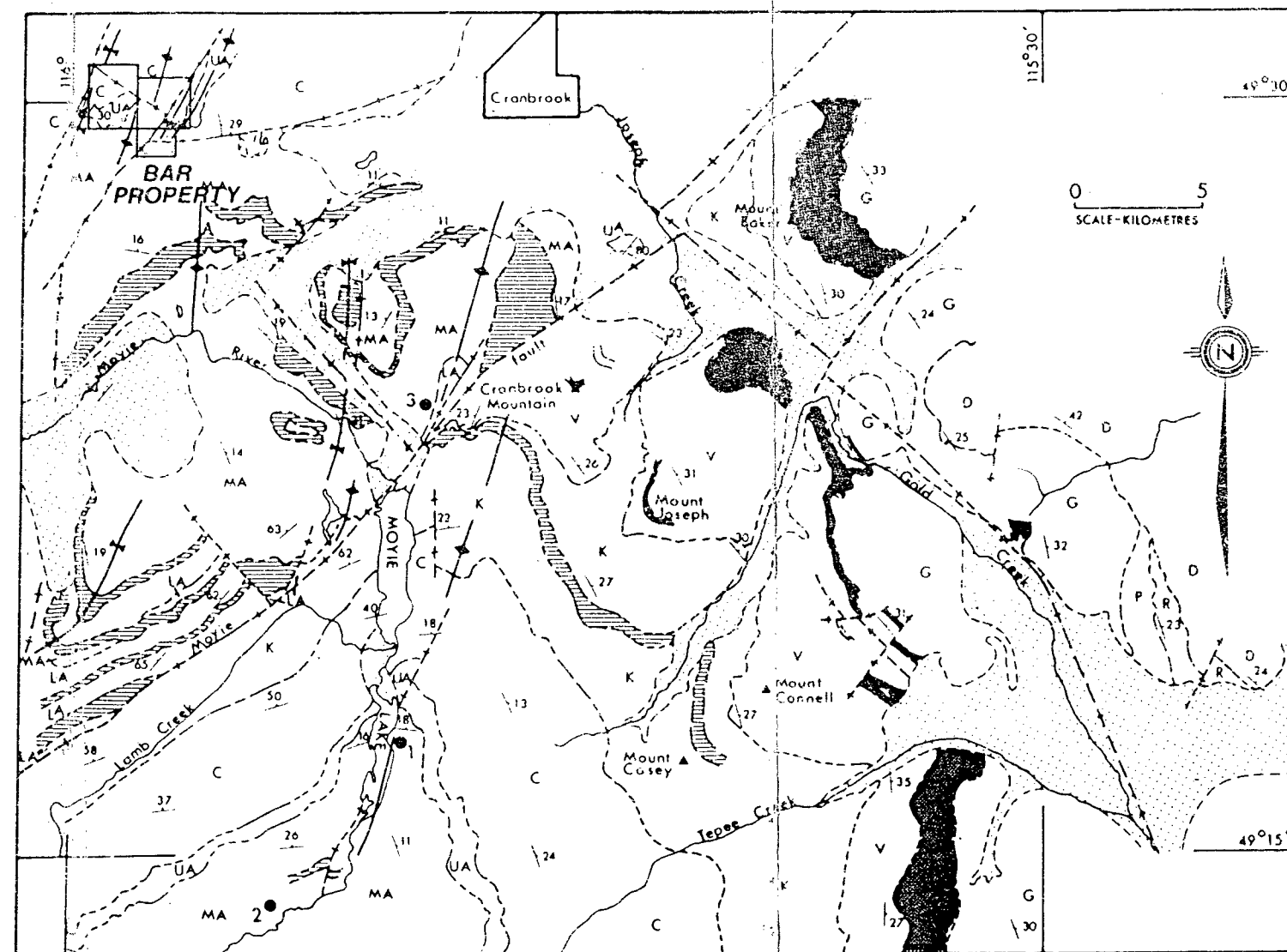


Figure 5. Geology of the Moyie Lake Area (after Hoy and Diakow, 1980)

Donald S. Allen

Cominco examined the BAR claim in 1983 (Pidgin, 1983) and sampled quartz veins material from the quartz float-train and the "Horseshoe Vein" area.

GEOLOGY

Regional Geology

The regional geological setting of the Kimberley-Cranbrook area has been recently summarized by Hamilton et al (1983, Figure 4) as follows:

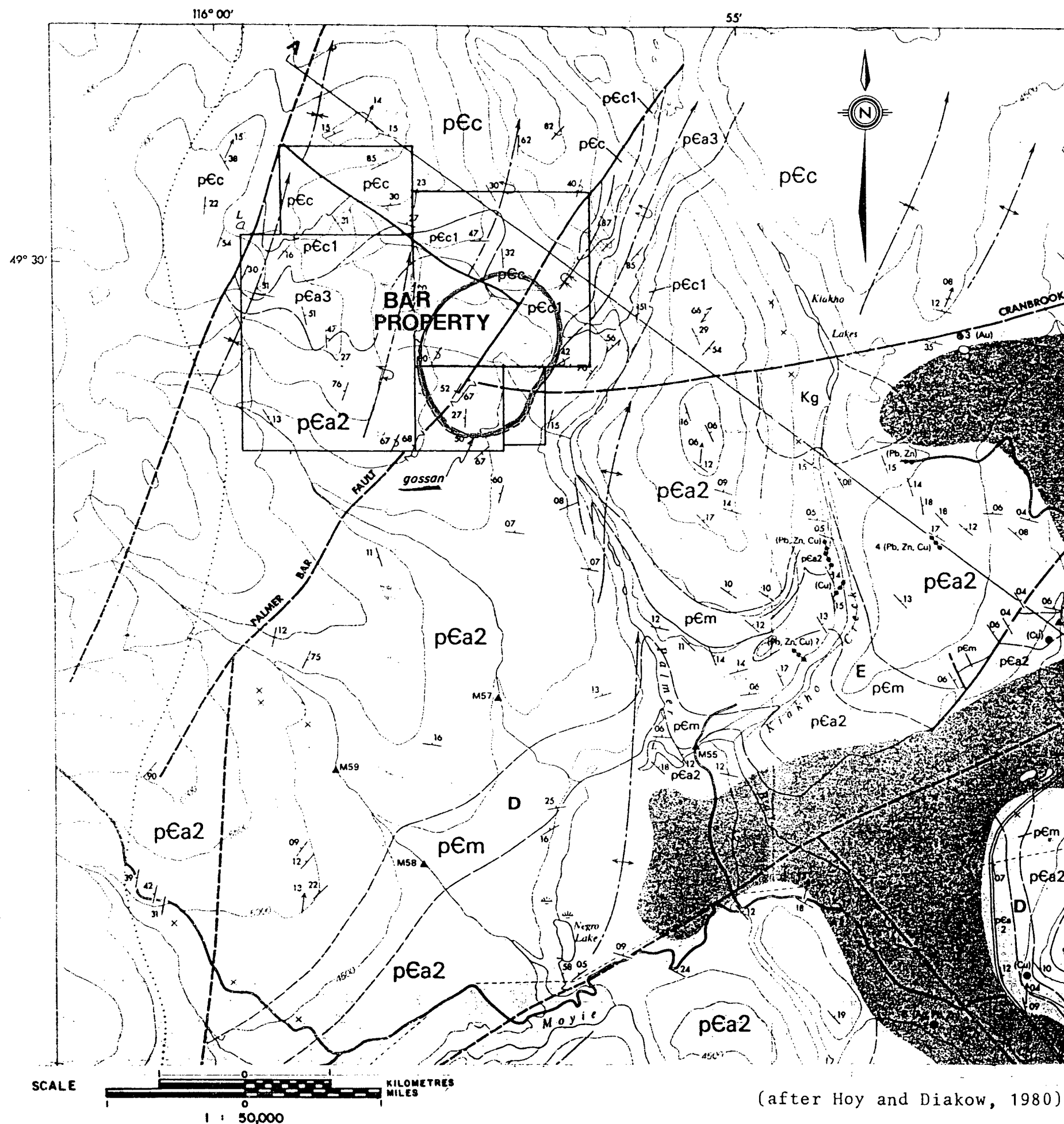
The area is:

"located on the east side of the Purcell Anticlinorium, a broad zone of dominantly easterly-verging thrust and fold structures. North to northeast transcurrent faults along the boundaries of east verging thrust plates in the Purcell Anticlinorium, the Moyie, St. Mary and Hall Lake Faults, strike east across the Rocky Mountain Trench and merge with north and northwest striking thrusts in the Western Rocky Mountains.

The Middle Proterozoic Purcell Supergroup is a thick sequence of predominantly sedimentary rocks exposed throughout 26,000 km² in southeastern British Columbia and adjacent parts of Alberta. The equivalent Belt Supergroup is exposed throughout an additional 78,000 km² in Washington, Idaho and Montana. In the west, thicknesses may exceed 20,000 m, facies changes are gradual, and transitions between units are also commonly gradational. The Belt-Purcell Supergroup thins eastward toward the craton. Near the eastern limit of exposure it is a succession of generally shallow marine and fluvial carbonate and coarse- to fine-grained clastic rocks up to 6,000 m in thickness. Facies changes are locally abrupt and contacts between units are sharper.

Most workers characterize the Belt-Purcell Supergroup as a miogeoclinal succession formed as a prograding continental terrace wedge. Formation of this continental margin is attributed by some to a major rifting event in the Middle Proterozoic. Others however, maintain that there has been a continental margin to the west of the North American craton since the Archean. Rifting is supported by both geophysical and isopach studies which are interpreted to provide evidence of a failed arm along the northeast margin of the Belt Basin.

In southeastern British Columbia, the Purcell Supergroup exceeds 10,000 m in thickness. In the vicinity of the Sullivan deposit at Kimberley the lowermost subdivision of the Purcell



- PLEISTOCENE AND RECENT**
- TILL, GRAVEL, SAND, AND ALLUVIAL DEPOSITS
- LOWER CRETACEOUS**
- Kg QUARTZ MONZONITE, GRANODIORITE
- DEVONIAN (?)**
- FAIRHOLME GROUP**
- Df DARK GREY TO BLACK, FINE-GRAINED, FOSSILIFEROUS LIMESTONE; LOCAL MODULAR CHERT BEDS; BASE COMMONLY MARKED BY A FLUVIAL COBBLE CONGLOMERATE OVERLAIN BY A MEDIUM TO COARSE-GRAINED SANDSTONE
- Dp PEAVINE CONGLOMERATE
- COBBLE TO COARSE BOULDER, POLYMICTIC PARACONGLOMERATE, WITH SILT TO SAND MATRIX; MASSIVE TO MODERATELY WELL BEDDED
- MIDDLE PROTEROZOIC**
- pEm MOVIE INTRUSIONS
- METADIORITE TO METAGABBRO SILLS AND LOCALLY DYKES
- PURCELL SUPERGROUP**
- pEr ROOSEVILLE FORMATION
- GREY TO BLACK ARGILLITE WITH INTERCALATED GREEN SILTSTONE; GREEN SILTY ARGILLITE WITH THIN MAUVE SILTSTONE INTERLAYERS; OCCASIONAL THIN DOLOMITE, STROMATOLITIC DOLOMITE, AND CONGLOMERATE LAYERS
- pEp PHILLIPS FORMATION
- THIN-BEDDED PURPLE AND RED ARGILLITE, SILTSTONE, AND QUARTZITE; MINOR GREEN SILTSTONE INTERLAYERS NEAR BASE
- pEg GATEWAY AND SHEPPARD FORMATIONS
- UPPER: THIN-BEDDED, FINELY LAMINATED GREEN SILTSTONE; MINOR PURPLE ARGILLITE
- MIDDLE: GREEN, BROWN, AND REDDISH BROWN SILTSTONE AND QUARTZITE, INTERBEDS OF GREEN AND PURPLE ARGILLITE; DIAGNOSTIC SILT CRYSTAL CASTS THROUGHOUT
- LOWER (SHEPPARD FORMATION): THIN-BEDDED DOLOMITE, STROMATOLITIC DOLOMITE; MAUVE, GREY, AND GREEN SILTSTONE, DOLOMITIC SILTSTONE, AND QUARTZITE; COBBLE-BOULDER POLYMICTIC PARACONGLOMERATE AT BASE

LEGEND

PURCELL SUPERGROUP (CONTINUED)

- pEnc NICOL CREEK FORMATION
- PURPLE AND GREEN, AMYGOALOIDAL AND VESICULAR BASALT, LOCALLY PORPHYRITIC (PLAGIOCLASE PHENOCRYSTS); INTERLAYERS GREEN TUFF BEDS AND THIN-BEDDED, COMMONLY GRADED, GREEN AND PURPLE SILTSTONE LAYERS (incl. PURPLE VOLCANICLASTIC SILTSTONE AND SANDSTONE)
- pEvc VAN CREEK FORMATION
- THINLY LAMINATED PALE GREEN AND PURPLE SILTSTONE AND SHALE, CHARACTERISTICALLY REDDISH ORANGE WEATHERING; THIN-BEDDED PURPLE AND RED ARGILLACEOUS LIMESTONE; GREEN SILTY QUARTZITE; MINOR ARGILLACEOUS LIMESTONE NEAR BASE
- pEk KITCHENER FORMATION
- MEDIUM TO DARK GREY SILTY AND ARGILLACEOUS DOLOMITE, DOLOMITIC ARGILLITE, AND ARGILLACEOUS LIMESTONE, GREY SILTY DOLOMITE WITH BLACK ARGILLACEOUS PARTINGS; MINOR GREEN SILTSTONE AND ARGILLITE
- pEc CRESTON FORMATION
- PALE YELLOWISH GREEN SILTSTONE AND ARGILLITE WITH INTERLAYERS BUFF-WEATHERING DOLOMITIC SILTSTONE AND ARGILLITE; MINOR DARK GREY LIMY ARGILLITE
- pEa ALDRIDGE FORMATION
- pEa1 (UPPER ALDRIDGE): THINLY LAMINATED, RUSTY WEATHERING, LIGHT TO DARK GREY ARGILLITE AND ARGILLACEOUS SILTSTONE
- pEa2 (MIDDLE ALDRIDGE): THIN TO THICK-BEDDED GREY QUARTZITE WACKE INTERLAYERS WITH LAMINATED SILTSTONE; SILTSTONE AND RUSTY WEATHERING ARGILLITE DOMINATE NEAR TOP
- pEa3 (LOWER ALDRIDGE): RUSTY WEATHERING SILTSTONE AND QUARTZITE WITH INTERBEDS OF SILTY ARGILLITE; INTERLAYERS RUSTY WEATHERING QUARTZ WACKE AND SILTSTONE NEAR TOP

SYMBOLS

- ROCK OUTCROP
- GEOLOGICAL CONTACT, DEFINED, APPROXIMATE, ASSUMED
- FAULT: DEFINED, APPROXIMATE, ASSUMED
- THRUST OR REVERSE FAULT
- NORMAL FAULT
- FOLD AXIAL TRACE
- ANTICLINE: OVERTURNED
- SYNCLINE: OVERTURNED
- BEDDING: INCLINED, OVERTURNED
- TOPS UNKNOWN
- FLOW STRUCTURE IN VOLCANIC ROCKS
- FOLIATION, CLEAVAGE
- LINATION
- MINOR FOLD AXIS (SHOWING VERGENCE)
- SMALL SHEAR (SHOWING DIP)
- MINERALIZED VEIN (SHOWING TREND)
- MINE, PROSPECT, OR OCCURRENCE
- SILT SAMPLE LOCATION
- EDGE OF MAPPING
- TOPOGRAPHIC CONTOUR (500-FOOT INTERVAL)
- ROAD: HARD SURFACE
- LOOSE OR STABILIZED SURFACE
- LAKE

Figure 6. Chapleau Resources Ltd.
CLAIMS AND GEOLOGY
Palmer Bar Creek Area

(after Hoy and Diakow, 1980)

Donald S. Allen

In the vicinity of the Sullivan deposit at Kimberley the lowermost subdivision of the Purcell Supergroup, the Aldridge Formation, is a 4,000 m thick succession of fine-grained siliclastic rocks. Most of the Aldridge Formation was probably deposited by turbidity currents. East of Kimberley, in the western Rocky Mountains, the oldest rocks are a greater than 2,000 m thick, fining-upward platformal/deltaic sequence called the Fort Steele Formation. A transitional contact exists between the Fort Steele and the succeeding Aldridge Formation. The Fort Steele Formation is interpreted to be the facies equivalent of the lower part of the Aldridge Formation in the Kimberley area.

The Aldridge Formation is gradationally overlain by up to 1,800 m of grey, green and maroon wacke of the tidal flat to deltaic Creston Formation. Conformably overlying the Creston Formation is 1,200 m of dominantly platformal dolomite and terrigenous-dolomite admixtures of the Kitchener Formation. The Kitchener is in turn overlain by 200- to 400 m of green, slightly dolomitic and calcareous fine-grained sedimentary rocks of the Van Creek Formation¹ and up to 500 m of andesitic volcanic rocks of the Nicol Creek Formation¹.

In the Purcell Mountains, about 1,200 m of grey to dark grey, dominantly platformal carbonates and fine-grained siliciclastic rocks of the Dutch Creek Formation rest with apparent conformity on the Lower Purcell sequence. The Dutch Creek Formation is overlain by 1,000 m of grey, green and maroon wacke and buff orthoquartzite of the Mount Nelson Formation.

Middle Proterozoic gabbros of two ages intrude the Purcell Supergroup in southeastern British Columbia. The oldest (1433 ± 10 Ma,) are sills, slightly discordant sheets and dykes of the Moyie Sills, which are most commonly developed in the lower part of the Aldridge Formation. Gabbro sills are most abundant in the Purcell Mountains, where they attain an aggregate thickness of up to 2000 m. The youngest event of gabbro intrusion is thought to be co-magmatic with the volcanics of the Nicol Creek Formation, and is represented by abundant sills in the upper part of the Creston Formation and in the Kitchener and Van Creek Formations. Potassium-argon methods indicate an age of 1075 Ma for the Nicol Creek Formation.

Property Geology

The BAR property has not been mapped in detail, however, it has been mapped on a reconnaissance scale by government geologists (Hoy and Diakow, 1980, 1981) and most of the more accessible outcrops have been examined by the writer.

The property is underlain by argillite, siltstone and quartzite of the Middle and Upper Aldridge formations and siltstone and argillite of the Creston formation. In their

description of the geology of the Moyie Lake area, Hoy and Diakow (1981, Figures 5 and 6) state:

"Grey-weathering graded quartz-wacke beds interpreted to be turbidite deposits occur throughout the middle Aldridge (pEa₂). Basal scour marks indicate northerly directed current transport. In general, in the middle Aldridge, quartz-wacke beds become thinner, less pure, and less volumetric up-section; the upper part comprises a number of distinct cycles of massive, grey quartzite-wacke beds capped by siltstone and argillite. The contact with the upper Aldridge (pEa₃) is placed above the last bed of massive grey quartzite. Metadiorite sills are the most important markers within the thick middle Aldridge section and allow correlation across many of the faults. Some of the larger of these sills have been designated by letter symbols on the map.

The base of the Creston Formation (pEc) is commonly marked by a thick, generally massive grey quartzite unit. It is commonly overlain by dark argillite and siltstone that is distinguished from the upper Aldridge by the presence of thin green siltstone lenticles and occasional mud cracks. Green siltstone is characteristic of much of the Creston Formation, but may also be dominant in the basal unit (pEk₁) of the overlying Kitchener Formation (pEk). The base of the Kitchener is placed beneath the first section containing prominent buff-weathering dolomitic siltstone. The contact between the Kitchener and the Van Creek (pEc) Formation is gradational, from thin-bedded grey argillaceous limestone into grey siltstone with a few green and brown silty limestone layers in the basal part of the Van Creek Formation."

Structure

In the Palmer Bar Creek and Kiakho Creek area, according to Hoy and Diakow (1981),

"Lower and Middle Aldridge rocks are folded into moderately tight to open, north to northeast-trending folds that are outlined by the metagabbro sills. In the hangingwall, immediately adjacent to the Moyie fault, folds are tight and locally overturned. The Lower Aldridge is exposed in two overturned anticlinal folds just west of the north end of Moyie Lake and west of Cranbrook Mountain. Fold structures are more complex in the northwest corner of the map-area, where detailed mapping of the upper part of the Aldridge and lower part of the Creston has outlined a number of tight overturned folds that trend north-northwest and plunge variably to the north and locally to the south.

Late northeast and northwest-trending faults are conspicuous. Complex fold structures and a number of splay faults were recognized in the hangingwall of the Moyie fault. An important north to northeast-trending fault occurs along the western border of the map-area and truncates Lower and Middle Aldridge rocks as well as a large synclinal fold north of Lamb Creek."

Several faults, including the Palmer Bar fault and Cranbrook faults cut through the claim area. The Palmer Bar fault is exposed in the "Siliceous Landing" showing on Figure 7.

Mineralization

Reconnaissance geological mapping on the BAR claims by the writer has revealed widespread iron-stained phyllitic argillite (see "gossan" outlined on Figure 6). Within this area, sparse to locally abundant quartz veining and pervasive argillic alteration is present. In part this may be the unit shown by Hoy and Diakow as pEc, or "generally rusty weathering light to dark grey siltstone". Quartz veins are generally 0.1 to 3 centimetres wide and locally form a stockwork of numerous veins. In several areas, they are up to one metre wide. Quartz vein float containing free visible gold occurs on the PALM claim. The vein material occurs as a prominent train of angular boulders up to 0.4 metres in diameter suggesting a local source. Assays of up to 0.258 ounces per ton were obtained by Kootenay Exploration Ltd. (Cominco Ltd. - see Appendix II).

1984 WORK PROGRAM

During the period April 14 to October 30, 1984, a program of prospecting, geochemical sampling, road construction and bulldozer trenching was carried out on the BAR claims. To

facilitate geochemical sampling and possible future geophysical surveys, a flagged grid was established using compass and hip chain. A total of about 450 metres of road construction and trenching in five areas was undertaken.

GEOCHEMICAL RESULTS

Rock Geochemistry

Rock geochemical sampling was carried out mainly in trenches because overburden is extensive in the area and outcrops are few. In addition, a few samples were taken on exposures on logging roads. All but one sample were analyzed for seven elements by atomic absorption analyses. Rock sample sites are plotted along with soil and silt sites on Figure 7. Rock descriptions are on Table 1 and geochemical results presented in Appendix I. Some of the results of sampling by Cominco Ltd. are presented in Appendix II. Results of sampling of trenches are summarized below.

In the "Quartz Pit" trench, a fault zone containing variable amounts of quartz and trending at $110^{\circ}/60$ north was sampled. A grab sample of pyritic quartz vein material returned a value of 10800 ppb gold (Sample QP-1; 0.33 oz/ton) and 130 ppm silver (4.0 oz/ton). Bulk samples across a vein shear zone over a length of 20 metres contained anomalous copper (134-146 ppm), silver (1.4-3.4 ppm), lead (1520-2400 ppm), gold (170-370 ppb), and arsenic (136-228 ppm) values.

TABLE 1
ROCK SAMPLE DESCRIPTIONS

<u>Sample No.</u>	<u>Descriptions</u>
242 AT 121	Grab sample of pyrite-rich quartz.
122	Bleached phyllitic siltstone with scattered quartz veinlets up to 1 cm wide.
123	Silicified argillite with variable (up to 15%) amounts of pyrite taken over area of 13 x 10 metres.
124	6-metre section of argillized and rubbly argillite.
125	Bleached argillite containing scattered quartz veinlets - up to 3/metre and limonite on fracture.
126	20 cm wide quartz vein.
127	Weathered quartz vein.
128	40 cm+ quartz boulders with abundant pyrite.
129	Argillized muscovite phyllite.
131	Quartz vein material - irregular disseminated pyrite and minor galena.
132	Quartz float - some <u>free gold</u> noted, along with pyrite.
133	Quartz float - rusty weathering.
134	Bleached argillite with scattered quartz veinlets.
84 R1	Quartz-veined phyllite.
84 R2	Quartz-veined phyllite.
HV 1	Massive galena and sphalerite in quartz vein.
QP 1	Quartz vein brecciated and cemented with fine-grained pyrite.
Lake 1	Bleached phyllite, with a few quartz veinlets.
8420-01	Rusty silicious phyllite - some pyrite.
8420-02	Rusty silicious phyllite? - some pyrite.
8420-03	Rusty silicious phyllite, quartz-veined.
8420-04	Rusty quartz vein material - limonite and hematite stained.
8420-05	Rusty limonite rich phyllite.
8420-06	Rusty quartz vein material.
8418-01	Rusty phyllite?
8418-02	Rusty phyllite with quartz-pyrite vein.
8418-03	Argillized phyllite with quartz-pyrite vein.
8418-04	Rusty phyllite.
8418-05	Rusty quartz vein and silicified phyllite? - weathered pyrite.
8418-06	Quartz-veined phyllite, limonitic.
8418-07	Quartz-veined and silicious material.
8418-08	Silicious and quartz-veined phyllite.
8418-09	Pyritic quartz.
8418-10	Leached quartz vein material - limonitic.
GR 1	Intensely leached phyllite - some quartz veining; composite over 10 metres.
GR 2	Intensely leached phyllite - some quartz veining; across 1 metre fault and vein.
GR 3	Gougy phyllite - limonite, composite over 10 metres.
GR 5	Cruddy limonitic phyllite, 1 metre wide siliceous zone.
GR 6	Cruddy limonitic phyllite and quartz vein material, composite over 15 metres.
GR 7	Bull quartz; composite sample from old pit north of Horseshoe vein.
GR 8	Cruddy phyllite, quartz and fault gouge; composite over 9.5 metres.
GR 9	Bleached limonitic phyllite; 8 metre composite on west side of trench.
GR 10	Bleached limonitic phyllite quartz-veined, as above on east side.

In the "Horseshoe Pit" area, trenching has exposed an arcuate quartz vein up to a metre wide, containing pyrite cubes along with trace to minor amounts of galena. Three samples taken by the writer and three samples taken by Cominco Ltd. ranged from 10 to 282 ppb gold and 0.4 to 8.1 ppm silver. A selected sample of massive galena assayed 58% lead and 16.4 ounces per ton silver.

In the "Siliceous Landing" area, trenching has exposed a prominent northeast trending fault zone, possibly the Palmer Bar fault. Intensely fault-gouged argillite and silicified argillite with 0-15% disseminated pyrite was sampled and found to contain weakly to moderately anomalous copper 60-266 and arsenic values (20-70 ppm).

In the "Limonite Pit" trench fractured and argillized sedimentary rocks are silicified over a width of about 0.5 metres. Scattered weakly anomalous copper (up to 166 ppm) and arsenic values (up to 60 ppm) were obtained on a few samples.

The "Pink Mountain" trench was not examined by the writer because of snow conditions. However, several samples taken by the writer in the area prior to trenching, and samples taken by Chapleau Resources in the trench, were found to contain anomalous copper (up to 2060 ppm) and arsenic (up to 462 ppm) values.

Mineralized float in the Quartz float-train area was sampled extensively by Cominco Ltd. (Appendix I - Samples P84-4 to 11). Assays ranged from 0.01 to 0.258 ounces per

ton gold. Free gold was observed and one sample taken by the writer was found to contain 520 ppb gold (0.016 oz/ton).

Soil and Silt Geochemistry

Preliminary soil sampling was undertaken on selected parts of the BAR claim group (Figure 7). Sampling was carried out at 50 metre intervals on east-west lines spaced 200 to 300 metres apart on two grids. Grid "B" was laid out in the vicinity of the float occurrence of gold-bearing quartz. Grid "G" was laid out in part of the area underlain by altered and quartz-veined sedimentary rocks. Stream sediment samples were taken from several creeks at selected sites.

Soil material sampled consisted mainly of glacial till taken at a depth of 20 to 30 centimetres, well below the "A" horizon. Stream sediment samples consisted mainly of silt taken from the active part of the stream channel. Soil and silt samples were placed in Kraft paper bags and shipped to Rossbacher Laboratory Ltd. for preparation and analyses. Samples were screened to minus 80 mesh and analyzed for molybdenum, copper, zinc, lead, silver, gold and arsenic by standard atomic absorption techniques. Soil and silt sample sites, along with selected results, are plotted on Figures 7a and 7b. Analytical results are presented in Appendix I.

Most of the soil samples have yielded low values in most metals. This is in contrast to the higher values obtained in rock. A comparison of the range and average values follows

(all values except gold are in parts per million, gold values are in parts per billion):

	Element	Mo	Cu	Ag	Zn	Pb	Au	As
Soil	Range	1	4-104	0.2-1.0	20-226	2-50	10	4-36
	Average	1	17	0.21	64	12	10	15
Rock	Range	1-4	12-2060	0.2-130	12-390	2-2400	10-26000	12-460
	Average	2	167	3.9	69	315	64.5*	62

*Not including values greater than 1000 ppb.

Results indicate that soils on the BAR claim only poorly reflect mineralization in underlying bedrock. Glacial till is estimated to be about one to three metres deep, but is widespread with few outcrops exposed. Further geochemical sampling should be preceded by geochemical sampling of soil profiles exposed on trench walls to determine best soil horizon for sampling.

Results however, indicate that arsenic geochemistry has some potential in outlining areas of interest in that the element occurs in weakly to moderately anomalous amounts (greater than 20 parts per million) in both soil and rock. Many of the soil samples on the southwestern part of grid "B" and a few samples on grid "G" contain anomalous arsenic values. Arsenic is considered to be a good pathfinder element for precious metals.

Of significance is a prominent gold geochemical anomaly (26000 parts per billion) obtained in a silt sample on the BAR claim. Unfortunately, snow conditions prevented follow-up and soil sampling had not been carried out in the area where

the sample was obtained.

Further soil sampling is warranted to cover the entire zone of alteration and quartz veining. In addition, to profile sampling, selected samples should be tested for antimony and mercury since both are also pathfinder elements for precious metals.

Donald B. Allen

REFERENCES


- Batchelor, E. W. (1977). Report on Geological Mapping and Geochemical Survey. St. Joe Claim Group. B. C. Ministry of Energy, Mines and Petroleum Resources Assess. Rept. 6444.
- Hamilton, J. M., Delaney, G. D., Hauser, R. C., Ransom, P. W. (1983). Geology of the Sullivan Deposit, Kimberly, B. C. in Mineralogical Association of Canada Short Course, Volume 9, Sediment Hosted Stratiform Lead Zinc Deposits, pp. 31-83.
- Holcapek, F. 1982. Preliminary Geology and Evaluation Report on Mineral Deposits on the Perry Creek Gold Property. B. C. Ministry of Energy, Mines and Petroleum Resources. Assess. Rept. 9850.
- Hoy, T. (1983). Geology in the Vicinity of the Sullivan Deposit, Kimberly, B.C. B.C. Ministry of Energy, Mines and Petroleum Resources, Paper 1983-1, pp. 9-17.
- Hoy, T. (1984). Structural Setting, Mineral Deposits and Associated Alteration, Magmatism, Sullivan Camp, Southeastern B.C. in B. C. Ministry of Energy, Mines and Petroleum Resources, Paper 1984-1, pp. 25-35.
- Hoy, T. and Diakow, L. (1981). Geology of the Moyie Lake Area, Purcell Mountains, Southeastern B.C. in B.C. Ministry of Energy, Mines and Petroleum Resources, Paper 1981-1, pp. 9-14.
- Hoy, T. and Diakow, L. (1982). Geology of the Moyie Lake Area, B.C. Ministry of Energy, Mines and Petroleum Resources, Preliminary Map 49.
- Leech, G. B. (1960). Geology, Fernie (West Half), Kootenay District, Geol. Surv. Canada Map 11-1960.
- Pidgin, D. (1983). Assay results and sample location maps supplied by Kootenay Exploration Ltd. (Cominco).
- Scott, J. S. and Buckley, R. A. (1966). Geological and Geophysical Report, CAT Claim Group, B.C. Ministry of Energy, Mines and Petroleum Resources, Asses. Report 863.
- Sookchohoff, L. (1982). Geological Evaluation Report for Tunstall Resources Inc. and Geotech Resources Inc. on the Well Claim Group.

CERTIFICATE

I, Donald G. Allen, certify that:

1. I am a Consulting Geological Engineer, of A & M Exploration Ltd., with offices at #214 - 850 West Hastings Street, Vancouver, British Columbia.
2. I am a graduate of the University of British Columbia with degrees in Geological Engineering (B.A.Sc., 1964; M.A.Sc., 1966).
3. I have practised my profession of exploration geologist since 1964 to present in British Columbia, the Yukon, Alaska and various parts of the Western United States.
4. I am a member in good standing of the Association of Professional Engineers of British Columbia.
5. This report is based on two days fieldwork carried out by the writer and on fieldwork carried out by C. Kennedy, M. Best, D. Martin, J. Moreau and G. Allen.
6. I hold no interest, nor do I expect to receive any, in the BAR property or in Chapleau Resources Ltd.
7. I consent to the use of this report in a Statement of Material Facts or in a Prospectus in connection with the raising of funds for the project covered by this report.

November 14, 1984
Vancouver, B. C.


Donald G. Allen,
P. Eng. (B. C.)

[illegible]

ROSSBACHER LABORATORY LTD.

CERTIFICATE OF ANALYSIS

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

TO : A&M EXPLORATION LTD.
214-850 W. HASTINGS STREET
VANCOUVER, B.C.
PROJECT: 84-242

CERTIFICATE#: 84382 - 1
INVOICE#: 4440
DATE ENTERED: SEPT. 7, 1984
FILE NAME: A&M382

PRE FIX	SAMPLE NAME	PPM Mo	PPM Cu	PPM Ag	PPM Zn	PPM Pb	PPB Au	PPM As
L	242 AL 130	1	24	0.4	56	24	10	16
A	242 AT 121	1	54	2.6	318	740	10	8
A	122	1	10	0.4	98	40	10	20
A	123	1	60	0.2	70	52	10	32
A	124	1	74	0.4	104	244	10	60
A	125	1	136	0.4	22	18	10	24
A	126	1	136	0.2	18	14	10	20
A	127	1	42	0.6	22	8	10	30
A	128	1	54	0.6	12	10	10	12
A	129	1	284	0.2	92	22	10	28
A	242 AT 131	1	56	19.2	50	1610	720	86
A	132	1	72	0.6	24	30	520	2
A	133	1	6	0.2	14	6	10	10
A	134	1	14	0.2	22	28	10	2
	242 AT 141	46	162	1.8	214	44		
	142	52	270	7.8	16200	286		
L	242 AL 149	1	20	0.2	760	20	10	4

CERTIFIED BY :

J. Rossbach

ROSSBACHER LABORATORY LTD.

CERTIFICATE OF ANALYSIS

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

TO : A&M EXPLORATION LTD.
214-850 W. HASTINGS ST.
VANCOUVER, B.C.
PROJECT: 242

CERTIFICATE#: 84499.X - 1
INVOICE#: 5088
DATE ENTERED: NOV. 19, 1984
FILE NAME: A&M499.X

PRE FIX	SAMPLE NAME	oz/t Au	oz/t Ag	% Pb	% Zn
A	HV 1	0.001	16.40	57.60	0.02

CERTIFIED BY :

J. Rossbach

ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

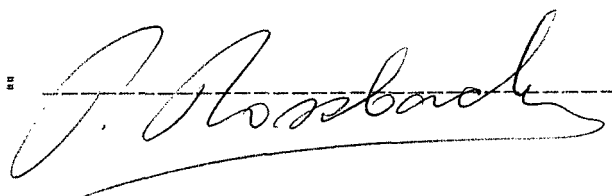
CERTIFICATE OF ANALYSIS

TO : A&M EXPLORATION LTD.
214-850 W. HASTINGS ST.
VANCOUVER, B.C.
PROJECT: 242

CERTIFICATE#: 84499 - 1
INVOICE#: 5087
DATE ENTERED: NOV. 19, 1984
FILE NAME: A&M499

PRE FIX	SAMPLE NAME	PPM Mo	PPM Cu	PPM Ag	PPM Zn	PPM Pb	PPB Au	PPM As	MESH SIZE
S	G 84 2-00	1	16	0.2	38	10	10	10	
S	2-01	1	24	0.2	46	10	10	12	
S	2-02	1	18	0.2	66	10	10	16	
S	2-03	1	14	0.2	40	10	10	14	
S	2-04	1	16	0.2	52	10	10	12	
S	2-05	1	10	0.2	24	12	10	12	
S	2-06	1	10	0.2	47	6	10	16	
S	2-07	1	10	0.2	34	4	10	12	
S	2-08	1	10	0.2	66	6	10	10	
S	2-09	1	16	0.2	52	8	10	12	
S	G 84 2-10	1	12	0.2	50	8	10	10	
S	2-11	1	20	0.2	56	8	10	12	
S	2-12	1	14	0.2	54	6	10	6	
S	2-13	1	12	0.2	20	2	10	14	
S	2-14	1	18	0.2	50	4	10	12	
S	2-15	1	14	0.2	86	12	10	12	
S	2-16	1	18	0.2	60	16	10	12	
S	2-17	1	16	0.2	64	12	10	12	
S	2-18	1	8	0.2	34	6	10	8	
S	2-19	1	18	0.2	78	16	10	12	
S	G 84 2-20	1	10	0.2	60	8	10	6	
S	2-21	1	8	0.2	52	6	10	6	
S	2-22	1	12	0.2	78	8	10	6	
S	2-23	1	10	0.2	100	8	10	8	
S	2-24	1	86	0.2	48	6	10	8	
S	2-25	1	14	0.2	44	4	10	8	
S	2-26	1	14	0.2	46	8	10	6	
S	2-27	1	52	0.2	64	14	10	14	
S	2-28	1	22	0.2	40	14	10	8	
S	2-29	1	26	0.2	56	14	10	12	
S	G 84 2-30	1	30	0.2	76	12	10	8	
S	4-00	1	24	0.2	62	24	10	10	
S	4-01	1	26	0.4	82	22	10	16	
S	4-02	1	18	0.4	84	22	10	12	
S	4-03	1	16	0.2	60	16	10	6	
S	4-04	1	10	0.2	40	8	10	4	
S	4-05	1	14	0.2	50	14	10	6	
S	4-06	1	20	0.2	42	16	10	6	
S	4-07	1	14	0.2	34	14	10	6	
S	4-08	1	16	0.2	52	16	10	20	

CERTIFIED BY :



ROSSBACHER LABORATORY LTD.

CERTIFICATE OF ANALYSIS

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

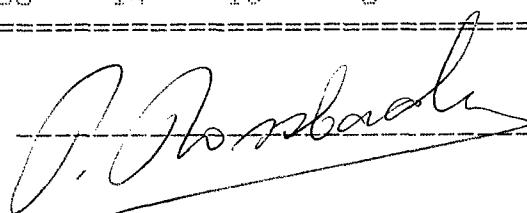
TO : A&M EXPLORATION LTD.
214-850 W. HASTINGS ST.
VANCOUVER, B.C.

PROJECT: 242

CERTIFICATE#: 84499 - 2
INVOICE#: 5087
DATE ENTERED: NOV. 19, 1984
FILE NAME: A&M499

PRE FIX	SAMPLE NAME	PPM Mo	PPM Cu	PPM Ag	PPM Zn	PPM Pb	PPB Au	PPM As	MESH SIZE
S	G 84 4-09	1	20	0.2	52	18	10	22	
S	4-10	1	14	0.2	44	12	10	16	
S	4-11	1	10	0.2	38	8	10	14	
S	4-12	1	34	0.2	64	14	10	24	
S	4-13	1	18	0.2	82	16	10	16	
S	4-14	1	12	0.2	50	12	10	14	
S	4-15	1	18	0.2	58	10	10	16	
S	4-16	1	14	0.2	42	10	10	14	
S	4-17	1	26	0.2	66	8	10	22	
S	4-18	1	104	0.2	66	18	10	24	
S	G 84 4-19	1	62	0.2	38	6	10	22	
S	4-20	1	38	0.2	80	8	10	18	
L	4-51	1	20	0.2	50	20	10	12	
S	4-A1	1	12	0.2	100	10	10	12	
S	4-A2	1	12	0.2	54	10	10	10	
S	4-A3	1	30	0.2	74	8	10	12	
S	4-A4	1	36	0.2	54	4	10	10	
S	4-A5	1	8	0.2	24	2	10	8	
S	4-A6	1	16	0.2	42	4	10	22	
S	4-A7	1	22	0.2	76	6	10	26	
S	G 84 4-A8	1	20	0.2	18	4	10	28	
S	4-A9	1	52	0.2	40	10	10	14	
S	4-A10	1	50	0.2	32	8	10	12	
S	4-A11	1	24	0.2	38	8	10	10	
S	B 84 5-01	1	8	0.2	82	12	10	6	
S	5-02	1	6	0.2	36	6	10	4	
S	5-03	1	6	0.2	94	12	10	6	
S	5-04	1	6	0.2	40	8	10	2	
S	5-05	1	14	0.6	78	14	10	8	
S	5-06	1	12	0.2	60	16	10	8	
S	B 84 5-07	1	8	0.2	62	10	10	6	
S	5-08	1	4	0.2	42	8	10	4	
S	5-09	1	14	0.2	60	8	10	10	
S	5-10	1	8	0.2	78	10	10	10	
S	5-11	1	8	0.2	102	10	10	8	
S	5-12	1	8	0.4	96	12	10	10	
S	5-13	1	8	0.2	70	12	10	8	
S	5-14	1	10	0.2	92	14	10	10	
S	5-15	1	20	0.2	104	16	10	8	
S	5-16	1	14	0.2	168	14	10	6	

CERTIFIED BY :



ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

CERTIFICATE OF ANALYSIS

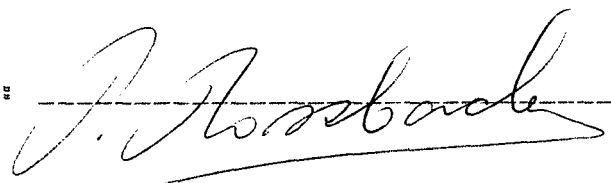
TO : A&M EXPLORATION LTD.
214-850 W. HASTINGS ST.
VANCOUVER, B.C.

PROJECT: 242

CERTIFICATE#: 84499 - 3
INVOICE#: 5087
DATE ENTERED: NOV. 19, 1984
FILE NAME: A&M499

PRE FIX	SAMPLE NAME	PPM Mo	PPM Cu	PPM Ag	PPM Zn	PPM Pb	PPB Au	PPM As	MESH SIZE
S	B 84 5-17	1	14	0.2	100	18	10	8	
S	5-18	1	14	0.2	62	12	10	8	
S	5-19	1	30	0.2	100	22	10	20	
S	5-20	1	22	0.2	130	16	10	14	
S	5-21	1	14	0.2	150	18	10	10	
S	5-22	1	26	0.2	82	18	10	16	
S	5-23	1	20	0.2	88	14	10	14	
S	5-24	1	20	0.2	76	16	10	14	
S	5-25	1	16	0.2	66	16	10	14	
S	5-26	1	14	0.2	106	20	10	12	
S	B 84 5-27	1	14	0.2	142	26	10	14	
S	G 84 6-04	1	32	0.2	114	14	10	20	
S	6-05	1	34	0.4	226	50	10	24	
S	6-06	1	16	0.2	60	16	10	12	
S	6-07	1	12	0.2	46	14	10	8	
S	6-08	1	14	0.2	54	10	10	14	
S	6-09	1	20	0.2	72	16	10	14	
S	6-10	1	14	0.2	84	12	10	14	
S	6-11	1	14	0.2	82	10	10	6	
S	6-12	1	16	0.2	38	16	10	6	
S	G 84 6-13	1	20	0.2	38	18	10	10	
S	6-14	1	16	0.4	48	18	10	10	
S	6-15	1	30	0.2	50	12	10	10	
S	6-16	1	20	0.2	44	18	10	10	
S	6-17	1	24	0.2	38	12	10	10	
S	6-18	1	18	0.2	30	4	10	8	
S	6-19	1	42	0.2	34	10	10	10	
S	6-20	1	36	0.2	26	12	10	12	
S	6-21	1	38	0.2	74	14	10	10	
S	6-22	1	22	0.2	74	8	10	12	
S	G 84 6-23	1	18	0.2	148	8	10	16	
S	6-24	1	12	0.2	114	4	10	16	
S	6-25	1	14	0.2	94	6	10	10	
S	6-26	1	14	0.2	56	8	10	10	
S	6-27	1	14	0.2	50	6	10	10	
S	6-28	1	8	0.2	66	6	10	8	
S	B 84 00+07	1	10	0.2	86	10	10	4	
S	B 84 7-01	1	14	0.2	80	10	10	28	
S	7-02	1	14	0.2	132	14	10	26	
S	7-03	1	26	0.4	84	18	10	20	

CERTIFIED BY :



ROSSBACHER LABORATORY LTD.

CERTIFICATE OF ANALYSIS

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

TO : A&M EXPLORATION LTD.
214-850 W. HASTINGS ST.
VANCOUVER, B.C.
PROJECT: 242

CERTIFICATE#: 84499 - 4
INVOICE#: 5087
DATE ENTERED: NOV. 19, 1984
FILE NAME: A&M499

PRE FIX	SAMPLE NAME	PPM Mo	PPM Cu	PPM Ag	PPM Zn	PPM Pb	PPB Au	PPM As	MESH SIZE
S	B 84 7-04	1	18	0.2	126	20	10	22	
S	7-05	1	14	0.2	52	14	10	24	
S	7-06	1	14	0.2	78	14	10	18	
S	7-07	1	12	0.2	58	16	10	24	
S	7-08	1	14	0.2	52	10	10	14	
S	7-09	1	12	0.2	60	12	10	24	
S	7-10	1	12	0.2	56	12	10	30	
S	7-11	1	12	0.2	52	14	10	24	
S	7-12	1	18	0.2	72	16	10	22	
S	7-13	1	58	0.2	108	26	10	32	
S	B 84 7-14	1	12	0.2	52	12	10	26	
S	7-15	1	10	0.2	48	10	10	20	
S	7-16	1	22	0.2	70	18	10	24	
S	7-17	1	10	0.2	48	10	10	28	
S	7-18	1	14	0.2	96	10	10	22	
S	7-19	1	12	0.2	46	14	10	36	
S	7-20	1	10	0.2	108	10	10	30	
S	7-21	1	10	0.2	106	10	10	16	
S	7-22	1	16	0.2	68	12	10	20	
S	7-23	1	12	0.2	68	10	10	20	
S	B 84 7-24	1	14	0.2	50	10	10	16	
S	7-25	1	10	0.2	48	6	10	20	
S	7-26	1	4	0.2	26	6	10	24	
S	7-27	1	16	0.2	78	12	10	20	
S	7-51	1	22	0.2	60	18	10	14	
S	9-01	1	10	0.2	40	12	10	14	
S	9-02	1	12	0.2	46	8	10	16	
S	9-03	1	8	0.2	38	6	10	12	
S	9-04	1	8	0.2	54	8	10	16	
S	9-05	1	12	0.2	30	10	10	16	
S	B 84 9-06	1	16	0.2	72	10	10	18	
S	9-07	1	10	0.2	44	8	10	14	
S	9-08	1	14	0.2	56	12	10	18	
S	9-09	1	8	0.2	38	8	10	16	
S	9-10	1	10	0.2	34	12	10	16	
S	9-11	1	10	0.2	54	10	10	12	
S	9-12	1	8	0.2	44	6	10	20	
S	9-13	1	6	0.2	28	6	10	16	
S	9-14	1	14	0.2	58	12	10	20	
S	9-15	1	6	0.2	38	8	10	14	

CERTIFIED BY :

J. Rossbacher

ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

CERTIFICATE OF ANALYSIS

TO : A&M EXPLORATION LTD.
214-850 W. HASTINGS ST.
VANCOUVER, B.C.
PROJECT: 242

CERTIFICATE#: 84499 - 5
INVOICE#: 5087
DATE ENTERED: NOV. 19, 1984
FILE NAME: A&M499

PRE FIX	SAMPLE NAME	PPM Mo	PPM Cu	PPM Ag	PPM Zn	PPM Pb	PPB Au	PPM As	MESH SIZE
S	B 84 9-16	1	6	0.2	38	8	10	12	
S	9-17	1	4	0.2	38	6	10	16	
S	9-18	1	6	0.2	58	8	10	12	
S	9-19	1	10	0.2	52	14	10	20	
S	9-20	1	20	0.2	60	20	10	24	-40
S	9-21	1	12	0.2	58	16	10	26	
S	9-22	1	8	0.2	46	8	10	28	
S	9-23	1	16	0.2	60	14	10	26	
S	9-24	1	18	0.4	58	12	10	26	
S	9-25	1	8	0.2	78	10	10	20	
S	B 84 9-26	1	10	0.2	70	12	10	24	
S	9-27	1	10	0.2	64	14	10	24	
S	9-28	1	10	0.2	54	6	10	26	
S	9-29	1	20	0.2	110	12	10	24	
S	9-30	1	12	0.2	74	10	10	26	
S	11-00	1	14	0.2	112	12	10	30	
S	11-01	1	18	0.2	68	12	10	16	
S	11-02	1	14	0.2	50	10	10	22	
S	11-03	1	18	0.2	104	20	10	24	
S	11-04	1	14	0.2	72	16	10	20	
S	B 84 11-5-25	1	18	0.2	78	16	10	22	
S	11-06	1	16	0.2	70	16	10	24	
S	11-07	1	16	0.2	70	14	10	24	
S	11-08	1	12	0.2	44	14	10	20	
S	11-09	1	20	0.2	42	14	10	20	
S	11-10	1	10	0.2	48	10	10	26	
S	11-11	1	12	0.2	50	10	10	24	
S	11-12	1	12	0.2	42	8	10	26	
S	11-13	1	8	0.2	40	6	10	22	
S	11-14	1	12	0.2	52	14	10	16	
S	B 84 11-15	1	16	0.2	60	18	10	20	
S	11-17	1	12	0.2	42	18	10	18	
S	11-18	1	10	0.2	46	10	10	28	
S	11-19	1	12	0.2	46	10	10	18	
S	11-20	1	16	0.2	92	12	10	22	
S	11-21	1	22	0.2	48	12	10	22	
S	11-22	1	20	0.4	74	16	10	16	
S	11-23	1	26	0.2	64	18	10	18	
S	11-24	1	14	0.4	64	22	10	12	
S	11-25	1	12	0.2	86	14	10	14	

CERTIFIED BY :



ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

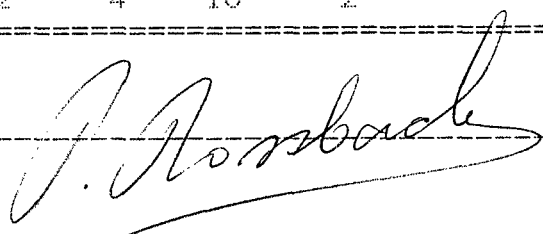
CERTIFICATE OF ANALYSIS

TO : A&M EXPLORATION LTD.
214-850 W. HASTINGS ST.
VANCOUVER, B.C.
PROJECT: 242

CERTIFICATE#: 84499 - 6
INVOICE#: 5087
DATE ENTERED: NOV. 19, 1984
FILE NAME: A&M499

PRE FIX	SAMPLE NAME	PPM Mo	PPM Cu	PPM Ag	PPM Zn	PPM Pb	PPB Au	PPM As	MESH SIZE
S	B 84 11-26	1	14	0.4	58	12	10	14	
S	11-27	1	18	0.4	86	20	10	16	
S	11-28	1	16	0.2	62	16	10	16	
S	11-51	1	20	0.2	58	16	10	14	
S	11-52	1	14	0.2	40	14	10	10	
S	B 84 20-02	1	14	0.2	42	8	10	8	
S	20-03	1	18	0.2	72	8	10	10	
S	20-04	1	14	0.2	48	8	10	10	
S	20-05	1	14	0.2	38	8	10	12	
S	20-06	1	12	0.2	54	12	10	12	
S	B 84 20-07	1	18	0.2	76	10	10	10	
S	20-08	1	16	0.2	52	8	10	10	
S	20-09	1	18	0.2	64	8	10	12	
S	20-10	1	20	0.2	66	8	10	16	
S	20-11	1	16	0.2	66	6	10	12	
S	20-12	1	16	0.2	64	8	10	10	
S	20-13	1	12	0.2	72	10	10	10	
S	20-14	1	10	0.2	48	10	10	8	
S	20-15	1	10	0.2	46	6	10	4	
S	20-16	1	8	0.2	38	6	10	4	
S	B 84 20-17	1	14	0.2	72	12	10	8	
S	20-18	1	16	1.0	124	22	10	14	
L	C 84 F-01	1	58	0.2	146	54	10	26	
L	W-01	1	18	0.2	70	40	10	14	-40
L	P 84 /S-01	1	26	0.2	88	44	10	14	-40
L	R-S 1-01	1	28	0.2	68	30	10	20	
L	2-01	1	12	0.2	42	14	10	10	
L	3A-01	1	24	0.2	74	32	26000	20	-40
A	GR 1	4	134	2.8	74	2400	170	200	
A	2	4	146	1.4	70	2030	210	228	
A	3	3	136	3.4	64	1520	370	136	
A	5	2	104	0.8	176	1180	120	22	
A	6	2	172	3.0	354	1880	50	24	
A	7	3	14	0.4	28	54	10	20	
A	8	4	266	0.2	48	74	10	70	
A	9	3	62	0.2	62	14	10	26	
A	GR 10	2	84	0.2	60	12	10	20	
A	B4 18-01	4	64	0.2	54	16	10	22	
A	02	1	54	0.4	38	16	10	8	
A	03	1	12	0.2	12	4	10	2	

CERTIFIED BY :



ROSSBACHER LABORATORY LTD.

CERTIFICATE OF ANALYSIS

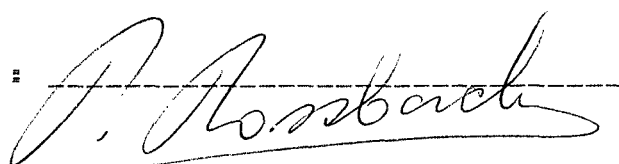
2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

TO : A&M EXPLORATION LTD.
214-850 W. HASTINGS ST.
VANCOUVER, B.C.
PROJECT: 242

CERTIFICATE#: 84499 - 7
INVOICE#: 5087
DATE ENTERED: NOV. 19, 1984
FILE NAME: A&M499

PRE FIX	SAMPLE NAME	PPM Mo	PPM Cu	PPM Ag	PPM Zn	PPM Pb	PPB Au	PPM As	MESH SIZE
A	84 18-04	2	72	0.2	60	6	10	20	
A	05	1	42	0.2	24	4	10	42	
A	06	1	204	0.4	16	16	10	202	
A	07	1	164	0.4	10	4	10	52	
A	08	2	730	0.6	12	20	10	80	
A	09	1	76	0.4	12	4	10	20	
A	10	1	304	0.4	14	16	10	162	
A	84 20-01	2	90	0.4	52	2	10	40	
A	02	2	88	0.4	44	4	10	36	
A	03	4	236	0.8	72	4	10	50	
A	04	1	18	0.2	14	4	10	10	
A	05	2	2060	1.4	22	70	220	462	
A	06	2	166	0.6	22	28	10	60	
A	G 84 R1	1	58	0.4	42	74	10	18	
A	G 84 R2	1	44	0.2	196	50	10	12	
A	QP 1	2	418	130.0	390	900	10800	210	
A	LAKE 1	2	6	0.4	16	4	10	10	

CERTIFIED BY :



APPENDIX II
SAMPLE SITES AND ANALYTICAL RESULTS
supplied by COMINCO LTD.

ACME ANALYTICAL LABORATORIES LTD.

852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE 253-3158

DATA LINE 251-1011

ASSAY CERTIFICATE

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-3 HCL-HNO₃-H₂O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN, FE, CA, P, CR, MG, BA, TI, B, AL, NA, K, W, SI, ZR, CE, SM, Y, NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK CHIPS AU: REGULAR ASSAY

DATE RECEIVED: JUNE 18 1984

DATE REPORT MAILED: *June 22/84*ASSAYER: *D. Depp*... DEAN TOYE. CERTIFIED B.C. ASSAYER

KOOTENAY EXPLORATION PROJECT # BEX-83-640-W601 FILE # 84-1143

PAGE 1

SAMPLE#	MO	CU	PB	ZN	AG	NI	CO	MN	FE	AS	U	AU	TH	SR	CD	SB	BI	V	CA	P	LA	CR	MG	BA	TI	B	AL	NA	K	W	AU
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	%	%	%	%	PPM	02/1
P84-1-A	1	13	170	22	.4	4	3	73	.68	46	2	ND	12	2	1	2	2	3	.01	.01	24	1	.01	19	.01	2	.49	.01	.09	2	.003
P84-1-B	2	21	977	23	.7	6	18	1082	.68	178	2	ND	3	3	1	2	2	3	.01	.01	5	2	.01	21	.01	2	.21	.01	.03	2	.002
P84-1-C	4	263	1154	104	1.9	11	6	89	4.75	430	2	2	12	3	2	6	2	11	.01	.05	18	9	.01	27	.01	2	.55	.01	.13	2	.047
P84-2	6	9579	811	25	5.7	9	6	69	4.54	143	5	11	2	1	3	85	317	3	.01	.02	2	5	.01	7	.01	2	.17	.01	.02	2	.232
P84-3	2	212	96	2	.3	9	6	144	2.09	10	2	ND	2	1	1	2	17	2	.01	.01	2	5	.01	4	.01	2	.08	.01	.01	2	.046
P84-4	1	75	51	8	.1	2	1	119	1.17	7	2	ND	2	1	1	6	51	2	.01	.01	2	1	.01	7	.01	2	.06	.01	.02	2	.010
P84-5	1	88	12	4	.2	21	8	93	3.15	11	2	ND	2	1	1	2	2	2	.01	.01	2	3	.01	13	.01	2	.10	.01	.02	2	.016
P84-6	1	9	25	5	.8	7	4	60	1.66	9	2	7	2	1	1	2	3	2	.01	.01	2	1	.01	6	.01	3	.07	.01	.02	2	.215
P84-7	1	17	6	4	.1	6	6	351	.88	3	2	ND	2	1	1	2	2	2	.01	.01	2	3	.01	64	.01	2	.04	.01	.01	2	.005
P84-8	1	16	10	11	.4	17	12	154	2.38	5	2	4	2	1	1	2	2	2	.01	.01	2	1	.01	22	.01	2	.10	.01	.02	2	.048
P84-9	3	22	6	2	.2	17	8	63	3.65	9	2	ND	2	1	1	2	2	2	.01	.01	2	2	.01	11	.01	2	.11	.01	.01	2	.051
P84-10	2	56	12	16	.4	27	21	406	4.84	13	2	5	2	2	2	22	2	2	.01	.01	2	1	.02	95	.01	3	.19	.01	.04	2	.258
P84-11	2	151	7	7	.1	12	7	390	3.22	7	2	ND	2	2	1	2	2	2	.01	.02	2	3	.01	88	.01	3	.21	.01	.07	2	.039
STD A-1	2	30	39	186	.3	36	13	1019	2.77	9	2	ND	2	37	2	2	2	56	.62	.11	7	64	.63	255	.10	7	2.03	.02	.19	2	-

R GROUP
BEST
KENNEDY

LOWER VEIN
EXPOSED IN
TRENCH ALONG
ROAD

F'loat Train
upper Palmer
Bar Creek

SG GENERAL

MOYIE

REPORTING DATE 13 JAN 1984

DLP

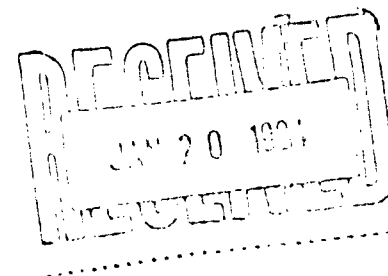
SAMPLE NUMBER	FIELD NUMBER	AU PPB	WT AU GRAM	AG PPM
R83 16330	BA1	24	5	.6
R83 16331	BA2	304	5	2.7
R83 16332	BA3	238	5	1.5
R83 16333	BA4	64	5	<.4
R83 16334	BA5	140	5	8.1
R83 16335	BA6	152	5	.9
R83 16336	BA7	20	5	1.2
R83 16337	BA8	282	5	.7
R83 16338	BA9	<10	5	<.4
R83 16339	BA10	<10	5	<.4
R83 16340	BA11	40	5	<.4
R83 16341	BA12	<10	5	<.4
R83 16342	BA13	<10	5	.6
R83 16343	BA14	40	5	.7
R83 16344	BA15	60	5	<.4

HORSESHOE VEIN
TRENCH

WHERE ANALYSIS REQUESTED BUT NO VALUES SHOWN, RESULTS ARE TO FOLLOW

ANALYTICAL METHODS

AU AQUA REGIA DECOMPOSITION / SOLVENT EXTRACTION / AAS
 AG AQUA REGIA DECOMPOSITION / AAS
 WT AU THE WEIGHT OF SAMPLE TAKEN TO ANALYSE FOR GOLD (GEOCHEM)



DATA LINE 231-1011

Float Train
upper Palmer
Bar Creek

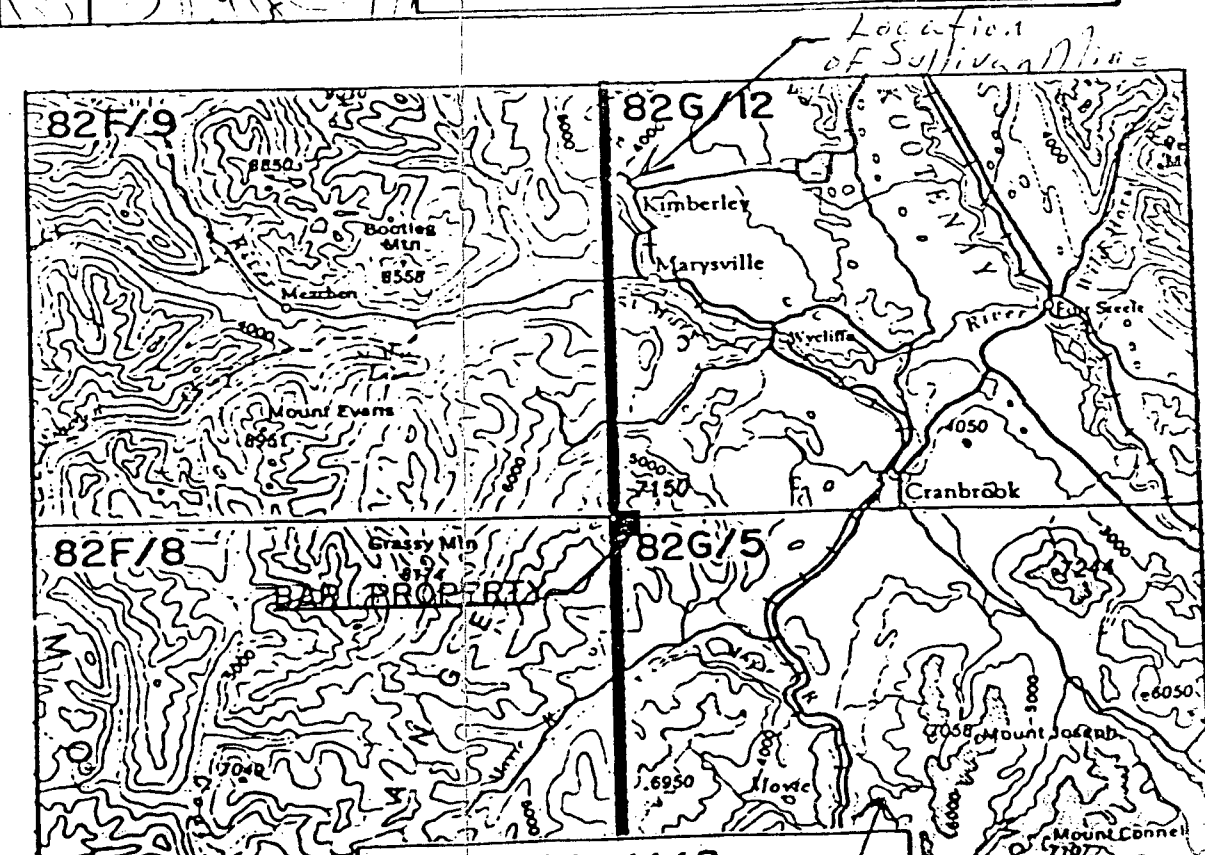
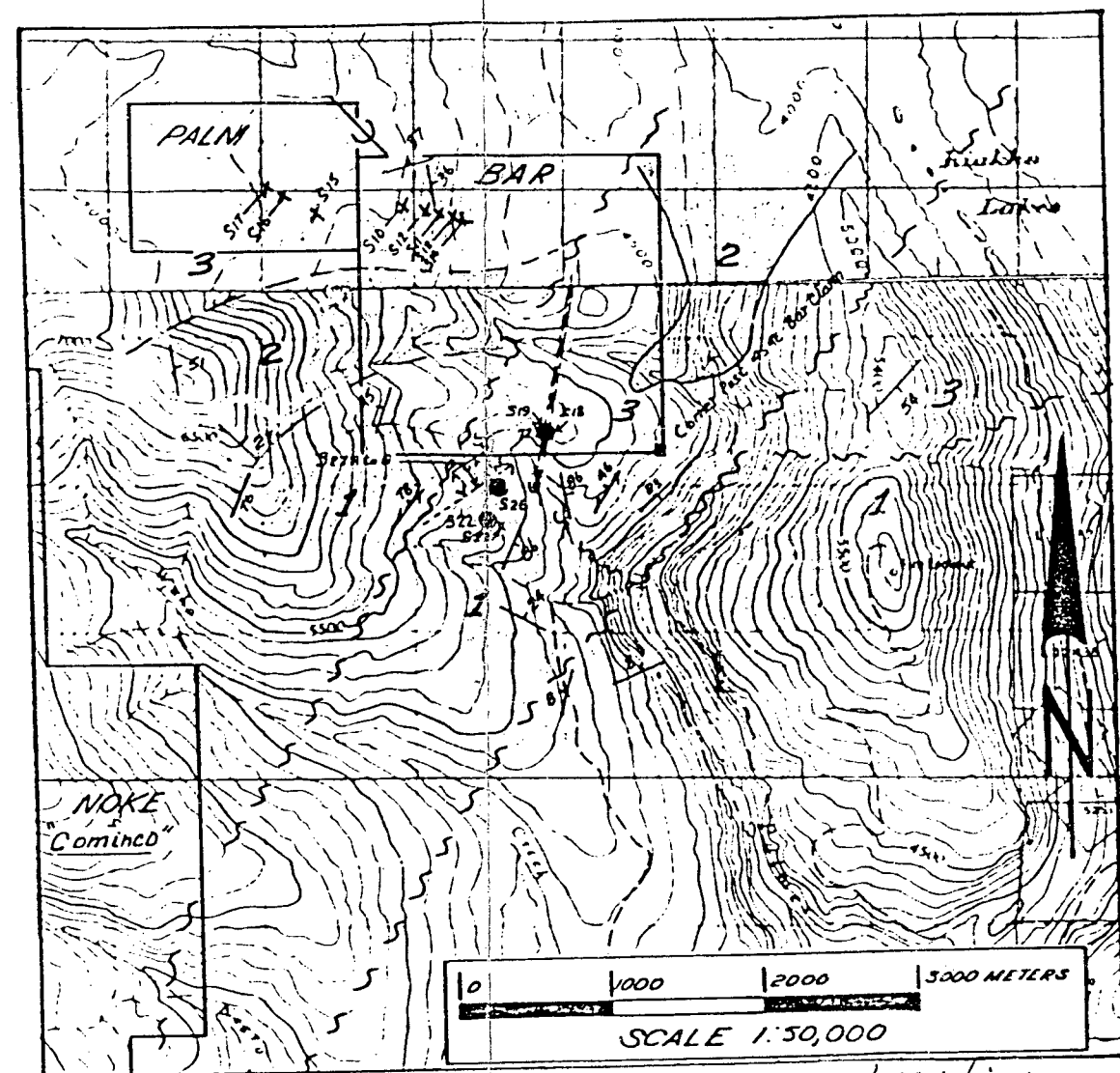
Sample No.	ASSAYS					Remarks
	Au ppb	Ag ppm	Pb ppm	Zn ppm	As ppm	
S-10	L10	L.4	L.4	13	L2	Limonitic quaoat
S-11	L10	L.4	L4	74	21	" " "
S-12	L10	L.4	L4	23	L2	" " "
S-13	L10	L.4	L4	21	L2	" " "
S-16	L10	L.4	L4	5	L2	Rose quartz f
S-17	L10	L.4	L4	18	L2	Quartz vein be
S-18A	L10	L.4	L4	37	31	abundant pyri Grab
S-18B	L10	L.4	L4	13	5	Quartz vein be leached quart "
S-18C	L10	L.4	L4	312	208	Quartz vein be geothitic qua "
S-19A	L10	L.4	12	10	33	Quartz vein be leached quart "
S-19B	L10	L.4	6	117	17	Quartz vein be limonitic qua "
S-22A	88 ¹⁰²⁷	282 ⁸⁸³	795	24	107	Quartz vein be limonitic qua "
S-22B	3350 ¹⁰⁴⁷	14.8 ⁴⁶⁷	574	23	70	Quartz vein be limonitic qua "
S-22C	26	.5	685	15	25	Quartz vein be limonitic qua "
S-23	L10	L.4	15	4	7	Limonitic & c quartz float.
S-26A	1044	39.4	3930	24	4	Quartz vein ce limonitic. "
S-26B	654	5.5	1972	950	L2	Quartz vein ce galena, pyrrhotitic. "
S-26C	L10	L.4	51	37	L2	Quartz vein ce galena, pyrrhotitic. "
S-27A	L10	L.4	43	78	21	In place limon north contact.
S-27B	L10	L.4	37	194	L2	In place lim gabbro.
S-27C	80	.9	535	4	L2	In place lim quartz in gabbro (4
S-27D	L10	L.4	26	65	L2	In place lim gabbro.
S-27E	L10	L.4	6	20	3	In place lim quartz in gabbro (4
S-27F	L10	L.4	'	139	L2	In place lim gabbro.
S-27G	L10	L.4	6	29	L2	In place lim quartz in gabbro (4
S-27H	L10	L.4	20	145	15	In place lim gabbro.
S-27I	L10	L.4	14	18	L2	In place lim quartz in gabbro (4

LEGEND

3 Creston Fm.

2 Upper Aldridge Fm.

Geology maps and Map
Taken By Pighin
or Kootenai exploration



APPENDIX III
AFFIDAVIT OF EXPENSES

AFFIDAVIT OF EXPENSES

This will certify that labour, geochemical sampling, road construction and trenching were carried out on the BAR property, Palmer Bar Creek area, Fort Steele Mining Division, British Columbia, during the periods April 14, 1984, and October 21, 1984, to the value of the following:

Labour, fieldwork, road construction, trenching,
carried out during the period April 14, 1982 and
October 30, 1984, by C. Kennedy, D. Martin, M. Best,
and J. Moreau.

Total value (as outlined on next page) \$19,241.88

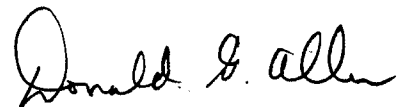
Mobilization and fieldwork

Engineering fees D. Allen and G. Allen	\$ 1,200.00
Geochemical analysis	3,767.39
Room and board	110.92
Telephone	19.65
Vehicle and travel expense	220.24

Report preparation and draughting

Engineering fees	\$ 2,400.00
Maps, photocopying	198.74
Typing, draughting, compilation	1,295.00

Total	\$28,453.82
-------	-------------



Donald G. Allen,
P. Eng. (B. C.)

PREFORMED WORKS: BAR PROPERTIES EAST KOOTENAY

April 14, 1984
June 15, 1984 Total of 13 mandays @ \$150.00 per day
June 16, 1984 = \$1,950.00
October 6, 1984 Total of 7 vehicle days @ \$55.00 per day
October 15, 1984 = \$ 385.00
October 17, 1984
TOTAL COST = \$2,335.00

Work Preformed

- General prospecting, Tracing float material etc.

September 22, 1984 Total of 2 mandays @ \$150.00 per day
September 23, 1984 = \$300.00
TOTAL COST = \$300.00

Work Preformed

- General administration, Mapping, Ministry of Mines 9-10 reports

August 31, 1984 Total of 4 mandays @ \$150.00 per day
October 27, 1984 = \$ 600.00
Total of 2 vehicle days @ \$55.00 per day
= \$ 110.00
TOTAL COST = \$ 710.00

Work Preformed

- Days spent with geologists

September 8, 1984
September 22, 1984 Total of 18 mandays @ \$150.00 per day
September 30, 1984 = \$2,900.00
October 7, 1984 Total of 8 vehicle days @ \$55.00 per day
October 13, 1984 = \$ 440.00
October 14, 1984 TOTAL COST = \$3,340.00
October 16, 1984

Work Preformed

- Running Geo-Chem lines

October 26, 1984	Total of 3 mandays @ \$150.00 per day	
October 27, 1984	=	\$ 450.00
October 29, 1984	TOTAL COST	= \$ 450.00

Work Preformed

- Mapping and drafting of geo-chem lines
- Boxing and shipping of geo-chem and rock samples

October 15, 1984		
October 16, 1984	Total of 11 mandays @ \$150.00 per day	
October 18, 1984	=	\$1,650.00
October 19, 1984	Total of 5 vehicle days @ \$55.00 per day	
October 20, 1984	=	\$ 275.00
October 21, 1984	TOTAL COST	= \$1,925.00

Skidder time	\$6,920.00
Cat time	\$2,621.88
TOTAL EQUIPMENT	\$9,541.88

Work Preformed

- Falling and skidding of merchantable timber on road and trench sites
- Trenching to expose rock on five sites
- Construction of road to trench site
- Supervision of trenching and skidding operations
- Mapping and sampling of trench sites

Equipment and supplies (Geo-chem supplies, shipping samples etc.)

TOTAL COSTS	=	\$ 640.00
-------------	---	-----------

TOTAL COSTS ON BAR PROBERTIES TO DATE = \$19,241.88

*Map Showing Geo-chem Lines + Plots
and Locations of Rock Samples. Forth coming*

