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A GEOCHEMICAL and GEOLOGICAL REPORT

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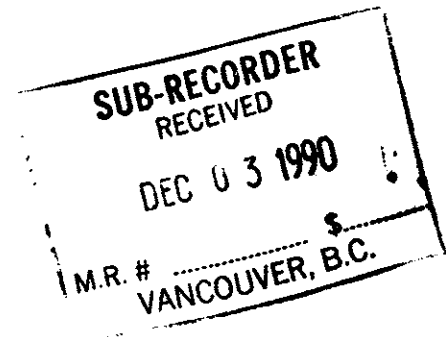
JJ-1 and BARB 1-4 MINERAL CLAIMS

Omineca Mining Division

NTS: 93L/6W

Longitude: 127 24'W

Latitude: 54 27' 30"N



By:

Jim Cuttle
#82-1036 Premier St.,
North Vancouver, B.C.
V7J-2H2

Nov 23, 1990
GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,601

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Maps

Map #1	Property Map with Sample Location (1:10,000) in back
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Introduction

The JJ-1 and Barb 1-4 mineral claims are located on NTS 93L/6W in the Omineca Mining Division of British Columbia. The town of Smithers B.C. serves as the closest supply center to the property. This report describes the local mineralization on and surrounding the Barb and JJ claims as well as a description of the limited amount of field work carried out during the 1990 field season to keep these claims in good standing.

Location and Access

This group of 24 mineral claims is located 39 kilometers south southwest of Smithers B.C. in a chain of mountains known as the Telkwa Range. Several old haulage roads branching off the Telkwa River road at Telkwa have been pushed into the property dating back to exploration work in the early 1970's. At present they need only minor bridge repair and cat work to make these roads driveable. Much of the claim block is above or at treeline and includes grassy highland plateaus, talus filled cirques and large spruce forests.

Claim Status and Ownership

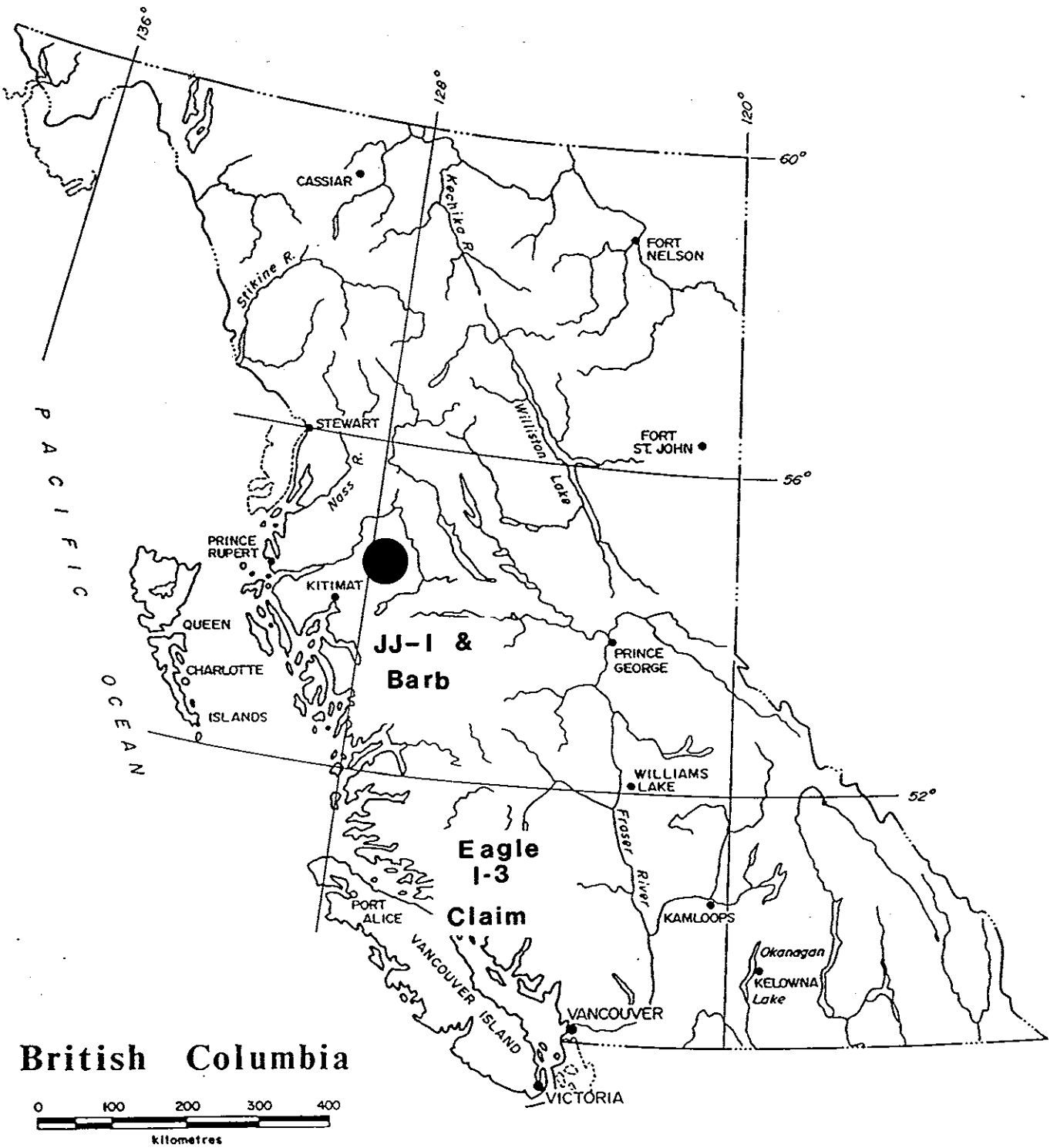
A total of 24 mineral claims make up the entire property, all of which are located in the Omineca Mining Division of British Columbia. The following is a breakdown of their current status including assessment recorded for the 1990 field work.

<u>Claim</u>	<u>Record #</u>	<u># units</u>	<u>Recording Date</u>	<u>Expiry Date</u>
Barb-1	4942	1	Oct 29/82	Oct 29/92
Barb-2	4943	1	Oct 29/82	Oct 29/92
Barb-3	4944	1	Oct 29/82	Oct 29/92
Barb-4	4945	1	Oct 29/82	Oct 29/92
JJ-1	12176	20	Jul 14/90	Jul 14/92

These claims are owned 100% by J.Cuttle of North Vancouver.

History and Mineralization

History of previous work first dates back to 1907-1910 when Telkwa Mining and Development worked several mineralized (Cu,Ag,Zn) showings in this area, namely the Duchess, Santa Maria, War Eagle, Jefferson, and Evening. Other companies had active exploration programs in and around the area such as Dockrill Syndicate in 1916-17, Cominco Ltd. in 1928-29, Kennecott Copper in 1952 and Norcan Mines from 1966-70. Not all these programs



PROPERTY LOCATION			
DRAWN	w.g.i.	SCALE	see above
DATE	Sept. 1990	FIG. No.	1



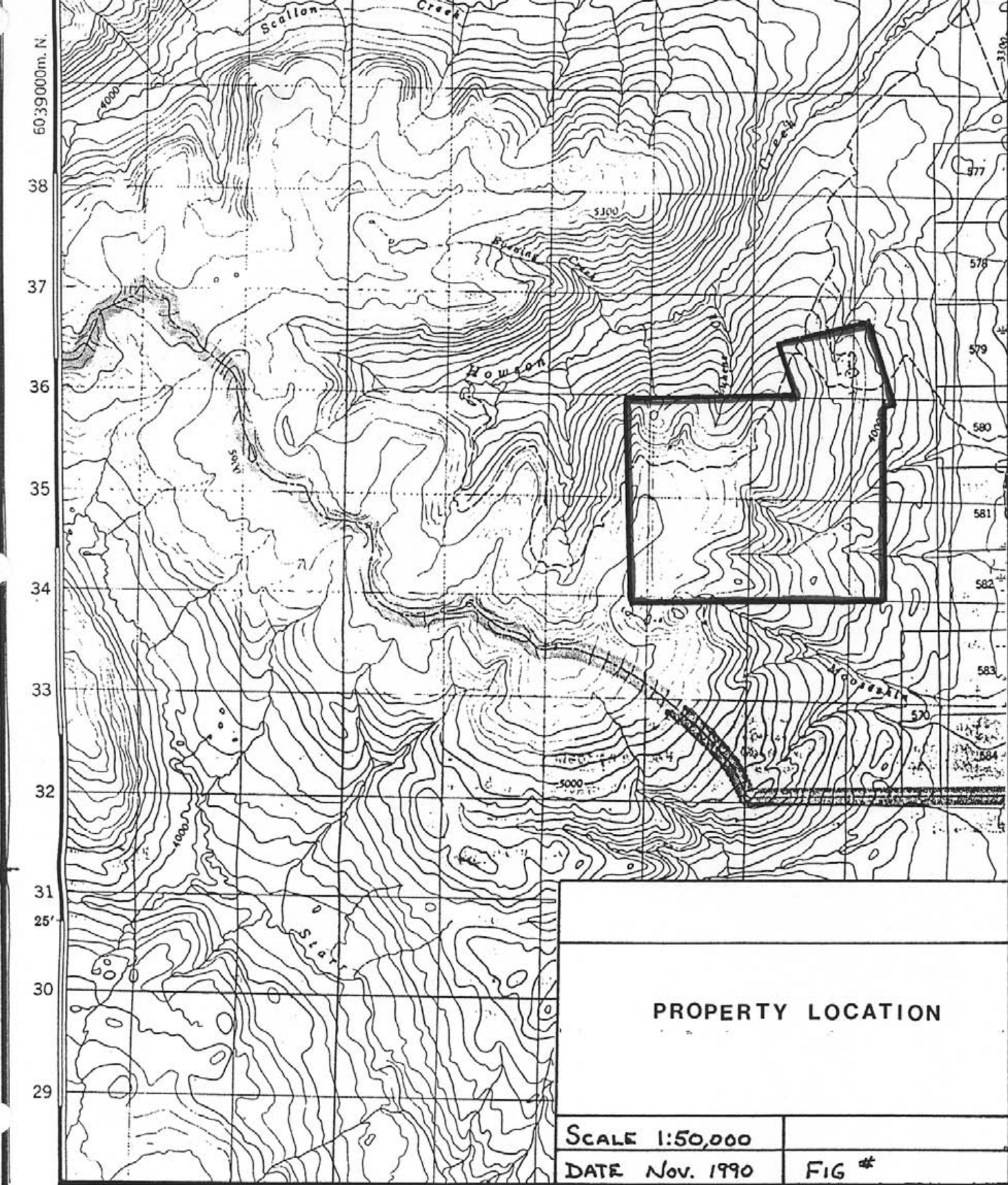
LOCATION MAP

(Barb & JJ Claim)

SCALE 1:2,000,000 FIGst

127°30' 598000m E. 99 00 01 02 25' 03 04 05 06

64°30'

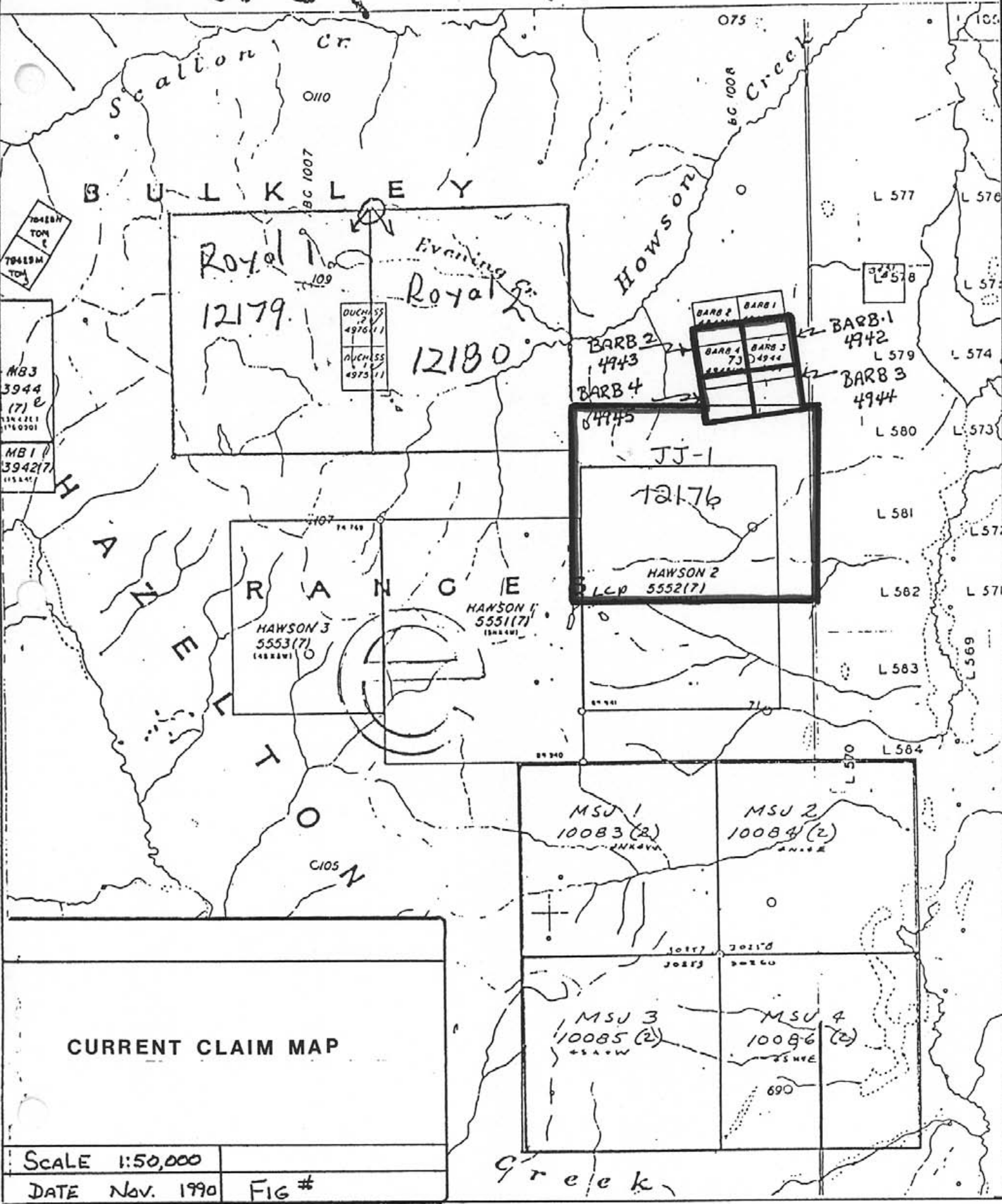


PROPERTY LOCATION

SCALE 1:50,000

DATE Nov. 1990

FIG #



CURRENT CLAIM MAP

SCALE 1:50,000

DATE Nov. 1990

FIG #

Greek

have made assessment reports available to the public and consequently alot of the data generated remains hidden in private files. There are two known showings found within the present day property boundaries, the "Santa Maria" located on the Barb 1-4 claims and the "War Eagle" located on the newly staked JJ-1 claim. Several other showings surround this area to the west, southwest and south known respectably as the "Duchess and Evening", the "Princess" and the "MSJ". All of these showings are representative of vein type Cu-Ag-Zn mineralization or porphyry style Cu-Mo-Au mineralization. The following is a description of each individual showing as written up by Vic Preto of the B.C.D.M in 1967:

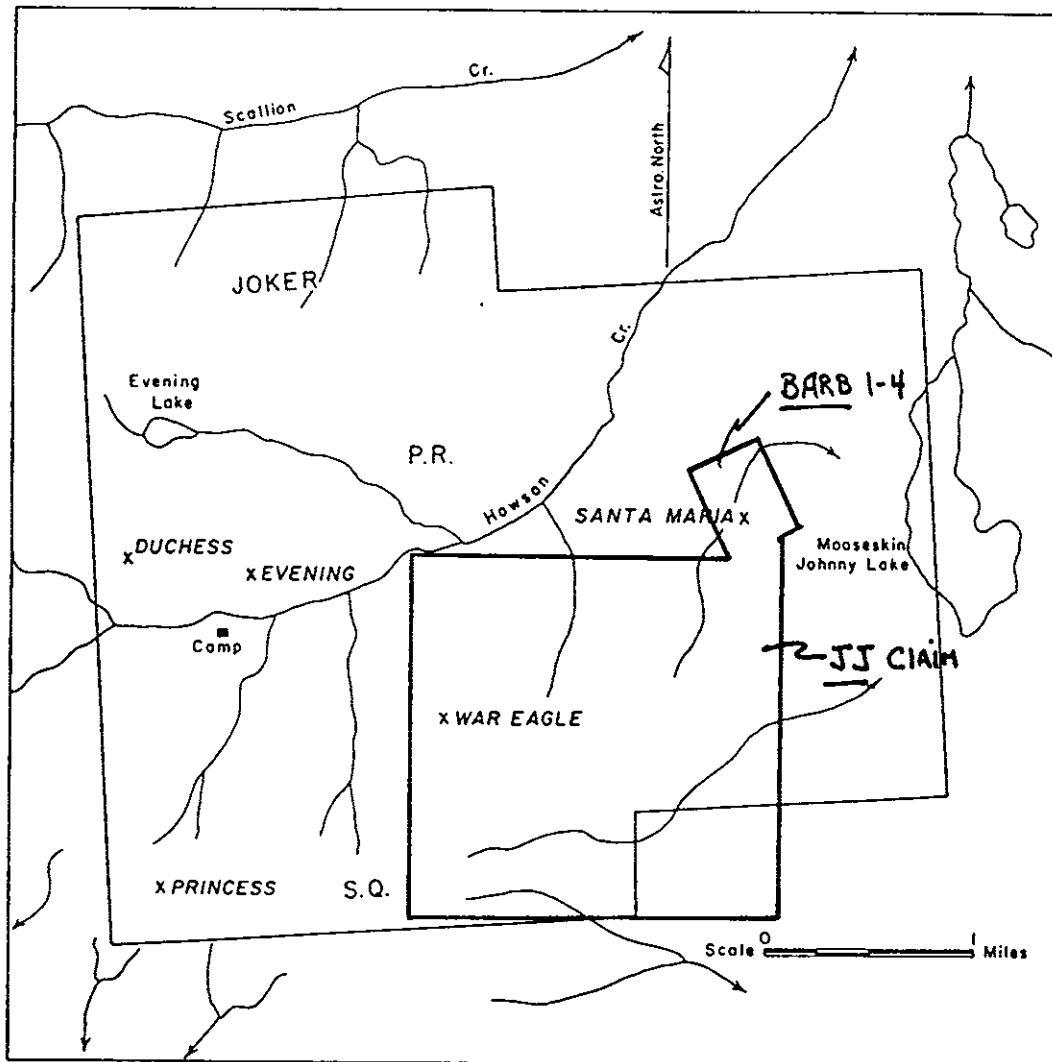


Figure 8. Norcan Mines Ltd. Sketch-map showing the location of the mineralized showings in Howson Basin.

War Eagle (Ag,Cu,Zn): "The country rocks belong to the Hazelton Group and include fine grained green andesitic or basaltic lava, buff to purple tuff, and volcanic breccia. Rock fragments up to 12 inches in their greatest dimension were observed in the latter. Layering of these strata trends in several directions, from east-west to northerly. Dips are generally moderate to steep to the north, northeast, or east. Some southwesterly dips were observed locally. Numerous narrow feldspar porphyry dykes, some of which are intensely epidotized and sparsely mineralized with sulphides, cut the volcanic rocks in an easterly direction. What mineralization was seen in the ground that was examined consists of scattered narrow shears trending northeasterly and northwesterly and mineralized with pyrite, chalcopyrite, hematite, bornite, and locally low-iron sphalerite. A prominent shear trends north 50 to 60 degrees west across the cirque wall and is marked by a 50 to 75 foot zone of reddish tuff, abundantly stained by iron oxide and mineralized with pyrite and very minor chalcopyrite. Later narrow veins of coarse-grained calcite follow this zone."

Santa Maria (Ag,Cu,+/-Au): "Work done on the Santa Maria during the early stages of exploration consists of an inclined shaft, which by 1917 had been sunk along the main vein to a depth of 120 feet, and of approximately 300 feet of drifting from two levels in the shaft. From these workings some stoping was done, and in 1917 a shipment of 239 tons of hand sorted ore grading 17% copper, 9.5 oz/ton silver, and traces of gold was made to the Anyox smelter. Mineralization at the Santa Maria consists of quartz veins, carrying chalcopyrite, pyrite, chalcocite and bornite, which have been traced by trenching for a strike length of over 1700 feet. In addition to the Santa Maria vein, another parallel vein the S.H vein, and other minor veins have been found through diamond drilling and recent trenching. The vein system strikes approximately north 30 degrees west and dips southwesterly at moderate to steep angles. The veins occurs over a surface width of 250 to 300 feet and follow a zone of intensely altered and sheared pyroclastic rocks of the Hazelton Group. These comprise reddish lapilli tuff and volcanic breccia, and buff to greenish fine-grained highly altered andesitic lava or intrusive rock. In addition to these rocks dykes of buff, cream, and brick red rhyolite porphyry are found. The dykes are crudely parallel to the vein structures, are generally strongly altered, and may be sparsely mineralized with sulphides. In addition to the strong shearing and alteration within the vein zone, an extensive amount of saussurite alteration of the country rocks accompanied by sparsely distributed silicification and sulphide mineralization was noted on either side of the main zone of shearing.

Naturally occurring exposures at the Santa Maria are virtually non-existent but from examination of the trenches and of the company maps it is evident that here, as at the Duchess, faulting and shearing along a northerly trending zone have played

an important role in displacing the mineralized veins, so as to greatly complicate the picture."

Duchess(Cu,Ag):"The main Duchess workings consist of two adits and of several crosscuts. The Duchess vein, a northerly trending shear zone mineralized with chalcopryrite pyrite, hematite, and quartz is exposed at the upper portal. Tetrahedrite is also reported from the vein. The shear is localized near the contact between a fine grained green epidotized andesite to the west and a fine grained purplish-brown to olive brown tuff to the east. The width of mineralization ranges up to 12 feet. Highly broken and sheared, buff coloured feldspar porphyry dykes cut the volcanic rocks and carry only very minor amounts of sulphides. A few feet above the upper portal, a narrow vesicular basaltic dyke parallels the vein and cuts through the middle of the mineralized zone."

Evening(Cu,Ag) : "Old records show that in 1907 an adit was driven for seventy feet in a direction of north 20 degrees east along a zone of low grade mineralization. More recent workings done by Norcan Mines Ltd. consist of several narrow hand trenches which expose narrow irregular shears with veins of quartz replacement and sulphide mineralization in highly epidotized and chloritized buff, reddish, and greenish fine grained andesitic tuffs and flows of the Hazelton Group. The mineralized shears trend northeast to east and dip at moderate angles to the north. They are found between two precipitous narrow gullies and may represent fractures subsidiary to northerly trending faults which probably follow the gullies."

Princess(Cu,Ag,Zn) : "Development work done on the Princess is limited. Kennecott examined the showing in 1952, and several hand trenches, mostly badly caved, remain as a sign of their work. The showings are found on the rim of the cirque which is located at the head of a northerly flowing tributary of Howson Creek, in the southwestern corner of the claim block. Mineralization consists of several narrow shears and veinlets of hematite, iron rich sphalerite and chalcopryrite in a gangue of white calcite and quartz. The host rock is highly sheared and thoroughly epidotized fine-grained greenish lava of the Hazelton Group. The mineralized zone occupies a width of approximately 200 feet along the rim of a cirque and marks a northerly trending shear zone which is the southern extension of the northerly fault found at the Duchess.

MSJ(Au,Cu,Mo) : The MSJ 1-4 mineral claims cover a probable L.Cretaceous to Eocene age quartz monzonite intrusive located approximately 2.5 kilometers south of the JJ-1 claim. The porphyry intrudes Jurassic age Hazelton Group andesite flow and tuffs which are generally flat lying. A large and partly concentric zone of propylitic, argillic and lesser phyllic alteration has been recognized in various outcrops in the area

coincident with several accompanying anomalous Au,Cu,Mo silt and rock samples (Au,Cu,Mo up to 350,132,3 respectively). From assessment reports dating back to 1970 a large and rather extensive chargeability I.P anomaly has been isolated over this known alteration zone.

1990 Field Work and Results

Of particular interest within the boundaries of this property are the previously known showings the Santa Maria and War Eagle Cu,Ag vein type mineral occurrences. The "Santa Maria" presently covered by the Barb 1-4 claims has been a previous copper-silver producer during the early 1900's while the "War Eagle" prospect found in the western side of the JJ-1 claim is an extensive zone of Cu-Ag-Zn enrichment. A highly gossanous plug of Cretaceous to Eocene feldspar porphyry intruding the Hazelton Group volcanics is found in the central part of the JJ-1 claim and it is believed to be intimately associated with the surrounding Cu-Ag-Zn mineralization. The contacts of the feldspar porphyry with the country rock are highly siliceous, brecciated and represent a possible zone of precious metal enrichment. From previous assessment work no analysis have been conducted for gold mineralization on or around the intrusive plug. These three targets were quickly investigated during the July 1990 and the results from the silt and rock sampling are as follows:

The F.P Zone: A total of eight rock samples were taken from the gossanous and brecciated zones of the feldspar porphyry plug.

JJ-R-1 float in south fork of creek at 4230' in the southern portion of the claim block. Feldspar porphyry, almost syenitic and slightly silicified. 3% disseminated pyrite.

Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
2	.1	13	9	50	68	1

JJ-R-2 float in south fork of creek at 4440'. Quartz breccia in intrusive with minor quartz and pyrite veins.

Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
1	.1	1	9	21	25	2

JJ-R-3 o/c along trench 10 meters down slope of the Bethex drill hole N-1 mentioned above. Sample of highly silicified feldspar porphyry (?) with mm scale quartz stockwork and diss py.

Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
1	1.1	13	127	39	64	8

JJ-R-4 o/c along trench 13 meters down slope of the drill hole. Bleached quartz breccia with weathered pyrite.

Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
60	7.5	27	35	36	34	53

JJ-R-5 o/c along trench 20 meters below drill hole in trench. Quartz stockwork in intrusive feldspar porphyry to felsite.

Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
2	2.0	18	74	35	22	7

JJ-R-6 o/c along trench 40 meters below drill hole. Rusty clay altered felsite with diss pyrite.

Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
1	.1	28	137	34	75	1

JJ-R-7 o/c along trench 80 meters below drill hole. Altered and silicified feldspar porphyry with 3% pyrite.

Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
3	1.1	22	120	44	130	3

JJ-R-8 o/c along trench 75 meters below drill hole. Rusty and siliceous beige quartz rich intrusive with mm scale qtz stockwork and pyrite.

Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
1	.1	6	84	32	117	1

The 6 samples taken in the trenched area are all grabs samples of gossanous and bleached contacts zones of the feldspar porphyry. The stockwork zones in particular are of interest geologically although with only limited rock sampling to date there is yet no indication of highly anomalous precious metal enrichment.

The War Eagle Zone: Six rock samples were taken at various mineralized trench locations in the "War Eagle" area. The previously recorded assessment work has no data on gold analysis from this area and the following suggest the possible gold enrichment of these basically Cu-Ag-Zn rich vein systems.

JJ-R-9 sub o/c along ridge top above Lukens Cr. Mafic volcanic with mal, calcite and tetrahedrite in veins. Possibly the old "War Eagle" showings.

Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
2	7.7	36	2739	42	57	2

JJ-R-10 Similar location as above. Vein material with high % of sphalerite. From old pit.

Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
1	1.1	1	497	77	23710	1

JJ-R-11 Similar location as above. Pyrite, hematite and tetrahedrite or hematite in mafic volcanic.

Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
2	1.3	1	365	61	330	1

JJ-R-12 Float from small trench in south west corner of claim block. Fe stained mafic volcanic with pyrite. Very heavy.

Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
4	2.6	68	2191	1098	7780	6

JJ-R-13 Same location as above (JJ-R-12). Tetrahedrite and Mal in mafic volcanic.

Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
112	33.6	109	5724	375	411	7

JJ-R-14 float from trench approximately 150 meters NE of the LCP. Cpy rich mafic volcanic.

Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
40	11.3	33	17321	97	1036	22

The sampling of the War Eagle zone was intended to verify the previously known copper-silver-zinc assays recorded in assessment. Further follow-up work is needed to isolate more encouraging targets.

Santa Maria: Only five samples of the ore dumps were taken here to confirm the previously recorded results. Samples JJ-R-15 to 19 are samples from the old Santa Maria Cu-Ag veins located in the NE section of the claim. They all contain tetrahedrite and malachite in qtz vein material.

		Au(ppb)	Ag(ppm)	As	Cu	Pb	Zn	Mo
JJ-R-15	(sub o/c)	20	65.9	1136	4.31%	176	192	30
JJ-R-16	(---"---)	41	56.6	902	10.9%	208	109	64
JJ-R-17	(---"---)	17	46.2	783	7.06%	116	146	15
JJ-R-18	(---"---)	141	25.9	1044	7.08%	126	105	26
JJ-R-19	(---"---)	120	24.2	1043	5.11%	91	46	131

The four silt samples taken along the easterly draining creek within the known intrusive feldspar porphyry plug did not isolate indications of Cu-Au-Mo mineralization, although with the relatively few samples taken it is premature to suggest that mineralization does not exist.

Conclusion and Recommendations

Results from the 1990 property visits and known but unrecorded assessment work will be used to encourage mining groups to take part in an exploration venture on the mineral claims. Of particular interest will be to cover most of the intrusive feldspar porphyry location with soil and rock sampling and have them all run for 12 element ICP and fire geochem for gold. The old Santa Maria adit could be de-watered cheaply and a re-investigation of the old workings should be conducted particularly along the richer stopes on the first level and along strike of the main shaft.

STATEMENT OF QUALIFICATIONS

I, JIM CUTTLE, of the Municipality of North Vancouver, in the Province of British Columbia, certify as follows regarding the work performed on the JJ-1 and Barb 1-4

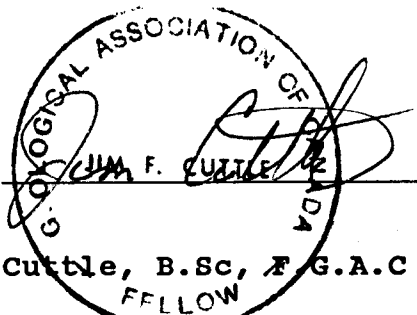
That I am a geologist having practised my profession in Canada and Norway for the past 11 years.

That I am a graduate of the University of New Brunswick with a Bachelor of Science in Geology.

That I am presently working as a private consultant at the home address of # 82-1036 Premier Street, North Vancouver, B.C.

That I am a Fellow of the Geological Association of Canada.

Signed:



JIM F. CUTTLE

Jim Cuttle, B.Sc, F.G.A.C

November 23, 1990

APPENDIX 1

APPENDIX 2



Province of British Columbia
 Ministry of Energy, Mines and Petroleum Resources
 MINERAL RESOURCES DIVISION - TITLES BRANCH

DOCUMENT NO. _____
 OFFICE USE ONLY

Mineral Tenure Act
 SECTION 52

BILL OF SALE ABSOLUTE

INDICATE TYPE OF TITLE MINERAL
 (Mineral or Placer)

PAID
 GOVERNMENT AGENT
 \$4000 SEP 07 1990
 15:42 8.D.
 SMITHERS
 TRANS. # 1000075
 RECORDING STAMP

SELLER

I, F.J. HEMELSPACK
 (Full Name)
Box 2744
 (Mailing Address)
SMITHERS B.C.
 (City) (Province)
VOJ-2ND
 (Telephone) (Postal Code)
 Valid and Subsisting FMC 28/272
 FMC Code HEMEFJ

PURCHASER

JIM CUTTLE
 (Full Name)
#82-1036 PREMIER ST.
 (Mailing Address)
NORTH VANCOUVER, B.C.
 (City) (Province)
986-8933 VJ-2H2
 (Telephone) (Postal Code)
 Valid and Subsisting FMC 290949
 FMC Code CUTTJF

For and in consideration of the sum of \$1.00 (ONE) dollars (\$ 1.00)
 paid to me, do hereby sell 100% of my interest in the following mineral titles located in the
 (Specify Percentage)

CHINECA Mining Division:

CLAIM NAME	TITLE NUMBER	CLAIM OR LEASE
<u>BARB 1</u>	<u>4942</u>	
<u>BARB 2</u>	<u>4943</u>	
<u>BARB 3</u>	<u>4944</u>	
<u>BARB 4</u>	<u>4945</u>	

I declare that I have good title to these records and every right to sell the same, in witness whereof I have today signed my legal name.

[Signature]
 (Signature of Witness)

Sept 7-1990
 (Date)
[Signature]
 (Signature of Seller)

Sept 7/90

To whom it may concern

With regard to the BARB 1-4 2 post mineral claims located in the Omioneca Mining Division on NTS 93L/6W, I would bring to your attention a more accurate location of the claims. This attached amendment to the claim map is the true location of these claims

Regards

Jim Cutler

Jacobs F.S. Hemmelspeck
E. Hemmelspeck

APPENDIX 3

MINFILE NUMBER: 093L 061

NATIONAL MINERAL INVENTORY: 093L6 Cu5

NAME(S): PRINCESS, CACHE, SQ

STATUS: Showing
NTS MAP: 093L06W
LATITUDE: 54 26 43
LONGITUDE: 127 26 49
ELEVATION: 1676 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located on the summit at the head of Howson Creek, 42 kilometres south-southwest of Smithers.

MINING DIVISION: Omineca
UTM ZONE: 09
NORTHING: 6033959
EASTING: 600712

COMMODITIES: Zinc Copper Silver

MINERALS

SIGNIFICANT: Sphalerite Chalcopyrite Hematite
ASSOCIATED: Quartz Calcite
ALTERATION: Hematite
ALTERATION TYPE: Epidote Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic

HOST ROCK

DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Hazelton	Undefined Formation	Unnamed/Unknown Informal
Juro-Cretaceous			

LITHOLOGY: Andesite
Pyroclastic
Porphyry
Acid Dyke
Basic Dyke

HOST ROCK COMMENTS: Hazelton volcanics are intruded by both Bulkley and Topley Intrusives.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Stikinia

Plutonic Rocks

PHYSIOGRAPHIC AREA: Hazelton Ranges

CAPSULE GEOLOGY

The area is underlain by Jurassic Hazelton Group volcanics that have been intruded by Late Cretaceous Bulkley and Jurassic Topley Intrusions. In the vicinity of the occurrence, the rocks are mainly andesitic flows and pyroclastic strata of the Hazelton Group which have been cut by numerous basic and acid dykes. The volcanics are generally strongly chlorite and epidote altered.

The Princess showing occurs in highly sheared and epidotized fine-grained, greenish volcanics. Mineralization consists of several narrow shears and veinlets of hematite, iron-rich sphalerite and chalcopyrite in a gangue of white calcite and quartz.

BIBLIOGRAPHY

EMPR AR 1909-275; 1966-92; 1967-91-97, Fig. 9; 1968-127
EMPR ASS RPT 919, 929
EMPR PF (*Hunter, S.J. (1966): Howson Basin Property, Telkwa River Area; Norcan Mines Ltd. Prospectus)
*Hunter, S.J. (1967): Howson Basin Property; Telkwa River Area)
EMPR MAP 69-1

MINFILE NUMBER: 093L 061

RUN DATE: 10/23/90
RUN TIME: 07:55:47

MINFILE / pc
MASTER REPORT
GEOLOGICAL SURVEY BRANCH - MINERAL RESOURCES DIVISION
MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

PAGE: 2
REPORT: RGEN4000

BIBLIOGRAPHY

GSC BULL 270
GSC P 44-23
GSC OF 351

DATE CODED: 850724
DATE REVISED: 881128

CODED BY: GSB
REVISED BY: LLD

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 093L 061

MINFILE NO.: 093L 061

NATIONAL MINERAL INVENTORY NO.: 093L6 Cu5

NAME(S): PRINCESS, CACHE, SQ

STATUS: Showing
 N.T.S.: 093L06W

MINING DIVISION: Omineca

LATITUDE: 54 26 43

UTM ZONE: 9

LONGITUDE: 127 26 49

UTM NORTHING: 6033959

ELEVATION: 1676 Metres

UTM EASTING: 600712

COMMENTS: Located on the summit at the head of Howson Creek, 42 kilometres south-southwest of Smithers.

LOCATION ACCURACY: Within 500 M

COMMODITIES:	Zinc	Copper	Silver
SIGNIFICANT MINERALS:	Sphalerite	Chalcopyrite	Hematite
ASSOCIATED MINERALS:	Quartz	Calcite	
ALTERATION MINERALS:	Hematite		
ALTERATION TYPE(S):	Epidote	Chloritic	
AGE OF MINERALIZATION:	Unknown		
DEPOSIT CHARACTER:	Vein		
DEPOSIT CLASS.:	Epigenetic		

DOMINANT HOST ROCK: Volcanic

GROUP: Hazelton

STRATIGRAPHIC AGE: Lower Jurassic

IGNEOUS/METAMORPHIC/OTHER: Unnamed/Unknown Informal

STRATIGRAPHIC AGE: Juro-Cretaceous

LITHOLOGY: Andesite
 Pyroclastic
 Porphyry
 Acid Dyke
 Basic Dyke

COMMENTS: Hazelton volcanics are intruded by both Bulkley and Topley Intrusives.

TECTONIC BELT: Intermontane

TERRANE: Stikinia

Plutonic Rocks

PHYSIOGRAPHIC AREA: Hazelton Ranges

GEOLOGY: The area is underlain by Jurassic Hazelton Group volcanics that have been intruded by Late Cretaceous Bulkley and Jurassic Topley Intrusions. In the vicinity of the occurrence, the rocks are mainly andesitic flows and pyroclastic strata of the Hazelton Group which have been cut by numerous basic and acid dykes. The volcanics are generally strongly chlorite and epidote altered. The Princess showing occurs in highly sheared and epidotized fine-grained, greenish volcanics. Mineralization consists of several narrow shears and veinlets of hematite, iron-rich sphalerite and chalcopyrite in a gangue of white calcite and quartz.

BIBLIOGRAPHY: EMPR AR 1909-275; 1966-92; 1967-91-97, Fig. 9; 1968-127
 EMPR ASS RPT 919, 929

MINFILE NO.: 093L 061
 CONTINUED...

RUN DATE: 89/09/16
RUN TIME: 00:56:09

MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES
MINERAL RESOURCES DIVISION - GEOLOGICAL SURVEY BRANCH
MINFILE - REPORT

PAGE: 139

EMPR PF (*Hunter, S.J. (1966): Howson Basin Property, Telkwa
River Area; Norcan Mines Ltd. Prospectus)
*Hunter, S.J. (1967): Howson Basin Property; Telkwa River
Area)

EMPR MAP 69-1
GSC BULL 270
GSC P 44-23
GSC OF 351

DATE CODED: 850724
DATE REVISED: 881128

CODED BY: GSB
REVISED BY: LLD

FIELD CHECK: NO
FIELD CHECK: NO

MINFILE NO.: 093L 061

B
C

S
Y
S
T
E
M
S

RUN DATE: 10/23/90
RUN TIME: 07:55:47

MINFILE / pc
MASTER REPORT
GEOLOGICAL SURVEY BRANCH - MINERAL RESOURCES DIVISION
MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

PAGE: 3
REPORT: RGEN4000

MINFILE NUMBER: 093L 062

NATIONAL MINERAL INVENTORY: 093L6 Cu2

NAME(S): WAR EAGLE, ANNA EVA

STATUS: Showing
NTS MAP: 093L06W
LATITUDE: 54 27 26
LONGITUDE: 127 24 25
ELEVATION: 1631 Metres
LOCATION ACCURACY: Within 500M

MINING DIVISION: Omineca
UTM ZONE: 09
NORTHING: 6035346
EASTING: 603275

COMMENTS: Located on the southeast side of Howson Creek Basin, 39 kilometres south-southwest of Smithers.

COMMODITIES: Copper Silver Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Sphalerite Hematite Pyrite
ASSOCIATED: Calcite
ALTERATION: Limonite Epidote
ALTERATION TYPE: Oxidation Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Disseminated
CLASSIFICATION: Epigenetic
DIMENSION: 0000 X 0000 X 0000 Metres STRIKE/DIP: 305 TREND/PLUNGE:
COMMENTS: Mineralized gossan crosscut by post-mineral calcite veins.

HOST ROCK

DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Hazelton	Undefined Formation	
Tertiary-Cretaceous			Unnamed/Unknown Informal

LITHOLOGY: Andesite
Basalt
Tuff
Volcanic Breccia
Porphyritic Granodiorite
Quartz Porphyry
Felsite
Aplite

HOST ROCK COMMENTS: Porphyry Intrusion.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Stikinia

Plutonic Rocks

PHYSIOGRAPHIC AREA: Hazelton Ranges

CAPSULE GEOLOGY

The area is mainly underlain by Lower Jurassic Hazelton Group andesitic to basaltic flows, tuffs, and breccia. Late Cretaceous to Eocene granodiorite, granite, quartz-feldspar porphyry, aplite and felsite in the form of dykes, sills and small stocks intrude the Hazelton rocks. Several small occurrences of copper-silver mineralization are related mainly to fracturing and brecciation in the epidotized volcanics. Mineralization consists of pyrite, chalcopyrite, hematite, bornite, and locally, sphalerite. There are also minor patches of disseminated chalcopyrite.

A large gossanous area located about 800 metres southeast of the vein showings is associated with a felsitic stock. The gossan is a predominant shear striking 305 degrees and is marked by a 15 to 23 metre zone of iron oxide (limonite) and is mineralized with pyrite and minor chalcopyrite. Post-mineral coarse-grained calcite veins crosscut this zone.

MINFILE NUMBER: 093L 062

RUN DATE: 10/23/90
RUN TIME: 07:55:47

MINFILE / pc
MASTER REPORT
GEOLOGICAL SURVEY BRANCH - MINERAL RESOURCES DIVISION
MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

PAGE: 4
REPORT: RGEN4000

BIBLIOGRAPHY

EMPR ASS RPT 917, 918, 919, 929, *3485
EMPR GEM 1972-382
EMPR AR 1906-99; 1909-85; 1911-113,288; 1966-92; 1967-91-97;
1968-127
EMPR PF (*Hunter, S.J., (1966): Howson Basin Property; Telkwa River
Area; Norcan Mines Ltd. Prospectus; Miscellaneous maps - (various
scales); *Hunter, S.J., (1967): Howson Basin Property, Telkwa
River Area; Thompson, W.D., (1967): Report on Howson Creek Groups)
GSC P 44-23
GSC MAP 971A
GSC OF 351
GSC BULL 270
EMPR MAP 69-1
EMR MP CORPFILE (Accent Resources Ltd.; Pathfinder Resources Ltd.)

DATE CODED: 850724
DATE REVISED: 870825

CODED BY: GSB
REVISED BY: LLD

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 093L 062

MINFILE NO.: 093L 062

NATIONAL MINERAL INVENTORY NO.: 093L6 Cu2

NAME(S): WAR EAGLE, ANNA EVA

STATUS: Showing

MINING DIVISION: Omineca

N.T.S.: 093L06W

LATITUDE: 54 27 26

UTM ZONE: 9

LONGITUDE: 127 24 25

UTM NORTHING: 6035346

ELEVATION: 1631 Metres

UTM EASTING: 603275

COMMENTS: Located on the southeast side of Howson Creek Basin, 39 kilometres south-southwest of Smithers.

LOCATION ACCURACY: Within 500 M

COMMODITIES:	Copper	Silver	Zinc
SIGNIFICANT MINERALS:	Chalcopyrite	Bornite	Sphalerite
ASSOCIATED MINERALS:	Calcite		Hematite
ALTERATION MINERALS:	Limonite	Epidote	Pyrite
ALTERATION TYPE(S):	Oxidation	Epidote	
AGE OF MINERALIZATION:	Unknown		
DEPOSIT CHARACTER:	Vein	Breccia	Disseminated
DEPOSIT CLASS.:	Epigenetic		

STRIKE/DIP: 305

COMMENTS: Mineralized gossan crosscut by post-mineral calcite veins.

DOMINANT HOST ROCK: Volcanic

GROUP: Hazelton

STRATIGRAPHIC AGE: Lower Jurassic

IGNEOUS/METAMORPHIC/OTHER: Unnamed/Unknown Informal

STRATIGRAPHIC AGE: Tertiary-Cretaceous

LITHOLOGY: Andesite
Basalt
Tuff
Volcanic Breccia
Porphyritic Granodiorite
Quartz Feldspar Porphyry
Felsite
Aplite

COMMENTS: Porphyry Intrusion.

TECTONIC BELT: Intermontane

TERRANE: Stikinia

Plutonic Rocks

PHYSIOGRAPHIC AREA: Hazelton Ranges

GEOLOGY: The area is mainly underlain by Lower Jurassic Hazelton Group andesitic to basaltic flows, tuffs, and breccia. Late Cretaceous to Eocene granodiorite, granite, quartz-feldspar porphyry, aplite and felsite in the form of dykes, sills and small stocks intrude the Hazelton rocks. Several small occurrences of copper-silver mineralization are related mainly to fracturing and brecciation in the epidotized volcanics. Mineralization consists of pyrite, chalcopyrite, hematite, bornite, and locally, sphalerite. There are also minor

MINFILE NO.: 093L 062
CONTINUED...

B
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patches of disseminated chalcopyrite.

A large gossanous area located about 800 metres southeast of the vein showings is associated with a felsitic stock. The gossan is a predominant shear striking 305 degrees and is marked by a 15 to 23 metre zone of iron oxide (limonite) and is mineralized with pyrite and minor chalcopyrite. Post-mineral coarse-grained calcite veins crosscut this zone.

BIBLIOGRAPHY:

EMPR ASS RPT 917, 918, 919, 929, *3485
EMPR GEM 1972-382
EMPR AR 1906-99; 1909-85; 1911-113,288; 1966-92; 1967-91-97;
1968-127
EMPR PF (*Hunter, S.J., (1966): Howson Basin Property; Telkwa River Area; Norcan Mines Ltd. Prospectus; Miscellaneous maps - (various scales); *Hunter, S.J., (1967): Howson Basin Property, Telkwa River Area; Thompson, W.D., (1967): Report on Howson Creek Groups)
GSC P 44-23
GSC MAP 971A
GSC OF 351
GSC BULL 270
EMPR MAP 69-1
EMR MP CORPFILE (Accent Resources Ltd.; Pathfinder Resources Ltd.)

DATE CODED: 850724
DATE REVISED: 870825

CODED BY: GSB FIELD CHECK: NO
REVISED BY: LLD FIELD CHECK: NO

MINFILE NO.: 093L 062

RUN DATE: 10/23/90
RUN TIME: 07:55:47

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MASTER REPORT
GEOLOGICAL SURVEY BRANCH - MINERAL RESOURCES DIVISION
MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

PAGE: 6
REPORT: RGEN4000

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EMPR ASS RPT 917, 918, 919, 929, *3485
EMPR AR 1916-91,125; 1917-118,447; 1918-117; 1966-92; 1967-91-97;
1968-127
EMPR PF (*Hunter, S.J., (1966): Howson Basin Property; Telkwa River
Area; Norcan Mines Ltd. Prospectus, Nov. 1966; Location and
geology maps (various scales); *Hunter, S.J., (1967): Howson
Basin Property; Telkwa River Area in 093L 062)
EMPR MAP 69-1
GSC MAP 971A
GSC P 44-23
GSC BULL 270
GSC OF 351
EMR MP CORPFILE (Accent Resources Ltd.; Bethex Explorations Ltd.;
Pathfinder Resources Ltd.)

DATE CODED: 850724
DATE REVISED: 880825

CODED BY: GSB
REVISED BY: LLD

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 093L 063

MINFILE NO.: 093L 063

NATIONAL MINERAL INVENTORY NO.: 093L6 Cu1

NAME(S): SANTA MARIA, FOOTWALL, S.H.

STATUS: Past Producer - Underground MINING DIVISION: Omineca
 N.T.S.: 093L06W
 LATITUDE: 54 28 00 UTM ZONE: 9
 LONGITUDE: 127 22 09 UTM NORTHING: 6036453
 ELEVATION: 1280 Metres UTM EASTING: 605700

COMMENTS: Located 1.2 kilometres west of Mooseskin Johnny Lake, 37 kilometres south-southwest of Smithers.

LOCATION ACCURACY: Within 500 M

COMMODITIES: Copper Silver
 SIGNIFICANT MINERALS: Chalcopyrite Chalcocite Bornite Tetrahedrite Pyrite
 ASSOCIATED MINERALS: Quartz
 ALTERATION MINERALS: Malachite Azurite Epidote Calcite Zoisite
 Sericite Prehnite
 ALTERATION TYPE(S): Silicific'n Propylitic Oxidation Zeolitic
 AGE OF MINERALIZATION: Unknown
 DEPOSIT CHARACTER: Stockwork Breccia
 DEPOSIT CLASS.: Porphyry Igneous-contact

DOMINANT HOST ROCK: Volcanic

GROUP: Hazelton

STRATIGRAPHIC AGE: Lower Jurassic

IGNEOUS/METAMORPHIC/OTHER: Unnamed/Unknown Informal

STRATIGRAPHIC AGE: Tertiary-Cretaceous

LITHOLOGY: Lapilli Tuff
 Volcanic Breccia
 Rhyolite
 Quartz Porphyry
 Felsite
 Aplite

COMMENTS: Porphyry Intrusion.

TECTONIC BELT: Intermontane
 TERRANE: Stikinia Plutonic Rocks
 PHYSIOGRAPHIC AREA: Hazelton Ranges

PRODUCTION: ** ALL METRIC VALUES ARE IN KILOGRAMS EXCEPT PRECIOUS METALS WHICH ARE IN GRAMS **
 ** ALL IMPERIAL VALUES ARE IN POUNDS EXCEPT PRECIOUS METALS WHICH ARE IN OUNCES **

YEAR	Tonnes Mined	Tonnes Milled	Silver	Copper
1917	217	0	69,422	33,203
METRIC TOTAL:	217	0	69,422	33,203

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 CONTINUED...

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MINFILE NUMBER: 093L 064

NATIONAL MINERAL INVENTORY: 093L6 Cu4

NAME(S): EVENING

STATUS: Showing
NTS MAP: 093L06W
LATITUDE: 54 28 00
LONGITUDE: 127 26 23
ELEVATION: 1280 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located on the north side of Howson Creek, 39 kilometres south-southwest of Smithers.

MINING DIVISION: Omineca
UTM ZONE: 09
NORTHING: 6036349
EASTING: 601127

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Hematite Pyrite
ASSOCIATED: Quartz
ALTERATION: Epidote Chlorite
ALTERATION TYPE: Epidote Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic

HOST ROCK

DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Hazelton	Undefined Formation	

LITHOLOGY: Andesite Tuff
Andesite
Diabase Dyke

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Stikinia

PHYSIOGRAPHIC AREA: Hazelton Ranges

CAPSULE GEOLOGY

Mineralization consisting mainly of chalcopyrite, pyrite, and hematite is associated with narrow irregular shears in highly epidotized and chloritized fine-grained andesitic tuffs and/or flows of the Lower Jurassic Hazelton Group. In at least one case, the shear is adjacent to and within a diabase dyke. The mineralized shears trend northeast to east and dip moderately north.

BIBLIOGRAPHY

EMPR ASS RPT 918, 919, 929
EMPR AR 1905-83; 1906-99; 1907-79; 1909-85; 1911-114,288; 1913-105; 1916-125; 1917-117; 1966-92; 1967-95, Fig. 9; 1968-127
EMPR PF (*Hunter, S.J. 1966: Howson Basin Property; Telkwa River Area, Norcan Mines Ltd. Prospectus; Miscellaneous maps; *Hunter, S.J. 1967: Howson Basin Property; Telkwa River Area)
GSC MAP 971A
GSC P 44-23
EMR MP CORPFILE (Accent Resources Ltd.; Bethex Explorations Ltd.; Pathfinder Resources Ltd.)
GSC SUM RPT 1906, p. 42
EMPR MAP 69-1
GSC OF 351
GSC BULL 270

MINFILE NUMBER: 093L 064

RUN DATE: 10/23/90
RUN TIME: 07:55:47

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BIBLIOGRAPHY

DATE CODED: 850724
DATE REVISED: 861201

CODED BY: GSB
REVISED BY: LLD

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 093L 064

MINFILE NUMBER: 093L 065

NATIONAL MINERAL INVENTORY: 093L6 Cu7

NAME(S): SILVER HEELS, JOKER, WHISPERING WIND

STATUS: Showing
NTS MAP: 093L06W
LATITUDE: 54 28 45
LONGITUDE: 127 27 30
ELEVATION: 1768 Metres
LOCATION ACCURACY: Within 1 KM

MINING DIVISION: Omineca
UTM ZONE: 09
NORTHING: 6037714
EASTING: 599891

COMMENTS: Located in the basin of Evening Creek, a tributary of Howson Creek, approximately 37 kilometres southwest of Smithers.

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Chalcopyrite Specularite Pyrite
ASSOCIATED: Quartz

COMMENTS: Gangue consists of quartz and altered country rock.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic

HOST ROCK

DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Hazelton	Undefined Formation	

LITHOLOGY: Andesite
Dyke

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Stikinia

PHYSIOGRAPHIC AREA: Hazelton Ranges

RESERVES

ORE ZONE: SILVER HEELS

CATEGORY: Best Assay YEAR: 1917
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 34.2900 Grams per tonne
Copper 3.0000 Per cent

COMMENTS: 3.6 metre sample.
REFERENCE: Minister of Mines Annual Report 1917, page 117

CAPSULE GEOLOGY

A dyke 15 to 18 metres wide with a north strike and an east dip of 75 to 80 degrees occurs in andesite of the Lower Jurassic Hazelton Group. In the andesites on the west side of the dyke, about 4.6 metres of mineralization consisting of chalcopyrite, specularite, and pyrite in a gangue of quartz and altered country rock was exposed. A 1917 sample across 3.6 metres assayed 34.29 grams per tonne silver, 2 to 3 per cent copper, and trace gold (Minister of Mines Annual Report 1917, page 117). About 1.2 metres of chalcopyrite and specularite mineralization was reported from the east side of the dyke.

BIBLIOGRAPHY

EMPR ASS RPT 919, 929
EMPR AR 1907-79; 1908-64; 1917-117; 1966-92; 1967-91, Fig.9; 1968-127
EMPR PF (*Hunter, S.J. 1966: Howson Basin Property; Telkwa River Area, Norcan Mines Ltd. Prospectus; *Hunter, S.J. 1967: Howson

RUN DATE: 10/23/90
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BIBLIOGRAPHY

Basin Property; Telkwa River Area)
EMR MP CORPFILE (Accent Resources Ltd.; Pathfinder Resources Ltd.)
EMPR MAP 69-1
GSC OF 351
GSC BULL 270

DATE CODED: 850724
DATE REVISED: 870825

CODED BY: GSB
REVISED BY: LLD

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 093L 06

RUN DATE: 10/23/90
RUN TIME: 07:55:47

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MINFILE NUMBER: 093L 066

NATIONAL MINERAL INVENTORY: 093L6 Cu3

NAME(S): DUCHESS (L.1820)

STATUS: Showing
NTS MAP: 093L06W
LATITUDE: 54 28 04
LONGITUDE: 127 27 11
ELEVATION: 1433 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located at the head of Howson Creek, 40 kilometres south-southwest of Smithers.

MINING DIVISION: Omineca
UTM ZONE: 09
NORTHING: 6036454
EASTING: 600260

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Chalcopyrite Tetrahedrite Hematite Pyrite
ASSOCIATED: Quartz
ALTERATION: Epidote Garnet Quartz
ALTERATION TYPE: Epidote Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia
CLASSIFICATION: Epigenetic
DIMENSION: 0000 X 0000 X 0000 Metres STRIKE/DIP: 170 80E TREND/PLUNGE:
COMMENTS: Mineralized shear zone.

HOST ROCK

DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Hazelton	Undefined Formation	

LITHOLOGY: Andesite
Tuff
Breccia
Basic Dyke
Skarn

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Stikinia

PHYSIOGRAPHIC AREA: Hazelton Ranges

CAPSULE GEOLOGY

A mineralized shear zone occurs in volcanics of the Lower Jurassic Hazelton Group. The zone has an attitude of 170 degrees and dips 80 degrees east with mineralized widths ranging up to about 3.7 metres. Mineralization consists of chalcopyrite, tetrahedrite, hematite, and pyrite with quartz. The shear is near the contact between fine-grained epidotized andesite to the west and tuff to the east. The volcanics are cut by feldspar porphyry dykes that carry only minor amounts of sulphide. Pre-mineral and post-mineral faulting and shearing is common.

A major fault strikes 350 degrees and dips 70 degrees west approximately 150 metres west of the Duchess adits. The fault is exposed along the bottom of a steep gully, where it parallels a basic dyke with narrow breccia zones. A zone of quartz-garnet-epidote skarn extends from the west side of the gully eastward to the workings and bulldozer trenches.

BIBLIOGRAPHY

EMPR ASS RPT 918, 919, 929
EMPR AR 1906-99; 1907-79; 1911-114; 1916-125; 1917-117; 1926-138;

MINFILE NUMBER: 093L 066

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REPORT: RGEN4000

BIBLIOGRAPHY

1928-168; 1929-169; 1952-95; 1966-92; 1967-92, Fig.9; 1968-127
EMPR PF (*Hunter, S.J. 1966: Howson Basin Property; Telkwa River
Area, Norcan Mines Ltd. Prospectus; Miscellaneous maps; *Hunter,
S.J. 1967: Howson Basin Property; Telkwa River Area)
GSC SUM RPT 1906, p. 42; 1907, p. 21
GSC MAP 971A
GSC P 44-23
EMR MP CORPFILE (Accent Resources Ltd.; Bethex Explorations Ltd.;
Pathfinder Resources Ltd.)
EMPR EXPL 1983-441
EMPR MAP 69-1
GSC OF 351
GSC BULL 270

DATE CODED: 850724
DATE REVISED: 870825

CODED BY: GSB
REVISED BY: LLD

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 093L 066

RUN DATE: 10/23/90
RUN TIME: 07:55:47

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REPORT: RGEN4000

MINFILE NUMBER: 093L 067

NATIONAL MINERAL INVENTORY: 093L6 Cu3

NAME(S): COUNTESS (L.1826)

STATUS: Showing
NTS MAP: 093L06W
LATITUDE: 54 28 19
LONGITUDE: 127 27 11
ELEVATION: 1676 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS: Crown Grant Lot 1826 adjoins the Duchess Lot 1820 (093L 066) at the head of Howson Creek, 40 kilometres south-southwest of Smithers.

MINING DIVISION: Omineca
UTM ZONE: 09
NORTHING: 6036918
EASTING: 600250

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic

HOST ROCK

DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE

Lower Jurassic

GROUP

Hazelton

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite
Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Stikinia

PHYSIOGRAPHIC AREA: Hazelton Ranges

CAPSULE GEOLOGY

The area is mainly underlain by volcanic rocks of the Lower Jurassic Hazelton Group. Figure 9 of the 1967 Annual Report shows a copper occurrence north of the Duchess showing (093L 066). It is possibly associated with the same shear zone that is the main host for the Duchess mineralization. In 1911, development work on the Duchess consisted of a 33 metre adit and open cuts on the Countess.

BIBLIOGRAPHY

EMPR AR 1907-79; 1911-114; 1967-94
EMPR MAP 69-1
GSC OF 351
GSC BULL 270

DATE CODED: 850724
DATE REVISED: 881202

CODED BY: GSB
REVISED BY: LLD

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 093L 067

RUN DATE: 10/23/90
RUN TIME: 07:55:47

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MASTER REPORT
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REPORT: RGEN4000

MINFILE NUMBER: 093L 069

NATIONAL MINERAL INVENTORY: 093L5 Cu1

NAME(S): STARR, SR, PG,
SC

STATUS: Showing
NTS MAP: 093L05E
LATITUDE: 54 27 34
LONGITUDE: 127 30 18
ELEVATION: 1615 Metres
LOCATION ACCURACY: Within 1 KM

MINING DIVISION: Omineca
UTM ZONE: 09
NORTHING: 6035454
EASTING: 596914

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite	Bornite	Tetrahedrite	Magnetite	Sphalerite
Galena	Pyrite			
ASSOCIATED: Calcite	Quartz	Chlorite		
ALTERATION: Calcite	Quartz			
ALTERATION TYPE: Quartz-Carb.	Potassic			
MINERALIZATION AGE: Unknown				

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: Hydrothermal Igneous-contact

HOST ROCK

DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE

Lower Jurassic
Tertiary-Cretaceous

GROUP

Hazelton

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY:

Andesite
Dacite
Tuff
Volcanic Breccia
Granite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Stikinia

Plutonic Rocks

PHYSIOGRAPHIC AREA: Hazelton Ranges

CAPSULE GEOLOGY

The occurrence is situated at the contact between andesite, dacite, tuff and breccia of the Lower Jurassic Hazelton Group and Late Cretaceous to Eocene intrusive rocks. Rocks along the contact zone contain calcite, potassium feldspar and quartz as alteration products. Mineralization consisting of chalcopyrite, bornite, tetrahedrite, pyrite, magnetite, with minor sphalerite and galena occurs as disseminations in the granitic/dioritic intrusive and as fracture fillings in the contact zone.

BIBLIOGRAPHY

EMPR ASS RPT 1623, *2448, *2449, 3084
EMPR GEM 1969-91; 1970-150
EMPR AR 1906-100; 1916-125
GSC SUM RPT 1906, p. 42
GSC MAP 971A
GSC P 44-23
EMR MP CORPFILE (Telkwa Mountain Mines Ltd.)
EMPR MAP 69-1
GSC OF 351

MINFILE NUMBER: 093L 069

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BIBLIOGRAPHY

GSC BULL 270

DATE CODED: 850724
DATE REVISED: 881202

CODED BY: GSB
REVISED BY: LLD

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 093L 069

RUN DATE: 10/23/90
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REPORT: RGEN4000

MINFILE NUMBER: 093L 070

NATIONAL MINERAL INVENTORY:

NAME(S): PG, BL, SR

STATUS: Showing
NTS MAP: 093L05E
LATITUDE: 54 27 08
LONGITUDE: 127 33 20
ELEVATION: 1043 Metres

MINING DIVISION: Omineca
UTM ZONE: 09
NORTHING: 6034582
EASTING: 593653

LOCATION ACCURACY: Within 500M

COMMENTS: Located in the Star Creek Basin, south of Eagle Peak, approximately 40 kilometres southwest of Telkwa.

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Porphyry

HOST ROCK

DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Hazelton	Undefined Formation	
Tertiary-Cretaceous			Unnamed/Unknown Informal

LITHOLOGY: Andesite
Tuff
Breccia
Granodiorite
Quartz Monzonite

HOST ROCK COMMENTS: Late Cretaceous to Eocene granitic intrusion.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Stikinia Plutonic Rocks

PHYSIOGRAPHIC AREA: Hazelton Ranges

CAPSULE GEOLOGY

The claims are underlain by Lower Jurassic Hazelton Group volcanics comprised mainly of green to purple andesitic flows, tuff and breccia. The volcanics are intruded by a Late Cretaceous to Eocene granodioritic stock.

Copper and silver mineralization occurs in fractures and as disseminations of pyrite and chalcopyrite in the Hazelton volcanics and granitic intrusive rocks.

BIBLIOGRAPHY

EMPR GEM 1969-91; 1970-150
EMPR ASS RPT 1623
EMPR MAP 69-1
GSC OF 351
GSC BULL 270

DATE CODED: 850724
DATE REVISED: 870805

CODED BY: GSB
REVISED BY: LLD

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 093L 070

RUN DATE: 10/23/90
RUN TIME: 07:55:47

MINFILE / pc
MASTER REPORT
GEOLOGICAL SURVEY BRANCH - MINERAL RESOURCES DIVISION
MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

PAGE: 18
REPORT: RGEN4000

MINFILE NUMBER: 093L 071

NATIONAL MINERAL INVENTORY: 093L11 Cu8

NAME(S): COPPER RIDGE (L.3401), COPPER BASIN, COPPER HILL

STATUS: Showing
NTS MAP: 093L11W
LATITUDE: 54 31 30
LONGITUDE: 127 27 32
ELEVATION: 1645 Metres
LOCATION ACCURACY: Within 500M

MINING DIVISION: Omineca
UTM ZONE: 09
NORTHING: 6042805
EASTING: 599745

COMMENTS: Lot 3401 is located at the head of a creek which flows north to the Telkwa River, 4.8 kilometres west of Howson Creek or 33.8 kilometres southwest of Smithers. The claim group consists of Crown Grants (Lots 1859-1863) and (Lots 3398-3404).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Epigenetic

HOST ROCK

DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Hazelton	Telkwa	
Tertiary-Cretaceous			Unnamed/Unknown Informal

LITHOLOGY: Andesite Flow
Rhyolite Flow
Tuff
Volcanic Breccia
Quartz Porphyry
felsite Dyke

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Stikinia

Plutonic Rocks

PHYSIOGRAPHIC AREA: Hazelton Ranges

CAPSULE GEOLOGY

The Crown granted claims are underlain by Lower Jurassic Hazelton Group volcanics of the Telkwa Formation comprised of red, maroon, green to grey andesitic to rhyolitic flows, tuffs and breccia. The volcanics are intruded by Late Cretaceous to Eocene granitic stocks comprised of quartz-feldspar porphyry, felsite dykes and associated quartz veining.

The mineralized showings on these Crown granted claims consist of chalcopyrite and malachite disseminated within Hazelton rocks.

BIBLIOGRAPHY

EMPR AR 1909-84,275; 1911-287
EMPR MAP 69-1
EMPR FIELDWORK 1988, pp. 195-208
EMPR OF 1989-16
GSC BULL 270
GSC OF 351
GSC P 44-23

MINFILE NUMBER: 093L 071

RUN DATE: 10/23/90
RUN TIME: 07:55:47

MINFILE / pc
MASTER REPORT
GEOLOGICAL SURVEY BRANCH - MINERAL RESOURCES DIVISION
MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

PAGE: 19
REPORT: RGEN4000

BIBLIOGRAPHY

DATE CODED: 850724
DATE REVISED: 870818

CODED BY: GSB
REVISED BY: LLD

FIELD CHECK: N
FIELD CHECK: N

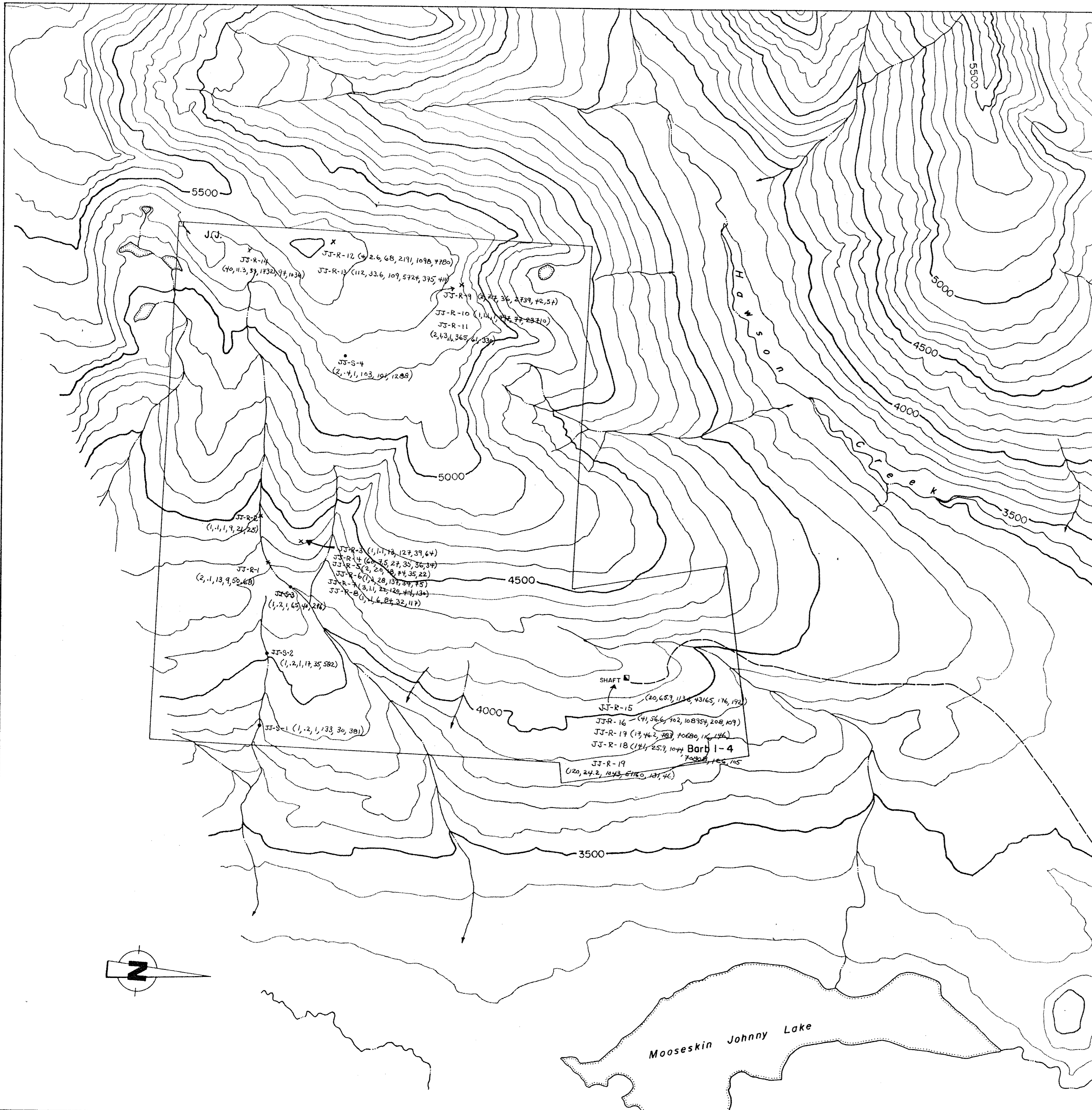
MINFILE NUMBER: 093L 071

APPENDIX 4

Cost Breakdown

(JJ-1 and Barb 1-4 Mineral Claims)
July 14, 1990

<u>Wages</u>	4 Mandays @ 300/day	1200.00
<u>Helicopter</u>	2.2 hrs ... 1515.60	
	20%	303.00
<u>Assays</u>	19 rocks and 4 silts	346.00
<u>Supplies</u>	50.00
<u>Hotel and Food</u>	106.00
<u>Rentals</u>	Truck (9247-RG)	60.00
<u>Map repro and copies</u>	144.00
<u>Report Compilation and Zerox</u>	750.00
	Total	2959.00

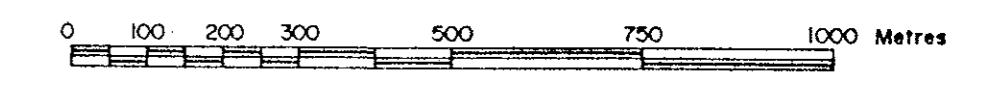


◆ Silt Sample (Au, ppb), Ag, As, Cu, Pb, Zn (ppm)

x Rock Sample (Au, ppb), Ag, As, Cu, Pb, Zn (ppm)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,601



JJ-1 & BARBI-4
GEOCHEMISTRY

93L/6W

SCALE: 1:10,000 Nov. 1990